13.164

23d Geo. 2d Chap: 13th

London 14th Nov.r 1755

By distilling Volatile
Sal
Alkali with Lime make it
caustic, with which mild
alone it unites in vapour

Chem.

There is a Stone found
in the Mines in Derbyshire
called Derbyshire Spar, it is black
very smooth as if polished
is found in the centre of
the rock when it is broken
or detached with the work-
mans pick, a violent com-
motion ensues, the men who
after some time is exploded with
prodigious force

Nat. Hist.

+ This is described in Whitehurst
theory of the earth — The Stone
is the only crystal Quality

1289. In the process of refining the fossil alkali from common Sea Salt, the coat of lead the marine acid unites itself with the litharge and the alkali remains in the water In the reduction of the lead the acid is evaporated, but it carries with it part of the lead, this, it is said is prevented by adding lime that forms with the acid fixed Communis —

1290. In Cornwall the Shafts of all the mines of Tin & Iron run east and west Lead north and South — Lead in Cornwall —

1291. Coal is found in Devonshire many miles from the sea, the same as that found on the shore, as Jasher says —

1292. It is remarkable there is no Heath in Russia

1293. Were the current into the Mediterranean as count Ly Evap.n as Doctor Halley thought this sea would long ago have been converted into a mass of Salt — Quere is the Mediter.n Sea saltier than the Atlantic, and is there any difference in the degree of saltness in different parts of the Mediter.n?

1294. Feathers are absolutely necessary in flying how does the fat make it out? he has no wings —

1295. A Duck in swimming shakes with the feet alternately a Swan and frog with both feet at once — a frog also swimms — which way is the best?

1296. A swan looks majestic on the water but walks badly on land — the cormorant swimms with one foot shaking below her belly —

1297. What circumstance induces the hen to sweep the air bag and afterwards covers her feathers?

1298. When a feather is plunged in water it appears dry when taken out — The quills of birds are filled with air

(1306-7-8)

1299. The present shot of Watts Bristol is prepared in the common way but is poured from a high tower into the water — water serves as a bed — brought quicker in summer than in Winter 1 mile height 180 feet —

1300. Shot lead is made in the common way by pouring the melted lead thro' an iron

Silver a small quantity of oxygen is thrown into the fused lead to lessen the cohesion — It is poured from a small height by which the grains are seldom round — the side that enters the water is convex the opposite flattish —

~~1301~~ Mr. Bean opened to long a wager that he could carry a nine pound shot red hot from Birmingham to London There is to place it is charcoal in a wooden box this surrounded with wool or some other non conducting substance —

Resistible

~~1302~~ Ice cream is made by putting the cream into a ~~tin~~ Tin oblong vessel this is place in a mixture of salt and pounded ice this last in a wooden bucket

Ether

~~1303~~ Fermentation cannot take place in a metal vessel — In every fermentation about 2 degrees of heat are produced this heat is carried off by a metal vessel as soon as produced —

Thermometer

X

~~1304~~ In Turkey Iron is forbid Steel is kept very sharply in Turkey more so in Turkey

No person in the Province desirous to be permitted to take away Lead from Sun rising to sun set. This from four years ago

1305. The Refiners being therefore to market in metals refused to Cast their round

~~1306~~ Walls Patent Shot is so round and smooth that when a small quantity is thrown on a Saucer it arranges itself in straight lines — The reason to remind us that any Shot approaches it will move with greater certainty in its direction

~~1307~~ A particular degree of heat in the melted Lead is required for making Shot, this is ascertained by Trial —

~~1308~~ In the common way of making Shot many of the grains are irregular, to separate these from the rest the Shot is poured down an inclined board, the round Shot run straight down the other off at the sides —

~~1309~~ In former times original Patents were communicated that the country, may not Mr Bell/ plead ignorance for the infringement of Patents on the expiration of their terms — Coates

~~1770~~. This Even.: Thursday. Nov 20th. 1755 A Globe with a new quadrant of Altitude was presented to the Royal Society by Mr. Senaton Engineer - The Quadrant is a solid piece moveable on a steel pivot which is fixed on a brass Plate this Plate is made fast to the meridian by Screws going into holes at small distances, then is a Groove in the Plate going equal to the distance between the ~~two~~ holes - The Quadrant cannot come nearer than about 5 deg. of the Meridian on one side The lower end of the Quadrant touches the Horizon, which

is the Globe of mine Invention presented to the Society by Mr. I - it is a brass Circle and has only Degrees marked on it - The Iron Circle very large! a Pointer on the Index + of what use this accuracy when the Globes themselves are so inaccurate - Degrees cannot be laid on equally -

~~13th~~ What is the best method of Graving the Degrees evenly on the Globe?

