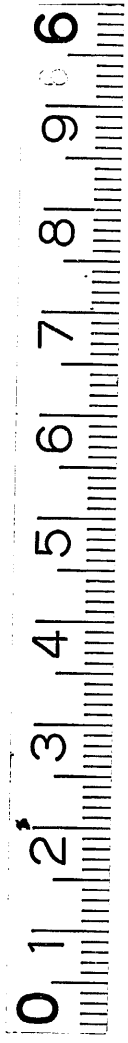


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THREE
DIATRIBES
OR
DISCOURSES.

First of *Travel, Or a Guide for Travellers*
into Foreign Parts.
Secondly, Of *Money or Coyns.*
Thirdly, Of *Measuring of the Distanc^e*
betwixt *Place and Place.*

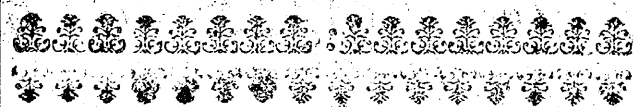
By *Edward Leigh Esq;* and *Mr. of Arts of*
Magdalene-Hall in Oxford.

Teneri vox apud Ciceronem Tuscul. quest. 1. 5,

Socrates, cum rogaretur, Cujatem se esse diceret, Mundanum, inquit, totius enim mundi se incolam, & civem arbitrabatur. Cicero ibid.

LONDON, Printed for *William Whittwood,* at the sign
of the *Golden Bell* in *Duck-Lane,* near *Smithfield.* 1671.

David Higby Wing 1692



The Epistle

DEDICATORY.

To his deservedly Honoured Friend
Francis Willughbie, Esq;

Sir, Since I have had the
happines to be known
to you, (my Habitation
being not far distant from
yours) I have found so much
Candour and Civility in you,
that I thought I needed not to
seek further for a person, to
whom I should dedicate this
little Tract of Travel and
Coyns, you having Travelled
into the most famous Coun-
tries

The Epistle Dedicatory,
tries of *Europe*, and (being
inquisitive after all Curiosi-
ties) also improved your tra-
vel both to the acquiring and

Mr. *Firth*
in his *Sts.*
Monu-
ment, re-
ports of my Lord *Willughbies* eldest Son, that he had seen
Rome, though he was not at all tainted with her errors: he
brought over many of the rarities of other Nations, but
none of their sins.

knowledge of Coyns, and ma-
ny other rarities, some of
which you were pleased for-
merly to shew me and others,
and have (for the better com-
pleting of this Treatise) com-
municated to me several Ob-
servations, about Foreign coyns
especially. I would our Gen-
try generally were more stu-
dious, and would spend their
time as profitably as you and
some

The Epistle Dedicatory.

some others do. That would
confirm what Mr *Burton* in
his *Melancholly* * observes of ^{Part 1.}
some of our *English* Gentry, ^{Sect. 2.}
that they are excellently well ^{Subject.}
learned, like those *Fuggeri* in ^{15.}
Germany, *Du Bartas*, *Du-*
plessis, *Sadael* in *France*, *Pi-*
cus Mirandula, *Scottus*, *Bar-*
rottus in *Italy*. There is an
Honourable Gentleman ^a now ^{Robert}
of the Royal Society, (whereof ^{Boye E/q;}
you are likewise a worthy
Member) who hath Travelled
abroad to good purpose, and
by his Philosophical ^b Expe- ^{bExperi-}
riments and other useful Trea- ^{menta}
tises, hath much honoured the ^{Fructu fera}
Nation. I may here relate, ^{et Luci.}
what I have heard from a very ^{fera.}

A 3 worthy

The Epistle Dedicatory.

e Sir Norton Knatchbull.
 worthy Divine; that he never knew a Family, wherein the Men and Women both, were of so obliging a Carriage, and of such great abilities. There is also a learned Knight and Baronet c of this Parliament (mentioned among the Benefactors to the *Polyglott Bible*) who hath written Critical notes in Latine on the New Testament. I shall onely adde this, that it may seem strange for me to publish a Discourse of Money, who (when I had the honour to be a Member of the House of Commons) was alwaies silent when that Subject came into debate,

*Sir, your Affectionate Friend to
serve you* Edward Leigh.



TO THE
Candid READER.

R Eader, It is said of Ulysses, Qui mores hominum multorum vidit, & urbes, Horat. De Arte Poetica. *Yet I would not have thee read my Discourse of Travel, Peregrinante animo. The Commodity which comes to humane Societies, by the Travells of prudent, pious, and well governed persons, is very great. The Apostles, the Disciples of Christ, and also their Disciples, and many others, have gon through a great part*

A 4 of

To the Reader.

of the World to convert the Gentiles. So if a Voyage be undertaken to know the rites and customes of severall places, and the forms of Cities, as the Roman Decemviri were sent to Greece, that they might know the Laws of that Countrey, and especially Solons. Pythagoras, Plato, Apollonius did go into divers Countries to increase their knowledge. Diodorus Siculus & Strabo Travelled into severall parts of the World, that they might be acquainted with the History and Scituation of those places. Pausanias * com-

* He hath written that excellent book of the Monuments and Antiquities of Greece, remaining in his time.

Euxine

To the Reader.

Euxine Sea, and Cluverius Travelled into many Countries of Europe, that they might more exactly describe those parts. The knowledge of Languages hath incited many to Travel; Vossius * instanceth in Jacobus Golius (that famous Arabist) who not satisfied with the instruction of Thomas Erpinus in the Arabick Language, went first into Mouri-

De Orig. & Prog. Idololat. l. 3. c. 37.

In Ethiopis operam impendebat

nam. D. M. Wanslebicus, qui ad perpoliendum ejus in istdem ingenium, in varias orientis oras longa atque periculosa suscepit Itinera. D. Cast. Prælat. ad Lexic. Heptaglot. Christianus Rarius Clenard, and Warner, travelled ar for the same purpose. Dr. Casaubon of Credulity and Incredulity, part 1. saith, that Jo. Ernestus Burgravius professeth to have travelled the greatest part of Europe to sat sbe his Curiosity. Erasmus in his Colloquia. entitles one of them Peregriinatio Religionis ergo.

tania, and being chosen Successor to Erpenius in his place after

To the Reader.

ter his death, he took a long Voyage into Syria, and there staid till he had perfected his skill in that Language. I may very well here mention, our worthy professor of the Hebrew and Arabick Tongues in Oxford, Dr. Edward Pocock, who was long abroad at Aleppo, and other places on the same account. Where he so demeaned himself, that he was very much respected by the Natives, and chosen for an Umpire amongst them, to compromise such differences as fell out there. The learned works he hath published, give ample Testimony of the skil he attained in the Arabick, especially by
that

To the Reader.

that long Voyage. The Jesuits themselves and others write much, how industrious the Jesuits were in the propagation of the Christian Faith, and how they have sown the seed of saving truth in China or elsewhere.

Mr. Baxter in the 2d. part of his last Book of Christianity, c. 14. p. 488. saith, The attempts of the Jesuits in Congo, Japon and China were a very noble work, and so were the Portugall Kings encouragements: but two things spoiled their success.

First, That when they took down the Heathens Images, they set them up others in their
stead;

To the Reader.

stead; and made them think that the main difference was, but whose Image they should worship.

Secondly, But especially, that they made them see, that while they pretended to promote Religion, and to save their souls, they came to promote their own wealth, or the Popes Dominion, and to bring their Kings under a Foreign power.

The honest attempts of Mr. Eliots in New-England, is much more agreeable to the Apostles way, and maketh more serious spiritual Christians.

Justus Heurnius (son to John Heurnius the learned Physician) left the study of Physick

Vilegis
Voretii
Disputat.
Select.
Theol.
partes se-
cundum
De Gent-
ilimo pag.
690.

To the Reader.

Physick, and wholly gave himself to the study of Divinity, that thereby he might be the better inabled to promote the Conversion of the Indians, and taking an Evangelical Embassie to the Indies, he there abode above 14 Years, preaching to the Indians in their Mother Tongue, Catechising them, and admonishing them privately, and by his singular innocense, humility and modesty, and daily fervent devotion, and great charity to the poor. He endeavoured to propagate the Kingdome of Christ among them.

He hath published a Book (which I have seen) De Legatione Evangelica ad Indos capessenda.

The

To the Reader.

* See Cartwright
Confutat. of the Rheimists
Translat. on Mat. 2. 2. and D. Moulin De Peregrinationibus Superstit.

*The Pilgrimages * of the Turks to Meccha, and of the Papists to Loretto are vain, we need not to travel far to find God.*

I have joyned these three Discourses together, since in that of Money and Measuring, I write of the Forein Coyns and Measures, and so hoping, that they may be all useful to the Traveller, I remain

Thy Hearty Well-willer,

Edward Leigh.

A

Diatribes

OF

T R A V E L.

By Edward Leigh Esq;

Psal. 107. 23, 24. They that go down to the Sea in Ships, that do business in great waters: These see the works of the Lord: and his wonders in the deep: Patri est, Ubicunque est bene.

Printed in the Year, MDCLXXI.

(1)

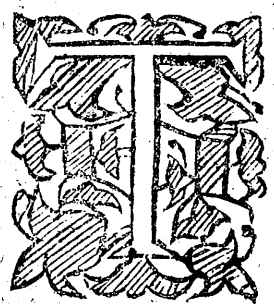


A

DIATRIBE

OF

Travel.



Travel in the Younger
 sort, is a part of Edu-
 cation; in the Elder,
 a part of Experience.
*Sir Francis Bacon's
 Essays.*

There is no Map like
 the view of the Coun-
 try; One journey will shew a man more
 then any Description can. He that sear-
 cheth Forreign Nations is becoming a
 Gentle-

(2)

Gentleman of the World. *Felthams Resolves of Travel.*

Many Travellers returning to their own home, bring back only some vain Garbs and Fashions; and are leavened with the ill Customes and Manners of the Countries they passed thorough. *Vagari, Lustrare, disquirere qui vis potest, pauci indigare, discere, id est, vere perigrinari. Liplii Epistola ad Lanoium de Peregrina-*

*The Mar- chioness of and fit, that none should Travel without *New-Cas- tles Ora- tions, part three.*

tione Italica. * I think it most requisite leave of the State, or Publick Council; and at their return should be accountable to the State and Publick Council of their Travels, and the advantages they have made: Dr. Hall in his First Decade of Epistles, Epistle 8th, giving advice to the Earl of Essex for his Travel, saith; There is nothing can quire the labour and cost of Travel, but the gain of Wisdom; when young Nobles came to take their leaves of our late King Charles, before they Travelled into Forreign parts; He thus councelled them; My Lord, keep alwaies the best Company, and be sure never to be idle.

Alsted in his Systema Mnemonicum, l. 4. De Geographia, Zeilerus before his

(3)

his Itinerary of Spain and Portugal Monsieur de Sorbriere in his *Lettres & Discours Lettre 85.* Mr. Palmer in his *Traveller*, part second, and Sir Francis Bacon in his *Essays*, give directions to Travellers, and shew what things are fit to be observed by them.

Nengebavarus and Loyzius have written in Latine *De Peregrinatione.*

Expensio hath put out a little

Treatise, *De Peregrinatione Gallica.* Lipsius, another, *De Peregrinatione Italica.* Gasper Ens hath published *Deliciae Apodemicæ.*

Dr. Hall hath written in English of Travelling, his Tract is stiled, *Quo vadis.* Sir Balthasar Gerbier hath *Subsidium Peregrinantibus.*

Mr. Howell hath put out instructions for forreign Travel.

Mr. Palmer also hath written an Essay of the means how to make our Travels into forreign Countries profitable and honourable; he dedicated it to Prince Henry.

Jones hath put out instructions for Travellers.

The Merchant proposeth to himself *bonum utile* in his Travel, and brings home

(4)

home exotick Commodities, as Wine, Fruit, Spices, Metals, precious Stones, Silk, and such like, serving both for use and luxury.

Impiger extremos Currit mercatas ad Indos, Horat. Epist, 1. lib. 1.

* Travel- The dissolute rich young Gentleman, ling is an *bonum jucundum*; The well-bred Gentleman; *bonum honestum*, or honor, that he may accomplish himself for the service of his * Country.

States, chiefly for a publick good to the Country of which such are. *Ca. 1. mes. Est Peregrinatio profectio quedam, occupiditate ac desideri, Extra Loca perlustrandi, in vicendi & cognoscendi instituta, ad bonum aliquod inde Acquirendum, quod vel patrie & amicis, vel nobis ipsis privatim prodesse possit. Newgebaverus de Peregrinatione. Est Peregrinatio nihil aliud quam studium per lustrandi terras Exoticas & Insulas ab homine idoneo suscipiendum ad artem vel ea acquirenda quae usui & Emollimento patrie vel Rei esse publicae possunt. Loylius De Peregrinatione c. 1. Venit Peregrinus a Peregre aut Pereger quod dicitur quasi per agrum, unde & peragrar quasi multos agros pererrare, Vossii Etymol. Linguae Latinae.*

In such a one going to Travel, there is required,

First, A competent age, that he be above 18 or 20 years old; although the years of 14 or 15 are more proper for

(5)

or learning the true accent of any Language, and all exercises belonging to the body.

Secondly, That he hath the Latine Tongue, and some skill in the Liberal Sciences.

Thirdly, † That he be skilful in Architecture, able so well to Limn or Paint; as to take in paper the Scituation of a Castle or a City; or the Platform of a Fortification.

Painting, † See Mr. Evelyn's account of Architecture, and Junius's art of Painting, l 2. c. 8. Painting and Sculpture are the Poliest, and Noblest of antient Arts; what Art can be more helpful or pleasing, to a Philosophical Traveller, *Philos. Transact. Vol. 3. p. 785.*

Fourthly, That he be well grounded in the true Religion, lest he be seduced and perverted. *Gal. 4. 1. O foolish Galatians, who hath bewitched you, that you should not obey the truth, Galli a peregrinando nomen habent; For Vnallen in the Teutonick Tongue, signifies peregrinari, alluding therefore to this Etymology: He chides the Galatians for their wandering in Religion, q. d. You like Travellers, often change your Opinions about the Doctrine of Truth. I know a Noble Per-*

(6)

sen who being in *France* well acquainted with a Popish Gentleman, once when the other left him, he wisht that he were as good a *Hugonot* as himself; the other immediately after sent him a Defence of their Religion, to which he replied, and shewed the same unto me: I more disliked the Popish Religion when I was in *France* then before, and more esteemed the Protestants, since at *Nants*, and some places, there were scarce any French Protestants.

Fifthly, He should be first well acquainted with his own Country, before he go abroad; as to the places and Government.

If any came heretofore to the Lords of the Council for a License to Travel; the old Lord Treasurer *Burleigh*, would first examine him of *England*; if he found him ignorant, he would bid him stay at home, and know his own Country first.

Sixthly, It were of use to inform himself (before he undertakes his Voyage,) by the best Chorographical and Geographical Map of the Scituation of the country he goes to, both in it self and Relatively to the Universe, to compare the *Vetus & Hodierna Regio*, and to carry with

(7)

with him the Republicks of the Nations to which he goes; and a Map of every Country he intends to travel thorough.

Seventhly, Before his Voyage, * He should make his peace with God, Receive the Lords Supper, satisfie his Creditors if he be in debt; Pray earnestly to God to prosper him in his Voyage, and to keep him from danger, and if he be *sui juris*, he should make his last will, and wisely order all his affairs, since many that go far abroad, return not home.

*This good and Christian Counsel is given by *Martinus Zeilerus* in his Apodemical Canons before his

Itinerary of *Spain* and *Portugal*.

In the Survey of a Countrey, these things are observable.

First, † The Name and its derivation, the Latitude and Longitude of the place, the Temperature of the Climate, the goodness or barrenness of the Ground, the populousness or scarcity of the People, the limits of the Countrey, how it is bounded by Sea or Land, or both, the Commodities, Natural, Artificial, the

† *Finis Peregrinationis sit notitia Linguae Regionis Religionis. Rerum gestarum*

morum & Clarorum virorum. Espenius De Peregrinatione Gallica.

Dis-commodities, either Imperfections or Wants, the Manners, Shape, Language and Attire of the People, their Building, their Havens and Harbours, the Religion and Government, the History of the Countrey and Families.

† Jones in his Instructions to Travellers mentions twelve generals. 1. Cosmographie. 2. Astronomy. 3. Geography. 4. Chorography. 5. Topography. 6. Husbandry. 7. Navigation. 8. The Political State. 9. The Ecclesiastical State. 10. Literature. 11. Histories. 12. Chronicles, and under every one of these Heads, hath several particulars.

2. The Courts of † Princes are to be seen and observed, especially when they give audience to Embassadors, the Courts of Justice whiles they sit and hear Causes, and so of Consistories Ecclesiastick, the Churches and Monuments therein, the Walls and Fortifications, of Cities and Towns, Antiquities and Ruines, Libraries, Colledges, Disputations and Lectures where they are, Shipping and Navies, Houses and Gardens of State and pleasure near great Cities; Armories, Arsenals, Magazines, Exchanges, Burses, Ware-houses; Exercises of Horsemanship, Fencing, Training of Soldiers, and the like; Treasuries

of

of Jewels and Robes, Cabinets, and rare Inventions.

Aubertus Miræus in the Life of Lipsius, saith, that when he came first to Rome, he spent all his time (when he was at leisure) in viewing the stones and antient places, and other rarities there, and spent his time in the Popes Vatican Library, in comparing together the Manuscripts of Seneca, Tacitus, Plautus, Propertius, and other Antients. He viewed also other famous Libraries publick and private.

Thirdly, The choice Herbs † and Plants, † The Gardens, sorts of Beasts, Birds, Fishes, and Insects proper to that Country, are to be taken notice of Herbs, of Minerals, Metals, Stones, and Flowers, Earths; their Proverbs also should be observed, in which much of the wisdom of a Nation is found. Arbours, Knots, Mounts. The Orchards, sorts of Trees, Apples, Pears, Plumbs, Berries, Spices, Orranges, Lemmons, Figs; the Vines, Vine-yards; sorts of Wine and Drinks. Jones.

Fourthly, Learned men, and such as have abilities in any kind, are worthy to be known, and the best Books there, are to be inquired after. Men that Travel must

(10)

must be very cautious both of their speech and demeanour; The Italian Proverb saith, For a man to travel safely thorough the world, It behoveth him to have a Faulcons Eye, an Asses Ears, a Monkeys Face, Merchants Words, a Camels Back, a Hogs Mouth, and Deers Feet.

* The Æthiopi- Sir Henry Wotton in his Letters, mentions twice the answer that was given say, when him by Alberto Scipioni, when he beg'd thou shalt his advice, how he might carry himself go into a- his advice, how he might carry himself another securely at * Rome, Signor Arrigomio Country, (says he) *Pensieri Stretti, Et il viso Sci- Ne sis si- olto, Tour thoughts close, and your Coun- cat tu, tenance loose, will go safely over the whole illi in Ita- world.*

lia tota tria hæc mihi serua, Frons tibi aperta, Lingua parca mens Clausam. Lipsii Epistola ad Lanoyum. In peregrinatione vitam agentibus hoc evenit, ut multa hospitia habeant nulla amicitias, Seneca Epist. ad Lucilium Epist. 11. Peregrini autem & in colæ officium est; nihil præter suum negotium agere, nihil de alio inquirere, minimè que in alienâ esse Republica Curiosum. Tull. Offic. l. 1.

Fifthly,

(11)

Fifthly, † Make choice of the best places for attaining of the Language. † The as prime Italian Dialect is Valladolid for the Spanish, Orleans, or Blois for the French, Florence or Sienna for the Italian, Lipsick or Heidelberg for the High-Dutch Tongues: in these places the best Language is spoken. *Bocca Romana, the Tuscan Tongue in*

a Romane mouth. *Howels Instructions for Forreign Travels.*

Abraham Ortelius in his Itinerarium Belgia, perswades Travellers to note, and observe what they see most memorable; Peregrinationes nostra futura nobis erunt longe gratiores, si una cum itineribus animadvertamus, & annotemus in Chartis, si quid observatione dignum occurrerit.

What profit Travelling brings to an Architect, *Vitruvius* shews, what to a Souldier, *Vegetius*, what to a Limner or Statuary, the Horses of *Phidias* * and *Praxiteles* made by art, witness; Merchandise is almost maintained by Travel, How much are *Cosmography, Topography and Astronomy*, improved and furthered by Travel. *These with other Colossi Statues and Pictures are yet at Rome.*

Change of Air by Travelling, after one is used unto it, is good: And therefore

(12)

fore great Travellers have been long liv'd: The Countries which have been observed, to produce long livers, are these; Arcadia, Aetolia, India, on this side Ganges, Brasil, Topropane, Britain, Ireland, with the Islands of the Arcades, and Hebrides, Sir Francis Bacon's History of Life and Death.

Rem pro- How much may the art of Navigation
fecto fa- further the spreading of the Gospel!
stigio suo Dan. 12. 4. Many shall run to and fro,
dignam and knowledge shall be increased, that is,
principes
fecerint,

si fassis non ad divitias indagandas, quae hodie sola fere periculosa sunt & longinqua quarum navigationem ille cebrat, sed ad verbi dominici promulgationem inter illos populos ad huc veri luce destitutos, missis ad hoc theologis propagandam instruerent, si quid inde utilitatis postea ex commercii libertate in publico rediret, in lucro ponentes & accessionis loco accipientes, nam ex eo esset ut Dei gratia, sine qua nihil possumus, expeditionibus illis aspiraret, & aspirante illa citra sanguinem & indigenarum vexationem res in his regionibus, quantum ad religionem & civilem administrationem felicioribus auspiciis, administrarentur, quam ab Hispanis factum est, qui avaritia Caci xxx. Annos mutuis lacerantibus miseris indigenas in Indiis & ad extremum seipso grassante inter eos divina ultione confecerunt. Thuan. Hist. lib. 64.

say some Expositors by Travelling to and fro, as the Waldenses to learn and propagate the Truth, knowledge shall be

(13)

be multiplied in the earth in the last time. The same word is used, Numb. 11. 8. Of the Children of Israel going about to gather Manna, and of the Devils going to and fro, Job. 1. and 7. Manifestly intimating, saith, Sir Francis Bacon, De Augmentis Scientiarum l. 2. c. 10. Et Nov. Org. l. 1. Aphor. 93. that God would so order it by his providence, that the passing through the world (which is now fulfilled by so many far Navigations) and the increasing of Sciences should fall into the same age.

Orbis terrarum factus est hac nostra aetate, mirum in modum fenestratius atque patens Baconus De Augmentis Scientiarum, l. 2. c. 10. Nostris temporibus & novi orbis partes complures, & veteris orbis extrema undique innotescunt. Baconus Nov. Org. l. 1. Aphor. 72.

In the Philosophical Conferences of the Virtuosi of France Conference 87. It is determined whether Travel be necessary to an ingenuous man. He saith there, if you except Embassies, in which the good of the State drowns all other considerations, those that would Travel must be

Imperetam
anima ho-
mo, qui
Circum

scribitur natalis soli sine Seneca

young

young and strong, rich and well borne, to get any good by their Travells.

Humiles ista & plebe animi do- mi resident & affixae sunt sua terra: illa divior est que caelum im- itatur & gaudet motu. *La Mothe le Vair* in his *Opusculis Lettre 6.* Speaks of the profit of *Voyages*, and *Lettre 7.* of the unprofitableness of them, he saith in the sixth Letter, that Travelling is the best School for life, in several respects: The French say *Un honeste homme, Est un homme honeste*, an honest or wise man is a mixt man, that is, one who hath something in him, in point of knowledge of all Nations.

Lipfii Epistola de Peregrinatione Italica. *Hodie magnum dedecus est Germanis patrios tantum nosse mores; praecipua vero pars ludis exteras regiones, ad minimum, Italiam, Gallias, Hispaniam, Belgiam, Angliam, ve per lustralle. Balduini Oratio Paenegyrica.*

The States of the Em- pire. *Dial. I.* *Charles the fifth* made Nine Voyages, into Germany, Six into Spain, Seven into Italy, four into France, Ten into the Low-Countries, Two into England, as many into Africa, he also passed the Ocean and Mediterranean Seas eleven times.

The

The Emperour *Hadrian* travelled over a great part of the world, and with his Head bare, though it was cold and wet, and so fell into a deadly disease; whence the Verses of *Florus* the Poet, whom *Salmasius* (in his notes on *Spartianus*) thinks to be the Historian, who elegantly wrote the Epitome of the Roman affairs and lived under *Hadrian*.

Liuguetus non minus doctrina quam diu- terna to- tius Euro- pae pera- gratione Clarus Bo- dini me- thodus Ad Facilem Historiarum Cognitionem. Polybius nequid falsi scriberet imprudens, in longe semoras profectus est oras, easque suis iustavit oculis Diodor. Sicul. Ex testimonia *Fustini martyris, annos triginta Europiam atque Aliam lustravit Pauli Poet. not. in Marc. & Com. Imperat. Vitam.* *Prosper Alpinus olim Egyptum magno cum fructu studiose juveniis peragravit. Pignorii mensae Isiacae expositio Pythagoras quidem inter Barbaros discendi causa peregrinatus est, atque ut nonnulli tradiderunt, Prophetam Ezechielem vidit Donnexus in Chrysol. Vide Selden. de jure, &c. Lib. I. Cap. 2.*

*Ego nolo Caesar esse,
Ambulare per Britannos,
Scythicas pari pruinas.*

*I will in no wise Caesar be,
To walk along in Britainie,
The Scythick frosts to feel and see.*

To

To which the Emperour answered in the like strain

Ego nolo Florus esse,
Ambulare per tabernas,
Latitare per popinas,
Culices pati rotundos.

And I will never Florus be,
To walk from shop to shop, as he,
To lurk in Taverns secretly,
And there to feel the Rome wine fly

In his Scholia in Arriani Periplum Ponti Euxini. But (saith Stuckius) how many Christian Princes and Nobles are now to be found, more like Florus than the Emperour Adrian?

William Postel a French-man, was a great Traveller and Mathematician.

See 2 Cor. 11. 25. They that have written the Itineraries of the Apostles, have observed that St. Paul Travel'd much farther, than either St. Peter or St. John, as they have described the circuite; and Purchas both Divines, of which last, Dr. Casaubon of Credulity and Incredulity, part first, saith,

saith, a book of very good worth with them that know the right use, and more valued abroad, than it is at home by many. Of the Navigation of the French into America, Johannes Lerijs hath written well of the Navigations of the Portugals and Spaniards, See Guicciardines bile est idea History of Italy, lib. 6. Of those of the English, Hackluit speaks sufficiently. Of the profit which comes to men by Navigations, see Fourmiers Hydrography, l. 4. c. 9. and of the Faith enlarged and amplified by means of Navigation: See the same book, chap. 6. There are also the Navigations and Voyages of Vertomannus, and Cadamusti ad terras ignotas, of whom Peter Martyr saith, in the seventh Chapter of his second Decade, that he stole certain Annotations out of the three first Chapters of his first Decade, written to Cardinal Ascanius and Aciboldus, supposing that he would never have published the same.

Existimati sunt eo pervenisse si anima post mortem degredietur
Morisy Ori. Maritimi Hist. l. 1. c. 33.

Dr.

Dr. Casaubon (in his first part of Credulity and Incredulity, in things Natural, Civil and Divine) saith, I have (as all men, I think have, that are any thing curious) read several relations of all the known parts of the world, written by men of several Nations and Professions, Learned and Unlearned, in divers Languages; by men of several ages, ancient and late.

There are divers *Hodæporica Voyages*, and Itineraries, Antient, Modern, in Prose, Verse, in Latin, French, English.

† Benjamin Tidelensis, his Itinerary.

† *Vixit Benjamin ut ejus interpretres benedictus Arias, testatur, anno ab orbe condito. 4033. Druſ. Obſervat. Sac. l. 13. c. 2.* He was a Jew, and travelled over a great part of the world. *Ecchellensis* in his Preface to his *Historia Arabum* seems to slight him: *Constantine l'Empereur* (who hath publisht notes upon him) saith, in his *Dissertat. Ad Lectorem. Cum judicio legendum hoc itinerarium, nec auctori in omnibus habenda fides, præsertim ubi suorum conditionem ac statum extollit: plurima tamen notata digna passim occurrunt, ut qua de locorum distantis aliisque annotat.*

There is *Cotovici Itinerarium Hierosolymitanum & Syriacum.*

* *Angerie Gisleus Busbequius multis legationibus Elarus. Aubertimuræi Vita Justi Lipsii.* *Itinerarium Constantinopolitanum*

politianum & Amasianum. Douza de Itinere Constantinopolitano. Furerii Itenerarium Ægypti, Arabiæ, &c.

Antoninus his † Itinerary (if it be his) † *Seu Antonii, seu Antonini, seu Æthici, seu Æthici, Itinerarium Zelleri Historici,* for both *Thuanus* and *Vossius De Historiæ Latinis*, l. 3. c. 2. and others, seem to question it, with *Mr. Burtons Commentary.*

Chronologi, &c. Geographi. Antonini Itinerarium sive Æthici potius Vossii nota in Fragmentum Periplus Ponti Euxini.

There are *Les Fameux Voyages De Pietro De le Valle Surnomme Illustre Voyageur* in three Quartoes. His Travels into *East-India*, and *Arabia Deserta*, are Translated into *English* by *Havers*, and so I think are the other in three Quartoes.

Voyage d'Orient du Philippe Carme Dechausse Sieur de Loyer, his Relation de voyage de Levant *De la Haie* of the Levant, and also *Blunts voyage* into the Levant. Divers Voyages du *P. Alexandre De Rhodes.*

Voyages du Seigneur de Villamont in three Books.

Voyage de la terre Sainte.
Voyage du Duc de Rohan en Italie,
Alemagne, Pays bas uni, Angleterre &
Escoffe.

Jo. Hugenvans Linschotens Discourse
of Voyages into the East and West-Indies,
whom Mr. Boyle * stiles the sober rela-
ter of his Voyages.

* In his
Sceptical
Chymist.

