

Vol. 1

Queries

and

Hints

An

20 Vols.

Q

ueries
and
Hints
on
Various Subjects

S

x
I. A vacuum made by
extinguishing charcoal in
quicksilver M. P. Ponder

x
II. Projectile force not so
simple as the attractive
M. G. Lute

x
III. Is the Torricellian vacuum
perfect? can this be proved

x
IV. Is the quantity of fluid
discharged from the caput
very siphon ^{inverted siphon} ~~the same~~?

x
V. What is the proper angle
for the arms of a windmill
not 54° &c M. P. Ponder

6. Could the Simulidæ
× have got a larva of any
kind of matter impressed for
to raise the earth? —

7. Why does not the eleva-
tion at the equator increase?

8. Sounds of a Violin &c —

9. How would a pitch key
× sound on the top of a high
hill?

10. Is Electricity an Anti-
septic? — no —

11. Will eggs that have been
open & dried keep longer
than others? notes long

12. In what manner does
Electricity operate upon
an animal killed by it?
Does it soften the bones
& extravasate the blood? &c

13. Is it possible to procure
a change of electricity by induc-
ing the jar in another jar,
or any other way? It is

14. Why is the axle of a wheel
× thicker in the inside than
the outside? —

16. Are the sparks from
Onions electrical? *frigid*

16. What was the shape
of the books of ancients

17. Will beef feed on lettuce
keep at sea?

18. Is not the best way
to fill a large Syphon
to put a cork in one end
or fix a stop with to it?

19. Will not Optics keep
a considerable time by
laying them with the
flat side up and setting
them in

20. Can water be raised
by the centrifugal force
alone across parabolas?

21. If a house is seen from
a hill is it possible that
the hill cannot be seen from
the house?

22. Why does not a telescope
magnify when the focal
distance of the object glass
and eye glass are equal to
each other?

~~23~~ Is the quantity of fluids
increasing on the surface
of the earth? The British
increase at the rate of 50
Inches in a century or 100
years —

~~24~~ Thrushes about Dundee
have 4 p. Cent wages —

~~25~~ Short broad faces are
not so soon put to the
blush as long faces

~~26~~ The best Apples have
the smallest stems

~~27~~ Why have not the women
words because the world not
hold their Tongue &c —

~~28~~ Does the quantity of steam
depend on the shape of the
boiler, less in a conical
than in a flat by a $\frac{1}{2}$ —

~~29~~ What is the best form for
the bottom of the boiler?
— convex or concave?

~~30~~ What proportion is there
between the velocity of a body
moving over a plane and
the pressure of that body on
the plane?

x
31. Why does the mercury in
the barometer fall in a hur-
ricane? Is not a centrifugal
force like that on the Equator.

~~32.~~ Will the Spirit of Onions
affect the eyes when the book
is turned towards the fire and
a piece of bread put on the
knife that cuts the onions.

~~33.~~ Will the wheel of a gun
alter his direction? — one
wheel of the carriage piece.
— put in a wheel the
arm —

x
34. Why does the double bottle
give four discharges? —

x
35. Can the religious observance
of the Christian Sabbath be
proved from the scriptures?

x
36. Upon what principles
does the bird's spirit
pump act?

x
37. Since the earth is nearer
the sun in winter than in
summer, why is the summer in
the southern latitudes colder
than in the corresponding
northern latitudes? —

38. When the Equator and
Equator coincide will they
continue ever afterwards in that
position?

~~39~~ When a body is struck
in a time not passing thro'
the center of gravity, how is
the ratio between the rotation
and the motion forward de-
termined?

40. Is the velocity of
reflected light the same
as direct light? Should it
not be less?

~~41~~ Why does melted brass
thrown upon water produce
a greater explosion than
Iron? — D. W. — n

~~42~~ It is observed of M. Addison
that his poetical translations
are like originals and his
prose like translations
— M. Vail — n

~~43~~ How can it be shown that
a Metaphysician can see no
greater difficulty in ^{our} forming
what is to come than in re-
membering what is past? —
— M. In — s

~~43.~~ Were not all words at first indistinguishable?

~~44.~~ Why do not ashes when stirred up appear blue in front?

~~45.~~ What ratio has the time in which different bodies cool to each other?

~~46.~~ The quantities of light do not appear in proportion to the windows opened in a room. This perhaps is owing the contraction of

the pupil by the light.

~~47.~~ Why does the bulk of a fluid increase when congealed?

~~48.~~ What is the distinction between the terms Liquid and fluid?

~~49.~~ Why is there more thunder and lightning in winter than in summer, and why is there lightning so frequently without thunder?