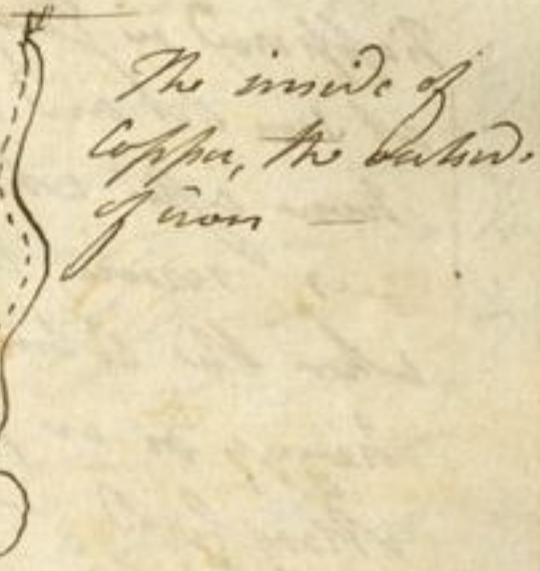
~~1772~~. A Thermometer in a Gold Finger ring, composed of three semicircular pieces of Iron, Tin and the inner -

most of Copper, the iron rod at the end to a pin, the other end of the iron cimented to the Cin & the other end of the Cin to the copper, on the other end of the copper is there is a rack which moves the contrapinion that carries the Index

Fig:

Invented by Mr watch maker in Paris — It is just the Gridiron pendulum conver. — It is said that he has made one of this construction & allows that, that the heat of the hand will affect it at a considerable distance

373. The watch Maker above mentioned has also constructed his clock pendulum and thus



134. Mr. Haggren in Sweden has observed flashes of light to dart from certain flowers particularly Marygold of an orange or flame colour. This happened in July & Augt at Sun set and half an hour after when the air was serene, but not when the Atmosphere was hazzy or on Jacks blowing Mary Gold

Mr Hallberg

~~111~~ Gold beaten Leaf is extended not by the ~~ordi~~ Expt of the hammer as such but by the stretching of the Leaf, which after the stroke shrinks back again and at next blow takes hold and pulls it forward

136. Globes are made by pasting common brown paper paper of the wooden Globe which is greased to make it come off. It is cut in a kind of Gore. The paper is all soaked in paste the axis is put in after &c

Mr Lowry

~~117~~ In Pensylvania Summer Maidcorn is sown by way of manure on the soil at the rate of 12 Bushels

Mr Sequeira

you are. It is said to be an excellent manure. It does not produce the same effect when burnt—

~~410~~. According to Kirwan Gypsum or Alabaster consists of

Calcareous earth	32
Vitriolic acid	30
Water	38

~~411~~ Gypsum is insoluble in water how then can it contribute to the growth of plants?

1420. Lime as a manure answers best in Cold clayey soil probably on account of the heat produced as the farmers commonly say — Some think the effect of lime on the soil is only to destroy the weeds.

~~412~~. The soil in the eastern coast of North America is wearing out, the Inhabitants are removing in vast numbers to the back settlements near the Mississippi, here are already settled above 15 or 200 thousand they have driven the Indians beyond the Mississippi.

It is said they have in view the conquest of Spanish America — The Navigation of the Mississippi, and only four

days march over land remove the conquest easy from that quarter —

~~422~~ 421. Sir Thomas Page's manner of Embankments against the sea composed of Faggots stopped 4 to 1 The tide was always kept in by means of a Sluice till the wheels was finished — when the tide is allowed to ebb and flow it engines the work — Embankment at Portsmouth —

~~423~~ 422. In horse Ferry boats two Draw Bridges are added to the ends of the boat, by this means when land down, they afford a safe and easy cast to the horses — This much wanted in G. Britain —

~~424~~ 423. The Rhone is a rapid river about 12 broad like the Thames. to prevent the ferry boats being carried down the strong rope is stretched across the river & passes over two stone pillars beyond which it is stretched and fastened to a wooden fixed moveable pulley on this cable, to this one end of a rope is attached, the other is fastened to the boat, between the

the head and the beam, her position by this means becomes oblique to the stream, the action of which consequently forces her forward, the pulley runs along the rope by slacks, sometimes behind, at other times considerably a head

#425. Mad iron is softened by annealing it with Charcoal, quere why it not converted into steel? —

Metallg.

#426 Excellent potatoe starch may be made by washing down the potatoes washing sweet turnips with water, pressing off, and drying on filtering paper a fine white powder is the result — A small quantity of this in a tea cup — Boiling water, stand to settle — starch — Quere might not some other ingredients be added to this and an excellent dish made out of these! —

Manufact

#427. Does not the above process contradict the common opinion that fermentation is absolutely necessary to the making of starch? —

Ditto

x

#428 Travellers are carried from Boston to the back settlements in North: Am: for four Dollars meat and lodging included

Mensuration

#329. It is extremely remarkable that the Black sea should be fresh Salt and the Baltic fresh, when so many rivers pour in their contents into the former, and a current sets constantly thro' the sound into the latter — This contradicts Doctor Halleys account of the current into the Mediterranean —

#330. A Double current seems the only satisfactory solution of the phenomena of currents the circumstance mentioned in the above article seem to confirm this. It is also observed that there is an outward current on the coasts coast, into the Atlantic — under current in the sound —

#331. If froth is blown over the surface of a fluid the fluid approaches the side next the mouth — The double currents in mines, in the door of a room where there is a fire, in the Atmosphere, All seem to strengthen this above supposition —

#332. Three sorts may be seen on the same flat and one to the same fire, one shall

shall be roasted the other
shall be boiled, and the
third shall be quite raw

~~#93~~. Regular Jurisdictions
are said to have been
discovered on the banks
of the Mississippi which
before the Spaniards
invaded the country —

Dr Mc Culloch

~~#94~~. In making Bar-
Rods for the making
powder there is no ne-
cessity of exposing the in-
gredients to the air —
The Caustic Volatile al-
kalies may be made by