* He was Sir Francis Drakes Voyages. Thuanus
the next calls our * Drake, Celeberrimus universi
after Ma- orbis lustrator. Paulus Venetus hath writ-
gellanus, ten both an Itinerary, and three Books,
that sailed de Religionibus Orientalibus.
round a-
bout the
World. See Camdens Britannia in Devonshire.

Dolendum est Marci Pauli Veneti Itinerari totum mendacis ab impo-
Some think him somewhat fabulous
for what he reports of Quinsay. Dr.
Heylin in his Cosmography in Madagas-
car one of the Afracan Isles, for what
he relates of the Bird called Ruck, of such
store quodam contaminatum. Quis enim credit illa quae de
Quinsai scribit, pontes in ea lapideos duodecim mille altissimos
subnixos fornicibus fuisse ita ut naues erectis malis ea per-
navigare potuerint. Hornius de Orig. Gent. Amerba, c. 3.

in-

incredible strength and bigness, that it
could snatch up an Elephant, as easily as
a Kite doth a Chicken.

Mr. Burton in his Melancholy, part 2.
Sect. 2. Member 3. p. 244. saith, I would
censure all Plinies, Solinus, Strabo's,
Sir John Mandevils, Olaus Magnus,
Marcus Polus, lies.

Apollo said to the Author of the Chi-
na History, that he should reduce the
immense Metropolitan City of so many
Kingdoms, inhabited by many millions
of men to some credible measure; and
particularly, that he should bring the
Palace of that King, which he had affirm-
ed to be many miles long, to such a form,
as Vitruvius should not laugh at him for
it; saying, that if that building were so
great as he had described it to be, the
Halls must needs be half a mile long, and
the Chambers little less; which if it
were true, the whole Academy of Ar-
chitects had reason to say, that to bring
the meat but to the Table, the servants
of so great a King must ride Post. Bocca-
lini his Advertisements * from Per-
nassus. Century 2d. 16th. Advertisement.

* A very
ingenuous
piece much
prized by

Mr. Selden, and which cost him his life.

Yet Mr. Boyle in his experiments touching Cold, Title 19. saith of him, a writer not always half so fabulous as many think him, and Scickard in his *Tarich*. p. 185. saith, *Marcus Polus Venetus, Minime vanus author, Cujus Narrata pridem incredibilia, quotidie magis magisque verificantur.*

Mr. Terries Voyage into the East-Indies, and the History of the Caribbee Islands, which I have seen in French, and is translated into English by J. Davis.

There is Relation du Voyage de Muscovie, Tartarie & de Perse du Sieur Olearius Secretaire de Duc de Holstein. Both the Author and Book are commended by Bochart in his late learned Treatise de Animalibus Scripturae. It is now translated into English. Mr. Boyle stiles him the Applauded Writer Olearius. In his Experimental History of Colours, Experiment 9. He stiles him the Judicious Olearius, who was twice imployed as a publick Minister.

There is the world surveighed, or Vincent le Blanck's Travels; He spent fifty years making ten or twelve Voyages almost through all the parts of the World. Mr. Boyle calls him that Rambler about the world,

There

There are also Morysons Travels, George Sandy's Travels, and Sir Edwyne Sandes his Relation of the State of Religion in the Western parts of the world, both very good.

Biddulph's Travels.

Herbet's Travels.

Monsieur de Monfart's Travels.

The Preacher's Travels.

Coriat's Crudities.

Lithgow's Travels.

Ferdinand Mendez a Pinto's Travels; who five times suffered Shipwrack, was sixteen times sold, and thirteen times made a slave, and spent one and twenty years in Travelling.

Sir John Mandevil's Travels.

He Travelled thirty three, thirty four years, say some.

He was in Scythia, the greater and less, Armenia, Egypt, both Lybia's, Arabia, Syria, Media, Mesopotamia, Persia, Chaldaea, Greece, Illyricum, Tartary, and divers other Kingdoms of the world.

He committed his whole Travel of thirty three years to writing, in three divers Tongues, English, French and Latine. Purchas his Pilgrimage. part 3. l. 3. 6. out of Balens.

C 4

Joan-

(24)

Joannes Mandevile, Non minimam
Consecutus est laudem describendo regiones,
vel opere de re medica. Vossius De Hist.
Lat. l. 3. ca. 2.

† De Bri-
tannica-
rum Ec-
clesiarum
primordi-
is c. 13.

B. † Osher, speaking of Cloughte Kil-
ti in Cork, saith, In quo fundamenta con-
spiciuntur amplissima domus, quam no-
bilis illius Johannes Magnavillani (sive
de Mandevile 34. annorum peregrinatione
notissimi) fuisse tradunt accolae.

Quibus relationibus olim fides nulla-
tenus fuit adhibita, Spizelius de re itera-
ria Sinensium, sect. 2.

Yet Sir Walter Raleigh in his History
of the World, part 4. l. 4. c. 2. sect. 21.
and Dr. Heylin in his Cosmography (as he

* Non par-
vum erro-
rem Com-
misisse mihi
videnturi,
qui globi
terra & a-
qua de-
scriptio-

somewhat improperly) titles his great
Folio) speaking of India, p. 882. shew,
how he was honoured abroad, and how
many of his relations (though esteemed
fabulous by some) were since confirm-
ed by the Portugals.

Davits

(25)

Daviti in his book entitled, Le Monde,
Mentions Malherbe for a great Travel-
ler, spending twenty seven years in di-
vers Voyages almost through all the
parts of the World.

Purchas in his second part of his Pil-
grims, l. 10. c. 1. Speaks of Damian a
Goes, a Portugal, who did see, speak, and
was conversant with all the Kings, Prin-
ces, Nobles, and chief Cities of all Chri-
stendome, in the space of twenty two
years.

Mr. Greaves in his Pyramidographia,
Mentions the Travels of Monsieur de
Breves Embassador at Constantinople, les
Voyages de Monsieur de Breves, which I
have purchased from France.

Alexandre de Rhodes, in the third
part of his Voyages, ch. 13. Speaks of
Monsieur de Boulaye, which hath pub-
lished, Un tres beau livre de ses voyages,
ou il faut voir ec autant de fidelite, que
de nettete d'esprit, la, Conduite qu' il a
monstree sans des Royaumes si differents.

Tanaquil-
lus Faber
in his
notes on

the sixth book of Lucretius c. 1. saith, Lambertus Massiliensis,
hath left a little Book, De Peregrinatione Egyptiaca, print-
ed at Paris, which he undertook 1626.

HC

He hath travelled over (saith he) the greatest part of *Europe, Asia, and Africa*. I have seen that *French Book* also.

There is *Alex. Geraldini Itinerarium ad regiones sub Aquinoctiali*, in sixteen Books.

There are also the Republics of several nations in little portable books.

There are also Relations of Divers Curious Voyages by *Monsieur Thevenot*, in three *Tomes*, and *Relation Du voyage, de l'Eveque de Breyte, per la Turquie, la Perse, les Indes, &c. jusques au Royaume de Siam, & autres lieux par M. de Bourges, Prestre, &c.* Both mentioned in the *Philosophical Transactions*. I have mustered up these several Itineraries and Voyages, both because I have perused most, if not all of them, (except the two last) when I was about my great book of *Geography*, though it be not yet printed. And because I suppose Travelers may hereby furnish themselves with the best writers of those parts of the world, whether they intend to go, either to instruct them about those places before they go, or to carry with them: Who ever since the beginning of things and men, hath been so often by royal employment sent Ambassador to so many Princes so distant in place so different

in

in rites, as *Sir Robert Sherley*! Two Emperours, *Rodolph* and *Ferdinand*, two Popes, *Clement* and *Paul*, twice the King of *Spain*, twice the *Polonian*, the *Muscovite* also, have given him Audience. And twice also (though not the least for a born subject to be Ambassador to his Sovereign) his Majesty hath heard his Embassage from the remote *Persian*. *Purchas his Pilgrims*, part 2. l. 10. c. 10.

There are the three English Brothers, and *Sir Robert Sherley* his Embassy into *Poland*, both Printed. See *Finets Observat.*

page 136, 137. 172, 173, 174, to 177.

Dr. Nicholas Wotton (Uncle to *Sir Henry Wotton*) was Privy-Counciller to four successive Sovereignes, viz. *King Henry the 8th. Edward the 6th. Queen Mary, Queen Elizabeth*. He was nine times Embassadour for the Crown of *England*, to the Emperour, the Kings of *France* and *Spain*, and other Princes. *Camdens Hist. of Q. Elizabeth*.

Some have instanced in several *English* Embassadours, how well they have acquitted themselves; but I shall single out one as very deserving.

Sir Thomas Rowe, after many Ambassages to almost all the Princes, and States in *Christendome*; (all which were managed

The Appendix to the History of *Mr. Medes* life.

aged with admirable Dexterity, Success and Satisfaction) was last of all Ambassador Extraordinary to Ferdinand the third, Emperour of Germany; who gave him this Character, *I have met with many Gallant Persons of many Nations, but I scarce ever met with an Ambassador till now.*

Bishop Bedell was Chaplain to Sir Henry Wotton at Venice. Dr. Featly, to Sir Thomas Edmonds in France. Dr. John Burgesse, to Sir Horatio Vere, in Germany.

Mr. Boyle in his Preface to his Experiments, touching Cold, commends Captain James his Voyages, it being scarce, and not to be met with, in Purchas's Tomes (having been written some years after they were finished) and his Voyages published by the last Kings command; He being bred in the University, and acquainted with the Mathematicks.

He commends also Mr. Ligon of the Barbado's, and stiles him ingenious Mr. Ligon,

But enough (if not too much) of this. Geographers, who write of the four parts of the Earth, are as large in Europe, as in the other three, Asia, Africa, and America. To which one part, all learning

He stiles him in his Book, that Ingenious Navigator Neither of these two have I seen.

ing seemeth now to be in a manner confined; which within this hundred, or two hundred years, hath produced so many able men of all professions; Divines, Lawyers, Physicians, and Philosophers; Papists and Protestants.

Bolton in his *Nero Caesar*. c. 29. sect. 1. speaking of ancient Rome, saith, The wonder of the seat did not grow from the greatness only, but from the innumerable ornaments of publick, and private works, erected for use, delight, and glory, dispersed over all the fourteen wards, or regions thereof. Temples, Forums, Libraries, Therms, Aquaducts, Theaters, Amphitheaters, Circi, Porticus, Arches, Columns, Statues, Palaces, and the rest, whose bare names scarce remaining, do fill up Volums with their inventories.

The best Circuit a Traveller can take, is to go through Holland towards Germany, thereby to satisfie his curiosity by degrees, for Germany will afford more satisfaction than the Low-Countries; France more then Germany, Italy more then France, *Gerbiens subsidium Peregrinantibus.*

Paris

Paris, Rome, and Constantinople, are the Court of the World; Venice Geneva, and Lisbon, the City; Provence, Andalusia, and Italy the Garden; Africk, and America, the Desart and Wilderness.

Flecknoes Relation of twenty years Travels, Letter 22.

Johnson in his Relation of the most famous Kingdoms. l. 1. of Travel, adviseth a Traveller to take heed of the Pride of Spain, the Poyson of Italy, the Treason of France, and the drink of Flanders.

Dr. Hall thinks Italy a dangerous place for Youth.

Orsin, in a Gratulatory Epistle to a friend returned out of Italy, addes, *Ex cloaca diabolorum. Necessse est peregrinaturam habere dnos saccos, patientia uzum, pecunia alterum. Commenii Praxis Senicæ par. 5. Actus 4. Scena. 1.*

Those who have a desire to travel to Jerusalem should take heed to themselves; that they make no Shipwrack of Conscience, for if they come not well commended, or well monyed, or both, there is no being for them, except they partake with them in their Idolatrous Services. Purchas his Pilgrimage, part 2. l. 8. ch. 9. Lud.

Lud. Bartema Relates, that they that Travel over the Desarts of Arabia, which are all covered with light and fleeting Sands, so that no Track can ever be found, do make certain boxes of wood, which they place on Camels backs, and shut themselves in them, to keep them from the Sands, and by the help of the Load-stone, like the Marriners Compass, they steer their Course over the vast and uncouth Desarts.

The Latine, the French, the Slavonick, and the Arabian Tongue, are known in many places, For Africa, Leo* is the * Leo Afer best, for the Levant; Blunt is a good book to take with thee thither, and some others I have before-named; for Italy, fere instar Scotti & Capugnani Itinerarium Italia, & Raimunds Mercurio Italico, will be useful; for France, Dallingtons View of France, and Mr. Evelins little book, for the Polity or Government; for Holland, Colnitzius, for Germany Zeiler.

them who are well versed in the History of the World. Dr. Casaubon of Credulity and Incredulity part. 1. Some say Golwitz is the best Itinerary for France, & le Voyageur Francois, Jodocus Sincerus his Itinerarium Gallia is well liked.

(32)

Sir Benjamin Ruddierd (whose discourse and speeches were full of Apothegmes) was wont to say, *France* was a good Country to ride through, *Italy* a good Country to look upon, *Spain* a good Country to understand, but *England* a good Country to live in.

Let *Italy* glory in this, that it is for pleasure the Garden of the World.

So wishing the Traveller a prosperous Voyage, I here cast Anchor.

It may be truly said of great *Britain*, that it is the Court, and presence Chamber of the great King, *Esa.* 8. 8. *Ezek.* 48. 35. Surely few parts of all the Earth are like *England*, for the Showers of Heaven, and the Riches of the precious Ordinances of God. *Mr. Baxters Direct.* to the Converted, for their Establishment.

A D I A

HERE FOLLOWETH
A
Brief and Easie way
BY
TABLES,

To cast up
SILVER
To the Standard of XI. Ounces ij. Penny-weight.

AND
GOLD,

To the Standard of XXII. Carracts.

WITH
Questions wrought by the *Golden-Rule*:
Also by *Decimal Tables*.

Calculated by JOHN REYNOLDS,
Of the Mint in the Tower of London.

Printed Anno Domini, MDCLXXIX.



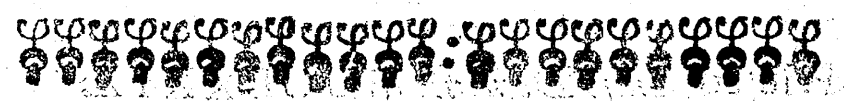
Of L. Carracts observe.

24 Carracts, is _____ 12 Ounces Troy.
 1 Carract, is divided into _____ 4 Grains.
 1 Carract Grain, is 2 Penny weight, 12 Grains Troy.
 One half of a Carract Grain, } is { 1 Penny weight, 6 Grains
 Carract Grain, } Troy.
 1 quarter of a Carract Grain, is _____ 15 Grains Troy.

Of OZ. Caracts observe.

24 Carracts, is _____ 1 Ounce Troy.
 1 Carract, is divided into _____ 4 Grains.
 1 Carract Grain, is _____ 5 Grains Troy.
 Half a Carract Grain, is 2 Grains and a half Troy.
 One quarter of a Carract Grain, } is { 1 Grain, and a quarter Troy.

12 Ounces, _____ is a Pound-weight, Troy.
 20 Penny-weight, _____ is one Ounce.
 24 Grains, _____ is a Penny-weight.
 20 Mites, _____ is a Grain.
 24 Droits, _____ is a Mite.
 20 Periors, _____ is a Droit.
 24 Blanks, _____ is a Periot.



Half

Half-penny weight. At the Ounce

L. wt.	Half-penny weight.			At the Ounce			
	Ounc.	D. wt.	Parts	Grain.	Mites	Parts	
1	0	0	12	19	17	1	23
2	0	0	1	1	18	3	9
3	0	0	1	14	18	4	32
4	0	0	2	3	17	6	18
5	0	0	2	16	17	8	4
6	0	0	3	5	16	9	27
7	0	0	3	18	16	11	13
8	0	0	4	7	15	12	36
9	0	0	4	20	15	14	22
10	0	0	5	9	14	16	8
11	0	0	5	22	14	17	31
20	0	10	19	9	7		
30	0	16	5	3	29		
40	1	1	14	18	14		
45	1	4	7	15	25		
50	1	7	0	12	36		
60	1	12	10	7	21		
70	1	17	20	2	6		
80	2	3	5	16	28		
90	2	8	15	11	13		
100	2	14	1	5	35		
200	5	8	2	11	33		
300	8	2	3	17	31		
400	10	16	5	3	29		
500	13	10	6	9	27		

D. wt.	Gr.	Mit.	Part.
1	6	1	13
2	12	2	16
5		5	15
7	12	8	4
10		10	30
12	12	13	19
15		16	8
17	12	18	34
d.tgr.			pt.
1			32
18			24
12			16
6			8
4			5

A 2

A Penny weight. At the Ounce.

L. wt.	Ounc.	D. wt.	Grains.	Mites.	Parts.	Grain.	Mites.	Parts.
1	0	1	18	3	34	2	3	9
2	0	2	3	17	31	4	6	18
3	0	3	5	16	28	6	9	27
4	0	4	7	15	25	8	12	36
5	0	5	9	14	22	10	16	48
6	0	6	11	13	19	12	19	60
7	0	7	13	12	16	15	2	75
8	0	8	15	11	13	17	5	90
9	0	9	17	10	10	19	9	108
10	0	10	19	9	7	21	12	144
11	0	11	21	8	4	23	16	180
20	1	1	14	18	14			
30	1	12	10	7	21			
40	2	3	5	16	28			
45	2	8	15	11	13			
50	2	14	1	5	35			
60	3	4	20	15	5			
70	3	15	16	4	12			
80	4	6	11	13	19			
90	4	17	7	2	26			
100	5	8	2	11	33			
200	10	16	5	3	29			
300	16	4	7	15	25			
400	21	12	10	7	21			
500	27	0	12	19	17			

d. wt.	Gr.	Mit.	Par.
1	6	0	2
2	12	0	5
5		0	10
7	12	0	16
10		1	1
12	12	1	7
15		1	12
17	12	1	17
d. t. gr.	gr.	mi	pt.
1		0	2
	18	0	1
	12	0	1
	6	0	0
	4	0	0

A Penny half-penny weight. At the Ounce.

L. wt.	Ounc.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Gr.	Mit.	Par.
1	0	1	14	3	32	0	0	0	4
2	0	2	3	9	27	0	0	0	9
3	0	3	5	14	22	0	0	0	14
4	0	4	7	19	17	0	0	0	19
5	0	5	9	14	12	0	0	0	24
6	0	6	11	9	7	0	0	0	29
7	0	7	13	14	2	0	0	0	34
8	0	8	15	11	34	1	1	1	39
9	0	9	17	10	29	1	5	3	29
10	0	10	19	8	24	1	8	8	24
11	0	11	21	7	19	1	11	13	19
20	1	1	14	18	14				
30	1	12	10	7	21				
40	2	3	5	16	28				
45	2	8	15	11	13				
50	2	14	1	5	35				
60	3	4	20	15	5				
70	3	15	16	4	12				
80	4	6	11	13	19				
90	4	17	7	2	26				
100	5	8	2	11	33				
200	10	16	5	3	29				
300	16	4	7	15	25				
400	21	12	10	7	21				
500	27	0	12	19	17				

d. wt.	Gr.	Mit.	Par.
1	6	0	4
2	12	0	8
5		0	16
7	12	1	4
10		1	12
12	12	2	0
15		2	8
17	12	2	16
d. t. gr.	gr.	mi	pt.
1		0	3
	18	0	2
	12	0	1
	6	0	0
	4	0	0

Two-penny weight. At the Ounce.

L. wt.	Ounc.	D. wt.	Grain.	Mites	Parts
1	0	2	3	17	31
2	0	4	7	15	25
3	0	6	11	13	19
4	0	8	15	11	13
5	0	10	19	9	7
6	0	12	23	7	1
7	0	15	3	4	32
8	0	17	7	2	25
9	0	19	11	0	20
10	1	1	14	18	14
11	1	3	18	16	8
20	2	3	5	16	28
30	3	4	20	15	5
40	4	6	11	13	19
45	4	17	7	2	26
50	5	8	2	11	33
60	6	9	17	10	10
70	7	11	8	8	24
80	8	12	23	7	1
90	9	14	14	5	15
100	10	16	5	3	29
200	21	12	10	7	21
300	32	8	15	11	13
400	43	4	20	15	5
500	54	1	1	18	34

D. wt.	Grain.	Mites	Parts
0	4	6	18
0	8	12	36
0	12	19	17
0	17	5	35
0	21	12	16
1	1	18	34
1	6	5	15
1	10	11	33
1	14	18	14
1	19	4	32
1	23	11	13

D. wt.	Grain.	Mite	Part
1	6	0	5
2	12	0	10
5		1	1
7	12	1	12
10		2	3
12	12	2	14
15		3	4
17	12	3	15
d.t gr.			mi pt.
1	0		4
18			3
12			2
			6
			1
			3

Two-penny weight and a half. At the Ounce.

L. wt.	Ounc.	D. wt.	Grains.	Mites.	Parts.
1	0	2	16	17	11
2	0	5	9	14	22
3	0	8	2	11	33
4	0	10	19	9	7
5	0	13	12	6	18
6	0	16	5	3	29
7	0	18	22	1	3
8	1	1	14	18	14
9	1	4	7	15	25
10	1	7	0	12	36
11	1	9	17	10	10
20	2	14	1	5	35
30	4	1	1	18	34
40	5	8	2	11	33
45	6	11	14	18	14
50	6	15	3	4	32
60	8	2	3	17	31
70	9	9	4	10	30
80	10	16	5	3	29
90	12	3	5	16	28
100	13	10	6	9	27
200	27	0	12	19	17
300	40	10	19	9	7
400	54	1	1	18	34
500	67	11	8	8	24

D. w.	Grains.	Mites.	Parts.
0	5	8	4
0	10	16	8
0	16	4	12
0	21	12	16
1	3	0	20
1	8	8	24
1	13	16	28
1	19	4	32
2	0	12	36
2	6	1	3
2	11	9	7

D. wt.	Gr.	Mit.	Par.
1	6	0	6
2	12	0	13
5		1	7
7	12	2	0
10		2	14
12	12	3	7
15		4	1
17	12	4	14
d.t gr.			mi pt.
1	0		5
18			4
12			2
			26
			1
			13

Three-penny weight. At the Ounce.

L. wt.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	3	5	16	0	6	9	27
2	0	6	11	13	0	12	19	17
3	0	9	17	10	0	19	9	7
4	0	12	23	7	1	1	18	34
5	0	16	5	3	1	8	8	24
6	0	19	11	0	1	14	18	14
7	1	2	16	17	1	21	8	4
8	1	5	22	14	2	3	17	31
9	1	9	4	10	2	10	7	21
10	1	12	10	7	2	16	17	11
11	1	15	16	4	2	23	7	1
20	3	4	20	15				
30	4	17	7	2	d.w.	Gr.	Mic	Part
40	6	9	17	10	1	6	0	8
45	7	5	2	14	2	12	0	16
50	8	2	3	17	5		1	12
60	9	14	14	5	7	12	2	8
70	11	7	0	12	10		3	4
80	12	19	11	0	1	12	4	1
90	14	11	21	8	15		4	17
100	16	4	7	15	17	12	5	13
200	32	8	15	11	dt. gr.			mipt.
300	48	12	23	7	1			6
400	64	17	7	2	18			4
500	81	1	14	18	12			3
				14	6			1
					4			3

Three-penny weight and a half. At the Ounce.

L. wt.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	3	5	16	0	6	9	27
2	0	6	11	13	0	12	19	17
3	0	9	17	10	0	19	9	7
4	0	12	23	7	1	1	18	34
5	0	16	5	3	1	8	8	24
6	0	19	11	0	1	14	18	14
7	1	2	16	17	1	21	8	4
8	1	5	22	14	2	3	17	31
9	1	9	4	10	2	10	7	21
10	1	12	10	7	2	16	17	11
11	1	15	16	4	2	23	7	1
20	3	4	20	15				
30	4	17	7	2	d.w.	Gr.	Mic	Part
40	6	9	17	10	1	6	0	8
45	7	5	2	14	2	12	0	16
50	8	2	3	17	5		1	12
60	9	14	14	5	7	12	2	8
70	11	7	0	12	10		3	4
80	12	19	11	0	1	12	4	1
90	14	11	21	8	15		4	17
100	16	4	7	15	17	12	5	13
200	32	8	15	11	dt. gr.			mipt.
300	48	12	23	7	1			6
400	64	17	7	2	18			4
500	81	1	14	18	12			3
				14	6			1
					4			3

Four-penny weight. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0	4	7	15	25
2	0	8	15	11	13
3	0	0	12	23	7
4	0	17	7	2	26
5	1	1	14	18	14
6	1	5	22	14	2
7	1	10	6	9	27
8	1	14	14	5	15
9	1	18	22	1	3
10	2	3	5	16	28
11	2	7	13	12	16
20	4	6	11	13	19
30	6	9	17	10	10
40	8	12	23	7	1
45	9	14	14	5	15
50	10	16	5	3	29
60	12	19	11	0	20
70	15	2	16	17	11
80	17	5	22	14	2
90	19	9	4	10	30
100	21	12	10	7	21
200	43	4	20	15	5
300	64	17	7	2	20
400	86	9	17	0	10
500	108	2	3	17	31

D. wt.	Grains.	Mites.	Parts.
0	8	12	36
0	17	5	35
1	1	18	34
1	10	11	33
1	19	4	32
2	3	17	31
2	12	10	30
2	21	3	29
3	5	16	28
3	14	9	27
3	23	2	26

d. wt.	Gr.	Mit	Part
1	6	0	10
2	12	1	23
5	2	3	9
7	12	3	4
10	4	6	18
12	12	5	8
15	6	9	27
17	12	7	11
d. gr.		mi	pt.
1	18	8	24
12	4	6	18
6	2	2	6
4	1	1	16 ¹ / ₃

Four-penny weight and a half. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0	4	20	15	5
2	0	9	17	10	10
3	0	14	14	5	15
4	0	19	11	0	20
5	1	4	7	15	25
6	1	9	4	10	30
7	1	14	1	5	35
8	1	18	22	1	3
9	2	3	18	16	8
10	2	8	15	11	13
11	2	13	12	6	18
20	4	17	7	2	26
30	7	5	22	14	2
40	9	14	14	5	15
45	10	18	22	1	3
50	12	3	5	10	28
60	14	11	21	8	4
70	17	0	12	19	17
80	19	9	4	10	30
90	21	17	20	2	6
100	24	6	11	13	19
200	48	12	23	7	1
300	72	9	11	0	20
400	97	5	22	14	2
500	121	12	10	7	21

D. wt.	Grains.	Mites.	Parts.
0	9	14	22
0	19	9	7
1	5	3	29
1	14	18	14
2	0	12	36
2	10	7	21
2	20	2	6
3	5	16	28
3	15	11	13
4	1	5	35
4	11	0	20

d. wt.	Gr.	Mit	Part
1	6	0	12
2	12	1	4
5	2	8	24
7	12	3	12
10	4	17	11
12	12	6	1
15	6	9	5
17	12	8	10
d. gr.		mi	pt.
1	18	9	27
12	4	7	11
6	2	4	32
4	1	2	16
4	1	1	23

Five-penny weight. At the Ounce.

L. wt.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	5	14	22	0	10	16	8
2	0	10	28	44	0	21	32	16
3	0	15	42	66	1	8	8	24
4	1	1	14	18	1	19	4	32
5	1	7	0	12	2	6	1	3
6	1	12	10	7	2	16	17	11
7	1	17	20	2	3	3	13	19
8	2	3	5	16	3	14	9	27
9	2	8	15	11	4	1	5	35
10	2	14	1	5	4	12	2	6
11	2	19	11	0	4	22	18	14
20	5	8	2	11				
30	8	2	3	17	d.w.	Gr.	Mit	Part
40	10	16	5	3	1	6	0	13
45	12	3	5	16	2	12	1	7
50	13	10	6	9	5		2	14
60	16	4	7	15	7	12	4	1
70	18	18	9	1	10		5	8
80	21	12	10	7	12	12	6	15
90	24	6	11	13	15		8	2
100	27	0	12	19	17	12	9	9
200	54	1	1	19	d.t gr.	gr.	mi	pt.
300	81	1	14	19	1	0	10	30
400	108	2	3	19	18	0	8	4
500	135	2	16	19	12	0	5	15
					6	0	2	26

Five-penny weight and a half. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	5	22	14	2	0	11	17	31
2	0	11	21	8	4	0	23	15	25
3	0	17	20	2	6	1	11	13	19
4	1	3	18	16	8	1	23	11	13
5	1	9	17	10	10	2	11	9	7
6	1	15	16	4	12	2	23	7	1
7	2	1	14	18	14	3	11	4	32
8	2	7	13	12	16	3	23	2	26
9	2	13	12	6	18	4	11	0	20
10	2	19	11	0	20	4	22	18	14
11	3	5	9	14	22	5	10	16	8
20	5	18	22	1	3				
30	8	18	9	1	23				
40	11	17	20	2	6	d.w.	Gr.	Mit	Part
45	13	7	13	12	16	1	6	0	14
50	14	17	7	2	26	2	12	1	9
60	17	16	18	3	9	5		2	19
70	20	16	5	3	29	7	12	4	9
80	23	15	16	4	12	10		5	18
90	26	15	3	4	32	12	12	7	8
100	29	14	14	5	15	15		8	18
200	59	9	4	10	30	17	12	10	8
300	89	3	18	16	8				
400	118	18	9	1	23	d.t gr.	gr.	mi	pt.
500	148	12	23	7	1	1	18	0	11
						18	12	0	8
						12	6	0	5
						6	6	0	2

Six-penny weight.

At the Ounce.

L. wt.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	6	11	13	0	2	19	17
2	0	12	23	7	1	1	18	34
3	0	19	11	0	1	14	18	14
4	1	5	22	14	2	3	17	31
5	1	12	10	7	2	16	17	11
6	1	18	22	1	3	5	16	28
7	2	5	9	14	3	18	16	8
8	2	11	21	8	4	7	15	25
9	2	18	9	1	4	20	15	5
10	3	4	20	15	5	9	14	22
11	3	11	8	8	5	22	14	2
20	6	9	17	10				
30	9	14	14	5				
40	12	19	11	0				
45	14	11	21	8				
50	16	4	7	15				
60	19	9	4	10				
70	22	14	1	5				
80	25	18	22	1				
90	29	3	18	16				
100	32	8	15	11				
200	64	17	7	2				
300	97	5	22	14				
400	129	14	14	5				
500	162	3	5	16				

d. wt.	Gr.	Mit	Part
1	6	0	16
2	12	1	12
5	3	4	3
7	12	4	17
10	6	9	27
12	12	8	2
15	9	14	22
17	12	11	7

d. wt.	gr.	mit	pt.
1	18	9	27
12	6	18	6
6	3	9	9

Six-penny weight and a half.