Chemistry

evaporating Crystals are
formed, these Crystals melt
up fixed under water —

~~#95~~. The cork tree from
of the bark once in
years, it is a Rendy oak
The bark is rendered fat
by fire —

Dr Mulloy

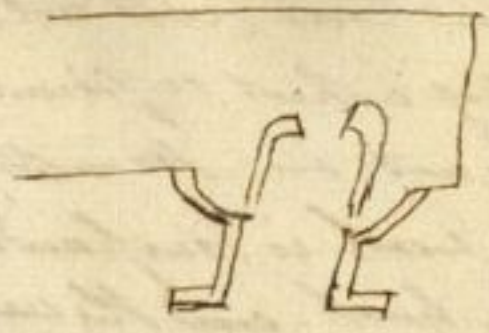
~~#96~~. Indigo comes from the
West Indies — Island —
Savagada Dear
~~#97~~. Alligator ~~Apple~~ has a
soft stone about 1 to 2
Inches in Diam. The juice
employed to make Lace
cannot be washed out —

Ditto

The Cone is Cast on the Plone and finished with a file —

~~133.~~ The Valve of the lower nozzle in Large Engines for letting the steam in to the Eduction pipes requires a prodigious force to move it. suppose it be nine or ten inches & will require 10 or 12 Cwt. A small valve is connected with the large one it is called the steam valve and renders the air above the large piston of the same density as the rest.

Engineering



Hampstead

#439 Wax will not admit of a heat sufficient to be cast in moulds. The wick is suspended on a hook and the wax poured on it till the candle is of the proper size when cast in moulds. The heat necessary to melt it, dissolves the wax. Heat the mould to nearly the same degree as the wax.

Steam

#440 Steam rushes into a vacuum with the velocity of 1200 feet per second. The same as the velocity of sound.

Engine

#441 In Boulton and Watts Engine the quantity of cold water necessary for the injection and cooling the condensing apparatus

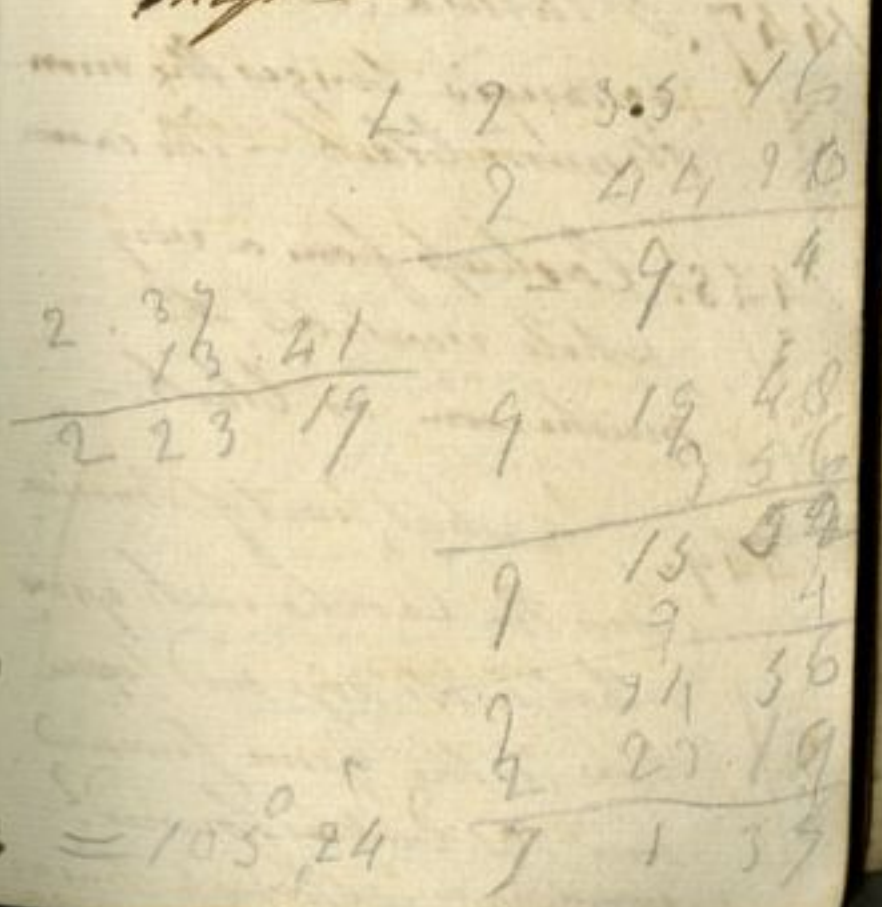
#442 An Abacus may be made by fitting air tight on a tin tube with a piston and which rests a pointer connected with the extent of the abacus.

#443 An Engine of 72 Inch Cylinder works pumps 600 yards distance great part of which lays horizontally

The friction is almost entirely removed by suspending the horizontal rods in such a degree of obliquity as to aid the Engine in lifting the rods of water

1444 The Steam may be made by balancing a Thermometer on an axis at a given temperature when that is applied the end opposite to the least preponderates and disengages the detent — Instead of the [illegible] lever fitted in this manner it may be placed nearly perpendicular with the [illegible]

1445. Different methods of suspending the pump rods of a Steam Engine by Levers become known at present described in the Chest



1446. During a very hard frost in G. Brit. it seldom snows. The thermometer always runs to 31 or 32 before it snows. Query the cause? —

1447. Alaria Esculenta in aquaregia lenges the mountain black — The cause?

1448. Cachuse from a very white vegetable the mushroom, is black. —

1449. In what part of America does the Canoe Birch open what is its size and figure how is the Gum procured and the bottles formed?