At the Ounce.

L. wt.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	7	0	12	0	12	36	
2	0	14	1	5	1	5	35	
3	1	1	1	18	1	18	34	
4	1	8	2	11	2	11	33	
5	1	15	3	4	3	4	32	
6	2	2	3	17	3	17	31	
7	2	9	4	10	4	10	30	
8	2	16	5	3	5	3	29	
9	3	3	5	16	5	16	28	
10	3	10	6	9	6	9	27	
11	3	17	7	2	7	2	26	
20	7	0	12	19				
30	10	10	19	9				
40	14	1	1	18				
45	15	16	5	3				
50	17	11	8	8				
60	21	1	14	18				
70	24	11	21	8				
80	28	2	3	17				
90	31	12	10	7				
100	35	2	16	17				
200	70	5	9	14				
300	105	8	2	11				
400	140	10	19	9				
500	175	13	12	6				

d. wt.	Gr.	Mit	Part
1	6	0	17
2	12	1	15
5	3	10	10
7	12	5	15
10	7	0	20
12	12	8	15
15	10	10	30
17	12	12	5

d. wt.	gr.	mit	pt.
1	18	14	2
12	10	7	1
6	3	19	3
4	2	12	2

Seven-penny weight.

At the Ounce.

L. wt.	D. wt.	Grains.	Miles.	Parts.	D. wt.	Grains.	Miles.	Parts.
1	0	7	13	12	0	15	2	26
2	0	15	3	4	1	6	5	15
3	1	2	16	17	1	21	8	4
4	1	10	6	9	2	12	10	30
5	1	17	20	2	3	3	13	19
6	2	5	9	14	3	18	16	8
7	2	12	23	7	4	9	18	34
8	3	0	12	19	5	1	1	23
9	3	8	2	11	5	16	4	12
10	3	15	16	4	6	7	7	1
11	4	3	5	16	6	22	9	27
20	7	11	8	8				
30	11	7	0	12				
40	15	2	16	17				
45	17	0	12	19				
50	18	18	9	1				
60	22	14	1	5				
70	26	9	17	10				
80	30	5	9	14				
90	34	1	1	18				
100	37	16	18	3				
200	75	13	12	6				
300	113	10	6	9				
400	151	7	0	12				
500	189	3	18	16				

D. wt.	Gr.	Mi.	Par.	D. wt.	Gr.	Mi.	Par.
0	18	0	18	1	6		
1	17	1	17	2	12		
2	15	3	15	5			
3	13	5	13	7	12		
4	11	7	11	10			
5	9	9	9	12	12		
6	7	11	7	15			
7	5	13	5	17	12		
8	3	15	3				
9	1	17	1				
10		19					
11		21					
12		23					
13		25					
14		27					
15		29					
16		31					
17		33					
18		34					

dt. gr.	gr.	mi.	pt.
1	0	15	5
18	0	11	13
12	0	7	21
6	0	3	29

Seven-penny weight and a half.

At the Ounce.

L. wt.	D. wt.	Grains.	Miles.	Parts.	D. wt.	Grains.	Miles.	Parts.
1	0	8	2	11	0	19	4	12
2	0	16	5	3	1	8	8	24
3	1	4	7	15	2	0	12	36
4	1	12	10	7	2	16	17	11
5	2	0	12	19	3	9	1	23
6	2	8	15	11	4	1	5	35
7	2	16	18	3	4	17	10	10
8	3	4	20	15	5	9	14	22
9	3	12	23	7	6	1	18	34
10	4	1	1	18	7	18	3	9
11	4	9	4	10	7	10	7	21
20	8	2	3	17				
30	12	3	5	16				
40	16	4	7	15				
45	18	4	20	15				
50	20	5	9	14				
60	24	6	11	13				
70	28	7	13	12				
80	32	8	15	11				
90	36	9	17	10				
100	40	10	19	9				
200	81	1	14	8				
300	121	12	10	7				
400	162	3	5	6				
500	202	14	1	5				

D. wt.	Gr.	Mi.	Par.	D. wt.	Gr.	Mi.	Par.
0	10	0	10	1	6		
1	0	20	3	2	12		
2	1	1	23	5			
3	2	3	6	7	12		
4	3	1	26	10			
5	4	2	9	12	12		
6	5	2	3	15			
7	6	3	9	17	12		
8	7	3	29				
9	8	3	8				
10	9	4	4				
11	10	4	2				
12	11	5	1				
13	12	5	1				
14	13	6	1				
15	14	6	2				
16	15	7	2				
17	16	7	3				
18	17	8	3				
19	18	8	4				
20	19	9	4				
21	20	9	5				
22	21	10	5				
23	22	10	6				
24	23	11	6				
25	24	11	7				
26	25	12	7				
27	26	12	8				
28	27	13	8				
29	28	13	9				
30	29	14	9				
31	30	14	10				
32	31	15	10				
33	32	15	11				
34	33	16	11				
35	34	16	12				
36	35	17	12				
37	36	17	13				
38	37	18	13				
39	38	18	14				
40	39	19	14				
41	40	19	15				
42	41	20	15				
43	42	20	16				
44	43	21	16				
45	44	21	17				
46	45	22	17				
47	46	22	18				
48	47	23	18				
49	48	23	19				
50	49	24	19				

dt. gr.	gr.	mi.	pt.
1	16	8	8
18	12	6	4
12	8	4	2

Eight-penny weight. At the Ounce.

L. wt.	Ounce.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	8	15	11	0	17	5	35
2	0	17	7	2	1	10	11	33
3	1	5	22	14	2	3	17	31
4	1	14	14	5	2	21	3	29
5	2	3	5	16	3	14	9	27
6	2	11	21	8	4	7	15	25
7	3	0	12	9	5	1	1	23
8	3	9	4	10	5	18	7	21
9	3	17	20	2	6	11	13	19
10	4	6	11	13	7	4	19	17
11	4	15	3	4	7	22	5	15
20	8	12	23	7				
30	12	19	11	0	d. wt.	Gr.	Mi.	Part.
40	17	5	22	14	1	6	1	23
45	19	9	4	10	2	2	2	9
50	21	12	10	7	5	4	6	18
60	25	18	22	1	7	12	6	9
70	30	5	9	14	10	8	12	36
80	34	11	21	8	12	12	10	16
90	38	18	9	1	15	12	19	17
100	43	4	20	15	17	12	15	26
200	86	9	17	10	dt. gr.		mi.	pt.
300	129	14	14	5	1		17	11
400	172	19	11	0	8		12	36
500	216	4	7	15	12		8	24
					6		4	12
					4		2	32

Eight-penny weight and a half. At the Ounce.

L. wt.	Ounce.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	8	15	11	0	17	5	35
2	0	17	7	2	1	10	11	33
3	1	5	22	14	2	3	17	31
4	1	14	14	5	2	21	3	29
5	2	3	5	16	3	14	9	27
6	2	11	21	8	4	7	15	25
7	3	0	12	9	5	1	1	23
8	3	9	4	10	5	18	7	21
9	3	17	20	2	6	11	13	19
10	4	6	11	13	7	4	19	17
11	4	15	3	4	7	22	5	15
20	8	12	23	7				
30	12	19	11	0	d. wt.	Gr.	Mi.	Part.
40	17	5	22	14	1	6	1	23
45	19	9	4	10	2	2	2	9
50	21	12	10	7	5	4	6	18
60	25	18	22	1	7	12	6	9
70	30	5	9	14	10	8	12	36
80	34	11	21	8	12	12	10	16
90	38	18	9	1	15	12	19	17
100	43	4	20	15	17	12	15	26
200	86	9	17	10	dt. gr.		mi.	pt.
300	129	14	14	5	1		17	11
400	172	19	11	0	8		12	36
500	216	4	7	15	12		8	24
					6		4	12
					4		2	32

Nine-penny weight. At the Ounce.

L. wt.	Ounc.	Grain.	Mites	Parts	D. wt.	Grain.	Mites	Parts			
1	0	9	17	10	10	0	19	9	7		
2	0	19	11	0	20	1	4	18	14		
3	1	9	4	10	30	2	10	7	21		
4	1	18	22	1	40	3	5	16	28		
5	2	8	15	11	50	4	1	5	35		
6	2	18	9	1	60	4	20	15	5		
7	3	8	2	11	70	5	16	4	12		
8	3	7	20	2	80	6	11	13	19		
9	4	7	13	12	90	7	7	2	26		
10	4	17	7	2	100	8	2	11	33		
11	5	7	0	12	200	8	22	1	3		
20	9	4	14	5	300	14	11	21	8	4	
30	14	11	21	8	400	19	9	4	10	30	
40	19	9	4	10	450	21	17	20	2	6	
45	21	17	20	2	500	24	6	11	13	19	
50	24	6	11	13	600	29	3	18	16	8	
60	29	3	18	16	700	34	1	1	18	34	
70	34	1	1	18	800	3	8	9	1	23	
80	3	8	9	1	900	4	5	16	4	12	
90	4	5	16	4	1000	4	12	23	7	1	
100	4	12	23	7	2000	9	7	5	22	14	22
200	9	7	5	22	3000	14	1	1	5	35	
300	14	5	18	22	4000	19	1	1	18	34	
400	19	1	1	18	5000	24	8	2	11	33	
500	24	8	2	11		30	15	3	4	32	
						40				3	9
						50				1	23

Nine-penny weight and a half. At the Ounce.

L. wt.	Ounc.	Grain.	Mites	Parts	D. wt.	Grain.	Mites	Parts		
1	0	10	6	9	27	0	20	10	30	
2	1	0	1	19	17	1	17	1	23	
3	1	10	19	9	7	2	13	12	16	
4	2	1	1	18	34	3	10	3	9	
5	2	11	8	8	24	4	6	14	2	
6	3	1	14	18	14	5	3	4	32	
7	3	11	21	8	4	5	23	15	25	
8	4	3	17	3	1	6	20	6	18	
9	4	12	10	7	21	7	16	17	11	
10	5	16	17	11		8	13	8	4	
11	5	12	23	7	1	9	9	18	34	
20	10	5	9	14	22					
30	15	8	2	11	33	d.wt.	Gr.	Mit.	Part.	
40	20	10	9	9	7	1	6	1	5	25
45	23	2	3	17	31	2	12	2	11	13
50	25	13	12	6	18	5		5	2	26
60	30	16	5	3	29	7	12	7	14	2
70	35	18	22	1	3	10	10	10	5	15
80	41	1	14	18	14	12	12	12	16	28
90	46	4	7	15	25	15		1	8	4
100	51	7	0	12	36	17	12	17	19	17
200	102	14	1	5	35			1	0	20
300	154	1	1	18	34			0	15	15
400	205	8	2	11	33			0	10	10
500	256	15	3	4	32			0	5	5
								0	3	15
								0	1	26

Ten-penny weight. At the Ounce.

L. wt.	D. wt. Ounc.	Grains.	Mites.	Parts.	D. wt. Grain.	Mites.	Parts.
1	0	10	19	9	7	0	21
2	1	1	14	18	14	1	19
3	1	2	10	7	21	2	16
4	2	3	5	16	28	3	14
5	2	4	1	5	35	4	12
6	3	4	20	15	5	5	9
7	3	5	16	4	12	6	7
8	4	6	11	13	19	7	4
9	4	7	7	2	26	8	2
10	5	8	2	11	33	9	0
11	5	8	22	1	3	9	0
20	10	16	5	3	29	16	2
30	16	4	7	15	25	21	4
40	21	12	10	7	21	26	6
45	24	6	11	13	19	31	8
50	27	0	12	19	17	36	10
60	32	8	15	11	13	41	12
70	37	16	18	3	9	46	14
80	43	4	20	15	5	51	16
90	48	12	23	7	1	56	18
100	54	1	1	18	34	61	20
200	108	2	3	17	31	112	22
300	162	3	5	16	28	163	24
400	216	4	7	15	25	214	26
500	270	5	9	14	22	265	28

Ten-penny weight and a half. At the Ounce.

L. wt.	D. wt. Ounc.	Grain.	Mites.	Parts.	D. wt. Grain.	Mites.	Parts.
1	0	11	8	8	24	0	22
2	1	2	16	17	11	1	14
3	1	3	1	5	35	2	11
4	2	5	9	14	22	3	8
5	2	6	18	3	9	4	5
6	3	8	2	11	33	5	2
7	3	9	11	0	20	6	1
8	4	10	19	9	7	7	0
9	5	2	3	1	31	8	0
10	5	3	12	6	18	9	0
11	6	4	20	15	5	10	0
20	11	7	0	12	36	19	0
30	17	0	12	19	17	28	0
40	22	14	1	5	35	34	0
45	25	10	19	9	7	39	0
50	28	7	13	12	16	43	0
60	34	1	1	18	34	47	0
70	39	14	14	5	15	51	0
80	45	8	2	11	33	55	0
90	51	1	14	18	14	59	0
100	56	15	3	4	32	63	0
200	113	10	6	9	27	126	0
300	170	5	9	14	22	189	0
400	227	0	12	19	17	252	0
500	283	15	16	4	12	315	0

Eleven-penny weight. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0	1	21	8	4
2	1	3	18	16	8
3	1	5	16	4	12
4	2	7	13	12	16
5	2	9	11	0	20
6	3	11	8	8	24
7	4	3	5	16	28
8	4	5	3	4	32
9	5	7	0	12	36
10	5	8	22	1	3
11	6	10	19	9	7
20	11	17	20	2	6
30	17	16	18	3	9
40	23	15	16	4	12
45	26	15	3	4	32
50	29	14	14	5	15
60	35	13	12	6	18
70	41	12	10	7	21
80	47	11	8	8	24
90	53	10	6	9	27
100	50	9	4	10	30
200	118	18	9	12	3
300	178	7	13	12	16
400	237	16	18	3	9
500	297	5	22	14	2

D. w.	Gr.	Mit.	Part.
0	23	15	25
1	23	11	13
2	23	7	1
3	23	2	25
4	22	18	14
5	22	14	2
6	22	9	27
7	22	5	15
8	22	1	3
9	21	1	28
10	21	12	16

d. w.	Gr.	Mit.	Part.
1	6	1	9
2	12	2	19
5	5	5	18
7	12	8	18
10	12	11	17
12	12	14	17
15	12	17	16
17	12	20	16

d. wt.	gr.	mi.	pt.
1	18	0	17
12	0	11	33
6	0	5	35
2	0	2	35

Eleven-penny weight and a half. At the Ounce

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0	12	10	7	21
2	1	4	20	15	5
3	1	17	7	2	26
4	2	9	17	10	10
5	3	2	3	17	31
6	3	14	14	5	15
7	4	7	0	12	36
8	4	19	11	0	20
9	5	11	21	8	4
10	6	4	7	15	25
11	6	16	18	3	9
20	12	8	15	11	13
30	18	12	23	7	1
40	24	17	7	2	26
45	27	19	11	0	20
50	31	1	14	18	14
60	37	5	22	14	2
70	43	10	6	9	27
80	49	14	14	5	15
90	55	18	22	1	3
100	62	3	5	16	28
200	124	6	11	13	19
300	186	9	17	10	10
400	248	12	23	7	1
500	310	16	5	3	29

D. wt.	Gr.	Mit.	Part.
1	17	11	11
2	14	22	
3	11	33	
4	9	7	
5	6	18	
6	5	3	
7	6	1	
8	6	18	
9	7	15	
10	8	12	
11	9	10	

d. w.	Gr.	Mit.	Part.
1	6	1	11
2	12	3	2
5	5	6	4
7	12	9	6
10	12	12	8
12	12	15	10
15	12	18	1
17	12	21	15

dt. gr.	gr.	mi.	pt.
1	18	1	4
12	18	12	16
6	18	6	8
4	18	4	5

Twelve-penny weight. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0	2	23	7	1
2	1	5	22	14	2
3	1	18	22	1	3
4	2	11	21	8	4
5	3	4	20	15	5
6	3	17	20	2	6
7	4	10	19	9	7
8	5	3	18	16	8
9	5	16	18	3	9
10	6	9	17	10	10
11	7	2	16	17	11
20	12	19	11	0	20
30	19	9	4	10	30
40	25	18	22	1	3
45	29	3	18	16	8
50	32	8	15	11	13
60	38	18	9	1	23
70	45	8	2	11	33
80	51	17	20	2	6
90	58	7	13	12	16
100	64	17	7	2	26
200	129	14	14	5	15
300	194	11	21	8	4
400	259	9	4	0	30
500	324	6	11	3	19

D. wt.	Grains.	Mites.	Parts.
1	18	34	
2	3	17	31
3	5	16	28
4	7	15	25
5	9	14	22
6	11	13	19
7	13	12	16
8	15	11	13
9	17	10	10
10	10	9	7
11	29	8	4

d.w.	Gr.	Mit.	Part.
1	6	12	16
2	12	3	4
5	6	9	27
7	12	9	14
10	12	12	19
11	12	16	4
15	12	19	9
17	12	22	14
1	18	1	5
12	12	12	36
6	6	6	18
4	4	4	12
2	2	2	6

Twelve-penny weight and a half. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0	13	12	6	18
2	1	7	0	12	36
3	2	0	12	19	17
4	2	14	1	5	35
5	3	7	13	12	16
6	4	1	1	18	34
7	4	14	14	5	15
8	5	8	2	11	33
9	6	1	14	18	14
10	6	15	3	4	32
11	7	8	15	11	13
20	13	10	6	9	27
30	20	5	9	14	22
40	27	0	12	19	17
45	30	8	2	11	33
50	33	15	16	4	12
60	40	10	19	9	7
70	47	5	22	14	2
80	54	1	1	18	34
90	60	16	5	3	29
100	67	11	8	8	24
200	135	2	16	17	11
300	202	14	1	5	35
400	270	5	9	14	22
500	337	16	18	3	9

d.w.	Gr.	Mit.	Part.
1	6	13	29
2	12	3	7
5	6	15	5
7	12	10	2
10	12	13	10
12	12	16	17
15	12	20	5
17	12	23	12
1	18	1	7
12	12	13	19
6	6	6	28
4	4	4	18
2	2	2	9

Thirteen-penny weight. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mires.	Parts.
1	0	14	1	5	35
2	1	13	2	11	33
3	2	12	3	17	31
4	2	6	5	3	29
5	3	10	6	9	27
6	4	4	7	15	25
7	4	10	9	1	23
8	5	1	10	7	21
9	6	0	11	13	19
10	7	12	12	19	17
11	7	1	14	5	15
20	14	1	1	18	34
30	21	1	14	8	14
40	28	2	3	17	31
45	31	12	0	7	21
50	35	2	16	17	11
60	42	3	5	16	28
70	49	3	18	10	8
80	56	4	7	15	25
90	63	4	20	5	5
100	70	5	9	14	22
200	140	19	9	9	7
300	210	16	5	3	29
400	281	1	14	18	14
500	351	7	0	12	36

D. wt.	Grains.	Mires.	Parts.
1	4	2	6
2	8	4	21
3	12	6	18
4	16	8	24
5	20	10	30
7	0	12	36
8	4	15	5
9	8	17	11
10	12	19	17
11	17	1	23
12	21	3	29

D. wt.	Gr.	Mir.	Par.
1	6	15	5
2	12	30	10
5	7	0	20
7	12	10	10
10	14	1	3
12	12	17	11
15	d.t	21	1
17	12	1	0
1	18	1	1
12	0	14	2
6	0	7	1
4	0	4	25

Thirteen penny weight and a half. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mires.	Parts.
1	0	14	1	5	15
2	1	9	4	10	30
3	2	3	18	16	8
4	2	8	9	1	23
5	3	12	23	7	1
6	4	7	13	12	16
7	5	2	3	17	31
8	5	16	18	3	9
9	6	11	8	8	24
10	7	5	22	14	2
11	8	0	12	19	17
20	14	11	21	8	4
3	21	17	20	2	6
40	29	3	18	16	8
45	32	16	18	3	9
50	36	9	17	10	10
60	43	15	16	4	12
70	51	1	14	18	14
80	58	7	13	12	16
9	65	13	12	6	18
100	72	19	11	0	20
200	145	18	22	0	4
300	218	18	9	0	24
400	291	17	20	0	8
500	364	17	7	0	28

D. wt.	Gr.	Mir.	Par.
1	6	16	18
2	12	3	12
5	7	15	35
7	12	10	18
10	14	11	33
12	12	18	4
15	d.t	21	17
17	12	1	10
1	18	1	9
12	0	14	22
6	0	7	11
4	0	4	32

Fourteen-penny weight. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	15	3	4	32	1	6	5	15
2	1	10	6	9	27	2	12	10	30
3	2	5	9	14	22	3	18	16	8
4	3	0	12	19	17	5	1	1	23
5	3	15	16	4	12	6	7	7	1
6	4	10	19	9	7	7	13	2	16
7	5	5	22	14	2	8	19	17	31
8	6	1	1	18	34	10	2	3	9
9	6	16	5	3	29	11	8	8	24
10	7	11	8	8	24	12	14	14	2
11	8	6	11	13	19	13	20	19	17
20	15	2	16	17	11				
30	22	14	1	5	35				
40	30	5	9	14	22				
45	34	1	1	18	34				
50	37	16	18	3	9				
60	45	8	2	1	33				
70	52	19	11	0	20				
80	60	10	16	9	7				
90	68	2	3	17	31				
100	75	13	12	6	18				
200	151	7	0	12	36				
300	227	0	12	19	17				
400	302	14	1	5	35				
500	378	7	13	12	16				

D. wt.	Gr.	Mit.	Part.	D. wt.	Gr.	Mit.	Part.			
1	6	1	17	31	1	6	1	17	31	
2	12	3	15	25	2	12	3	15	25	
5	7	7	11	13	5	7	7	11	13	
7	12	11	7	1	7	12	11	7	1	
10	15	15	2	26	10	15	15	2	26	
12	18	18	18	14	12	18	18	14	14	
15	22	22	14	2	15	22	22	14	2	
17	12	1	2	9	17	12	1	2	9	27
1	1	1	10	10	1	1	1	10	10	
18	1	1	2	26	18	1	1	2	26	
12	15	15	5	5	12	15	15	5	5	
6	7	7	21	1	6	7	7	21	1	
4	5	5	1	1	4	5	5	1	1	

Fourteen-penny weight and a half. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	0	15	16	4	12	1	7	7	1
2	1	11	8	8	24	2	14	14	2
3	2	7	0	12	36	3	22	1	3
4	3	2	16	17	11	5	5	8	14
5	3	18	9	1	23	6	12	15	5
6	4	14	1	5	35	7	20	2	6
7	5	9	17	10	10	9	3	9	7
8	6	5	9	14	22	10	10	16	8
9	7	1	1	18	34	11	18	3	9
10	7	16	18	3	9	13	1	10	10
11	8	12	10	7	21	14	8	17	11
20	15	13	12	6	18				
30	23	10	6	9	27				
40	31	7	0	12	36				
45	35	5	9	14	22				
50	39	3	18	16	8				
60	47	0	12	19	17				
70	54	17	7	2	26				
80	62	14	1	5	35				
90	70	10	19	9	7				
100	78	7	13	12	16				
200	156	15	3	4	32				
300	235	2	16	17	11				
400	313	10	6	9	27				
500	391	17	20	2	6				

D. wt.	Gr.	Mit.	Part.	D. wt.	Gr.	Mit.	Part.			
1	6	1	19	7	1	6	1	19	7	
2	12	3	18	14	2	12	3	18	14	
5	7	7	16	8	5	7	7	16	8	
7	12	11	15	5	7	12	11	15	5	
10	15	15	13	19	10	15	15	13	19	
12	18	18	11	33	12	18	18	11	33	
15	23	23	10	10	15	23	23	10	10	
17	12	1	3	8	17	12	1	3	8	24
1	1	1	11	13	1	1	1	11	13	
18	1	1	3	19	18	1	1	3	19	
12	15	15	25	25	12	15	15	25	25	
6	7	7	31	8	6	7	7	31	8	
4	5	5	1	1	4	5	5	1	1	

Fifteen-penny weight. At the Ounce

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0	16	5	3	29
2	1	12	10	7	21
3	2	8	15	11	13
4	3	4	20	15	5
5	4	1	1	18	34
6	4	17	7	2	26
7	5	13	12	6	18
8	6	9	17	10	10
9	7	5	22	14	2
10	8	2	3	17	31
11	8	8	9	1	23
20	15	4	7	15	25
30	24	0	11	13	19
40	32	8	15	11	13
45	36	9	17	10	10
50	40	10	19	9	7
60	48	12	23	7	1
70	56	15	3	4	32
80	64	17	7	2	26
90	72	19	11	0	20
100	81	1	14	18	14
200	162	3	5	16	28
300	243	4	20	15	5
400	324	6	11	13	19
500	405	8	2	11	33

D. wt.	Grains.	Mites.	Parts.
1	8	8	24
2	16	17	11
4	1	5	35
5	9	14	22
6	18	3	9
8	2	1	33
9	11	0	20
10	19	9	7
12	3	17	31
13	12	6	18
14	2	15	5

Gr.	Mit.	Part.
1	6	2
2	12	4
5	3	8
7	12	12
10	12	16
12	12	20
15	1	20
17	12	1
1	1	12
18	1	4
12	0	16
6	0	8
4	0	5
2	0	2

Fifteen-penny weight and a half. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0	16	18	3	9
2	1	13	12	6	18
3	2	10	6	9	27
4	3	7	0	12	36
5	4	3	18	16	8
6	5	0	12	19	17
7	5	17	7	2	26
8	6	14	1	5	35
9	7	10	19	9	7
10	8	7	13	2	16
11	9	4	7	5	25
20	16	15	3	4	32
30	25	2	16	17	1
40	33	10	6	9	27
45	37	14	1	5	35
50	41	17	20	2	6
60	50	5	9	4	22
70	58	12	23	7	1
80	67	0	12	19	17
90	75	8	2	11	33
100	83	15	16	4	12
200	167	11	8	8	24
300	251	7	0	12	36
400	335	2	16	17	11
500	418	18	9	1	23

D. wt.	Grains.	Mites.	Parts.
1	9	10	10
2	6	0	20
4	4	0	30
5	14	1	4
6	3	11	13
8	9	1	23
9	18	11	3
11	4	2	6
12	13	12	16
13	23	2	26
15	8	12	36

Gr.	Mit.	Part.
1	6	2
2	12	4
5	8	7
7	12	11
10	16	15
12	12	20
15	1	26
17	12	1
1	1	13
18	1	5
12	0	16
6	0	8
4	0	5
2	0	2

Sixteen-penny weight. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0 17	7	2	26	
2	1 14	14	5	15	
3	2 11	21	8	4	
4	3 9	4	10	30	
5	4 6	11	13	19	
6	5 3	18	16	8	
7	6 1	1	18	34	
8	6 18	9	1	23	
9	7 15	16	4	12	
10	8 12	23	7	1	
11	9 10	6	9	27	
20	17 5	22	14	2	
30	25 18	22	1	3	
40	34 11	21	8	4	
45	38 18	9	1	23	
50	43 4	20	15	5	
60	51 17	20	2	6	
70	60 10	19	9	7	
80	69 3	18	16	6	
90	77 16	18	3	9	
100	86 9	17	10	10	
200	172 19	11	0	20	
300	259 9	4	10	30	
400	345 18	22	1	3	
500	432 8	15	11	13	

L. wt.	Gr.	Mi.	Part.
1	6	2	3
2	12	4	6
5	18	8	12
7	12	12	19
10	17	17	25
12	12	21	16
15	1	1	18
17	12	1	6
1	18	1	5
12	0	0	17
6	0	0	8
4	0	0	5
2	0	0	2

Sixteen-penny weight and a half. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	0 17	20	2	6	
2	1 15	16	4	12	
3	2 13	12	6	18	
4	3 11	8	8	24	
5	4 9	4	10	30	
6	5 7	0	12	36	
7	6 4	20	15	5	
8	7 2	16	17	11	
9	8 0	12	19	17	
10	8 18	9	1	23	
11	9 16	5	3	29	
20	17 16	18	3	9	
30	26 15	3	4	32	
40	35 13	12	6	18	
45	40 2	16	17	11	
50	44 11	21	8	4	
60	53 10	6	9	27	
70	62 8	15	11	13	
80	71 7	0	12	30	
90	80 5	9	14	22	
100	89 3	18	16	8	
200	178 7	13	12	16	
300	267 11	8	8	24	
400	356 15	3	4	32	
500	445 18	22	1	3	

L. wt.	Gr.	Mi.	Part.
1	6	0	2
2	12	0	4
5	0	8	18
7	12	0	13
10	17	16	28
12	12	22	5
15	1	2	15
17	12	1	7
1	18	1	15
12	1	1	6
17	1	1	15
6	4	2	1

Seventeen-penny weight. At the Ounce.

L. wt.	D. wt.	Grain.	Mites	Parts	D. wt.	Grain.	Mites	Parts
1	18	6	123		1	12	15	5
2	16	18	39		3	1	10	10
3	15	3	432		4	14	5	15
4	13	12	618		6	3	0	20
5	11	21	84		7	15	15	25
6	10	6	927		9	4	10	30
7	8	15	1113		10	17	5	35
8	7	0	1236		12	6	1	3
9	5	9	1422		13	18	16	8
10	3	8	168		15	7	11	13
11	2	3	1731		16	20	6	18
20	18	7	1216					
30	27	11	8824					
40	36	15	3432					
45	41	7	01236					
50	45	18	2213					
60	55	2	161711					
70	64	6	111319					
80	73	10	6527					
90	82	14	1535					
100	91	17	2026					
200	183	15	16412					
300	275	13	12618					
400	367	11	8824					
500	459	9	41030					

Seventeen-penny weight and a half. At the Ounce.