+ most parts of Spanish America

It is an aquatic plant, has broad leaves and not very tall

~~1450~~ This Event 13th Feb. 1788 at the Royal Society, part of a Paper on the Gemma and Glandes of Animals — Serpents — Snakes or vipers — Toads — Lizards — Proportion of each

— Description of a Gallinula water found on the Straits of Madagascar the 9th June 1787 — transmitted with others in a larger and black one, concealed some with the Rice in the Vessel — after the whole had disappeared a

small

Mr. W. Davies from
the sea to the shore and
remained suspended for some
time —

+ A particular take com
in England —

+ New method of conducting
a circular into a recip
rocating motion —

+ Method of supporting a ho-
rizontal shaft on pivots
&c. —

+ Improvt. on the Barometer to
make it useful at sea
— How to heat the mercury
in any part of the tube
without risk of breaking
it but those described at the
preceding meeting —

Chemistry

#51. A quantity of red lead
and salt were melted toge
in a crucible, and, when
into an ingot mould &
cold and broken the fract
a pale of the sea salt
~~crystals~~ formed the upper
stratum, the lead remain
the lower — Query has the
acid or only the Oxygenize
of the Marine acid combi
itself with the calx?

Medallic

#52 Mr. Woodard transmits his
razor and Razor blades by
the Thermometer in Mercury
tempering heat from about
410 to 520 —

~~453~~ A Globular bulb for a Thermometer is preferable to a flat one, as the latter cannot be made so thin as the former — L — M —

~~454~~ To determine the best proportions of the float boards of a water wheel —

~~455~~ New still constructed at Berlot — still enclosed in the copper part of a large copper just closed in which water is boiled, the steam condensed round the

Barks of the shell produces heat sufficient for distillation The advantage is that the spirit are not burnt

~~456~~ The ancients made the coinage for their great engines of the bondons of animals — Query how were they joined? were they of fibres? converted into fibres and then spun? Qu: M —

~~457~~ Query M — how determine the combustion of the Engine called by the Ancients the Onager. It is like my former model of catapulta, with a sling added

~~456~~ Settled to the end of the Clyde instead of the Spoon —

~~455~~ S. Weight of the Spoon the choke on the cross beam with the want of Elasticity in the sides were great inconveniences in the Calapult. It is probable the ancients constructed their Engines in a different manner from what the moderns use — It is probable the Stone shot on no Siege with the Machine a round shot by way of their shot shipped shipped Straw —

Ditto

~~454~~ Roman Camps were first discovered in Scotland by Gen! Roberts — From the reason we have he traced the March of Agricola along the ~~South~~ ascent about Perth and down Strathmore, to where the battle was fought with

Gen. Roberts is convinced of this Fact from seeing one and at once discovered several Roman Camps of the Rectangular form and large size — General Roy has prosecuted this subject

Ditto

~~140~~ Ancient bows being
were made sometimes of
horn or hair, made 22
years of age

Ditto ~~141~~ Genl. Melville thinks
the Banks of oars of the
Roman Ships were placed
on the side Forward and
Aftwards at an angle of at
least ~~90~~ 45°, and has
constructed a model of a
Liburnian accordingly

Ditto ~~142~~. The Diameter of a Bear was
said by the Ancients to be the
best, those of a Dog were only
Immanes Mastrucinæ
Vetus Mathematica

~~143~~. The tract of a Whale
can easily be perceived at
sea, like the wake of a Ship
bubbles of air are also seen
on the surface

Ditto ~~144~~. The Dolphin is said
to be a fish weighing only
about ten or 12 pounds

~~145~~. Bees are at least about

~~1466~~ A Thermometer may be made of two bars with an axis like the beam of a balance, let the one arm be made of a Metal which is most affected by heat the other of a substance, that least Let the Equilibrium be made at the medium temperature In all other degrees the Equ will be destroyed, this by a proper scale will point out the degree of heat

~~1467~~ A Journal Thermometer for ascertaining the Vibrations of Pendulums when the point of suspension is not as usual at the end, by in the pendulum — A second pendulum in this way performed 20 Feb. J.

X

1468 An Atlas may be constructed on the same principle as the Thermometer

Act. 1466

~~1469~~ What effect in time will the Parallax of Mercury occasion between the Royal Observatory Greenwich and Fort William in Bengal whose Lat. is 22° 32' 16" N. & Long. 88° 20' 30" E

Alt of Mercury at the

at Greenwich 35° 56'

at F. Will. — 56. 18

The Transit on the 3. May 1756

470. A new Island is said to have been lately discovered in Lat 7° 40' N. Long 56. 30 W

Exact

471. A Solution of Glauber salt in hot water in a phial corked up and set by the salts will not precipitate, agitate the bottle and take out the cork, there is no sensible current, Observe the Barometer

a considerable quantity is produced — The bottle should be near boiling — consult the theory of Latent heat heat

Ditto

472. Dell: and cond: bone ashes produce heat when converted to a solid — Latent heat —

Ditto

473. When a fluid passes to a solid state heat is given out — applied to — snow — hail — sleet —

474. To prove that ice contains more heat than water — melt ice in a pot with a great fire the thermometer stands at the freezing point all the time, the water must receive the heat —

1475. A pound of ice & a pound of water at D°. Temperature when mixed does not give the mean, but a much less Degree

1476. The Barrier ice is fast suspended over it's height about the day of April

Improv. of the Potter & stove geale

A grain of wheat & Rye mixed with Pinch's Powder produces Elect. P. N.

The Turkish and Persian coins are all dated in the year in which the current reign commenced — This continues till the end of the reign —

Rain often proves generally preceded by Mist — a proof of the doctrine of the absorption of heat

Flies does bolt at an manure?

1482. Mr Salmon at Lawton in Cheshire sold salt powder for manure, but no body ever came here —

#454. In examining the sand it was found to contain many shells 77 – 23 of quality — Do: N: as –

#454. In the Crimea the revenue arises mostly from Salt collected in the Salt Lakes which are quite dry in the Summer – These are above the level of the sea —

#455. In the Crimea on the 1st of Jan: 1757. the Thermometer stood 41 below the freezing point – it was frequently 5 below 0 —

#456. Greek Dress is almost the same as that of the Tartars except that the women do not wear a Veil.

#457. It is assumed that there is no coal found further south than that near Alyn: in Inverness-shire – Query does this parallel of Lat: bound the coal countries?

#458. Indian Ink is a composition of Soot Iron and Gum, for the it is analyzed it produces green blue and white ochre: The Green with Charcoal produces from the blue ochre

with Sol. Am: produces a blue — the White ppt: with Copper produces a yellow — As a proof take 3 parts Green Vitriol dissolve in it Some parts Calcined add six parts water — separate by a filtre blue Crystals will shoot. Decant the liquor off, add a fresh portion of Lead water: to a filtre set this to Crystallize it will shoot into Green Vitriol. Decant again — add fresh portion of Lead Water: to Digest the residuum it will turn Vitriol —

— To prove this add to the blue Vitriol 3 or 4 of black flux — melt in a Crucible a head of Iron Copper. Take the Green Crystals 1, 2 Ounces and Equal quantity of Charcoal dust put it in the hole of a Tobacco pipe give it a red heat for a few minutes, throw it on any cast plate, the magnet will then attract it —

– Take the whole and the same bead of Copper add a fresh quantity of Glass put it into a Crucible melt it and then cast it into a fine gold coloured Metal –

– Query will the union of the Brass & Steel produce with Phosphoric Tenacity? ...

~~1489~~. Copper is a better conductor of heat than iron Copper longs sooner hot ~~1490~~. Cast iron locks are 15 11 —12 made and sold by W. Nor- Ditto work of Birmingham at 15 pence for 16 Groſs. — 16 Groſs = 1 Lit ~~1491~~. Locks are also made Ditto of ~~Iron~~ - cast iron Lined at 17 pence for 16 Groſs. — ~~1492~~. Iſ ſhall queſtion this if hot waters are beſt unto tube dishes one of wood, the other of Metal the water in the metal cup will not ſcald, and if both veſſels be ſo Cast

in two the vessels of water the
water in which the metal
Reflector is placed will be most
heated —

493. The Elastic Gum is
sometimes to be had in
thick solid pieces — a piece
of the size of a small cork
put into a little spring
box is very convenient for
rubbing out black lines
pencil lines

Elect 11

Whole pages rubbed
with elastic Gum produc-
es Electricity whether
supported on a conductor
or non conductor — M. R.

Elect 11

Electrical air pumps are perhaps
the most convenient for
charging the Electric Can-
non — Made Nov 7 Jermyn

Two cards were made in
a minute by M. 91 —

Buffon wax cannot
be bleached so white
as English, owing to a
quantity of Resin con-
tained in it. This may
be separated and the
wax consequently much
improved —

Spring of Cage the best
for fixing Iron foil on
Glass — M. 91 —

1499. To find ~~the~~ numbers in Arith: proportion the Sequence shall be Law and their product 2 —

Matthew

~~1500~~. In the Arabic Lang: there are ~~500~~ 1000 words for a sword, 500 for a lion, and 200 for a Serpent —

Literature

~~1501~~. Small Stills require more fire than large ones there is a certain necessary loss of fire in every Still —

Ditto

~~1502~~. In Distilling water 50 Gall: of water in the Refrigeratory condensing 5 Gallons of water from the ~~still~~ in 10 minutes raise the water to the same degree of heat.

~~1503~~ In Distilling common Sugar in the West Indies the spirit is about two & Cent: & the whole quantity

Barbadoes Distill

~~1504~~ In malt liquors about 15 P. Cent —

Ditto

~~1505~~ In 30 & 6 days the metastasis ferment, great attention must be paid to the time as the transition from the Vinous to the acetous ferm. is very rapid

Distilling

~~1506~~. Vessels made of Tin for Stills — Tinning of the casks frequently loose —

Ditto

~~507~~. Iron and Blass boiler glue surrounds to the top —

~~508~~. The boilers of Stills should be broader and shallower —

~~509~~. The fires of Stills should not come to the surface of the liquor in the boilers — but at least —

~~510~~. A safety valve necessary to the boiler of the Still

~~511~~. In the Cast iron boiler 6912 an cast every known workmanship £ —

~~512~~ Tubes to be made of tin at 22/ per 16 gross = 1 lb

~~513~~. Improved worm of a Still composed of thin plates placed near each other — copper pans for the first heavy the best conductor —