L. wt.	D. wt.	Grains.	Mites.	Parts.	D. wt.	Grains.	Mites.	Parts.
1	18	12	1	3	1	12	15	5
2	17	20	2	6	3	1	10	10
3	16	18	3	9	4	14	5	15
4	15	16	4	12	6	3	0	20
5	14	14	5	15	7	15	15	25
6	13	12	6	18	9	4	10	30
7	12	10	7	21	10	17	5	35
8	11	8	8	24	12	6	1	3
9	10	6	9	27	13	18	16	8
10	9	4	10	30	15	7	11	13
11	8	2	11	33	16	20	6	18
20	18	9	12	36				
30	28	12	12	36				
40	37	16	18	36				
45	42	11	8	24				
50	47	5	22	14				
60	56	15	3	432				
70	66	4	7	1525				
80	75	13	12	618				
90	85	2	16	1711				
100	94	11	21	184				
200	189	3	18	168				
300	283	15	16	1412				
400	378	7	13	1216				
500	472	19	11	020				

Eighteen-penny weight. At the Ounce.

L. wt.	D. wt.	Grains.	Mites.	Parts.
1	0 19	11	0	20
2	1 18	22	1	3
3	2 18	9	1	23
4	3 17	20	2	6
5	4 17	7	2	26
6	5 16	18	3	9
7	6 16	5	3	29
8	7 15	16	4	12
9	8 15	3	4	32
10	9 14	14	5	15
11	10 14	1	5	35
20	19 9	4	10	30
30	29 3	18	16	8
40	38 18	9	1	23
45	43 15	16	4	12
50	48 12	23	7	1
60	58 7	13	12	16
70	68 2	3	17	31
80	77 16	18	3	9
90	87 11	8	8	24
100	97 5	22	14	2
200	194 11	21	8	4
300	291 17	20	2	6
400	388 3	18	16	8
500	486 9	17	10	10

D. wt.	Grains.	Mites.	Parts.
1	14	18	14
3	5	16	28
4	20	15	5
6	11	13	19
8	2	11	33
9	17	10	10
11	8	8	24
12	23	7	1
14	14	5	15
16	5	3	29
17	20	2	6

Gr.	Mit.	Part.
1	6	8 24
2	12	4 17 11
5	9	14 22
7	12	14 11 33
10	19	9 7
12	12	1 0 6 18
15	1	5 3 29
17	12	1 10 1 3
18	1	1 18 34
19	1	9 7
19	1	19 17
27	6	18 9
31	4	2 1

Eighteen-penny weight and a half. At the Ounce.

L. wt.	D. wt.	Grains.	Mites.	Parts.
1	0 0	0	0	0
2	0 0	0	0	0
3	0 0	0	0	0
4	0 0	0	0	0
5	0 0	0	0	0
6	0 0	0	0	0
7	0 0	0	0	0
8	0 0	0	0	0
9	0 0	0	0	0
10	0 0	0	0	0
11	0 0	0	0	0
20	0 0	0	0	0
30	0 0	0	0	0
40	0 0	0	0	0
45	0 0	0	0	0
50	0 0	0	0	0
60	0 0	0	0	0
70	0 0	0	0	0
80	0 0	0	0	0
90	0 0	0	0	0
100	0 0	0	0	0
200	0 0	0	0	0
300	0 0	0	0	0
400	0 0	0	0	0
500	0 0	0	0	0

D. wt.	Gr.	Mit.	Part.
1	16	8	16
3	5	9	8
5	9	8	0
8	10	16	8
10	11	16	8
13	13	8	0
15	15	16	8
16	16	16	8
18	18	8	0

D. wt.	Gr.	Mit.	Part.
1	6	10	10
2	12	5	10
5	12	10	10
7	12	15	10
10	12	20	10
12	12	1	10
15	12	1	10
17	12	11	10
18	12	1	10
6	4	10	10
4	2	6 24	3 12

Nineteen-penny weight. At the Ounce.

L. WT.	Grains.	Parts.	Grains.	Parts.	Grains.	Parts.
1	0	17	0	0	0	0
2	0	34	0	0	0	0
3	0	51	0	0	0	0
4	0	68	0	0	0	0
5	0	85	0	0	0	0
6	0	102	0	0	0	0
7	0	119	0	0	0	0
8	0	136	0	0	0	0
9	0	153	0	0	0	0
10	0	170	0	0	0	0
11	0	187	0	0	0	0
20	20	364	0	0	0	0
30	30	546	0	0	0	0
40	40	728	0	0	0	0
45	46	814	5	5	0	0
50	51	900	10	10	0	0
60	61	1080	20	20	0	0
70	71	1260	30	30	0	0
80	82	1440	40	40	0	0
90	92	1620	50	50	0	0
100	102	1800	60	60	0	0
200	205	3600	120	120	0	0
300	308	5400	180	180	0	0
400	410	7200	240	240	0	0
500	513	9000	300	300	0	0

Nineteen-penny weight and a half. At the Ounce.

L. WT.	Grains.	Parts.	Grains.	Parts.	Grains.	Parts.
1	0	18	0	0	0	0
2	0	36	0	0	0	0
3	0	54	0	0	0	0
4	0	72	0	0	0	0
5	0	90	0	0	0	0
6	0	108	0	0	0	0
7	0	126	0	0	0	0
8	0	144	0	0	0	0
9	0	162	0	0	0	0
10	0	180	0	0	0	0
11	0	198	0	0	0	0
20	20	396	0	0	0	0
30	31	594	10	10	0	0
40	42	792	20	20	0	0
45	47	885	25	25	0	0
50	52	978	30	30	0	0
60	63	1176	40	40	0	0
70	73	1374	50	50	0	0
80	84	1572	60	60	0	0
90	94	1770	70	70	0	0
100	105	1968	80	80	0	0
200	210	3936	160	160	0	0
300	316	5904	240	240	0	0
400	421	7872	320	320	0	0
500	527	9840	400	400	0	0

One Ounce. At the Ounce.

L. wt.	Ounc.	D. wt.	Grain.	Mites	Parts.
1	1	1	14	18	14
2	2	3	5	16	28
3	3	4	20	15	5
4	4	6	11	13	19
5	5	8	2	11	33
6	6	9	17	10	10
7	7	11	8	8	24
8	8	12	23	7	1
9	9	14	14	5	15
10	10	16	5	3	29
11	11	17	20	2	6
20	21	12	10	7	21
30	32	8	15	11	13
40	43	4	20	15	5
45	48	12	23	7	1
50	54	1	1	18	34
60	64	17	7	2	26
70	75	13	12	6	18
80	86	9	17	10	10
90	97	5	22	14	2
100	108	2	3	17	31
200	215	4	7	15	25
300	324	6	11	13	19
400	432	8	15	11	13
500	540	10	19	9	7

D. wt.	Grain.	Mites	Parts.
1	19	4	32
3	14	9	27
5	9	14	22
7	4	19	17
9	0	4	12
10	19	9	7
12	14	14	2
14	9	18	34
16	5	3	29
18	0	8	24
19	19	13	19

D. wt.	Gr.	Mit.	Par.
1	6	2	14
2	12	5	8
5	10	16	8
7	12	16	4
10	12	21	12
12	12	1	3
15	1	8	8
17	12	1	13
18	1	2	3
12	1	1	1
6	10	0	10
4	7	0	7
2	4	0	4
1	2	0	2

Two Ounces. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	2	3	16	28	
2	4	6	11	13	19
3	6	9	17	10	10
4	8	12	23	7	1
5	10	16	5	3	29
6	12	19	11	0	20
7	15	2	16	17	11
8	17	5	22	14	2
9	19	9	4	10	30
10	21	12	10	7	21
11	23	15	16	4	12
20	43	4	20	15	5
30	64	17	7	2	26
40	86	9	17	10	10
45	97	5	22	14	2
50	108	2	3	17	31
60	129	14	14	5	15
70	151	7	0	12	36
80	172	19	11	0	20
90	194	11	2	8	4
100	216	4	7	15	25

D. wt.	Gr.	Mit.	Par.
1	6	0	5
2	12	0	10
5	10	2	1
7	12	1	8
10	12	1	19
12	12	2	6
15	1	2	16
17	12	3	3
18	1	4	6
12	1	3	3
6	10	0	10
4	7	0	7
2	4	0	4
1	2	0	2

Three Ounces.

At the Ounce.

L. wt.	Ounce	D. wt.	Grain.	Mites	Parts
1	3	4	20	15	5
2	6	8	40	30	10
3	9	12	60	45	15
4	12	16	80	60	20
5	16	21	100	75	25
6	19	25	120	90	30
7	22	29	140	105	35
8	25	32	160	120	40
9	29	36	180	135	45
10	32	40	200	150	50
11	35	44	220	165	55
20	64	84	400	300	100
30	97	127	600	450	150
40	129	169	800	600	200
45	145	185	900	675	225
50	162	202	1000	750	250
60	194	234	1200	900	300
70	227	267	1400	1050	350
80	259	299	1600	1200	400
90	291	331	1800	1350	450
100	324	364	2000	1500	500

Four Ounces.

At the Ounce.

L. wt.	Ounce	D. wt.	Grain.	Mites	Parts
1	4	6	11	13	19
2	8	12	22	26	38
3	12	18	33	39	57
4	17	25	44	52	76
5	21	31	55	65	95
6	25	37	66	78	114
7	30	44	77	91	133
8	34	50	88	104	152
9	38	56	99	117	171
10	43	63	110	130	190
11	47	69	121	143	209
20	86	128	220	266	380
30	129	191	330	399	570
40	172	254	440	532	760
45	194	286	495	595	855
50	216	318	550	658	950
60	259	381	720	874	1260
70	302	444	890	1090	1570
80	345	507	1060	1306	1880
90	389	570	1230	1522	2190
100	432	633	1400	1738	2500

Five Ounces.

At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	5	8	2	11	33
2	10	16	5	3	29
3	16	4	7	15	25
4	21	12	10	7	21
5	27	0	12	19	17
6	32	8	15	11	13
7	37	16	18	3	9
8	43	4	20	15	5
9	48	12	23	7	1
10	54	1	1	18	34
11	59	9	4	10	30
20	108	2	3	17	31
30	162	3	5	16	28
40	216	4	7	15	25
45	243	4	0	15	5
50	270	5	9	14	22
60	324	6	11	13	19
70	378	7	13	12	16
80	432	8	15	11	13
90	486	9	17	10	10
100	540	10	19	9	7

D. wt.	Grains.	Mites.	Parts.
0	9	0	4
0	18	0	8
1	7	0	12
1	16	0	17
2	5	1	1
2	14	1	5
3	3	1	10
3	12	1	14
4	1	1	18
4	10	2	3
4	19	2	7

L. wt.	D. wt.	Gr.	Mit.	Part.
1	6	0	13	10
2	12	1	3	0
5	2	6	1	3
7	12	3	9	1
10	4	12	2	6
12	12	5	15	2
15	6	18	3	9
17	12	7	21	3
1		10	16	8
18		8	2	6
12		5	8	4
6		2	14	2
4		1	16	1
2			18	1
1			9	

Six Ounces.

At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	6	9	17	10	10
2	12	19	11	0	20
3	19	9	4	10	30
4	25	18	22	1	3
5	32	8	15	11	13
6	38	18	9	1	23
7	45	8	2	11	33
8	51	17	20	2	6
9	58	7	13	12	16
10	64	17	7	2	26
11	71	7	0	12	36
20	129	14	14	5	15
30	194	11	21	8	4
40	259	9	4	10	30
45	291	17	20	2	6
50	324	6	11	13	19
60	389	3	18	16	8
70	454	1	1	18	34
80	518	18	9	1	23
90	583	15	16	4	12
100	648	12	23	7	1

D. wt.	Gr.	Mit.	Part.
10	19	14	18
1	1	14	18
1	12	10	7
2	3	5	16
2	14	1	5
3	4	20	15
3	15	16	4
4	6	11	13
4	17	7	2
5	8	2	11
5	18	22	1

L. wt.	D. wt.	Gr.	Mit.	Part.
1	6	0	16	4
2	12	1	8	8
5	2	16	17	11
7	12	4	1	5
10	5	9	14	22
12	12	6	18	3
15	8	2	11	33
17	12	9	11	0
1		12	19	17
18		9	14	22
12		6	9	27
6		3	4	32
4		2	3	9
2		1	1	23
1		0	10	36

Seven Ounces. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	7	11	8	8	24	0	12	14	14	2
2	15	2	16	17	11	1	5	5	8	4
3	22	14	1	5	35	1	17	20	2	6
4	30	5	9	14	22	2	10	10	16	8
5	37	16	18	3	9	3	3	11	10	10
6	45	8	2	14	33	3	15	16	4	12
7	52	19	11	0	20	4	8	6	18	14
8	60	10	19	9	7	5	0	21	12	15
9	68	2	3	17	31	5	13	12	6	18
10	75	13	12	6	18	6	6	3	0	20
11	83	4	20	15	5	6	18	17	14	22
20	151	7	0	12	36	1	6	0	18	18
30	227	0	12	19	17	2	12	1	13	16
40	302	14	1	5	35	3	1	3	3	13
45	340	10	19	9	7	5	1	3	3	13
50	378	7	13	12	16	7	12	4	17	10
60	454	1	1	18	34	10	1	6	7	7
70	529	14	14	5	15	12	12	7	21	3
80	605	8	2	11	33	15	1	9	11	0
90	681	1	14	18	14	17	12	11	0	17
100	756	15	3	4	32	18	11	7	1	11
						1	15	2	26	
						18	11	7	1	
						12	7	11	13	
						6	3	15	25	
						4	2	10	17	
						2	1	5	8	
						1	12	1	22	

Eight Ounces. At the Ounce.

L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.	Ounce.	D. wt.	Grains.	Mites.	Parts.
1	8	12	23	7	1	0	14	9	18	34
2	17	5	22	14	2	1	8	19	17	31
3	25	18	22	1	3	2	3	5	16	28
4	34	11	21	8	4	2	17	15	15	25
5	43	4	20	15	5	3	12	1	14	22
6	51	17	0	2	6	4	6	11	13	19
7	60	10	19	9	7	5	0	21	12	16
8	69	3	18	16	8	5	15	7	11	13
9	77	16	8	3	9	6	9	17	10	10
10	86	9	17	10	10	7	4	3	9	7
11	95	2	16	17	11	7	8	13	8	4
20	172	19	11	0	20	1	6	0	21	16
30	259	9	4	10	30	2	1	19	4	32
40	345	18	22	1	3	3	1	14	9	27
45	389	3	18	16	8	5	3	14	9	27
50	432	8	5	11	13	7	12	5	9	14
60	481	18	9	1	23	10	7	4	19	17
70	525	8	2	11	33	12	12	9	0	4
80	591	17	20	2	6	15	10	19	9	7
90	778	7	13	21	16	17	12	12	14	14
100	864	17	7	2	26	1	17	5	35	
						18	12	19	17	
						12	8	12	36	
						6	4	6	18	
						4	2	17	24	
						2	1	8	31	
						1	0	14	15	

Nine Ounces.				At the Ounce.			
L. wt.	Ounce.	D. wt.	Grains.	Parts.	Mites.	Grains.	Parts.
1	9	14	14	5	15	0	16
2	19	9	4	10	30	1	12
3	29	3	18	16	8	2	8
4	38	18	9	1	23	3	4
5	48	12	23	7	1	4	1
6	58	7	43	12	16	4	7
7	68	2	3	17	31	5	13
8	77	16	18	3	9	6	9
9	87	11	8	8	24	7	5
10	97	5	22	14	2	8	2
11	107	0	12	19	17	8	18
20	194	11	21	8	4	8	18
30	291	17	20	2	6	1	6
40	389	3	18	16	8	2	12
45	437	16	18	3	9	4	1
50	486	9	17	10	10	5	4
60	583	15	16	4	12	7	12
70	681	1	14	18	14	10	8
80	778	7	13	12	16	12	10
90	875	13	12	6	18	15	12
100	972	9	11	0	20	17	14
						1	0
						18	0
						12	0
						6	4
						4	3
						2	1

Ten Ounces.				At the Ounce.			
L. wt.	Ounce.	D. wt.	Grain.	Parts.	Mites.	Grain.	Parts.
1	10	16	5	3	29	0	16
2	21	32	10	7	21	1	12
3	32	8	15	11	13	2	8
4	43	4	20	15	5	3	4
5	54	1	1	18	34	4	1
6	64	17	7	2	26	4	7
7	75	13	12	6	18	5	13
8	86	9	17	10	10	7	12
9	97	5	22	14	2	10	8
10	108	2	3	17	31	12	10
11	118	18	9	1	23	15	12
20	216	4	7	15	25	18	14
30	324	6	11	13	19	21	16
40	432	8	15	11	13	24	18
45	486	9	17	10	10	27	20
50	540	10	19	9	7	30	22
60	648	12	23	7	1	36	26
70	756	15	3	4	32	42	30
80	864	17	7	2	26	48	34
90	972	19	11	0	20	54	38
						1	0
						18	0
						12	0
						6	4
						4	3
						2	1

Eleven Ounces.				At the Ounce.							
L. wt.	Ounce.	D. wt.	Grains.	Mites.	Parts.	Ounce.	D. wt.	Grains.	Mites.	Parts.	
1	11	17	20	2	6	0	19	19	13	19	
2	23	15	16	4	12	1	19	15	7	1	
3	35	13	12	6	18	2	19	11	0	20	
4	47	11	8	8	24	3	19	6	14	2	
5	59	9	4	10	30	4	19	2	7	21	
6	71	7	0	12	36	5	18	22	1	3	
7	83	4	20	15	5	6	18	17	14	22	
8	95	2	16	17	11	7	18	13	8	4	
9	107	0	12	19	17	8	18	9	1	23	
10	118	18	9	1	23	9	18	4	15	5	
11	130	16	5	3	29	10	18	0	8	24	
20	237	16	18	3	9						
30	356	15	3	4	32	d.wt.	Gr.	d.wt.	Gr.	Mit.	Part.
40	475	13	12	6	18	1	6	1	5	14	22
45	535	2	16	17	11	2	12	2	11	9	7
50	594	11	21	8	4	5		4	22	18	14
60	713	10	6	9	27	7	12	7	10	7	21
70	832	8	15	11	13	10		9	21	16	28
80	951	7	0	12	36	12	12	12	9	5	35
						15		14	20	15	5
						17	12	17	8	4	12
						1		0	23	15	25
						18			17	16	28
						12			11	17	31
						6			5	18	34
						4			3	19	10
						2			1	19	24
						1			0	19	30

The Ordinary way.

Four Ingots of Silver.

D. wt.	L. wt. Oz.	D. wt. Gr.
Better, 16, $\frac{1}{2}$ Num. 1. ———	40, 6, 10, 00.	
Worse, 11, $\frac{1}{2}$ Num. 2. ———	37, 7, 5, 00.	
Worse, 15. Num. 3. ———	36, 9, 10, 00.	
Better, 10. Num. 4. ———	38, 11, 00, 00.	
	—————	
	153. 10. 5. 00.	

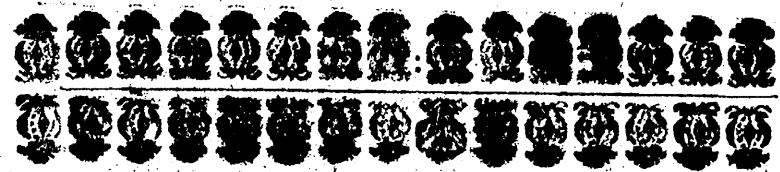
Oz.	D. wt.	Gr.	Mit.
Betterness of Num. 1. ———	36,	3,	4, 4.
Betterness of Num. 4. ———	21,	0,	17, 6.

Whole betterness, ——— 57, 3, 21, 10.

Oz.	D. wt.	Gr.	Mit.
Worfness of Num. 2. ———	23,	7,	12, 5.
Worfness of Num. 3. ———	29,	16,	14, 18.

Whole worfness, ——— 53, 4, 3, 3.
 Worfness deducted out } Oz. D. wt. Gr. Mit.
 of the betterness, refts } 3, 19, 18, 7.

So this ——— 3 Oz. 19 d. wt. 18 Gr. 7 Mit.
 Added to 153. l. wt. 10. ——— 5. ———
 Makes the 4 Ingots } l. wt. Oz. d. wt. Gr. Mit.
 to be Standard, ——— } 154, 2, 4, 18, 7.



Questions wrought by the GOLDEN Rule.

The Standard of Silver is xj. Ounces; 2. Penny-weight fine.

A Silver Ingot weighing 40 l. wt. 6 Ounces, 10. d. wt. better 16. d. weight and a half. What will this amount to in Standard Silver?

The Work,

D.wt.	L.wt.Oz.	D.wt.	Gr.	Mit.
222:	Z 40.	6.	10.	
16 ¹ :		36.	3.	4. 4.
	This	36 Oz.	3 d.wt.	4 Gra. 4 Mit.
	Added to	40 l.wt.	6.	10. 00.
			L.wt.Oz.	D.wt.Gr.

Maketh in Standard Silver, 43. 6. 13. 4. 4.

AN



A N Ingot of Silver weighing 37 l.wt. 7.Oz. 5. d. wt. worse 11. d. weight, and a half. How much of 14 penny-weight better, will make it good to the Standard of-- 11 Oz. 2 d. weight.

The Work,

D.wt.	L.wt.Oz.	D.wt.	Gr.	Mit.
Worse, 11:	Z 37,	7,	5.	00.
Better, 14.		30,	10,	13, 9, 8.

This is wrought by the backer Rule.

D 4

AN

A N Ingot of Silver weighing 40 l.wt. 6 Oz. 10 d. weight, worse 18 d.wt. 12 Grains, How much is to be taken off and fined to 14 Penny-weight better, to make good the rest to the Standard of — 11 Oz. 2 d. weight.

The Work

		L.wt.			
Worse, 18 ¹ / ₂	Z	8.	Oz.	Dwt.	Gr. Mit.
Better, 14.	Z	10,	6,	17,	3 8

		Lwt.	Oz.	Dwt.	Gr.	Mit.
11. 16.	Z	10,	6,	17,	3.	8.
10. 3 ¹ / ₂	Z	12,	3,	2,	8,	6.

		L.wt.			
		8.	Oz.	Dwt.	Gr. Mit.
		12,	3,	2,	8, 6,
		20,	3	2,	8, 6,

L.wt.	Oz.	Dwt.	Gr.	Mit.	L.wt.	Oz.	Dwt.	Gr.	Mit.
20,	3,	2,	8,	6.	Z	12.	3,	2,	8, 6.
40,	6,	10,	0.		Z	24,	6,	7,	22.
So there is to be fined,					24,	6,	7,	22.	
And the remain is					16,	0,	2,	2.	

The



The former Question is resolved another way.

The Work

Ounce, D.wt.		D.wt.
10.	3 ¹ / ₂	X 14.
11.	16.	X 18 and a half.

32. d.wt and a half.

Oz.	D.wt.		L.wt.	Oz.	d.wt.	Gr.
10.	3 ¹ / ₂	Z	40,	6,	10,	00.
11.	2.	Z	37,	1,	19,	4.
32 ¹ / ₂	Z	37,	1,	19,	4.	
14.	Z	16,	0,	2,	2.	
This 16 l.wt. 0 Oz. 2 d.wt. 2 Gr. to remain.						

Oz.	D.wt.		L.wt.	Oz.	d.wt.	Gr.
11.	16.	Z	40,	6,	10,	0.
11,	2,	Z	43,	0,	3,	14 gr. and a half.

		Lwt.	Oz.	Dwt.	Gr.
32, and a half,	Z	43,	0,	3,	14.
18, and a half,	Z	24,	6,	7,	22.
This	—————	24,	6,	7,	22. is to be fined.

Silver.

Pound wt.	Silver.	Ounce.	Silver.
	Half-penny weight.		Half-penny weight.
1	0270270	1	0022522
2	0540540	2	0045045
3	0810811	3	0067567
4	1081081	4	0090090
5	1351351	5	0112612
6	1621621	6	0135135
7	1891892	7	0157657
8	2162162	8	0180180
9	2432432	9	0202703

D.wt.	Silver.	Grain.	Silver.
	Half-penny weight.		Half-penny weight.
1	0001126	1	0000047
2	0002252	2	0000094
3	0003378	3	0000141
4	0004505	4	0000188
5	0005631	5	0000235
6	0006757	6	0000282
7	0007883	7	0000329
8	0009009	8	0000376
9	0010135	9	0000423

Silver.					
D.wt.	Gr.	Quar. of a Gr.	d. wt.	gr.	Quar. of a Gr.
1	6	00001407	11	6	00012669
2	12	00002815	12	12	00014076
3	18	00004223	13	18	00015484
5	0	00005630	15	0	00016892
6	6	00007038	16	6	00018299
7	12	00008446	17	12	00019707
8	18	00009853	18	18	00021115
10	0	00011261			

Miles	Fourth.	Miles	Grains	Thirds	Miles	Grains	Seconds.	Miles	Grains	Penny wt.	Primer.
1	1	1	0.9	1	0.9	1	0.4.16	1	0.4.16	1	2
2	2	2	0.19	2	0.19	2	0.9.12	2	0.9.12	2	4
3	3	3	1.9	3	1.9	3	0.14.8	3	0.14.8	3	6
4	4	4	1.18	4	1.18	4	0.19.4	4	0.19.4	4	8
5	5	5	2.8	5	2.8	5	1.00.0	5	1.00.0	5	10
6	6	6	2.18	6	2.18	6	1.4.16	6	1.4.16	6	12
7	7	7	3.7	7	3.7	7	1.9.12	7	1.9.12	7	14
8	8	8	3.17	8	3.17	8	1.14.8	8	1.14.8	8	16
9	9	9	4.6	9	4.6	9	1.19.4	9	1.19.4	9	18

Silver.

A N



**A N Addition for
Silver after the rate
of xj. Ounces, ij Penny-
weight fine, for the or-
dinary Rating.**

Oun.	Oz.	Ounce.	d.	gr.	mi.	Mites.	Grains.	D. wt.	Penny-weight.	d.	gr.	mi.	Mites.	Grains.	D. wt.	Grains.	Mites.	Droits.	Mites.
1						18												15	
2						16												5	
3						15												20	
4						13												11	
5						12												2	
6						10												17	
7						9												8	
8						7													
9						5												14	
	10	0	16	5	4													14	
	20	1	12	10	7													5	
	30	2	8	15	11													0	
	40	3	4	20	15													12	
	50	4	1	1	19													2	
	60	4	17	7	2													17	
	70	5	13	12	6													7	
	80	6	9	17	10													0	
	90	7	5	22	14													13	
	100	8	2	3	18													4	
	200	16	4	7	16													19	
	300	24	6	11	14													10	
	400	32	8	15	12													19	
	500	40	10	19	9													1	
	600	48	12	23	7													14	
	700	56	15	3	5													7	

Ounce.

The Ordinary rating of Silver to the Standard.

Example.

<i>D. wt.</i>		<i>L. wt. Oz. D. wt. Gra.</i>
Better 16, ¹ / ₂ Num. 1.	—	40, 6, 10, 00.
Worf. 11, ¹ / ₂ Num. 2.	—	37, 7, 5, 00.
Worse, 15 Num. 3.	—	36, 9, 10, 00.
Better, 10 Num. 4.	—	38, 11, 00, 00.
Gross weight.		— 153, 10, 05, 00.

The Ingot, Num. 1. — 40, l. 6, oz. 10 d. 00 gr.
 Multiply — 40. l. by — 16 d. wt. and a half.
 The Product is — 33, Ounces.

And the 6 Ounces 10 Penny } *Oz. D. wt. Gra. Mit.*
 weight, after that rate, is } — 8, 22, 10.

So the betterness of Num. 1, is 33, 8, 22, 10.

Example.

Example.

Oz. D. wt. Gr. Mit.
The betterness of Num. 1. 33, 8, 22, 10.
 And the better. of Num. 4. 19, 4, 4, 00.

The whole betterness — 52, 13, 2, 10.
Oz. D. wt.

The worsness of Num. 2. — 21, 12, 10, 15.
 And the worf. of Num. 3. — 27, 11, 21.

The whole worsness, — 49, 4, 7, 15.

The Worsness taken } *Oz.*
 from the betterness, rests } — 3, 13, 18, 15.
 clear betterness, —

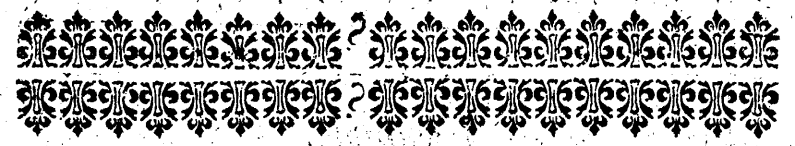
D. wt. Gr. Mit.
 To which clear betterness }
 is to be put an Addition, — } 9, 5, 23, 11.

So the clear betterness } *Oz.*
 with the addition, makes } — 3, 19, 18, 6
 the allay, —

And the gross weight, 153 *L. wt. 10, Oz. 5, d. wt.*

With the allay, makes }
 in Standard, — } 154 l. 2, 4, 18, d. 6.

Note



Note.

As so many Penny-weight is at the Pound-weight ;
So many two Grains at the Ounce.

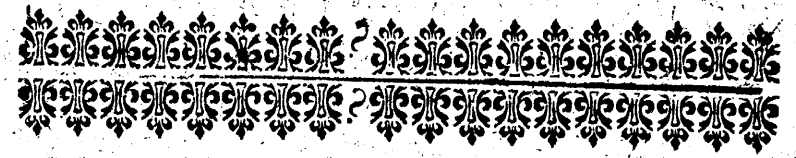
As if the Assay be better Two-penny weight, the Ounce is ——— 4 Grains.

If Two-penny weight and a half, the Oz. is ——— 5 Grains.

If Ten-penny weight, the Ounce is 20 Grains.

If Thirteen-penny weight and a half, the Ounce is ——— 27 Grains.

Here



Here followeth a T A B L E
to this purpose, to find what
the Ounces should be of Better-
ness or Worseness.

E Ounces.