~~514~~ Enamelled seat is made by smoking a common seat over the candle or a lamp, wipe off the smoke from the cavity of the seat letting it remain in the letters, then seal the letter in the ordinary way

of the Stuck hold a hot iron very
fervently near to melt Resin
it will be rendered smooth
on the surface and the black
impression will remain below
this was the invention of Robt
Duke of Argyle —

1515. A new alarm made
by Polydorus. gave how?
Sinclair

1516. A new invention put
in Execution in Scotland.

1517. The Catapulta and
Balista were Engines
the description of which are
unfounded, The one
lower in both was bended

Cudgel War

courage, the one threw a dart
the other a stone — There
was a kind of Net work in
the middle of a broad thing
in the other the thing was
fitted to be arrows, some-
thing like the cross bow.
The Cross bow is the ancient
Balista and on a smaller
and some what different scale

1518. At the ~~London~~ Royal
Society Meteorology at Gravesend
— Steps — Albert by Capt.
— Lord Dunmore

~~1519~~. A workman to learn the beam in Munich two Cylinders, moved by two Pedals —

Pneum.

~~1520.~~ Is lime produced from Lime stone and from Chalk the same? It is said that the latter cannot be made use of in building

Pneum. Hydr.

1621 + Is alkahest the same from whatever substance it is distilled? — ...

Chemistry

~~1622.~~ Method of casting a strong lens glass in a spherical form so as to be cut by a great Length and Breadth —

Pneum.

1623. If a rose is watered with Sol. Desolved in V. it will grow black — If it is engrafted on a currant tree it will also be black

!!

~~1624.~~ If the mouth of a Cannon be walled in a little space before the charge will make a louder explosion than when it is not walled in — smaller and more subtile way —

Mechan.

~~1625.~~ Circular plates of the same thickness are not equally strong whatever be their diam.r —

Mechan.

1625. To prevent Cannon pieces Expl. from bursting by Overcharging

X

1626.

Received this evening the 30th of Jan. 1709 from Mr. Follet, four Roman Coins of the Emperours Constantinus, Maximianus, Diocletianus, and Constantius ——

These Coins were found inclosed in a round mouthed Pitcher, which crumbled to Dust as soon as exposed to the Air — They had an encrusting thick Rust on them; which near totally obliterated every impression, untill that was removed by immersion in spirits of Salt —

They were discovered by in the Autumn of 1708 by two Men, whose Names were William Ball and —— Labourers: as they were clearing away a Hill to get at a Quarry) for Lime Stone, in the parish of Thorn St. Margaret, about 3 Miles from Wellington in Somersetshire ——

It is very remarkable, that on the Morning they found this Treasure, — related to Ball a Dream, which he had in the prior Night: (viz) That as they were at Work on the same Spot, he —— thought they struck in on what in that Neighbourhood is called a Crock of Money; Ball had but just expressed a wish to have the Dream realized, when —— picked up a single piece, and after that another or two, which so elated them that they continued working but a little while in full expectation confidence of a more valuable Treasure, when —— Struck his Pickat into the midst of the Pitcher, pieces of which were attempted to be preserved; but its having lain buried there so many Centuries, it was reduced to common Earth ——

There were in the Pitcher between 3 and 4 Hundred pieces, a considerable part of which were sold to the Wares Company of Wellington. They consisted of the Emperors

Diocletianus, who began his reign Anno Domini	284
Maximianus ——	286
Constantius who died ——	333
Constantinus ——	306

~~6~~ 7. A plan is now in agitation to construct light towers with fixed convex lenses 22 Inches in Diam. and ten inches focus placed in the sides of an octagon, a Polar Lamp & a large Concave behind each — The principal object is that the light is confined to eight points, the intervals dark. This may in some measure be remedied by placing the Lamps near the focus, but in this case the intensity of the light will be diminished

In this as in every other case where an attempt is made to violate the laws of nature Loss of time must be the consequence ——

1628. Mary gold seed in a pipe produced a fine white a lemon pot a blue head with white in the middle Carnation flowers a white when very small marbled with blue —

— Nuts a very bright white in great quantity —

— Mustard a White and in considerable quantity —— burnt a long time ——

— Rape and Canary seed white

~~Hydr~~ Fills a bottle with liquid Plaster of Paris when it sets it expands and the bottle bursts —

Explosion

~~Hydr~~ The Engine Governor of Mess.rs Boulton and Watt consists of seven wheels and pinions the velocity increasing by a ratio of 7 a Governor wheel is put in motion by a pendulum motion on both for every Stroke of the Engine — Consequently the Engine must make 10,000000 of Strokes for one revolution of the seventh wheel. The governing Engine is confined within a small box fixed on one end of the beam the pendulum is put in motion by a weight rolling in the box, the box about 15 Inches long and 5 deep

at the rate of ten Strokes P. Minute

6 x 1000000 Minutes

24 | 16666 | 694 | 1
144 | 365
226 | 329
216
106
96
10

~~#31.~~ Butter is frequently sold in penny worths at markets to draw it into cylinders at first and afterwards to cut it off at once in any proportion might be contrived

~~#32.~~ Could not the dirt carts be so constructed as to take up the dust as they go along the street? —

~~#33.~~ Had the earth moved perpendicular to the Equ. would there have been perceptible heat ~~—~~ for Vegetation in high Lat.?