At the Pound.	Ounces.				
	1	2	3	4	5
D. wt.	Grat.	Grat.	Dt. Gr.	Dt. Gr.	Dt. Gr.
1	2	4	0 6	0 8	0 10
2	4	8	0 12	0 16	0 20
3	6	12	0 18	1 0	1 6
4	8	16	1 0	1 8	1 16
5	10	20	1 6	1 16	2 2
6	12	1	1 12	1	2 12
7	14	1 4	1 18	2 8	2 22
8	16	1 8	2	2 16	3 8
9	18	1 12	2 6	3 0	3 18
10	20	1 16	2 12	3 8	4 4
11	22	1 20	2 18	3 16	4 14
12	1 0	2	3	4	5
13	1 2	2 4	3 6	4 8	5 10
14	1 4	2 8	3 12	4 16	5 20
15	1 6	2 12	3 18	5	6 6
16	1 8	2 16	4	5 8	6 16
17	1 10	2 20	4 6	5 16	7 2
18	1 12	3	4 12	6	7 12
19	1 14	3 4	4 18	6 8	7 22
1 0	1 16	3 8	5	6 16	8 8
1 1	1 18	3 12	5 6	7	8 18
1 2	1 20	3 16	5 12	7 8	9 4
1 3	1 22	3 20	5 18	7 16	9 14
1 4	2	4	6	8	10
1 5	2 2	4 4	6 6	8 8	10 10
1 6	2 4	4 8	6 12	8 16	10 20

At the Pound.	Ounces.						
	6	7	8	9	10	11	1/2.
D. wt.	D. Gr.	D. Gr.	D. Gr.	D. Gr.	D. Gr.	D. Gr.	Gr.
1	0 12	0 14	16	18	0 20	0 22	1
2	1	1 4	1 8	1 12	1 16	1 20	2
3	1 12	1 18	2	2 6	2 12	2 18	3
4	2	2 8	2 16	3	3 8	3 16	4
5	2 12	2 22	3 8	3 18	4 4	4 14	5
6	3	3 12	4	4 12	5	5 12	6
7	3 12	4 2	4 16	5 6	5 20	6 10	7
8	4	4 16	5 8	6	6 16	7 8	8
9	4 12	5 6	6	6 18	7 12	8 6	9
10	5	5 20	6 16	7 12	8 8	9 4	10
11	5 12	6 10	7 8	8 6	9 4	10 2	11
12	6	7	8	9	10	11	12
13	6 12	7 14	8 16	9 18	10 20	11 22	13
14	7	8 4	9 8	10 12	11 16	12 20	14
15	7 12	8 18	10	11 6	12 12	13 18	15
16	8	9 8	10 16	12	13 8	14 16	16
17	8 12	9 22	11 8	12 18	14 4	15 14	17
18	9	10 12	12	13 12	15	16 12	18
19	9 12	11 2	12 16	14 6	15 20	17 10	19
1 0	10	11 16	13 8	15	16 16	18 8	20
1 1	10 12	12 6	14	15 18	17 12	19 6	21
1 2	11	12 20	14 16	16 12	18 8	20 4	22
1 3	11 12	13 10	15 8	17 6	19 4	21 2	23
1 4	12	14	16	18	20	22	1 0
1 5	12 12	14 14	16 16	18 18	20 20	22 22	1 1
1 6	13	15 4	17 8	19 12	21 16	23 20	1 2

At the Pound.	Ounces.					
	I	2	3	4	5	6
	D. wt. D. Gr.	D. Gr. Dt. G.	Dt. G. D. wt.	Dt. Gr. D. wt.	Dt. Gr. D. wt.	Dt. Gr. D. wt.
$\frac{1}{2}$	I	2	3	4	5	0 6
$1\frac{1}{2}$	3	6	9	12	15	0 18
$2\frac{1}{2}$	5	10	15	20	I I	I 6
$3\frac{1}{2}$	7	14	21	I 4	I 11	I 18
$4\frac{1}{2}$	9	18	I 3	I 12	I 21	2 6
$5\frac{1}{2}$	11	22	I 9	I 20	2 7	2 18
$6\frac{1}{2}$	13	I 2	I 15	2 4	2 17	3 6
$7\frac{1}{2}$	15	I 6	I 21	2 12	3 3	3 18
$8\frac{1}{2}$	17	I 10	2 3	2 20	3 13	4 6
$9\frac{1}{2}$	19	I 14	2 9	3 4	3 23	4 18
$10\frac{1}{2}$	21	I 18	2 15	3 12	4 9	5 6
$11\frac{1}{2}$	23	I 22	2 21	3 20	4 19	5 18
$12\frac{1}{2}$	I I	2 2	3 3	4 4	5 5	6 6
$13\frac{1}{2}$	I 3	2 6	3 9	4 12	5 15	6 18
$14\frac{1}{2}$	I 5	2 10	3 15	4 20	6 I	7 6
$15\frac{1}{2}$	I 7	2 14	3 21	5 4	6 11	7 18
$16\frac{1}{2}$	I 9	2 18	4 3	5 12	6 21	8 6
$17\frac{1}{2}$	I 11	2 22	4 9	5 20	7 7	8 18
$18\frac{1}{2}$	I 13	3 2	4 15	6 4	7 17	9 6
$19\frac{1}{2}$	I 15	3 6	4 21	6 12	8 3	9 18
I $0\frac{1}{2}$	I 17	3 10	5 3	6 20	8 13	10 6
I $1\frac{1}{2}$	I 19	3 14	5 9	7 4	8 23	10 18
I $2\frac{1}{2}$	I 21	3 18	5 15	7 12	9 9	11 6
I $3\frac{1}{2}$	I 23	3 22	5 21	7 20	9 19	11 18
I $4\frac{1}{2}$	I I	4 2	6 3	8 4	10 5	12 6

Penny-weights

Oz.

At the Pound.	Ounces.					
	7	8	9	10	11	$\frac{1}{2}$
	D. wt. D. Gr.	D. Gr. Dt. Gr.	Dt. Gr. D. wt.	Dt. Gr. D. wt.	Dt. Gr. D. wt.	Gr. Mit.
$\frac{1}{2}$	7	0 8	0 9	0 10	0 11	0 10
$1\frac{1}{2}$	21	I 0	I 3	I 6	I 9	I 10
$2\frac{1}{2}$	I 11	I 16	I 21	2 2	2 7	2 10
$3\frac{1}{2}$	2 I	2 8	2 15	2 22	3 5	3 10
$4\frac{1}{2}$	2 15	3 3	3 9	3 18	4 3	4 10
$5\frac{1}{2}$	3 5	3 16	4 3	4 14	3 I	5 10
$6\frac{1}{2}$	3 19	4 8	4 21	5 10	5 23	6 10
$7\frac{1}{2}$	4 9	5 5	5 15	6 6	6 21	7 10
$8\frac{1}{2}$	4 23	5 16	6 9	7 2	7 19	8 10
$9\frac{1}{2}$	5 13	6 8	7 3	7 22	8 17	9 10
$10\frac{1}{2}$	6 3	7 7	7 21	8 18	9 15	10 10
$11\frac{1}{2}$	6 17	7 16	8 15	9 14	10 13	11 10
$12\frac{1}{2}$	7 7	8 8	9 9	10 10	11 11	12 10
$13\frac{1}{2}$	7 21	9 10	10 3	11 6	12 9	13 0
$14\frac{1}{2}$	8 11	9 16	10 21	12 2	13 7	14 10
$15\frac{1}{2}$	9 I	10 8	11 15	12 22	14 5	15 10
$16\frac{1}{2}$	9 15	11 12	12 9	13 18	15 3	16 10
$17\frac{1}{2}$	10 5	11 16	13 3	14 14	16 I	17 10
$18\frac{1}{2}$	10 19	12 8	13 21	15 10	16 23	18 10
$19\frac{1}{2}$	11 9	13 14	15 16	17 6	18 21	19 10
I $0\frac{1}{2}$	11 23	13 16	15 9	17 2	18 19	20 10
I $1\frac{1}{2}$	12 13	14 8	16 3	17 22	19 17	21 10
I $2\frac{1}{2}$	13 3	15 16	17 21	18 18	20 15	22 10
I $3\frac{1}{2}$	13 17	15 16	17 15	19 14	21 13	23 10
I $4\frac{1}{2}$	14 7	16 8	18 9	20 10	22 11	I 00 10

Oz.

D. wt.



A N Ingot of Silver, — 40 Pound weight.
 The Standard, — 42 L.wt. - 1 Ounce.
 18 D.wt. — 22 Grains.
 What is the Assay?

The Work.

L.wt. Oz. D.wt. Gr.	1 wt. Oz. d.wt. Gr.	d.wt.
42. 1, 18, 22.	42, 1, 18, 22.	Z 222.
40.	2, 1, 18, 22.	Z 12.
<hr/>		
2, 1, 18, 22.		

The Standard ———— L.wt. Oz. D.wt. Gr.
 ———— 42, 1, 18, 22.
 The fineness better ———— 12 Penny-weight.
 What is the gross weight?

The Work.

D.wt.	L.wt. Oz. D.wt. Gr.
234.	Z 42, 1, 18, 22.
222.	40, l. weight.

The

The Ingot better — 12 Penny-weight.
 The gross weight 40 Pound weight.
 What is the Standard?

The Work.

D.wt.	L.wt. Oz. D.wt. Gr.
222.	Z 40.
12.	2, 1, 18, 22.

This — 2, l.wt. 1 Oz. 18 d.wt. 22 Gra.
 Added to the — 40 l. weight.
 Makes 42. l.wt. 1, Oz. 18. d.wt. 22. Gra:
 (Standard.)

A Pot of Silver Ingots — 500 } L.wt.
 Allay, — 4 } — 504, l.wt.
 If the — 4, Pound weight of Allay were left
 out, what should be the pot assay.

The Work.

L.wt.	D.wt.
500	Z 222.
504	223. 18, Gra. 12, Mit. $\frac{16}{3}$.

The pot Assay should } d.wt. Gra. Mit.
 be better ———— } 1. 18. 12. $\frac{16}{3}$.

A Pot of Silver Ingots — 500 L.wt.
 The alloy rated to — 4 l.wt.

504.

This Pot was molt and cast out, but afterwards upon review, was found to have 2 l.wt. of Alloy too much. How much should the Pot assay come short?

The Work.

L.wt. 502 **Z** 222 D.wt.
 504 **Z** 221 d.wt, 2 Gr. $\frac{6}{7}$.

So the Pot assay should be worse, — 21 Gr. $\frac{1}{2}$. wrought by the backer Rule.

500 L.wt. of Silver worse, -- 1 D.wt. 12 Gr.
 How much Silver of — 14 d.weight better, makes it Standard.

The Work.

L.wt. D.wt. D.wt. l.wt. Oz. d.wt. Gr.
 1. **Z** 1 $\frac{1}{2}$. | 14. **Z** 1.
 500. **Z** 750 | 750. 53. 6, 17, 3 $\frac{3}{7}$.

How much Silver of — 13 Penny-weight better, will carry away — 1 l.weight 3 Ounces 10 d.wt. of alloy.

The

The Work.

D.wt. L.wt. D.w.Gr. L.wt.Oz.
 222 **Z** 1. | 14. 1 $\frac{1}{37}$ **Z** 1. 0.
 13 14 d. 1 gr. $\frac{6}{37}$. | 1 l. 3, oz. 10 d. **Z** 22. —
 (13 d.wt. 20 gr. $\frac{1}{17}$.)

The same Questions may be wrought thus.

L.wt.Oz.Gr. D.wt.Gr. D.wt.Gr. L.wt. Oz.
 1. **Z** 222. | 13. **Z** 1. 0.
 1, 3, 10 286, 18. | 286. 18. **Z** 22. 0. —
 (13 d.wt. 20, Gr. $\frac{6}{8}$)

L.wt. Oz. D.wt. Gr.

So — 22. 00. 13. 20. $\frac{1}{17}$. being 13 d. better
 And — 1. 3. 10. 00. of Alloy.

Makes — 23. 4. 3. 20. $\frac{1}{17}$. Standard.

F I N I S.



Here followeth TABLES
for the casting up of GOLD,
to the Standard of
xxij. Carraets.

One quarter of a Grain.				At the Ounce.			
L. wt.	Gr.	Mite.	Parts.	L. wt.	Gr.	Mite.	Parts.
1	0	16	7	1	1	7	16
2	0	18	14	2	1	14	12
3	0	2	1	3	1	1	18
4	0	17	9	4	2	9	2
5	0	3	9	5	2	16	8
6	0	4	2	6	3	3	14
7	0	18	10	7	4	10	20
8	0	5	10	8	5	18	4
9	0	6	3	9	6	5	10
10	0	19	12	10	6	12	16
11	0	7	12	11	7	0	0
20	1	13	15	12	7	0	0
30	1	0	10	13	8	0	0
			18	14	9	0	0
			4	15	10	0	0
				16	11	0	0
				17	12	0	0
				18	13	0	0
				19	14	0	0
				20	15	0	0
				21	16	0	0
				22	17	0	0
				23	18	0	0
				24	19	0	0
				25	20	0	0
				26	21	0	0
				27	22	0	0
				28	23	0	0
				29	24	0	0
				30	25	0	0
				31	26	0	0
				32	27	0	0
				33	28	0	0
				34	29	0	0
				35	30	0	0
				36	31	0	0
				37	32	0	0
				38	33	0	0
				39	34	0	0
				40	35	0	0
				41	36	0	0
				42	37	0	0
				43	38	0	0
				44	39	0	0
				45	40	0	0
				46	41	0	0
				47	42	0	0
				48	43	0	0
				49	44	0	0
				50	45	0	0
				51	46	0	0
				52	47	0	0
				53	48	0	0
				54	49	0	0
				55	50	0	0
				56	51	0	0
				57	52	0	0
				58	53	0	0
				59	54	0	0
				60	55	0	0
				61	56	0	0
				62	57	0	0
				63	58	0	0
				64	59	0	0
				65	60	0	0
				66	61	0	0
				67	62	0	0
				68	63	0	0
				69	64	0	0
				70	65	0	0
				71	66	0	0
				72	67	0	0
				73	68	0	0
				74	69	0	0
				75	70	0	0
				76	71	0	0
				77	72	0	0
				78	73	0	0
				79	74	0	0
				80	75	0	0
				81	76	0	0
				82	77	0	0
				83	78	0	0
				84	79	0	0
				85	80	0	0
				86	81	0	0
				87	82	0	0
				88	83	0	0
				89	84	0	0
				90	85	0	0
				91	86	0	0
				92	87	0	0
				93	88	0	0
				94	89	0	0
				95	90	0	0
				96	91	0	0
				97	92	0	0
				98	93	0	0
				99	94	0	0
				100	95	0	0

L. wt.

Half a Grain.

At the Ounce.

Parts.	Mite.	Grain.	D.wt.	Parts.	Mite.	Grain.	D.wt.
12	14	8	1	12	14	8	1
2	9	17	2	14	9	18	2
3	3	4	3	16	12	10	3
4	18	10	4	18	1	15	4
5	12	19	5	20	0	0	5
6	7	8	6	20	10	6	6
7	1	9	7	18	1	19	7
8	16	10	8	8	16	7	8
9	10	12	9	10	10	10	9
10	5	13	10	0	0	15	10
11	0	15	11	0	0	0	11
20	10	7	20	20	10	6	20
30	8	0	30	8	15	2	30

Parts.	Mite.	Grain.	D.wt.	Parts.	Mite.	Grain.	D.wt.
11	17	1	1	18	13	18	1
20	0	2	2	6	15	18	2
7	16	2	3	12	17	12	3
3	14	2	4	18	18	18	4
14	3	3	5	10	13	14	5
6	7	4	6	1	17	1	6
2	1	5	7	10	1	10	7
18	1	9	8	19	3	19	8
8	16	10	9	6	7	6	9
10	10	12	10	15	10	15	10
0	0	15	11	2	14	2	11
0	0	0	12	2	14	3	12
0	0	0	13	18	18	18	13
0	0	0	14	10	1	10	14
0	0	0	15	1	17	1	15
0	0	0	16	6	15	6	16
0	0	0	17	12	10	12	17
0	0	0	18	18	18	18	18
0	0	0	19	1	17	1	19
0	0	0	20	6	15	6	20
0	0	0	21	12	10	12	21
0	0	0	22	18	18	18	22
0	0	0	23	10	1	10	23
0	0	0	24	6	15	6	24
0	0	0	25	12	10	12	25
0	0	0	26	18	18	18	26
0	0	0	27	1	17	1	27
0	0	0	28	6	15	6	28
0	0	0	29	12	10	12	29
0	0	0	30	18	18	18	30

Three quarters of a Grain.

At the Ounce.

Parts.	Mite.	Grain.	D.wt.	Parts.	Mite.	Grain.	D.wt.
18	1	4	0	18	13	18	1
14	3	8	0	6	15	6	2
10	5	12	0	12	16	6	3
6	7	16	0	12	17	12	4
2	9	20	0	18	18	18	5
20	10	1	1	10	13	14	6
16	7	0	2	12	16	15	7
18	1	1	3	15	10	15	8
8	8	1	4	18	18	18	9
12	14	1	5	1	17	1	10
8	16	1	6	6	15	6	11
4	18	1	7	12	10	12	12
0	0	1	8	18	18	18	13
18	1	2	9	1	17	1	14
14	3	4	10	6	15	6	15
10	5	6	11	12	16	15	16
6	7	8	12	15	10	15	17
2	9	10	13	18	18	18	18
20	10	12	14	1	17	1	19
16	7	14	15	6	15	6	20
18	1	16	16	12	16	15	21
8	8	18	17	15	10	15	22
12	14	0	18	18	18	18	23
8	16	1	19	1	17	1	24
4	18	2	20	6	15	6	25
0	0	4	21	12	16	15	26
18	1	6	22	15	10	15	27
14	3	8	23	18	18	18	28
10	5	10	24	1	17	1	29
6	7	12	25	6	15	6	30
2	9	14	26	12	16	15	31
20	10	16	27	15	10	15	32
16	7	18	28	18	18	18	33
18	1	0	29	1	17	1	34
8	8	1	30	6	15	6	35

One Grain At the Ounce.

Parts.		Mites.		Grain.		D. wt.	
2	18	2	18	1	18	1	18
4	36	4	36	2	36	2	36
6	54	6	54	3	54	3	54
8	72	8	72	4	72	4	72
10	90	10	90	5	90	5	90
12	108	12	108	6	108	6	108
14	126	14	126	7	126	7	126
16	144	16	144	8	144	8	144
18	162	18	162	9	162	9	162
20	180	20	180	10	180	10	180
22	198	22	198	11	198	11	198
24	216	24	216	12	216	12	216
26	234	26	234	13	234	13	234
28	252	28	252	14	252	14	252
30	270	30	270	15	270	15	270
32	288	32	288	16	288	16	288
34	306	34	306	17	306	17	306
36	324	36	324	18	324	18	324
38	342	38	342	19	342	19	342
40	360	40	360	20	360	20	360
42	378	42	378	21	378	21	378
44	396	44	396	22	396	22	396
46	414	46	414	23	414	23	414
48	432	48	432	24	432	24	432
50	450	50	450	25	450	25	450
52	468	52	468	26	468	26	468
54	486	54	486	27	486	27	486
56	504	56	504	28	504	28	504
58	522	58	522	29	522	29	522
60	540	60	540	30	540	30	540
62	558	62	558	31	558	31	558
64	576	64	576	32	576	32	576
66	594	66	594	33	594	33	594
68	612	68	612	34	612	34	612
70	630	70	630	35	630	35	630
72	648	72	648	36	648	36	648
74	666	74	666	37	666	37	666
76	684	76	684	38	684	38	684
78	702	78	702	39	702	39	702
80	720	80	720	40	720	40	720
82	738	82	738	41	738	41	738
84	756	84	756	42	756	42	756
86	774	86	774	43	774	43	774
88	792	88	792	44	792	44	792
90	810	90	810	45	810	45	810
92	828	92	828	46	828	46	828
94	846	94	846	47	846	47	846
96	864	96	864	48	864	48	864
98	882	98	882	49	882	49	882
100	900	100	900	50	900	50	900

One Grain one-quarter. At the Ounce.

Parts.		Mites.		Grain.		D. wt.	
8	18	8	18	1	18	1	18
16	36	16	36	2	36	2	36
24	54	24	54	3	54	3	54
32	72	32	72	4	72	4	72
40	90	40	90	5	90	5	90
48	108	48	108	6	108	6	108
56	126	56	126	7	126	7	126
64	144	64	144	8	144	8	144
72	162	72	162	9	162	9	162
80	180	80	180	10	180	10	180
88	198	88	198	11	198	11	198
96	216	96	216	12	216	12	216
104	234	104	234	13	234	13	234
112	252	112	252	14	252	14	252
120	270	120	270	15	270	15	270
128	288	128	288	16	288	16	288
136	306	136	306	17	306	17	306
144	324	144	324	18	324	18	324
152	342	152	342	19	342	19	342
160	360	160	360	20	360	20	360
168	378	168	378	21	378	21	378
176	396	176	396	22	396	22	396
184	414	184	414	23	414	23	414
192	432	192	432	24	432	24	432
200	450	200	450	25	450	25	450
208	468	208	468	26	468	26	468
216	486	216	486	27	486	27	486
224	504	224	504	28	504	28	504
232	522	232	522	29	522	29	522
240	540	240	540	30	540	30	540
248	558	248	558	31	558	31	558
256	576	256	576	32	576	32	576
264	594	264	594	33	594	33	594
272	612	272	612	34	612	34	612
280	630	280	630	35	630	35	630
288	648	288	648	36	648	36	648
296	666	296	666	37	666	37	666
304	684	304	684	38	684	38	684
312	702	312	702	39	702	39	702
320	720	320	720	40	720	40	720
328	738	328	738	41	738	41	738
336	756	336	756	42	756	42	756
344	774	344	774	43	774	43	774
352	792	352	792	44	792	44	792
360	810	360	810	45	810	45	810
368	828	368	828	46	828	46	828
376	846	376	846	47	846	47	846
384	864	384	864	48	864	48	864
392	882	392	882	49	882	49	882
400	900	400	900	50	900	50	900

One Grain and a half.				At the Ounce.				
L. wt.	1	0	0	Parts.	14	0	Grain.	8
	2	0	0		7	0		16
	3	0	0		6	10		8
	4	0	0		5	14		16
	5	0	0		4	18		16
	6	0	0		3	20		16
	7	1	8		2	14		12
	8	1	12		1	10		10
	9	1	16		0	8		8
	10	2	2					
	11	2	5					
	20	4	1					
	30	6	2					
D. wt.	0	4	2	Mite.	3	14	Grain.	0
	0	8	4		7	7		16
	0	12	6		6	10		14
	0	16	8		5	14		18
	1	0	10		4	18		18
	1	4	13		3	20		16
	1	8	15		2	14		12
	1	12	17		1	10		10
	1	16	19		0	8		8
	2	0	2					
	2	5	5					
	4	1	1					
	6	2	2					
L. wt.	1	0	0	Parts.	14	0	Grain.	8
	2	0	0		7	0		16
	3	0	0		6	10		8
	4	0	0		5	14		16
	5	0	0		4	18		16
	6	0	0		3	20		16
	7	1	8		2	14		12
	8	1	12		1	10		10
	9	1	16		0	8		8
	10	2	2					
	11	2	5					
	20	4	1					
	30	6	2					
D. wt.	0	4	2	Mite.	3	14	Grain.	0
	0	8	4		7	7		16
	0	12	6		6	10		14
	0	16	8		5	14		18
	1	0	10		4	18		18
	1	4	13		3	20		16
	1	8	15		2	14		12
	1	12	17		1	10		10
	1	16	19		0	8		8
	2	0	2					
	2	5	5					
	4	1	1					
	6	2	2					
L. wt.	1	0	0	Parts.	14	0	Grain.	8
	2	0	0		7	0		16
	3	0	0		6	10		8
	4	0	0		5	14		16
	5	0	0		4	18		16
	6	0	0		3	20		16
	7	1	8		2	14		12
	8	1	12		1	10		10
	9	1	16		0	8		8
	10	2	2					
	11	2	5					
	20	4	1					
	30	6	2					
D. wt.	0	4	2	Mite.	3	14	Grain.	0
	0	8	4		7	7		16
	0	12	6		6	10		14
	0	16	8		5	14		18
	1	0	10		4	18		18
	1	4	13		3	20		16
	1	8	15		2	14		12
	1	12	17		1	10		10
	1	16	19		0	8		8
	2	0	2					
	2	5	5					
	4	1	1					
	6	2	2					
L. wt.	1	0	0	Parts.	14	0	Grain.	8
	2	0	0		7	0		16
	3	0	0		6	10		8
	4	0	0		5	14		16
	5	0	0		4	18		16
	6	0	0		3	20		16
	7	1	8		2	14		12
	8	1	12		1	10		10
	9	1	16		0	8		8
	10	2	2					
	11	2	5					
	20	4	1					
	30	6	2					
D. wt.	0	4	2	Mite.	3	14	Grain.	0
	0	8	4		7	7		16
	0	12	6		6	10		14
	0	16	8		5	14		18
	1	0	10		4	18		18
	1	4	13		3	20		16
	1	8	15		2	14		12
	1	12	17		1	10		10
	1	16	19		0	8		8
	2	0	2					
	2	5	5					
	4	1	1					
	6	2	2					

One Grain 3 quarters.				At the Ounce.				
L. wt.	1	0	0	Parts.	20	0	Grain.	12
	2	0	0		18	0		18
	3	0	0		16	10		12
	4	0	0		14	14		16
	5	0	0		12	18		16
	6	0	0		10	20		16
	7	1	8		8	14		12
	8	1	12		6	18		16
	9	1	16		4	20		16
	10	2	2					
	11	2	5					
	20	4	1					
	30	6	2					
D. wt.	0	4	2	Mite.	10	20	Grain.	0
	0	8	4		9	18		12
	0	12	6		8	16		10
	0	16	8		7	14		8
	1	0	10		6	12		6
	1	4	13		5	10		4
	1	8	15		4	8		4
	1	12	17		3	6		4
	1	16	19		2	4		4
	2	0	2					
	2	5	5					
	4	1	1					
	6	2	2					
L. wt.	1	0	0	Parts.	20	0	Grain.	12
	2	0	0		18	0		18
	3	0	0		16	10		12
	4	0	0		14	14		16
	5	0	0		12	18		16
	6	0	0		10	20		16
	7	1	8		8	14		12
	8	1	12		6	18		16
	9	1	16		4	20		16
	10	2	2					
	11	2	5					
	20	4	1					
	30	6	2					
D. wt.	0	4	2	Mite.	10	20	Grain.	0
	0	8	4		9	18		12
	0	12	6		8	16		10
	0	16	8		7	14		8
	1	0	10		6	12		6
	1	4	13		5	10		4
	1	8	15		4	8		4
	1	12	17		3	6		4
	1	16	19		2	4		4
	2	0	2					
	2	5	5					
	4	1	1					
	6	2	2					

F

Two Grains. At the Ounce.

Parts.	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
Mites.	18	16	14	12	10	9	8	7	6	5	4	3	2	1	0
Grain.	10	21	8	19	6	17	4	15	2	13	0	9	2	14	3
D. wt.	0	0	0	1	1	1	1	2	2	2	3	3	4	4	5
Ounc.	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
L. wt.	1	2	3	4	5	6	7	8	9	10	11	20	30		

Parts.	0	14	6	20	12	4	18	10	2	16	8	
Mite.	10	3	17	10	4	mipt.	7	3	14	1	18	
Grain.	7	8	8	9	10							
D. wt.	1	1	1	1	1							
Ounc.	1	1	1	1	1							
L. wt.	1	2	3	4	5	6	7	8	9	10	11	12

Parts.	18	6	12	18		xvj gr.	vij gr.	iiij gr.	ij gr.	j gr.		
Mite.	13	7	0	2	14	8	4	1	15	10		
Grain.	0	1	2	3	4	4	5	6	6	6		
D. wt.	1	1	1	1	1	1	1	1	1	1		
Ounc.	1	1	1	1	1	1	1	1	1	1		
L. wt.	1	2	3	4	5	6	7	8	9	10	11	12

Two Grains 1 quarters. At the Ounce.

Parts.	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
Mite.	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Grain.	12	0	12	16	1	13	10	16	7	19	12	16	4	14	3	14	9	2	14	12
D. wt.	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ounc.	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
L. wt.	1	2	3	4	5	6	7	8	9	10	11	20	30							

Parts.	7	15	0	8	15	1	8	15	1	8	15	1	8	15	1	8	15	1	8	15
Mite.	15	10	6	1	6	15	1	6	15	1	6	15	1	6	15	1	6	15	1	6
Grain.	0	1	2	3	3	4	4	5	6	6	7	7	8	8	9	9	10	10	11	11
D. wt.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ounc.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
L. wt.	1	2	3	4	5	6	7	8	9	10	11	20	30							

Parts.	16	2	9	17	2	4	2	1	0	4	2	1	0	1
Mite.	8	4	19	10	14	mipt.	0	8	4	2	1	0	1	0
Grain.	8	9	6	10	11									
D. wt.	1	1	1	1	1									
Ounc.	1	1	1	1	1									
L. wt.	1	2	3	4	5	6	7	8	9	10	11	12		

Two Grain and a half. At the Ounce.

L. wt.	D. wt.	Grain.	Mite.	Parts.	D. wt.	Grain.	Mite.	Parts.
1	0	19	12	16	1	13	12	16
2	0	15	5	10	2	10	5	10
3	1	10	18	4	3	6	10	20
4	1	7	6	10	4	2	3	14
5	1	4	2	3	5	0	21	16
6	2	0	21	16	6	7	9	2
7	2	7	17	9	7	14	13	1
8	2	4	13	1	8	8	14	12
9	3	1	8	14	9	4	7	6
10	3	0	0	0	10	0	0	0
11	3	15	0	0	11	8	14	12
20	10	16	8	14	20	10	13	11
30	10	4	13	11	30	6	18	6

L. wt.	D. wt.	Grain.	Mite.	Parts.	D. wt.	Grain.	Mite.	Parts.
1	0	19	12	16	1	13	12	16
2	0	15	5	10	2	10	5	10
3	1	10	18	4	3	6	10	20
4	1	7	6	10	4	2	3	14
5	1	4	2	3	5	0	21	16
6	2	0	21	16	6	7	9	2
7	2	7	17	9	7	14	13	1
8	2	4	13	1	8	8	14	12
9	3	1	8	14	9	4	7	6
10	3	0	0	0	10	0	0	0
11	3	15	0	0	11	8	14	12
20	10	16	8	14	20	10	13	11
30	10	4	13	11	30	6	18	6

L. wt.	D. wt.	Grain.	Mite.	Parts.	D. wt.	Grain.	Mite.	Parts.
1	0	19	12	16	1	13	12	16
2	0	15	5	10	2	10	5	10
3	1	10	18	4	3	6	10	20
4	1	7	6	10	4	2	3	14
5	1	4	2	3	5	0	21	16
6	2	0	21	16	6	7	9	2
7	2	7	17	9	7	14	13	1
8	2	4	13	1	8	8	14	12
9	3	1	8	14	9	4	7	6
10	3	0	0	0	10	0	0	0
11	3	15	0	0	11	8	14	12
20	10	16	8	14	20	10	13	11
30	10	4	13	11	30	6	18	6

L. wt.	D. wt.	Grain.	Mite.	Parts.	D. wt.	Grain.	Mite.	Parts.
1	0	19	12	16	1	13	12	16
2	0	15	5	10	2	10	5	10
3	1	10	18	4	3	6	10	20
4	1	7	6	10	4	2	3	14
5	1	4	2	3	5	0	21	16
6	2	0	21	16	6	7	9	2
7	2	7	17	9	7	14	13	1
8	2	4	13	1	8	8	14	12
9	3	1	8	14	9	4	7	6
10	3	0	0	0	10	0	0	0
11	3	15	0	0	11	8	14	12
20	10	16	8	14	20	10	13	11
30	10	4	13	11	30	6	18	6

Two Grains 3 quarters. At the Ounce.

L. wt.	D. wt.	Grain.	Mite.	Parts.	L. wt.	D. wt.	Grain.	Mite.	Parts.
1	0	15	6	12	1	13	12	16	16
2	1	12	3	6	2	10	5	10	10
3	1	9	0	0	3	6	10	20	4
4	1	6	3	6	4	3	6	10	20
5	1	3	6	12	5	0	21	16	8
6	2	0	21	16	6	7	9	2	2
7	2	7	17	9	7	14	13	1	18
8	2	4	13	1	8	8	14	12	12
9	3	1	8	14	9	4	7	6	6
10	3	0	0	0	10	0	0	0	0
11	3	15	0	0	11	8	14	12	12
20	10	16	8	14	20	10	13	11	6
30	10	4	13	11	30	6	18	6	0

L. wt.	D. wt.	Grain.	Mite.	Parts.	L. wt.	D. wt.	Grain.	Mite.	Parts.
1	0	15	6	12	1	13	12	16	16
2	1	12	3	6	2	10	5	10	10
3	1	9	0	0	3	6	10	20	4
4	1	6	3	6	4	3	6	10	20
5	1	3	6	12	5	0	21	16	8
6	2	0	21	16	6	7	9	2	2
7	2	7	17	9	7	14	13	1	18
8	2	4	13	1	8	8	14	12	12
9	3	1	8	14	9	4	7	6	6
10	3	0	0	0	10	0	0	0	0
11	3	15	0	0	11	8	14	12	12
20	10	16	8	14	20	10	13	11	6
30	10	4	13	11	30	6	18	6	0

L. wt.	D. wt.	Grain.	Mite.	Parts.	L. wt.	D. wt.	Grain.	Mite.	Parts.
1	0	15	6	12	1	13	12	16	16
2	1	12	3	6	2	10	5	10	10
3	1	9	0	0	3	6	10	20	4
4	1	6	3	6	4	3	6	10	20
5	1	3	6	12	5	0	21	16	8
6	2	0	21	16	6	7	9	2	2
7	2	7	17	9	7	14	13	1	18
8	2	4	13	1	8	8	14	12	12
9	3	1	8	14	9	4	7	6	6
10	3	0	0	0	10	0	0	0	0
11	3	15	0	0	11	8	14	12	12
20	10	16	8	14	20	10	13	11	6
30	10	4	13	11	30	6	18	6	0

L. wt.	D. wt.	Grain.	Mite.	Parts.	L. wt.	D. wt.	Grain.	Mite.	Parts.
1	0	15	6	12	1	13	12	16	16
2	1	12	3	6	2	10	5	10	10
3	1	9	0	0	3	6	10	20	4
4	1	6	3	6	4	3	6	10	20
5	1	3	6	12	5	0	21	16	8
6	2	0	21	16	6	7	9	2	2
7	2	7	17	9	7	14	13	1	18
8	2	4	13	1	8	8	14	12	12
9	3	1	8	14	9	4	7	6	6
10	3	0	0	0	10	0	0	0	0
11	3	15	0	0	11	8	14	12	12
20	10	16	8	14	20	10	13	11	6
30	10	4	13	11	30	6	18	6	0

Three Grains. At the Ounce

Parts.	6	12	18	2	8	14	20	4	10	16	0	10	4
Mite.	7	14	21	9	16	23	30	10	17	24	0	10	4
Grain.	4	8	12	17	21	25	30	10	13	17	0	10	4
D.wt.	8	16	24	32	40	48	56	64	72	80	88	96	104
Ounc.	0	0	1	1	2	2	3	3	4	4	5	5	6
L.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13

Parts.	0	10	20	8	18	28	38	48	58	68	78	88	98
Mite.	0	0	1	1	2	2	3	3	4	4	5	5	6
Grain.	1	2	3	4	5	6	7	8	9	10	11	12	13
D.wt.	13	15	16	17	18	19	20	21	22	23	24	25	26
L.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13

Parts.	0	10	20	8	18	28	38	48	58	68	78	88	98
Mite.	5	5	5	6	6	7	7	8	8	9	9	10	10
Grain.	11	12	13	14	15	16	17	18	19	20	21	22	23
D.wt.	13	15	16	17	18	19	20	21	22	23	24	25	26
L.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13

Parts.	0	10	20	8	18	28	38	48	58	68	78	88	98
Mite.	5	5	5	6	6	7	7	8	8	9	9	10	10
Grain.	11	12	13	14	15	16	17	18	19	20	21	22	23
D.wt.	13	15	16	17	18	19	20	21	22	23	24	25	26
L.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13

Three Grains 1 quarters. At the Ounce.

Parts.	12	24	36	48	60	72	84	96	108	120	132	144	156	168
Mite.	14	28	42	56	70	84	98	112	126	140	154	168	182	196
Grain.	17	34	51	68	85	102	119	136	153	170	187	204	221	238
D.wt.	0	1	2	3	4	5	6	7	8	9	10	11	12	13
L.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Parts.	3	7	10	14	17	21	25	29	33	37	41	45	49	53
Mite.	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Grain.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
D.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
L.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Parts.	16	20	24	28	32	36	40	44	48	52	56	60	64	68
Mite.	3	5	7	9	11	13	15	17	19	21	23	25	27	29
Grain.	12	13	14	15	16	17	18	19	20	21	22	23	24	25
D.wt.	13	15	16	17	18	19	20	21	22	23	24	25	26	27
L.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Parts.	18	24	30	36	42	48	54	60	66	72	78	84	90	96
Mite.	3	6	9	12	15	18	21	24	27	30	33	36	39	42
Grain.	13	14	15	16	17	18	19	20	21	22	23	24	25	26
D.wt.	13	15	16	17	18	19	20	21	22	23	24	25	26	27
L.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Parts.	18	24	30	36	42	48	54	60	66	72	78	84	90	96
Mite.	3	6	9	12	15	18	21	24	27	30	33	36	39	42
Grain.	13	14	15	16	17	18	19	20	21	22	23	24	25	26
D.wt.	13	15	16	17	18	19	20	21	22	23	24	25	26	27
L.wt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Three Grains and a half. At the Ounce.

Parts.	Mites.	Grain.	D. wt.
8	1	18	0
14	3	14	0
10	5	10	1
6	7	6	1
2	9	2	2
20	10	20	2
16	12	16	3
12	14	12	3
8	16	8	4
4	18	4	4
0	20	0	5
8	16	8	9
12	12	12	14

Parts.	Mites.	Grain.	D. wt.
11	2	11	1
8	6	8	2
5	10	5	3
2	14	2	4
21	17	21	5
16	12	16	6
8	6	8	7
4	3	4	8
16	7	16	12
8	14	8	17
4	3	4	17
16	7	16	xvi gr.
8	14	8	viii gr.
4	3	4	iiii gr.
16	7	16	ij gr.
8	14	8	gr.

Parts.	Mites.	Grain.	D. wt.
19	3	19	1
16	7	16	2
13	11	13	3
10	15	10	4
7	19	7	5
4	23	4	6
1	27	1	7
1	31	1	8
20	10	20	9
17	14	17	10
14	18	14	11
11	22	11	12

Three Grains 3 quarters. At the Ounce.

Parts.	Mites.	Grain.	D. wt.
2	6	2	0
4	12	4	1
6	18	6	1
8	24	8	2
10	30	10	2
12	36	12	3
14	42	14	3
16	48	16	4
18	54	18	4
20	60	20	5
22	66	22	5
24	72	24	6
26	78	26	6
28	84	28	7
30	90	30	7
32	96	32	8
34	102	34	8
36	108	36	9
38	114	38	9
40	120	40	10
42	126	42	10
44	132	44	11
46	138	46	11
48	144	48	12
50	150	50	12
52	156	52	13
54	162	54	13
56	168	56	14
58	174	58	14
60	180	60	15
62	186	62	15
64	192	64	16
66	198	66	16
68	204	68	17
70	210	70	17
72	216	72	18
74	222	74	18
76	228	76	19
78	234	78	19
80	240	80	20
82	246	82	20
84	252	84	21
86	258	86	21
88	264	88	22
90	270	90	22
92	276	92	23
94	282	94	23
96	288	96	24
98	294	98	24
100	300	100	25
102	306	102	25
104	312	104	26
106	318	106	26
108	324	108	27
110	330	110	27
112	336	112	28
114	342	114	28
116	348	116	29
118	354	118	29
120	360	120	30
122	366	122	30
124	372	124	31
126	378	126	31
128	384	128	32
130	390	130	32
132	396	132	33
134	402	134	33
136	408	136	34
138	414	138	34
140	420	140	35
142	426	142	35
144	432	144	36
146	438	146	36
148	444	148	37
150	450	150	37
152	456	152	38
154	462	154	38
156	468	156	39
158	474	158	39
160	480	160	40
162	486	162	40
164	492	164	41
166	498	166	41
168	504	168	42
170	510	170	42
172	516	172	43
174	522	174	43
176	528	176	44
178	534	178	44
180	540	180	45
182	546	182	45
184	552	184	46
186	558	186	46
188	564	188	47
190	570	190	47
192	576	192	48
194	582	194	48
196	588	196	49
198	594	198	49
200	600	200	50
202	606	202	50
204	612	204	51
206	618	206	51
208	624	208	52
210	630	210	52
212	636	212	53
214	642	214	53
216	648	216	54
218	654	218	54
220	660	220	55
222	666	222	55
224	672	224	56
226	678	226	56
228	684	228	57
230	690	230	57
232	696	232	58
234	702	234	58
236	708	236	59
238	714	238	59
240	720	240	60
242	726	242	60
244	732	244	61
246	738	246	61
248	744	248	62
250	750	250	62
252	756	252	63
254	762	254	63
256	768	256	64
258	774	258	64
260	780	260	65
262	786	262	65
264	792	264	66
266	798	266	66
268	804	268	67
270	810	270	67
272	816	272	68
274	822	274	68
276	828	276	69
278	834	278	69
280	840	280	70
282	846	282	70
284	852	284	71
286	858	286	71
288	864	288	72
290	870	290	72
292	876	292	73
294	882	294	73
296	888	296	74
298	894	298	74
300	900	300	75
302	906	302	75
304	912	304	76
306	918	306	76
308	924	308	77
310	930	310	77
312	936	312	78
314	942	314	78
316	948	316	79
318	954	318	79
320	960	320	80
322	966	322	80
324	972	324	81
326	978	326	81
328	984	328	82
330	990	330	82
332	996	332	83
334	1002	334	83
336	1008	336	84
338	1014	338	84
340	1020	340	85
342	1026	342	85
344	1032	344	86
346	1038	346	86
348	1044	348	87
350	1050	350	87
352	1056	352	88
354	1062	354	88
356	1068	356	89
358	1074	358	89
360	1080	360	90
362	1086	362	90
364	1092	364	91
366	1098	366	91
368	1104	368	92
370	1110	370	92
372	1116	372	93
374	1122	374	93
376	1128	376	94
378	1134	378	94
380	1140	380	95
382	1146	382	95
384	1152	384	96
386	1158	386	96
388	1164	388	97
390	1170	390	97
392	1176	392	98
394	1182	394	98
396	1188	396	99
398	1194	398	99
400	1200	400	100

One Carract.

At the Ounce.

Parts.	8	16	2	10	18	4	12	20	6	0	6	20
Mites.	16	12	9	5	1	18	14	10	7	0	7	0
Grain.	21	19	17	3	14	10	8	6	4	2	4	0
D. wt.	0	1	1	2	2	3	3	4	4	5	6	7
Ounc.	0	1	1	2	2	3	3	4	4	5	6	7
L. wt.	1	2	3	4	5	6	7	8	9	10	11	20
L. wt.	1	2	3	4	5	6	7	8	9	10	11	20
Grain.	9	12	18	6	12	18	12	18	12	18	12	12
D. wt.	1	2	3	5	6	7	8	12	12	12	12	12
Parts.	8	12	18	2	8	14	20	4	10	18	16	20
Mites.	7	14	1	9	16	3	10	18	5	10	12	16
Grain.	1	2	4	5	6	8	9	10	12	12	12	16
D. wt.	1	2	3	5	6	7	8	12	12	12	12	12
Grain.	8	6	6	12	18	18	xvj	gr.	viiij	gr.	iiij	gr.
D. wt.	13	15	16	17	18	18	ij	gr.	ij	gr.	ij	gr.
Parts.	6	6	12	18	2	12	12	6	14	18	0	20
Mites.	7	14	1	9	16	3	10	18	7	14	1	18
Grain.	15	16	17	19	20	14	7	3	1	1	1	0
D. wt.	15	16	17	19	20	14	7	3	1	1	1	0
Grain.	8	6	12	18	2	12	12	6	14	18	0	20
D. wt.	13	15	16	17	18	18	xvj	gr.	viiij	gr.	iiij	gr.
Grain.	13	15	16	17	18	18	ij	gr.	ij	gr.	ij	gr.
D. wt.	13	15	16	17	18	18	ij	gr.	ij	gr.	ij	gr.

One Carract 1 quart. of a Grain: At the Ounce

Parts.	14	6	20	12	4	18	10	2	16	8	0
Mites.	23	7	10	14	18	1	5	10	9	2	0
Grain.	23	22	21	20	19	18	17	16	15	14	13
D. wt.	0	1	2	3	4	5	6	7	8	9	10
L. wt.	1	2	3	4	5	6	7	8	9	10	11
L. wt.	1	2	3	4	5	6	7	8	9	10	11
Grain.	6	12	18	6	12	18	12	18	12	18	12
D. wt.	1	2	3	5	6	7	8	12	12	12	12
Parts.	14	6	20	12	4	18	10	2	16	8	0
Mites.	3	7	10	14	18	1	5	10	9	2	0
Grain.	14	4	18	10	22	18	13	3	7	12	16
D. wt.	11	3	14	2	17	22	9	1	12	17	12
Ounc.	0	1	1	2	3	4	5	6	7	8	9
L. wt.	1	2	3	4	5	6	7	8	9	10	11
L. wt.	1	2	3	4	5	6	7	8	9	10	11
Grain.	6	12	18	6	12	18	12	18	12	18	12
D. wt.	1	2	3	5	6	7	8	12	12	12	12
Parts.	21	21	20	19	19	19	19	18	18	17	17
Mites.	8	17	6	4	15	4	7	2	11	11	11
Grain.	1	2	4	5	5	7	8	10	11	13	14
D. wt.	1	2	4	5	6	7	8	10	11	13	14
Grain.	6	12	18	6	12	18	12	18	12	18	12
D. wt.	1	2	3	5	6	7	8	12	12	12	12
Parts.	18	6	12	18	14	14	14	14	15	10	10
Mites.	15	17	16	16	5	14	14	15	7	16	3
Grain.	15	17	16	16	5	14	14	15	7	16	3
D. wt.	13	15	16	17	18	18	18	18	15	10	7
Grain.	13	15	16	17	18	18	18	18	15	10	7
D. wt.	13	15	16	17	18	18	18	18	15	10	7
Parts.	16	16	15	15	14	14	14	14	15	10	10
Mites.	18	7	16	16	5	14	14	15	7	16	3
Grain.	18	16	15	15	14	14	14	14	15	10	10
D. wt.	13	15	16	17	18	18	18	18	15	10	7
Grain.	13	15	16	17	18	18	18	18	15	10	7
D. wt.	13	15	16	17	18	18	18	18	15	10	7
Parts.	16	16	15	15	14	14	14	14	15	10	10
Mites.	18	7	16	16	5	14	14	15	7	16	3
Grain.	18	16	15	15	14	14	14	14	15	10	10
D. wt.	13	15	16	17	18	18	18	18	15	10	7
Grain.	13	15	16	17	18	18	18	18	15	10	7
D. wt.	13	15	16	17	18	18	18	18	15	10	7

One Carract and half a Grain. At the Ounce.

Parts.	20	18	16	14	12	10	8	6	4	2	0	0	4	6
Mite.	10	1	12	3	8	14	16	7	18	9	0	0	18	7
Grain.	6	13	19	2	1	15	21	4	10	17	0	0	10	4
D. wt.	2	4	16	9	1	3	5	18	10	2	15	5	10	4
Ounc.	0	1	1	2	3	3	4	4	5	6	6	12	18	8
L. wt.	1	2	3	4	5	6	7	8	9	10	11	20	30	
Parts.	11	8	19	12	9	5	8	4	2	1	0			
Mite.	17	8	18	9	0	16	23	0	16	8	4	2	1	100
Grain.	16	18	19	21	23									
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12		
Grain.	13	15	16	17	18									
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12		
Grain.	10	1	12	2	13	14	17	10	14	5	16	6		
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12		
Grain.	6	12	18	6	6	12	18		18					
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12		
Grain.	6	12	18	6	6	12	18		18					
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12		
Grain.	6	12	18	6	6	12	18		18					
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12		
Grain.	6	12	18	6	6	12	18		18					
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12		
Grain.	6	12	18	6	6	12	18		18					
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12		
Grain.	6	12	18	6	6	12	18		18					

One Carract 3 quarters of a Grain. At the Ounce.

Parts.	4	8	12	16	20	2	6	10	14	18	0	14	10
Mite.	18	16	14	12	10	9	7	5	3	1	0	3	5
Grain.	1	3	5	7	9	11	13	15	17	19	21		
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	19
Ounc.	0	1	1	2	3	3	4	5	5	6	7	12	19
L. wt.	1	2	3	4	5	6	7	8	9	10	11	20	30
Parts.	8	17	3	12	20	7	15	2	10	19	3	19	5
Mite.	12	4	17	9	1	14	6	15	19	11	10	16	3
Grain.	1	3	4	6	8	9	11	12	14	16			
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				
D. wt.	1	2	3	4	5	6	7	8	9	10	11	12	
Grain.	9	12	18	6	6	12	18		18				

One Carract one Grain. At the Ounce.

L. wt.	D. wt.	Grain.	Mites.	Parts.	Grain.	Mites.	Parts.	Grain.	Mites.	Parts.
1	0	13	5	10	1	3	5	10	1	6
2	1	7	10	20	2	6	10	2	12	12
3	2	0	16	8	3	9	16	3	18	18
4	2	14	1	18	4	13	1	4	12	12
5	3	8	7	6	5	16	7	6	18	18
6	4	1	12	16	6	19	12	8	12	12
7	4	15	18	4	7	22	18	10	18	18
8	5	9	3	14	9	2	3	11	12	12
9	6	2	9	2	10	5	9	12	18	18
10	6	16	14	12	11	8	14	13	12	12
11	7	10	0	0	12	12	0	14	18	18
20	13	12	9	2				xvj	gr.	4
30	20	9	3	14				vij	gr.	2
								iiij	gr.	4
								ij	gr.	6
								j	gr.	1

One Carract one Grain and a quart. At the Ounce.

L. wt.	D. wt.	Grain.	Mites.	Parts.	Grain.	Mites.	Parts.	Grain.	Mites.	Parts.
1	0	14	7	12	1	15	17	1	15	17
2	1	8	15	5	2	11	13	2	11	13
3	2	22	10	4	3	7	8	3	7	8
4	2	17	6	20	4	3	4	4	3	4
5	3	11	14	8	5	18	21	5	18	21
6	4	5	21	16	6	8	14	6	8	14
7	5	0	9	2	7	18	17	7	18	17
8	5	15	1	18	8	10	12	8	10	12
9	6	8	20	14	9	6	8	9	6	8
10	7	3	4	7	10	14	17	10	14	17
11	7	17	0	0	11	10	12	11	10	12
20	14	6	8	14	12	16	2	12	16	2
30	21	9	1	18	13	17	21	13	17	21

One Carract one Grain, dj. At the Ounce.

L. wt.	D. wt.	Grain.	Parts.	Mite.	Grain.	Parts.	Mite.	Grain.	Parts.	Mite.
1	15	6			13	18		1	6	
2	10	12			15	18		2	12	
3	5	18			16	6		3	18	
4	0	0			17	12		5	6	
5	15	6			18	18		6	6	
6	10	12						7	12	
7	5	18			xvj	gr.		8	18	
8	0	0			vij	gr.		10		
9	15	6			iii	gr.		11	6	
10	10	12			i	gr.		12	12	
11	5	18								
20	0	0								
30	10	0								

One Carract 1 Grains 3 quar. At the Ounce

L. wt.	D. wt.	Grain.	Parts.	Mite.	Grain.	Parts.	Mite.	Grain.	Parts.	Mite.
1	15	16	7	6	13	18		1	6	
2	11	8	14	12	15	18		2	12	
3	7	1	1	18	16	6		3	18	
4	2	17	9	2	17	12		5	6	
5	18	9	16	8	18	18		6	6	
6	14	2	3	14				7	12	
7	9	18	10	20				8	18	
8	5	10	18	4	xvj	gr.		10		
9	1	3	5	10	vij	gr.		11	6	
10	16	19	12	16	iii	gr.		12	12	
11	12	12	0	0						
20	13	15	5	10						
30	10	10	18	4						

One Carra^t two Grains. At the Ounce.

L.wt.	D.wt.	Gral.	Mite.	Parts.	D.wt.	Gral.	Mite.	Parts.
1	0	16	8	14	1	8	14	12
2	1	12	17	9	2	17	9	2
3	2	9	2	3	3	14		
4	3	5	10	18	4			
5	4	1	19	12	5	16		
6	4	18	4	7	6			
7	5	14	13	1	7	18		
8	6	10	21	16	8			
9	7	7	6	10	9	20		
10	8	3	15	5	10			
11	9	0	0	0	11			
20	16	7	6	10	20			
30	24	10	21	16	30			

L.wt.	D.wt.	Gral.	Mite.	Parts.	D.wt.	Gral.	Mite.	Parts.
1	0	18	0	20	1	18	0	0
2	1	12	1	18	2	18	0	0
3	2	9	2	16	3	18	0	0
4	3	6	3	14	4	18	0	0
5	4	4	4	12	5	18	0	0
6	5	3	5	10	6	18	0	0
7	6	2	6	8	7	18	0	0
8	7	1	7	6	8	18	0	0
10	9	0	9	4	10	18	0	0
11	10	0	10	3	11	18	0	0
12	12	0	12	2	12	18	0	0

L.wt.	D.wt.	Gral.	Mite.	Parts.	D.wt.	Gral.	Mite.	Parts.
1	0	13	18	0	1	13	18	0
2	1	15	6	0	2	15	6	0
3	2	16	12	0	3	16	12	0
4	3	17	18	0	4	17	18	0
5	4	18	18	0	5	18	18	0
6	5	17	12	0	6	17	12	0
7	6	18	18	0	7	18	18	0
8	7	17	18	0	8	17	18	0
10	9	xvj	gr.	1	10	xvj	gr.	1
11	10	viiij	gr.	0	11	viiij	gr.	0
12	12	iiij	gr.	0	12	iiij	gr.	0
		ij	gr.	0		ij	gr.	0
		gr.		0		gr.		0

One Carra^t 2 Grains and a quar. At the Ounce

L.wt.	D.wt.	Gral.	Mite.	Parts.	D.wt.	Gral.	Mite.	Parts.
1	0	17	1	18	1	10	1	18
2	1	14	2	14	2	20	3	14
3	2	11	3	10	3	6	5	10
4	3	8	4	6	4	16	7	6
5	4	5	5	2	5	2	9	2
6	5	2	6	20	6	12	10	20
7	6	19	7	16	7	22	12	16
8	7	16	8	12	8	8	14	12
9	8	13	9	8	9	18	16	8
10	9	10	10	4	10	4	18	4
11	10	7	12	0	11	15	0	0
12	11	4	14	12	12	15	0	0
20	17	0	21	8	20	17	0	0
30	25	11	8	14	30	25	11	8

L.wt.	D.wt.	Gral.	Mite.	Parts.	D.wt.	Gral.	Mite.	Parts.
1	0	13	18	0	1	13	18	0
2	1	15	6	0	2	15	6	0
3	2	16	12	0	3	16	12	0
4	3	17	18	0	4	17	18	0
5	4	18	18	0	5	18	18	0
6	5	17	12	0	6	17	12	0
7	6	18	18	0	7	18	18	0
8	7	17	18	0	8	17	18	0
10	9	xvj	gr.	1	10	xvj	gr.	1
11	10	viiij	gr.	0	11	viiij	gr.	0
12	12	iiij	gr.	0	12	iiij	gr.	0
		ij	gr.	0		ij	gr.	0
		gr.		0		gr.		0

One Carract 2 Grains and a half. At the Ounce.

L. wt.	Parts.	Mite.	Grain.	D. wt.	Parts.	Mite.	Grain.	D. wt.
1	2	9	17	0	2	9	17	0
2	4	18	10	1	4	18	10	1
3	6	27	13	2	6	27	13	2
4	8	36	16	3	8	36	16	3
5	10	45	19	4	10	45	19	4
6	12	54	22	5	12	54	22	5
7	14	63	25	6	14	63	25	6
8	16	72	28	7	16	72	28	7
9	18	81	31	8	18	81	31	8
10	20	90	34	9	20	90	34	9
11	22	99	37	10	22	99	37	10
20	40	180	74	17	40	180	74	17
30	60	270	111	26	60	270	111	26

L. wt.	Parts.	Mite.	Grain.	D. wt.
1	7	4	2	0
2	14	8	4	1
3	21	12	6	2
4	28	16	8	3
5	35	20	10	4
6	42	24	12	5
7	49	28	14	6
8	56	32	16	7
9	63	36	18	8
10	70	40	20	9
11	77	44	22	10
12	84	48	24	11
13	91	52	26	12
14	98	56	28	13
15	105	60	30	14
16	112	64	32	15
17	119	68	34	16
18	126	72	36	17
19	133	76	38	18
20	140	80	40	19
21	147	84	42	20
22	154	88	44	21
23	161	92	46	22
24	168	96	48	23
25	175	100	50	24
26	182	104	52	25
27	189	108	54	26
28	196	112	56	27
29	203	116	58	28
30	210	120	60	29

One Carract 2 Grains 3 quar. At the Ounce.

L. wt.	Parts.	Mite.	Grain.	D. wt.	Parts.	Mite.	Grain.	D. wt.
1	8	16	12	0	8	16	12	0
2	16	32	24	1	16	32	24	1
3	24	48	36	2	24	48	36	2
4	32	64	48	3	32	64	48	3
5	40	80	60	4	40	80	60	4
6	48	96	72	5	48	96	72	5
7	56	112	84	6	56	112	84	6
8	64	128	96	7	64	128	96	7
9	72	144	108	8	72	144	108	8
10	80	160	120	9	80	160	120	9
11	88	176	132	10	88	176	132	10
12	96	192	144	11	96	192	144	11
13	104	208	156	12	104	208	156	12
14	112	224	168	13	112	224	168	13
15	120	240	180	14	120	240	180	14
16	128	256	192	15	128	256	192	15
17	136	272	204	16	136	272	204	16
18	144	288	216	17	144	288	216	17
19	152	304	228	18	152	304	228	18
20	160	320	240	19	160	320	240	19
21	168	336	252	20	168	336	252	20
22	176	352	264	21	176	352	264	21
23	184	368	276	22	184	368	276	22
24	192	384	288	23	192	384	288	23
25	200	400	300	24	200	400	300	24
26	208	416	312	25	208	416	312	25
27	216	432	324	26	216	432	324	26
28	224	448	336	27	224	448	336	27
29	232	464	348	28	232	464	348	28
30	240	480	360	29	240	480	360	29

L. wt.	Parts.	Mite.	Grain.	D. wt.
1	5	6	1	0
2	10	12	2	1
3	15	18	3	2
4	20	24	4	3
5	25	30	5	4
6	30	36	6	5
7	35	42	7	6
8	40	48	8	7
9	45	54	9	8
10	50	60	10	9
11	55	66	11	10
12	60	72	12	11
13	65	78	13	12
14	70	84	14	13
15	75	90	15	14
16	80	96	16	15
17	85	102	17	16
18	90	108	18	17
19	95	114	19	18
20	100	120	20	19
21	105	126	21	20
22	110	132	22	21
23	115	138	23	22
24	120	144	24	23
25	125	150	25	24
26	130	156	26	25
27	135	162	27	26
28	140	168	28	27
29	145	174	29	28
30	150	180	30	29

One Carract 3 Grains. At the Ounce

L. wt.	D. wt.	Grain.	Mites.	Parts.	D. wt.	Grain.	Mites.	Parts.
1	0	19	3	14	1	14	3	14
2	1	18	4	7	3	4	7	6
3	2	17	6	10	4	18	10	20
4	3	16	8	14	6	8	14	12
5	4	15	10	18	7	22	18	4
6	5	14	13	1	9	13	1	18
7	6	13	15	5	11	3	5	10
8	7	12	17	9	12	17	9	2
9	8	11	19	12	14	7	12	16
10	9	10	21	16	15	21	16	8
11	10	10	0	0	17	12	0	0
20	19	1	19	12				
30	28	12	17	9				

L. wt.	D. wt.	Grain.	Mites.	Parts.
1	9	18	13	18
2	12	15	16	6
3	18	16	17	12
5	6	18	18	18
6	6			
7	12			
8	18			
10	6			
11	6			
12	12			

L. wt.	D. wt.	Grain.	Mites.	Parts.
1	2	16	7	16
2	4	15	10	10
3	7	13	14	4
5	9	10	20	20
6	11	18	14	8
14	16	14	2	2
19	1	18	1	18
21	9	9	12	12

L. wt.	D. wt.	Grain.	Mites.	Parts.
1	1	18	13	18
1	1	15	16	6
1	1	17	12	12
1	1	18	18	18
xvj		gr.		
vij		gr.		
iiij		gr.		
ij		gr.		
j		gr.		