~~#34.~~ Eight bushels of wheat make 1 quarter weighing from 55 to 64 Lbs

Medium 62

When 2 Lbs — 496

The Albion Mills are said to grind with one Engine 100 Quarters in 24 hours —

~~#35.~~ Lime made of Oyster Shells would perhaps answer many purposes better than from stone —

— Agriculture Journal

~~#36.~~ A large vessel filled with Sand or other Vegetable matter stained in the fire with

a tube rising and projecting
this above the fire place
might burn a whole week
and light a whole Coffee room

~~1689~~. The Chimney also
to have all a mixt of the
colours from ~~England~~ Why
are the more brilliant
than in Europe? — common

~~1690~~. Chaos first and then
the name of the almighty
in the Triangle appearing
Chaos retires, and the Sa-
cred System appears, this
would be beautifull in
fire works by an [illegible] air

~~1689~~. Two arguments for the
moon's not having seas on
one, no difference in colour
from the reflection of the sun
rays. the other from the
jagged boundary of light &
darkness, some part of which
would be a perfect circle
that part which reflects
over a sea. —

1690. The Heads of an air

The Chimney seem very thin
for the tops of the trees
are sometimes violently
agitated when not a breath
is felt below. ——

~~1691~~. A new silk net was proposed to be sent out to the East Indies. A Mr. Rae made one in brass and sharpened his Instrument, which he declared was the ~~first~~ lowest price he could make them at. Mess^rs. Boston & Walker executed the order at Birmingham at 30^s^. The workmans thumb and instrument did not exceed 3^s^.

~~1692~~. Gulliot-bolts a Patent wheel for a water machine for raising ore from mines which is described by Agricola ann. minc. above two hundred years ago.

~~1693~~ The mercury in the Gauge of an air pump should be boiled, quere does boiled mercury not imbibe the air again

1694. An air pump made by Mr. Sharp Surgeon Boston Fall Berkshire. Gate brings the mercury in the Gauge below that in the cistern - The Bore Gauge about two Thousand.

~~1695~~. New mahogany is made to look like old by rubbing it over with lime water thick soap ashes – alkali –

1696 Jungbas manufactures by Jackson

~~1697~~. Telescopes with second slides on suspension slides – The vellum or paper slides always produce dust on the glasses –

– Enamelled tubes. black yellow green with below very handsome –

– Turning machine for the silver tubes a little cylinder of steel about 3/4 Inch Diameter held on the screw a little oblique like a burning glass

~~1698~~. Best wrench for fixing chucks on the Lathe is a crank with a small projecting edge or ⊙ corresponding to a groove in the Chuck

1699. The Shagreen case for telescopes with the pocket of handkerchiefs &c – red leather case the best

~~1700~~. In soldering tubes of plate metal the fusion of Solder which shrinks least of the silver gum arabic is the best method of preventing this – Covers for the object glasses are of no use when a case is made use of it –

~~1707~~ What is the best method of dividing the pear gauge — The gauge is filled with mercury and weighed, then certain proportions are weighed by which the divisions are ascertained

~~1708~~. Linseed oil boiled up to a considerable consistance is the best substance for a collar of leathers or any junction in the air pump.

~~1705~~. Mark Flower near Tempsfor has taken out a patent for weaving nets.

~~1706~~. The wheels of turning lathes should be made of cast iron and turn on a cylindrical axe not on conical points which act as wedges augmenting the friction

~~1708~~ Boiled oil will preserve and increase the elasticity of tendons of animals, which the ancients made use of as cordage for their Engines.

~~1710~~ Woollen rags are made use of as a manure in some parts of England. Does not their effect depend on the cappillary attraction of the wool

1707. A course of Six lectures on farming Nr. 13 — I think would take —

~~170~~ 9. Lime acts as a transient test on with heavy soil- soon- perhaps à fermentation ensues and the calcareous part of the lime reacting upon the acid of the soil

× 1769. # the bar of Selon lead and copper be melted with lead into an ingot, this ingot afterwards exposed to a moderate heat the lead leaves the ingot and carries all the Selon along with it —

~~170~~ When plated metal has no more Selon than in the proportion of 10 or 12 Grains of Selon to one pound of copper, be made of adopting the copper to be Selon by a compound of ~~Sulphuric~~ nitre Sulphuric acid and Nitre in the best mode: but if 20 Grains to one pound of copper then be made of pounds the two with lead is preferable —

~~1711~~ The alarm composed
# of a piece of lead and
twine with a noose put
on a small pin, this
string is on opening the
door pulled off the pin, the
weight consequently falls

~~1712~~ A Steam Engine in
Snow hill is blown by
oxen and grinds Gun barrels
with metal — Buckles &c

~~1713~~ Mr. Forsyth Gardiner
at Kensington has dis-
covered a solution which
cures wounds and cuts
in vegetables similar to
Sabine which is applied to animal
& produces new bark on over
the part — It heals the
stump of a tree when cut
and causes new fresh grounds
on each side the fracture —

~~1714~~ If one leg of a Syphon
is immersed in a Glass
of water and the Glass placed
so that the limb of may be
made to rest without
exhausting the air —
Apply the finger to the
external leg before the
other leg is immersed
in the water, then suddenly
remove the finger when
the Syphon will com-