One Carract 3 Grains and a quar. At the Ounce.

L. wt.	D. wt.	Grain.	Mites.	Parts.	D. wt.	Grain.	Mites.	Parts.
1	0	19	18	10	1	15	10	20
2	1	19	13	1	3	7	1	18
3	2	19	7	12	4	22	12	16
4	3	19	2	3	6	14	3	14
5	4	18	20	14	8	5	14	12
6	5	18	15	5	9	21	5	10
7	6	18	9	16	11	12	16	8
8	7	18	4	7	13	4	7	6
9	8	17	22	18	14	19	18	4
10	9	17	17	9	16	11	9	2
11	10	17	12	0	18	3	0	0
20	19	15	10	18				
30	29	13	4	7				

L. wt.	D. wt.	Grain.	Mites.	Parts.
1	6	18	13	18
2	12	15	16	6
3	18	16	17	12
5	6	18	18	18
6	6			
7	12			
8	18			
10	6			
11	6			
12	12			

L. wt.	D. wt.	Grain.	Mites.	Parts.
1	2	16	7	16
2	4	15	10	10
3	7	13	14	4
5	9	10	20	20
6	11	18	14	8
14	16	14	2	2
19	1	18	1	18
21	9	9	12	12

L. wt.	D. wt.	Grain.	Mites.	Parts.
1	13	18	13	18
1	15	16	17	12
1	17	12	18	18
xvj		gr.		
vij		gr.		
iiij		gr.		
ij		gr.		
j		gr.		

One Carract 3 Grains and a half. At the Ounce.

Parts.	Mites.	Grain.	D. wt.	Parts.	Mites.	Grain.	D. wt.
4	18	10	1	4	18	10	1
8	16	21	2	8	16	21	2
12	14	8	3	12	14	8	3
16	12	1	4	16	12	1	4
20	10	2	5	20	10	2	5
2	9	17	6	2	9	17	6
6	7	4	7	6	7	4	7
10	5	15	8	10	5	15	8
14	3	2	9	14	3	2	9
18	1	13	10	18	1	13	10
0	0	0	11	0	0	0	11
14	2	3	20	14	2	3	20
10	5	1	30	10	5	1	30

Parts.	Mites.	Grain.	D. wt.	Parts.	Mites.	Grain.	D. wt.
11	4	2	1	11	4	2	1
14	3	6	1	14	3	6	1
17	2	13	1	17	2	13	1
20	1	7	1	20	1	7	1
1	15	4	1	1	15	4	1
7	13	15	1	7	13	15	1
1	6	17	1	1	6	17	1
6	5	12	1	6	5	12	1
1	18	15	1	1	18	15	1
6	17	17	xvj	6	17	17	gr.
14	9	20	viiij	14	9	20	gr.
8	0	23	iiii	8	0	23	gr.
9	1	1	i	9	1	1	gr.
15	0	1	gr.	15	0	1	gr.

Parts.	Mites.	Grain.	D. wt.	Parts.	Mites.	Grain.	D. wt.
18	16	1	1	18	16	1	1
16	9	3	1	16	9	3	1
14	2	5	1	14	2	5	1
12	19	6	1	12	19	6	1
10	12	8	1	10	12	8	1
9	5	10	1	9	5	10	1
7	22	11	1	7	22	11	1
5	15	13	1	5	15	13	1
3	8	15	1	3	8	15	1
1	1	17	1	1	1	17	1
0	18	18	1	0	18	18	1

One Carract 3 Grains 3 quar: At the Ounce.

Parts.	Mites.	Grain.	D. wt.	Parts.	Mites.	Grain.	D. wt.
10	5	18	1	10	5	18	1
20	10	12	3	20	10	12	3
8	6	5	5	8	6	5	5
18	1	7	7	18	1	7	7
6	7	8	8	6	7	8	8
16	12	10	10	16	12	10	10
4	18	1	12	4	18	1	12
14	3	2	14	14	3	2	14
2	9	5	15	2	9	5	15
12	14	14	17	12	14	14	17
0	0	9	19	0	0	9	19
2	17	2	21	2	17	2	21
14	2	3	31	14	2	3	31

Parts.	Mites.	Grain.	D. wt.	Parts.	Mites.	Grain.	D. wt.
18	12	2	1	18	12	2	1
15	5	5	1	15	5	5	1
11	7	7	1	11	7	7	1
8	11	10	1	8	11	10	1
4	4	13	1	4	4	13	1
1	17	15	1	1	17	15	1
19	9	18	1	19	9	18	1
16	2	21	1	16	2	21	1
12	15	23	1	12	15	23	1
9	8	2	1	9	8	2	1

Parts.	Mites.	Grain.	D. wt.	Parts.	Mites.	Grain.	D. wt.
5	1	13	1	5	1	13	1
2	14	15	1	2	14	15	1
20	6	10	1	20	6	10	1
17	19	12	1	17	19	12	1
13	12	15	1	13	12	15	1
8	8	1	xvj	8	8	1	gr.
4	14	0	viiij	4	14	0	gr.
1	7	1	iiii	1	7	1	gr.
11	3	1	ij	11	3	1	gr.
16	1	1	gr.	16	1	1	gr.

Two Carracts: At the Ounce.

Parts.	16	10	4	20	14	8	2	18	12	6	0	12	14	18
Mites.	12	5	18	10	3	16	9	1	14	7	0	9	3	5
Grain.	19	15	10	6	2	21	17	13	8	4	0	19	5	10
D. wt.	1	3	5	7	9	10	12	14	16	18	0	0	0	1
Ounc.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
L. wt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Parts.	0	12	2	14	4	2	12	6	18	12	6	14	18
Mite.	0	14	9	11	3	5	17	1	14	9	7	13	1
Grain.	0	8	11	14	16	18	1	19	10	21	0	1	3
D. wt.	1	1	1	1	1	1	1	1	1	1	1	1	1
Grain.	18	6	12	18	18	18	xvj	vij	ij	ij	ij	ij	ij
D. wt.	13	15	16	17	18	18	gr.	gr.	gr.	gr.	gr.	gr.	gr.

Parts.	0	12	2	14	4	2	12	6	18	12	6	14	18
Mite.	0	14	9	11	3	5	17	1	14	9	7	13	1
Grain.	0	8	11	14	16	18	1	19	10	21	0	1	3
D. wt.	1	1	1	1	1	1	1	1	1	1	1	1	1
Grain.	6	12	18	6	6	6	12	18	6	6	6	12	12
D. wt.	1	2	3	5	6	7	8	10	11	12	12	12	12

Two Carracts and a quar. of a Grain. At the Ounce.

Parts.	16	10	4	20	14	8	2	18	12	6	0	12	14	18
Mites.	12	5	18	10	3	16	9	1	14	7	0	9	3	5
Grain.	19	15	10	6	2	21	17	13	8	4	0	19	5	10
D. wt.	1	3	5	7	9	10	12	14	16	18	0	0	0	1
Ounc.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
L. wt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Parts.	0	12	2	14	4	2	12	6	18	12	6	14	18
Mite.	0	14	9	11	3	5	17	1	14	9	7	13	1
Grain.	0	8	11	14	16	18	1	19	10	22	0	1	4
D. wt.	1	1	1	1	1	1	1	1	1	1	1	1	1
Grain.	18	6	12	18	18	18	xvj	vij	ij	ij	ij	ij	ij
D. wt.	13	15	16	17	18	18	gr.	gr.	gr.	gr.	gr.	gr.	gr.

Parts.	0	12	2	14	4	2	12	6	18	12	6	14	18
Mite.	0	14	9	11	3	5	17	1	14	9	7	13	1
Grain.	0	8	11	14	16	18	1	19	10	22	0	1	4
D. wt.	1	1	1	1	1	1	1	1	1	1	1	1	1
Grain.	6	12	18	6	6	6	12	18	6	6	6	12	12
D. wt.	1	2	3	5	6	7	8	10	11	12	12	12	12

Two Carracts and half a Grain. At the Ounce.

L. wt.	1	2	3	4	5	6	7	8	9	10	11	20	30
Parts.	6	12	18	24	30	36	42	48	54	60	66	72	78
Mite.	7	14	21	28	35	42	49	56	63	70	77	84	91
Grain.	4	8	12	16	20	24	28	32	36	40	44	48	52
D. wt.	3	6	9	12	15	18	21	24	27	30	33	36	39
Ounc.	1	2	3	4	5	6	7	8	9	10	11	12	13

D. wt.	1	2	3	4	5	6	7	8	9	10	11	12
Parts.	21	20	19	18	17	16	15	14	13	12	11	10
Mite.	17	15	13	11	9	7	5	4	3	2	1	0
Grain.	2	5	8	11	14	17	20	23	26	29	32	35
D. wt.	0	0	0	0	0	0	0	0	0	0	0	0

D. wt.	13	15	16	17	18	18
Grain.	18	6	12	18	18	18
D. wt.	0	0	0	0	0	0

D. wt.	1	2	3	5	6	7	8	10	11	12
Parts.	11	10	9	8	7	6	5	4	3	2
Mite.	7	15	13	11	9	7	5	4	3	2
Grain.	1	10	13	16	19	22	25	28	31	34
D. wt.	1	1	1	1	1	1	1	1	1	1

D. wt.	13	15	16	17	18	18
Grain.	18	6	12	18	18	18
D. wt.	0	0	0	0	0	0

Two Carracts 3 quar. of a Grain. At the Ounce

L. wt.	1	2	3	4	5	6	7	8	9	10	11	20	30
Parts.	12	24	36	48	60	72	84	96	108	120	132	144	156
Mite.	14	28	42	56	70	84	98	112	126	140	154	168	182
Grain.	20	40	60	80	100	120	140	160	180	200	220	240	260
D. wt.	3	6	9	12	15	18	21	24	27	30	33	36	39
Ounc.	1	2	3	4	5	6	7	8	9	10	11	12	13

D. wt.	1	2	3	5	6	7	8	10	11	12
Parts.	14	7	21	14	6	21	13	6	3	2
Mite.	19	19	18	18	18	17	17	17	16	16
Grain.	2	5	8	11	14	17	20	23	26	29
D. wt.	0	0	0	0	0	0	0	0	0	0

D. wt.	13	15	16	17	18	18
Grain.	18	6	12	18	18	18
D. wt.	0	0	0	0	0	0

D. wt.	1	2	3	5	6	7	8	10	11	12
Parts.	11	10	9	8	7	6	5	4	3	2
Mite.	7	15	13	11	9	7	5	4	3	2
Grain.	1	10	13	16	19	22	25	28	31	34
D. wt.	1	1	1	1	1	1	1	1	1	1

D. wt.	13	15	16	17	18	18
Grain.	18	6	12	18	18	18
D. wt.	0	0	0	0	0	0

Two Carracts one Grain. At the Ounce.

Parts.	18
Mite.	1 14
Grain.	1 2 3 5 7 9 10 20
D. wt.	2 4 6 8 10 12 14 16 18
Ounc.	0 0 0 0 0 0 0 0 0 1 1

Parts.	0 8 16 2 10 16 8 4 2 1
Mite.	15 16 17 19 0 12 16 8 4 2
Grain.	6 11 15 18 1 12 16 8 4 2
D. wt.	1 1 1 1 1 1 1 1 1 1
Ounc.	0 0 0 0 0 0 0 0 0 0

Two Carracts 1 Grains and a quar. At the Ounce.

Parts.	2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
Mites.	2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
Grain.	2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
D. wt.	2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
Ounc.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Parts.	1 3 4 6 7 9 10 12 13 16
Mite.	3 6 9 12 15 18 22 24 27 30
Grain.	3 6 9 12 15 18 22 24 27 30
D. wt.	0 0 0 0 0 0 0 0 0 0 1 1 1 1 1
Ounc.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Two Carracts one Grain and a half. At the Ounce.

L. wt.	D. wt.	Grain.	Mite.	Parts.
1	5	21	16	8
2	11	19	12	16
3	3	17	17	9
4	5	3	15	5
5	6	9	13	1
6	7	15	10	18
7	9	1	8	4
8	10	7	6	14
9	11	13	4	10
10	12	19	2	7
11	14	5	0	3
20	25	18	4	14
30	38	17	6	7

D. wt.	Grain.	Mite.	Parts.
1	6	4	17
2	12	9	12
3	18	14	7
5	6	0	19
6	6	0	19
7	12	0	14
8	18	0	8
10	6	1	18
11	6	1	18
12	12	1	16

D. wt.	Grain.	Mite.	Parts.
1	11	12	11
1	14	17	6
1	18	2	1
1	21	6	18
2	0	11	13
1	14	14	12
1	17	17	6
1	8	8	14
4	4	4	7
2	2	2	3

D. wt.	Grain.	Mite.	Parts.
13	18		
15	6		
16	6		
17	12		
18	18		
xvj	gr.		
vij	gr.		
iiij	gr.		
ij	gr.		
j	gr.		

Two Carracts 1 Grain three quar. At the Ounce.

L. wt.	D. wt.	Grain.	Mite.	Parts.
1	6	14	3	14
2	13	4	7	6
3	3	19	18	10
4	5	6	8	14
5	6	12	22	18
6	7	19	13	1
7	9	6	3	5
8	10	12	7	9
9	11	19	7	12
10	13	5	21	16
11	14	12	12	0
20	26	11	19	12
30	39	17	17	9

D. wt.	Grain.	Mite.	Parts.
1	6	3	14
2	12	6	7
3	18	9	4
5	6	0	19
6	6	0	19
7	12	0	14
8	18	0	8
10	6	1	18
11	6	1	18
12	12	1	16

D. wt.	Grain.	Mite.	Parts.
1	11	12	11
1	14	17	6
1	18	2	1
1	21	6	18
2	0	11	13
1	14	14	12
1	17	17	6
1	8	8	14
4	4	4	7
2	2	2	3

D. wt.	Grain.	Mite.	Parts.
13	18		
15	6		
16	6		
17	12		
18	18		
xvj	gr.		
vij	gr.		
iiij	gr.		
ij	gr.		
j	gr.		

Two Carracts 2 Grains. At the Ounce.

Parts.	20	18	16	14	12	10	8	6	4	2	0
Mite.	10	1	1	3	8	14	21	28	35	42	50
Grain.	6	13	19	26	33	40	47	54	61	68	75
D.wt.	2	4	6	9	11	13	15	17	19	21	23
Ounc.	0	0	0	0	0	0	0	0	0	0	0

Parts.	0	4	8	12	16	20	24	28	32	36	40
Mite.	10	18	26	34	42	50	58	66	74	82	90
Grain.	13	16	19	22	25	28	31	34	37	40	43
D.wt.	1	1	1	1	1	1	1	1	1	1	1
Ounc.	0	0	0	0	0	0	0	0	0	0	0

Two Carracts 2 Grains and a quar. At the Ounce.

Parts.	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
Mite.	18	16	14	12	10	8	6	4	2	0	0	0	0	0	0	0	0	0	0	0
Grain.	7	15	23	31	39	47	55	63	71	79	87	95	103	111	119	127	135	143	151	159
D.wt.	2	4	6	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
Ounc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Parts.	9	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
Mite.	18	8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158	168	178	188
Grain.	10	14	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85
D.wt.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ounc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Two Carracts 3 Grains. At the Ounce.

L. wt.	1	2	3	4	5	6	7	8	9	10	11	20	30
D. wt.	10	3	4	6	7	9	10	12	13	15	16	30	45
Grain.	2	5	7	10	12	15	17	20	22	25	27	50	75
Ounc.	0	0	0	0	0	0	0	1	1	1	1	1	1

D. wt.	1	2	3	5	6	7	8	10	11	12
Grain.	6	12	18	6	6	12	18	6	6	12

D. wt.	1	2	3	5	6	7	8	10	11	12
Grain.	3	7	11	15	18	22	25	30	33	40

D. wt.	13	15	16	17	18
Grain.	18	6	12	18	18

D. wt.	1	2	3	5	6	7	8	10	11	12
Parts.	5	15	10	8	5	5	5	20	10	5

D. wt.	1	2	3	5	6	7	8	10	11	12
Parts.	5	15	10	8	5	5	5	20	10	5

Two Carracts 3 Grains and a quar. At the Ounce.

L. wt.	1	2	3	4	5	6	7	8	9	10	11	20	30
D. wt.	10	3	7	6	7	9	10	12	13	15	16	30	46
Grain.	16	8	14	17	13	4	14	5	16	6	17	13	15
Ounc.	1	1	1	1	1	1	1	1	1	1	1	1	1

D. wt.	1	2	3	5	6	7	8	10	11	12
Grain.	6	12	18	6	6	12	18	6	6	12

D. wt.	1	2	3	5	6	7	8	10	11	12
Grain.	3	7	11	15	18	22	25	30	33	40

D. wt.	13	15	16	17	18
Grain.	18	6	12	18	18

D. wt.	1	2	3	5	6	7	8	10	11	12
Parts.	5	15	10	8	5	5	5	20	10	5

D. wt.	1	2	3	5	6	7	8	10	11	12
Parts.	5	15	10	8	5	5	5	20	10	5

Two Carracts 3 Grains and a half. At the Ounce.

L. wt.	Parts.	Mite.	Grain.	D. wt.	Ounc.
1	12	14	8	1	0
2	2	9	2	3	0
3	14	3	14	4	0
4	4	18	10	6	0
5	16	12	19	7	0
6	6	7	4	9	0
7	18	1	13	10	0
8	28	16	21	12	0
9	0	10	2	14	0
10	10	5	13	15	0
11	0	0	5	17	0
20	20	10	7	31	0
30	8	16	21	47	0

Parts.	Mite.	Grain.	D. wt.
11	2	19	1
20	0	23	1
7	19	2	2
16	17	6	2
3	16	10	2
18	1	2	2
20	0	1	1
10	10	0	0
5	5	0	0
3	2	0	0

Parts.	Mite.	Grain.	D. wt.
9	8	3	0
18	16	7	0
5	15	11	0
14	13	15	0
1	19	12	0
10	10	23	0
19	8	3	1
6	7	7	1
15	5	11	1
2	4	15	1

Parts.	Mite.	Grain.	D. wt.
8	13	13	1
6	15	15	1
12	17	17	1
18	18	18	1
18	xvj	gr.	1
18	viii	gr.	1
10	iii	gr.	1
5	i	gr.	1
3	1	gr.	1

Two Carracts 3 Grains 3 quar. At the Ounce.

L. wt.	Parts.	Mite.	Grain.	D. wt.	Ounc.
1	18	1	16	1	0
2	14	3	8	3	0
3	10	5	3	4	0
4	6	7	4	6	0
5	2	9	5	8	0
6	20	10	6	9	0
7	16	12	7	11	0
8	12	14	8	12	0
9	8	16	9	14	0
10	4	18	10	16	0
11	0	20	12	17	0
20	8	16	21	32	0
30	12	14	18	48	0

Parts.	Mite.	Grain.	D. wt.
2	0	4	0
5	0	8	0
7	0	12	0
10	0	16	0
12	0	20	0
15	0	1	1
17	0	4	1
20	0	8	1
10	0	12	1
3	1	16	1

Parts.	Mite.	Grain.	D. wt.
5	1	20	1
8	1	0	2
10	1	4	2
13	1	8	2
15	1	12	2
16	2	1	2
18	2	1	2
16	2	2	2
15	2	1	2
16	2	1	2
17	2	1	2
18	2	1	2
18	xvj	gr.	2
18	viii	gr.	2
15	iii	gr.	2
7	i	gr.	2
14	2	1	2

Three Carraçts. At the Ounce

L. wt.	D. wt.	Gral.	Mite.	Parts.	Ounc.	D. wt.	Gral.	Mite.	Parts.	Ounc.	D. wt.	Gral.	Mite.	Parts.	Ounc.	D. wt.	Gral.	Mite.	Parts.	Ounc.
1	1	6	18	2	1	1	1	18	2	1	1	1	18	2	1	1	1	18	2	1
2	2	12	14	4	2	2	2	14	4	2	2	2	14	4	2	2	2	14	4	2
3	3	18	10	6	3	3	3	10	6	3	3	3	10	6	3	3	3	10	6	3
4	4	6	7	8	4	4	4	7	8	4	4	4	7	8	4	4	4	7	8	4
5	5	6	5	10	5	5	5	5	10	5	5	5	5	10	5	5	5	5	10	5
6	6	6	9	12	6	6	6	9	12	6	6	6	9	12	6	6	6	9	12	6
7	7	12	10	14	7	7	7	10	14	7	7	7	10	14	7	7	7	10	14	7
8	8	18	12	16	8	8	8	12	16	8	8	8	12	16	8	8	8	12	16	8
9	9	6	14	18	9	9	9	14	18	9	9	9	14	18	9	9	9	14	18	9
10	10	6	16	20	10	10	10	16	20	10	10	10	16	20	10	10	10	16	20	10
11	11	6	18	0	11	11	11	0	0	11	11	11	0	0	11	11	11	0	0	11
20	20	14	13	1	20	20	20	13	1	20	20	20	13	1	20	20	20	13	1	20
30	30	14	12	1	30	30	30	12	1	30	30	30	12	1	30	30	30	12	1	30

Four Carraçts. At the Ounce.

L. wt.	D. wt.	Gral.	Mite.	Parts.	Ounc.	D. wt.	Gral.	Mite.	Parts.	Ounc.	D. wt.	Gral.	Mite.	Parts.	Ounc.	D. wt.	Gral.	Mite.	Parts.	Ounc.
1	1	6	18	2	1	1	1	18	2	1	1	1	18	2	1	1	1	18	2	1
2	2	12	14	4	2	2	2	14	4	2	2	2	14	4	2	2	2	14	4	2
3	3	18	10	6	3	3	3	10	6	3	3	3	10	6	3	3	3	10	6	3
4	4	6	7	8	4	4	4	7	8	4	4	4	7	8	4	4	4	7	8	4
5	5	6	5	10	5	5	5	5	10	5	5	5	5	10	5	5	5	5	10	5
6	6	6	9	12	6	6	6	9	12	6	6	6	9	12	6	6	6	9	12	6
7	7	12	10	14	7	7	7	10	14	7	7	7	10	14	7	7	7	10	14	7
8	8	18	12	16	8	8	8	12	16	8	8	8	12	16	8	8	8	12	16	8
9	9	6	14	18	9	9	9	14	18	9	9	9	14	18	9	9	9	14	18	9
10	10	6	16	20	10	10	10	16	20	10	10	10	16	20	10	10	10	16	20	10
11	11	6	18	0	11	11	11	0	0	11	11	11	0	0	11	11	11	0	0	11
12	12	12	13	1	12	12	12	13	1	12	12	12	13	1	12	12	12	13	1	12
13	13	18	12	1	13	13	13	12	1	13	13	13	12	1	13	13	13	12	1	13

Four Ingots of GOLD.

Car. Gra.		L. wt. Oz. D. wt. Gr.
Better. 1, 1, $\frac{1}{2}$.	Num. 1, —	4, 6, 10, 00.
Worfn. 1, 0, $\frac{1}{2}$.	Num. 2, —	3, 7, 5, 00.
Worfn. 1, 2, $\frac{3}{4}$.	Num. 3, —	6, 9, 10, 00.
Better. 1, 1, 0.	Num. 4, —	8, 11, 00, 00.
		— 23, 10, 5, 00.

	Oz. D. wt. Gra. Mit.
Betterness of Num. 1,	— 3, 8, 3.
Betterness of Num. 4,	— 6, 1, 14.

Whole betterness, — 2, 9, 17, 3.

	Oz. D. wt. Gra. Mit.
Worfness of Num. 2,	— 2, 4, 5, 11.
Worfness of Num. 3,	— 6, 5, 00, 13.

Whole Worfness, — 8, 9, 6, 4,

Worfness deducted out of the betterness, rests $\left\{ \begin{array}{l} \text{Oz. Gra. Mites.} \\ \text{1. 0, 10, 19.} \end{array} \right.$

So this — 1 Oz. 00 D. wt. 11 Grains.
 Added to 23, 1. wt. 10, — 5, — 00.

Makes the 4 Ingots to be Stan. $\left. \begin{array}{l} \text{1. wt. Oz. d. wt. Gr.} \\ \text{23, 11, 5, 11.} \end{array} \right\}$

Questiont



Questions wrought by the
 GODDEN Rule,

For the Standard of 22 Carraçts.

A Gold Ingot weighing 8 l. wt. 6 Oz. 16 d. wt. worfe — 1 Carraçt, 2 Grains 3 quarters; What will this amount to in Standard Gold?

The Work.

Car. Gra.	L. wt. Oz. D. wt. Gra. Mite.
22, —	Z — 8, 6, 16,
1, — 2 $\frac{3}{4}$.	— 7, 17, 16, 18.

Thus 7 Ounces, 17, d. wt. 16 Grains 18 Mites.
 Deducted out of — 8 l. wt. 6 Ounces 16 d. wt.
 Resteth, — 7 l. wt. 10 Oz. 18 d. wt. 7 Gra. 2 Mites.
 The Standard required.

A N



A N Ingot of Gold weighing 8 l. wt. 6 Oz. 16 d. wt. worse -- 1 Carract, 2 Gr. 3 quarter. How much of -- 1 Carract, 1 Grain better, will make it good to the Standard of 22 Carracts.

The Work.

Car.	Gr.	L. wt.	Oz.	D. wt.	Gr.
Worse, 1,	2, $\frac{3}{4}$.	Z	8,	6,	16.
Better, 1,	1.		11,	6,	15, 14.

This is wrought by the back Rule.

A Gold Ingot weighing — 8 Pound weight worse, — 2 Car. — 1 Grain.

How much is to be taken thereof and fined to 1 Car. — 3 Grains better to make good the rest to the Standard of — 22 Car.

The Work.

Car. Gr.	L. wt.	Ca. Gr.	l. wt. oz. d. wt. gr.
2, 1. Z	8,	23, 3.	Z 10, 3, 8, 14.
1, 3.	10, 3, 8, 14.	19, 3.	Z 12, 4, 8, 13.

	l. Oz. d. wt. gr.	L. wt. Oz. d. wt. gr.
8,	1. Oz. d. wt. gr.	
12, 4, 8, 12.	20, 4, 8, 13.	Z 12, 4, 8, 13.
20, 4, 8, 13.	8, 0, 0, 0.	Z 4, 10, 5, 22.

So there is to be fined. — 4, 10, 5, 22.

The same Question wrought thus.

Ca. Gr.	Ca. gr.	Ca. gr.	L. wt. Oz. D. wt. Gr.
19, 3. X	1, 3.	23, 3.	Z 8,
23, 3.	2, 1.	22, 0.	Z 8, 7, 12, 18.
	4.	4, 0.	Z 8, 7, 12, 18.
		2, 1.	Z 4, 10, 5, 22.

So by this way there is to be fined, } L. wt. Oz. D. wt. Gr.
 is to be fined, } 4, 10, 5, 22.

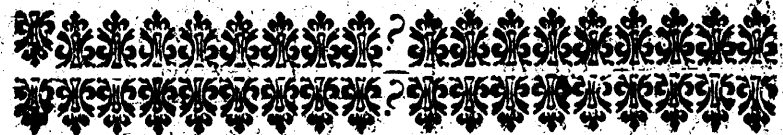
Gold

Gold.		Ounces.	Gold.	
Pound-wt.	Quarter of a Grain.		Pound-wt.	Quarter of a Grain.
1	0340909	1	0028409	
2	0681818	2	0056818	
3	1022727	3	0085227	
4	1363636	4	0113636	
5	1704545	5	0142045	
6	2045454	6	0170454	
7	2386363	7	0198853	
8	2727272	8	0227272	
9	3068181	9	0255681	

D. wt.		Gra.	D. wt.	
Pound-wt.	Quarter of a Grain.		Pound-wt.	Quarter of a Grain.
1	0001420	1	0000059	
2	0002841	2	0000118	
3	0004261	3	0000177	
4	0005682	4	0000237	
5	0007102	5	0000296	
6	0008522	6	0000355	
7	0009942	7	0000414	
8	0011363	8	0000473	
9	0012784	9	0000533	

Gold.			
Parts of an Ounce	Quarter of a Grain.	Quarter of a Grain.	Quarter of a Grain.
D. wt. Gr.	D. wt. Gr.
1 6	0001775	11 6	0015980
2 12	0003551	12 12	0017755
3 18	0005326	13 18	0019531
5	0007102	15	0021306
6 6	0008878	16 6	0023082
7 12	0010653	17 12	0024858
8 18	0012429	18 18	0026633
10	0014294		

Primes	Penny-wt.	Seconds	Milles	Grains	Milles	Grains	Fourth	Milles
1	2	1	0. 4. 16	1	0. 9	1	1	
2	4	2	0. 9. 12	2	0. 19	2	2	
3	6	3	0. 14. 8	3	1. 9	3	3	
4	8	4	0. 19. 4	4	1. 18	4	4	
5	10	5	1. 00. 0	5	2. 8	5	5	
6	12	6	1. 4. 16	6	2. 18	6	6	
7	14	7	1. 9. 12	7	3. 7	7	7	
8	16	8	1. 14. 8	8	3. 17	8	8	
9	18	9	1. 19. 4	9	4. 6	9	9	



Here followeth TABLES
for GOLD to this purpose,
to find what Pound-weight,
Ounces and Parts, should
be of Betterness or Worfeness.

Pound-weight Gold.

		1		2		3		4	
		Dt.	Gr.	Dt.	Gr.	Dt.	Gr.	Dt.	Gr.
Quart.	1	0	15	1	6	1	21	2	12
	2	1	6	2	12	3	18	5	
	3	1	21	3	18	5	15	7	12
Gr. 1	0	2	12	5		7	12	10	
	1	3	3	6	6	9	9	12	12
	1	3	18	7	12	11	6	15	
Gr. 2	0	4	9	8	18	13	3	17	12
	1	5	0	10		15	0	2	0
	1	5	15	11	6	16	21	1	2
Gr. 3	0	5	6	12	12	18	18	1	5
	1	6	21	13	18	1	0	15	7
	1	7	12	15		1	2	12	10
C. 1	0	8	3	16	6	1	4	9	12
	1	8	18	17	12	1	6	6	15
	1	9	9	18	18	1	8	3	17
C. 2	0	10		1	0	1	10	0	2
	1	10	15	1	6	1	11	21	2
	1	11	6	1	12	1	13	18	2
C. 3	0	11	21	1	18	1	15	15	2
	1	12	12	1	5	1	17	12	2
	1	13	3	1	6	1	19	9	2
C. 4	0	13	18	1	7	1	1	6	2
	1	14	9	1	8	1	3	3	2
	1	15	0	1	10	2	5		3
C. 5	0	15	15	1	11	2	6	21	3
	1	16	6	1	12	2	8	18	3
	1	16	21	1	13	2	10	15	3
C. 6	0	17	12	1	15	2	12	12	3
	1	18	3	1	16	2	14	9	3
	1	18	18	1	17	2	16	6	3
C. 7	0	19	9	1	18	2	18	3	3
	1								

Pound-weight Gold.

Quart.	5		6		7		8	
	Dt.	Gr.	Dt.	Gr.	Dt.	Gr.	Dt.	Gr.
1	3	3	3	18	4	9	5	5
2	6	6	7	12	8	18	10	10
3	9	9	11	6	13	3	15	15
0	12	12	15	9	17	12	1	0
1	15	15	18	18	1	1	1	5
2	18	18	1	2	1	6	1	10
3	1	21	1	6	1	10	1	15
0	1	5	1	10	1	15	2	0
1	1	8	1	13	1	19	2	5
2	1	11	1	17	2	3	2	10
3	1	14	2	1	2	8	2	15
0	1	17	2	5	2	12	3	0
1	2	0	2	8	2	16	3	5
2	2	3	2	12	3	1	3	10
3	2	6	2	16	3	5	3	15
0	2	10	3	0	3	10	4	0
1	2	13	3	3	3	14	4	5
2	2	16	3	7	3	18	4	10
3	2	9	3	11	4	3	4	15
0	3	2	3	15	4	7	5	0
1	3	5	3	18	4	11	5	5
2	3	8	4	2	4	16	5	10
3	3	11	4	6	5	0	5	15
0	3	15	4	10	5	5	6	0
1	3	18	4	13	5	9	6	5
2	4	1	4	17	5	13	6	10
3	4	4	5	1	5	18	6	15
0	4	7	5	5	6	2	7	0
1	4	10	5	8	6	6	7	5
2	4	13	5	12	6	18	7	10
3	4	16	5	16	6	15	7	15

Pound-weight, Gold.

Quart.	9		10		11	
	Dt.	Gr.	Dt.	Gr.	Dt.	Gr.
1	5	15	6	6	6	21
2	11	6	12	12	13	18
3	16	21	18	18	1	0
0	1	2	1	5	1	7
1	1	8	1	11	1	14
2	1	13	1	17	2	1
3	1	19	2	3	2	8
0	2	5	2	10	2	15
1	2	10	2	16	3	1
2	2	16	3	2	3	8
3	3	1	3	8	3	15
0	3	7	3	15	4	2
1	3	13	4	1	4	9
2	3	18	4	7	4	16
3	4	4	4	13	5	3
0	4	10	5	0	5	10
1	4	15	5	6	5	16
2	5	1	5	12	6	3
3	5	6	5	18	6	10
0	5	12	6	5	6	17
1	5	18	6	11	7	4
2	6	3	6	17	7	11
3	6	9	7	3	7	18
0	6	15	7	10	8	5
1	7	0	7	16	8	11
2	7	6	8	2	8	18
3	7	11	8	8	9	5
0	7	17	8	15	9	12
1	8	3	9	1	9	19
2	8	8	9	7	10	6
3	8	14	9	13	10	13

Ounces, Gold.

Quart	1		2		3		4	
	Gr.	Mit	Gr.	Mit	Gr.	Mit	Gr.	Mit
1	1	5	2	10	3	15		5
2	2	10	5	0	7	10	Peny-wt	10
3	3	15	7	10	11	5		15
4	4	0	10	0	15	0		20
5	5	5	12	10	18	15		1
6	6	10	15	0	22	10		6
7	7	15	17	10	1	5		11
8	8	0	20	0	6			16
9	9	5	22	10	9	15		21
10	10	10	1	1	13	10		2
11	11	15	3	10	17	5		7
12	12	0	6	0	21	0		12
13	13	5	8	10	0	15		17
14	14	10	11	10	4	10		22
15	15	15	13	10	8	5		3
16	16	0	16	0	12	0		8
17	17	5	18	10	15	15		13
18	18	10	21	10	19	10		18
19	19	15	23	10	23	5		23
20	20	0	2	0	3	0		4
21	21	5	4	10	6	15		9
22	22	10	7		10	10		14
23	23	15	9	10	14	5		19
24	24	0	12	0	18	0		5
25	25	5	14	10	21	15		5
26	26	10	17		4	10		10
27	27	15	19	10	5	5		15
28	28	0	22	0	9	0		20
29	29	5	0	10	12	15		6
30	30	10	3	0	16	10		6
31	31	15	5	10	4	20		11

Ounces, Gold.

Quart	5		6		7		8	
	Gr.	Mit	Gr.	Mit	Gr.	Mit	Gr.	Mit
1	6	5	7	10	8	15		10
2	12	10	15	0	17	10	Peny-wt	20
3	18	15	22	10	2	5		6
4	1	0	1	0	12	0		16
5	7	5	13	10	19	15		2
6	13	10	21	0	4	10		12
7	19	15	4	10	13	5		22
8	2	0	2	0	22	0		8
9	8	5	19	10	6	15		18
10	14	10	3	10	15	10		4
11	20	15	3	10	0	5		14
12	3	0	3	0	9	0		0
13	9	5	4	10	17	15		10
14	15	10	4	10	2	10		20
15	21	15	4	10	12	5		6
16	4	0	5	0	20	0		16
17	10	5	5	10	4	15		7
18	16	10	5	10	13	10		12
19	22	15	5	22	22	5		22
20	5	0	6	0	7	7		8
21	11	5	6	13	15	15		18
22	17	10	6	21	0	10		4
23	23	15	7	4	9	5		14
24	6	0	7	12	18	0		0
25	12	5	7	19	9	2		10
26	18	10	8	3	11	10		20
27	00	15	8	10	20	5		6
28	7	7	8	18	5	0		16
29	13	5	9	21	10	15		2
30	19	10	9	9	10	10		12
31	1	15	9	16	11	7		22

Ounces, Gold.

Quart.	9		10		11	
	Gr.	Mit.	Gr.	Mit.	Gr.	Mit.
1	11	5	12	10	13	15
2	22	10	1	0	3	10
3	1	9	1	13	1	17
0	1	21	2	2	2	7
1	2	8	2	14	2	20
2	2	19	3	3	3	10
3	3	6	3	15	4	0
0	3	18	4	4	4	14
1	4	5	4	16	5	3
2	4	16	5	5	5	17
3	5	3	5	17	6	7
0	5	15	6	6	6	21
1	6	2	6	18	7	10
2	6	13	7	7	8	0
3	7	0	7	19	8	14
0	7	12	8	8	9	4
1	7	23	8	20	9	17
2	8	10	9	9	10	7
3	8	21	9	21	10	21
0	9	9	10	10	11	11
1	9	20	10	22	12	0
2	10	7	11	11	12	14
3	10	18	11	23	13	4
0	11	6	12	12	13	18
1	11	17	13	0	14	7
2	12	4	13	13	14	21
3	12	15	14	1	15	11
0	13	3	14	14	16	1
1	13	14	15	2	16	14
2	14	1	15	15	17	4
3	14	12	16	3	17	18

Gold.

Quart.	1 d. 6 gr.		2 d. 12 gr.		3 d. 18 gr.		5 d. wt.	
	Mit.	Dr.	Mit.	Dr.	Mit.	Dr.	Mit.	Dr.
1	13	1/2	3	3	4	16	6	6
2	3	3	6	6	9	9	12	12
3	4	16	9	9	14	14	18	18
0	6	6	12	12	18	18	5	0
1	7	19	15	15	1	3	11	6
2	9	9	0	18	1	8	1	17
3	10	22	1	1	1	12	3	18
0	12	12	1	5	1	17	12	10
1	14	12	1	8	2	2	16	6
2	15	15	1	11	2	6	2	12
3	17	4	1	14	2	11	8	18
0	18	18	1	17	2	16	15	0
1	0	7	2	0	3	0	1	6
2	1	21	2	3	3	5	7	12
3	3	10	2	6	3	10	13	18
0	5	0	2	10	3	15	0	0
1	6	13	2	13	3	19	6	6
2	8	3	2	16	4	9	12	12
3	9	16	2	19	4	9	18	18
0	11	6	3	2	4	13	6	5
1	12	19	3	5	4	18	6	11
2	14	9	3	8	5	3	6	17
3	15	21	3	11	5	7	7	3
0	17	12	3	15	5	12	7	10
1	19	12	3	18	5	17	7	16
2	0	15	4	1	6	1	8	2
3	2	4	4	4	6	6	8	18
0	3	18	4	7	6	11	8	15
1	5	7	4	10	6	15	9	1
2	6	21	4	13	7	0	9	7
3	8	10	4	16	7	5	9	13

Gold.

Quart.	6 d. 6 gr.		7 d. 12 gr.		8 d. 18 gr.		10 d. wt.	
	Grains.	Mil. Dr.	Grains.	Mil. Dr.	Grains.	Mil. Dr.	Grains.	Mil. Dr.
1	7	19 1/2	9	9	10	22 1/2	12	12
1	15	15 1/2	18	18	1	1	21	0
1	3	10 1/2	8	7	1	12	19 1/2	12
1	11	6	1	17	12	2	3	18
1	19	1 1/2	2	6	23	2	14	16 1/2
1	6	21	2	16	6	3	5	15 1/2
1	14	16 1/2	3	5	15	3	16	13 1/2
1	2	12	3	15	0	4	7	12
1	10	7 1/2	4	4	9	4	18	10 1/2
1	18	3	4	13	18	5	9	9 1/2
1	5	24 1/2	5	3	3	6	0	7 1/2
1	13	18 1/2	5	12	12	6	11	6
1	1	13 1/2	6	1	21	7	2	4 1/2
1	9	9 1/2	6	11	6	7	13	3 1/2
1	17	4 1/2	7	0	15	8	4	1 1/2
1	5	0	7	10	0	8	15	0
1	12	19 1/2	7	19	9	9	5	22 1/2
1	0	15 1/2	8	8	18	9	16	21
1	7	10 1/2	8	18	3	10	7	19 1/2
1	16	0	9	7	12	10	18	18
1	4	1 1/2	10	16	21	11	9	16 1/2
1	11	21 1/2	10	6	6	11	0	15 1/2
1	19	16 1/2	11	15	15	12	11	13 1/2
1	7	12 1/2	11	5	0	13	2	12 1/2
1	15	7 1/2	11	14	9	13	10 1/2	15
1	3	3 1/2	12	3	18	14	4	9
1	10	22 1/2	12	13	3	14	15	7 1/2
1	18	18 1/2	13	2	12	15	6	6
1	6	13 1/2	13	11	21	15	17	4 1/2
1	14	9 1/2	14	1	6	16	8	3
1	2	4 1/2	14	10	15	16	19	12 1/2

A TABLE for the Addition of GOLD, being by the common way.

Oz.	Gold.				(11)				(11)			
	D.pts.	Grain.	Mil.	Parts.	D.pts.	Grain.	Mil.	Parts.	D.pts.	Grain.	Mil.	Parts.
1	1	19	12	8	1	2	3	7	1	2	3	7
2	3	15	5	5	2	4	7	10	2	4	7	10
3	5	10	18	2	3	6	10	3	5	9	13	
4	7	6	10	10	4	8	14	4	6	10	14	
5	9	2	3	7	5	10	18	5	8	12	16	
6	10	21	16	4	6	13	1	6	10	18	21	
7	12	17	9	1	7	15	5	7	11	19	23	
8	14	13	1	9	8	17	9	8	12	20	24	
9	16	8	14	6	9	19	12	9	13	21	25	
10	18	4	7	3	10	21	16	10	14	22	26	
11	1	0	0	0	11	0	0	11	1	0	0	
20	1	16	8	14	12	1	2	12	2	3	7	
30	2	14	13	11	13	4	7	13	4	7	10	
40	3	12	17	9	14	6	10	14	6	10	14	
50	4	10	21	16	15	8	14	15	8	14	18	
60	5	9	2	3	16	10	18	16	10	18	21	
70	6	7	0	10	17	13	1	17	13	1	9	
80	7	5	10	18	18	15	5	18	15	5	11	
90	8	3	15	5	19	17	9	19	17	9	13	
100	9	1	19	12	20	19	12	20	19	12	15	
200	18	3	15	5	40	38	6	40	38	6	30	
300	27	5	10	18	60	57	10	60	57	10	45	
400	36	7	6	10	80	76	14	80	76	14	60	
500	45	9	2	3	100	95	18	100	95	18	75	
600	54	10	21	16	120	114	24	120	114	24	90	

THE foregoing Tables were composed by *John Reynolds*, Assay-Master of the Mint in the Tower of *London*, and this Impression is from a Printed Copy corrected by him, with his hand to it to testify the same; and are chiefly calculated for the making Gold or Silver (that is of any Alloy) to the Standard goodness: (that is to say) If it be better than Standard, those Tables do clearly shew how much Alloy must be put in each pound, and ounce, and penny weight, to make it Standard: And if it be worse than Standard, those Tables do clearly shew how much of betterness of Gold or Silver, will make that course Gold or Silver, by the pound, ounce, and penny weight, to be of Standard goodness.

The Tables for Silver, are to be known by the Titles at the top of each Page, the words are thus, (to wit) *Half-penny weight*, *Penny weight*, *Penny half-penny weight*, and so on to eleven ounces. Which Silver Tables in every page, are divided into four parcels of Columns, (that is to say) The first parcel on the left hand (from the top to bottom) shew the betterness or worseness of pound weights, from 1 pound to 500 pound weight *Troy*.

The second parcel of Columns are those on the right hand of that page, on the upper part, and shew the betterness or worseness of ounces, from 1 ounce to 11 ounces *Troy*.

The third parcel of Columns are those under the last mentioned Columns, and shew the betterness or worseness of penny-weights, from 1 *dwt.* 6 *grs.* to 17 *dwt.* 12 *grs.* *Troy*.

The

The fourth parcel of Columns, are those under the last mentioned Columns, and shew the betterness or worseness of the weight, from 1 *dwt.* to 4 *grs.* *Troy*.

At the head of every Column is its Signiture, (to wit) *l. wt. ounce*, *dwt. grains*, *mites*, *parts*, according as the Column is to signify. This being mentioned, a serious and ingenuous perusal of the Tables, will make it clearly manifest.

Another use of them I will more clearly demonstrate, (that is) to make the weight for the Assay-Standard; and also to make several weights to compute the just value of any sort of Silver by the Assay: To which purpose it may be observed, that in the foregoing Treatise, the *Touch-Stone*, &c. in page 30 and 31. is an account of the materials used for

making Assays, * amongst which there is mention made of those weights, which Standard-weight may be made of different quantities, as to weigh 1 *dwt.* or 18 *grains*. or 12 *grains*, or 6 *grains*, and

the computing-weights must be answerable to which soever of them you use; all which is clearly comprised in the said Tables.

The usual Standard-weight is made of Brass, and in weight 12 *grains*; which number you may find in the last parcel of Columns in that page, at the head of which are these words, (to wit) *Eighteen penny weight*, in which said last parcel in the second Column, the last number (except four)

* For the better instructing the ingenious Reader to make Assays of Gold and Silver, and the several materials used therein. See the Treatise Intituled the Compleat Chymist, written in French by Christ. Glaſer, and Englished by a Fellow of the Royal Society. Printed for John Starkey at the Miter in Fleetstreet near Temple-Bar.

four) is that number, 12 grains. The reason for chusing that number in the Column in that page, is this, (to wit) for that there is Eighteen penny weight of Allay, in a pound weight of Standard Silver; and for that reason all sorts of Standard Assay-weights, must be of the numbers in that page, for right against each number, there is their weight of Allay for Standard.

The next, is the weight for the Allay that is in 12 grains of Standard Silver, which you have right against the said 12 grains on the right hand of it, and is 19 mites, 17 parts.

The next weight, for half-penny weight better or worse, is in the page under that Title, in the last parcel of Columns against 12 grains, on the right hand, and is 16 parts.

The next weight, for a penny weight better or worse, is in the page under that Title, in the last parcel of Columns against the said 12 grains, on the right hand, and is 1 mite, 3 parts.

The next weight, for a penny half-penny weight better or worse, is in the page under that Title, in the last parcel of Columns against the said 12 grains, on the right hand, and is 1 mite, 23 parts.

And so several weights of the several degrees of betterness or worseness, which by what I have mentioned of the three pages, may be easily made by the rest of the pages, wherein they are set down against the said 12 grains, on the right hand.

Note that 37 parts is accounted a mite, in the Silver Tables, and 22 parts is accounted a mite in the Gold Tables.

To

To make an Assay of Silver, the manner is thus: First, having all the Materials and Instruments mentioned in the Touch-Stone, pag. 30 and 31. (and what other Tools, &c. an ingenious person will see needfull) good and readily provided; and the Fire kindled, and Furnace hot; then take the weight of the aforesaid Standard-weight of the Silver that you would Assay, (it being clean from all filth) and also part of a clean flatted Lead Bullet, as much as by experience you will see convenient, (for the courter the Silver, the bigger must be the quantity of Lead to Refine it) put that Silver and the Lead on the Cople or Test into the Fire, and it will Refine the Silver to the highest degree of fineness; then take the Cople and Silver out of the Fire, and put the Silver (being knockt clean) into one Pan of the fine Scales, and in the other Pan put the Standard-weight; then if the Silver from which it was taken be Sterling, the waste of the Assay will be the weight 19 mites, 17 parts.

If the Silver from which it was taken be a half-penny weight worse, then the waste of the Assay will be the 19 mites, 17 parts, and also the weight 16 parts.

If the Silver from w'ich it was taken is half-penny weight better, it will not be wasted the 19 mites, 17 parts, by the weight 16 parts.

And so proceeding further, as the Silver is wasted more or less, those weights will discover its betterness or worseness. And observe further, that the Standard-Assay-weight being in one Pan of the Scale, the weight of the Allay in 12 grains of Standard aforesaid, must be always in the other

other Pan with the Refined Silver, and if that makes the Ballance even, then the Silver from which it was taken is Standard. If the weight for *half-peny weight* of betterness or worseness, be put into the Pan with the Silver, and it make an even Ballance, then report the Silver worse *ob.* If that weight be put in the Pan where the Standard-weight is, and it make an even Ballance, then report the Silver better *ob.* This rule holds good for all the rest; and the Gauging-weights being laid orderly in rows in the glazed Scale-case, with the Nippers they may be readily taken up, and put into either Pan, and out again, as occasion shall be.

What I have here discovered of the Silver Tables, will be sufficient light to understand the Gold Tables, and how to make a Gold Assay: For the Gold Tables in the several pages of betterness or worseness, are known by the Titles at the head of each page, by the words *Grains and Carracts*, and are increased by quarter-grains each page, from a quarter of a Carract grain, to four Carracts, and are every page divided into four parcels of Columns, and shews what Allay is in every sort of Gold, from one *Troy-grain*, to 30 *l.wt.* But to enlarge further, will swell this Book too much; therefore my advice is, that you studiously and frequently peruse the foregoing Treatise and Tables, which with ingenious practice, will make you an Artist herein. And I wish (where there is one now well-skill'd in making Assays of Gold and Silver) that there were a hundred; for all Rules and Arts for preventing publick deceit, ought (if possible) to be made so practi-

practicable, that every capacity may be capable thereof. To which purpose note further,

That the manner of making the aforesaid *Cop-les* or *Tests*, is thus: Take of Sheeps-bones that are burnt very white, beat and sift them to a fine Powder, which moisten with Water to such a degree, that when well chafed either between the hands, or with a piece of Board on a Table, that being grasped with the hand it will be clammy, and hold together without wetting or sticking to the hand. Then take a round flat piece of Brass, an inch thick, and three or four inches over, through the middle of which make a taper-round hole, the one end near as wide as a Five shilling piece of Silver, and the other end near as wide as a Half-Crown piece, which hole polish very smooth; lay this Brass on a level Anvil, the widest end of the hole uppermost, and fill the hole with the said moistned Bone-ashes, and press it hard with your hand: Then with a Drift-pin of Brass made Globical at the lower end, and a shoulder round it to rest upon the edge of the hole, to keep the said round end from running in too far, which Drift-pin force down (with a Wood Mallet) on the said Bone-ashes in the said hole, and if well done it will unite the Bone-ashes into a Cople, and the top thereof will be hollow like the Vessel called a Skimming-dish; then with your thumb thrust the said Cople whole out of the Brass hole, and set it (with as many of them as you will make) on a loose Board on a Shelf, and when thorow dry they will be hard, and when used, either kindle the Fire (or put them into it) by degrees, to prevent their cracking or cleaving.

The Assay-Furnace is made either with Brick upon a Chimney-hearth, or in an Iron Case (thick and well-luted) removable to any place at pleasure, the inside round or square, about 6 or 7 inches over, and about 20 inches high; at the bottom must be an Air-hole 5 or 6 inches wide, and 3 inches high; and about 8 inches high must be an Iron-grate fixed within, and even to it (over the other hole) must be another Air-hole about 3 inches square, (without which must be a space to lay some burning Coals) upon which Grate must be placed a *Muffle*, which may be made of a large three-square Crucible, with a hole (a quarter of an inch wide) in each side, and one such hole in the small end: or the *Muffle* may be made of broken Crucibles finely powdered, and tempered with a fifth part of Tobacco-pipe-clay, flat at bottom, and circular over, with 3 holes as the other; dry it well in the shade, and then Neal it in a gentle Fire: The mouth of which *Muffles* must be closed with lute to the upper hole, resting upon the Grate as aforesaid, and a space must be by the sides and farther end of the *Muffle*, sufficient to permit the Fire to be strong on the Grate as above the *Muffle*, and the Fire of Charcole always gently kindled, will not break the *Muffle*; and a Fire must be always before the mouth of the *Muffle*, to make the heat equal on the *Cople*. The Assay-Scales are made by the Scale-makers in St. *Annes-lane, London*, and must turn with the weight of the 740th part of a grain *Troy*.

Note, That when the Silver is Fined to the highest degree, when cold on the *Cople* it will appear bright, and clear from the least fully or darkish colour, and of the countenance of pure Tin.

Here

Here followeth a Catalogue of the Names of the several Foreign Gold and Silver Coins, that are brought into this Kingdom as Bullion, with the particular weight of each Coin, (except some few) and the particular Allay and Value of many of them, according to the aforesaid Standard of 22 Carracts and 11 ounces 2 dwt. accounting the Gold at 4 l. the ounce, and the Silver at 5 s. the ounce Troy.

These Gold Foreign Coins were Assayed in the Mint, and rated as Bullion, 1663.

Allay.	Weight.	Value.
<i>Car. Gr.</i>	<i>dwt. Gr. l. s. d.</i>	
worse 0 0 ¹ / ₄	French Pistol	4 8 0-17- 4
worse 0 0 ¹ / ₄	French Lewis	3 14 0-14- 4
worse 0 0 ¹ / ₄	Holland Rider	6 10 ¹ / ₂ 1- 5- 9
better 1 2	Hungary Duck	2 6 0- 9- 8
worse 0 0 ¹ / ₄	Spanish Pistol	4 8 0-17- 4
worse 0 2	Flanders Albertus	3 8 0-13- 0
worse 0 0 ¹ / ₄	Double Sover. of Fland.	7 3 ¹ / ₂ 1- 8- 6
worse 0 1 ¹ / ₄	Italian Pistol	4 6 0-16- 7
worse 4 2 ¹ / ₄	Gilder of Porthono	2 3 0- 6-10
worse 3 1 ¹ / ₄	Gilder of Mathias Emp.	2 3 0- 7- 2
worse 3 2 ³ / ₄	Gilder of Noremburgh	2 3 0- 7- 1
worse 3 1	Half Cardinal Angel	1 20 0- 6- 4
better 1 3 ¹ / ₂	Cuckeene of Venice	2 5 0- 9- 7
Stand 0 0	A new Danish Coin with a Crown on the one side of it	3 20 0-15- 4

K 2

The

The Allay and Value of these following Gold Coins are not come to hand, but are referred to the ingenious Reader to add.

<i>Car.Gr.</i>	<i>dwt.Gr.</i>
Flemish Angel	3 6
Castillion	2 23
Crusadoes with long Cross	2 6
Crusadoes with short Cross	2 6
Crusadoes Portugal	2 16
Flemish or Flanders Crown	2 5
K. Philips Crown of Spain	2 5
French Crown	2 5
Ducket single of Spain	2 6
Ducket double of Spain	4 12
Ducket single of Rome	2 6½
Ducket double of Rome	4 13
Ducket of Florence	2 5
Ducket of Valence	2 5
Ducket of Aragon	2 6
Ducket of Suevia	2 7
Ducket of Turkey	
Ducket of Hamburgh	
Denning of Muscovy	
New Floren Gild. of S. Andrew	2 2
Old Gilder of S. Andrew	2 3
Carolous Gilder	1 12
Collen Gilder	2 2
Horn Gilder	1 12
St. Davids Gilder	2 2
Saxon Gilder	2 2
Philip Gilder	2 3
Half Philip Gilder	1 1½

New

<i>Car.Gr.</i>	<i>dwt.Gr.</i>
New Rider of Gilders	2 6
Golden Lion	2 16
First part of it	0 21
Second part of it	1 19
Golden Gullen	2 6
Golden Renish Gullen	2 8
Mark of Bohemia	
6 Marks of Suevia	
Milreys	4 20
½ Milreys	2 10
Flemish Noble	4 10
Single Pistol	2 4½
Double Pistol	4 9
Philip Real with Spread Eagle	2 6
Philip Real of Spain	3 10
Flemish Real called the Key	
Shock of Bohemia	
Sultan of Turkey	
Zeclunes of Venice	

These

These Silver Foreign Coins were Assayed in the Mint, and valued as Bullion, 1653.

Allay.			Weight. Value.		
<i>own. dwt.</i>			<i>own. dwt.</i>	<i>gr.</i>	<i>s. d.</i>
worse	0 10	Holland Dollar	0 18	54	4
worse	2 3	Lyon Dollar	0 17	183	4 ¹ / ₂
better	0 4 ¹ / ₂	Duckatoon of Fland.	1 0	225	4
worse	0 7 ¹ / ₂	Rixdollar of th' Empire	0 18	154	5 ³ / ₄
Stand.	0 0	Mexica Real	0 17	124	4 ¹ / ₂
better	0 1	Sevil Real	0 17	124	4 ³ / ₄
worse	0 1	Old Cardecue	0 63 ¹ / ₂	1	6 ¹ / ₄
worse	0 0 ¹ / ₂	French Lewis	0 17	114	4 ¹ / ₄
worse	0 1 ¹ / ₂	Doub. Milrez of Port.	0 14	43	6 ¹ / ₄
worse	0 1	Single Milrez of Port.	0 7	21	9
worse	0 1 ¹ / ₂	St. Mark of Venice	0 10	42	6
worse	4 6	Double Dutch Stiver	0 1	00	1 ³ / ₄
worse	0 12	Cross Dollar	0 18	04	2 ¹ / ₂
worse	2 0	Zealand Dollar	0 13	02	7 ¹ / ₂
worse	1 0	Old Philip Dollar	1 2	05	0
worse	0 12 ¹ / ₂	Ferdinando Doll. 1623	0 18	64	3
worse	0 10 ¹ / ₂	P. of Orange Dol. 1624	0 18	64	3 ³ / ₄
worse	0 9 ¹ / ₂	Leopoldus Doll. 1624	0 18	24	3 ¹ / ₄
worse	0 10	Rodulphus Doll. 1607	0 18	74	4
worse	0 4 ¹ / ₂	Maximilian Doll. 1616	0 18	24	5
worse	0 13	Danish Dollar 1620	0 13	02	11 ¹ / ₄
worse	0 1	Portugal Testoon	0 5	01	2 ³ / ₄
worse	0 0 ¹ / ₂	New ¹ / ₄ of French Lewis	0 4	91	1

BY the Printers default, the numbering the Pages of the foregoing Treatise, from page 218. to the latter end, are omitted; which (if they had been continued) would have been on this page the number 369. This is mentioned that the Reader may add all the numbers, and know if any Leaf be wanting: And if any Figure or Figures in *Reynolds* his Tables, do not appear discernible enough to be known, the Book-feller for whom this Treatise is Printed hath the Copy, by which you may mend what is amiss.

FINIS.

By

On the first day of the month of
the year of our Lord one thousand
two hundred and thirty five
the first day of the month of
the year of our Lord one thousand
two hundred and thirty five
the first day of the month of
the year of our Lord one thousand
two hundred and thirty five
the first day of the month of
the year of our Lord one thousand
two hundred and thirty five