~~1715~~. Shewing fumigating Rotten Linnen with vapor of Distilled water in the 1:: 2:1 well mixed and wold to be Comparable of the qui three parts Glauber's Salt & parts Nit. Commonise 3½ reduced ope calcly to fine powder. Then add the powdered Glauber Shewing it well Then the powder Nitr commonise

~~1716~~. The common method comprising together the Membranes of a Ballon; and with that of a common is not just

~~1717~~. A crack in the Steam pipe of the Steam engine mended by wrapping Cow skin with a Plaister of white lead in oil

~~1718~~. The rust of Iron is owing to the acid of the atmosphere, Therefore if it is Iron is immersed in Lime water it will not rust

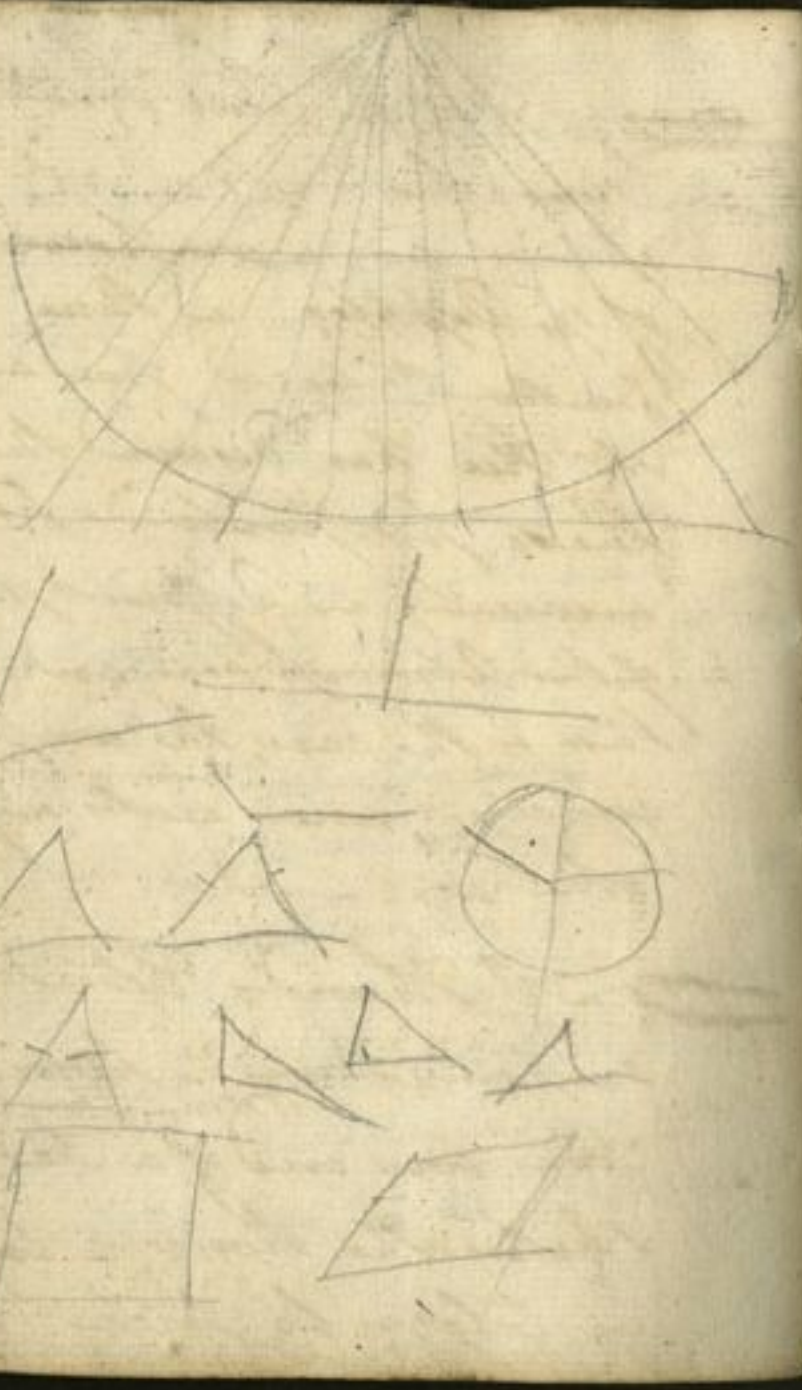
~~1719~~. Oil of Vitr. to write in the Invisible ink to 100,000 times it sensible candle.

~~1720~~. A Solution of Saturn Lime Lemon Juice and Oil to Discover Such Legends have made on Plates

But this is found on passing
Mr. Watt through an infusion
red cabbage leaves with the
colouring matter extracted, which he de-
gests for some hours in
water at the heat of 120°.
This produces a liquor
which turns green with
alkalies and red with acids
but must be very speedily used
— Ammoniacal Gas
Mix red cabbage or
the red Mr. Watt about the
acidity of vinegar then
if it is blue and add a
stirring stick with water
large and colour reduces it
to its blue colour, &c.

1789. It has been sometimes
seen green at sea
when air is composed
of the Oxyphlog: and Azote
Fourteen Oxlog: and fair air
Mr. Hey has discovered that
these proportions hold
invariably in different kinds
of the Atmosphere and that
this is the case, the compos
ejects air with any
other air

1791. A Thunder Cloud
suspended over a house
from one end of a bad
shakes the house, a boy
is blown to pieces
the part is saved



Weight of the Curved
Plate per Yard –