~~50.~~ What is the best method of watering plants and flowers? Capillary cord —

~~51~~ At what time of the
year are plants in a dead
or sleeping state. —

52. Why do some people,
with a pair of common
spectacles see objects at
a great distance wonder-
fully magnified? —

~~53~~ In water spouts does the
water ascend or descend or
both — flash of lightning
at the breaking of the
whirls — whirling spiral
motion — black cloud —
two jets — calm — hollow —

~~54~~ Over the ale run out
more easily ~~from~~ thro'
the pores of a barrel than
water? It does by dissolving the
resin in the cask —

55. When a concave lens
is held before a candle
why is there a luminous
ring about the edge of the
glass? —

56. If a ball falling by
a thread is held before
a concave mirror at
a perpendicular distance it is inverted
if let fall it appears to
rise upwards, whence arises

The sensations we feel on
this occasion? —

~~Q~~ In going up a stair
when we attempt when
~~we attempt~~ to make a
step more than enough
whence arises the dis-
agreeable shock we feel
on that occasion? —

~~Q~~ Why does the finger with
a little wax ^{from the candle} on it resist
force on a vessel of water? —

~~Q~~ May there not be only
three primitive colours
Red yellow Blue

with not a top painted
with the three colours but
merely produce a white
if the colours are right?
— a very deep red, yellow
and blue make a black

609 Is not light a quality, not
of a subtle medium, like
sound? what is the medium?

~~Q~~ If light is material
why does it not account
and fill the eye? arrows

62. If light consists of particles
like arrows what be-
comes of that light which

goes down into, a well why
does not the heat increase
— A pack of black wool
absorbs all the rays and
does not transmit them —
why does not the increasing
heat burn it up? —

63. Is the Phlogiston a
body or a quality? Juffon.
perhaps only a indefinable
of motion

64. Does not light require
some solid resisting body
to render it perceivable
— Just the same, a perfectly

transparent medium cannot
be heated — air not heated
by the rays of the sun until
they are reflected from the earth
water not heated by the
burning speculum. &c —

~~65.~~ Cannot bodies be supposed
in continuous with ^{out} consisting
of particles? May not a
body be divided any where?

~~66.~~ Does Animal life arise from
a particular indefinable of
matter like magnetism? Would
a Magnet in a mortar it
lose its ^{power} qualities, Would a
man and he lose his life —

~~68~~ In Toulon Harbour and the
road shell fish found in the
heart of stones - Coast of Mo-
sonia in the Asiatic - large stones
about 50 pound weight will
shell fish in them alive and
very palatable - Cappel's Lungs
also in an Elm in the year 1779
and an Oak 1780 a large load
skin on the oak it must have
lived 50 or 100 years - How
now came there animals there
and how do they subsist so long
in it -

Microscopic animals -

~~68~~ What is it in bell metal
that makes it ring? -

69. Is the precession of the
Equinox the same with the
variation of the compass?

~~70~~ With a candle burn long
in a close room when
the air is ^{in it} highly electrified?

~~71~~ Why are old cast wheels
so splintered than when new.

~~72~~ What weight will
draw a wheel 2 feet
A over an obstacle, when

a given wt. will just draw
a wheel 2 feet D, over it?

~~72~~ Why does not a vibrating
string disturb the flame of
a candle?

~~74~~ Can gun be decomposed
w? ^{the pneumatic} It cannot

75. Is a Diamond en-
larged by cold? —

~~76~~ Three sets of magnets
curves shown on one bar —

~~77~~ What article can I find
with spirit with Ristay.
The power of the Hydrostatic
Spring is said to have this
effect —

~~78~~ What is the least visible
object — least resolvable
angle — ^{the} ~~the~~ The picture
on the retina is 5000 part
of an inch — This is the diam.
of the least visible nerve or
fibre ⁱⁿ a hogs built the
Mamm —

~~79~~ — In what manner
^{III} Does oil act on metals or
as to prevent rust? —

~~80~~ In what manner does a
candle carry off the Electric
fluid — watery humidity &c. ^{or}
with a hot iron do the same?

§1. On what principle does
the compaction or hardening
of steel depend?

~~See of New. Stewart~~

§2. Is an animal lighter
when dead than alive?

§3. Model of the water blast
in at N. Morris mines —
Shannon

§4. The best method of taking
a copy of a crayon picture
is to press it against the
clean paper — the first copy
will be little inferior to the
original and the original
will be softened by the
friction — Mr. D. —

Shannon —

~~§5~~ Polishing renders the metal
smoother and the same motion
and forcing produces the
contrary effect.

X
§6. Do water sports move
and with what velocity?

X
§7. What causes the images
in the air which Mr. D.
mentions to have been
in Sicily? — Figure in
the air from a concave
mirror —

X
§8. What is the usual height
of water sports?

98. Does fermentation en-
crease the temperature of
the fermenting liquor? —
Does

99. Why does the Irishenny
marble which is at first
black grow white after
it has stood a while 15
or 20 years — figures of
shells, fishes, bones of ani-
mals &c. appear on it.

100. Locks, about burn hills
and some others in
Scotland were agitated
in an unusual manner
in the year 1755
the day of the earthquake
at Lisbon. where is the
connection?

101. Are windows broken
by the firing of cannon
occurred by the air ex-
panding itself in the room
— the pieces of glass are
always found on the
outside of the house —

102. The experiment of the
bell in the receiver may
be varied by letting the
bell touch the receiver.
The sound will then
be heard —

103. Is not there a large
vacuum in the upper
part of the atmosphere —
no

~~104~~. Will there be any quantity
of air when you puff, pro-
duce any change in the
barometer? —

~~105~~. When the perpendicular
height of a column of air
is increased by heat its
pressure is lessened because
the upper part is spread
over a greater surface —

~~106~~. In a water barrel if
the water is turned with
the wheel the water
will be less shaken
than when the wheel turns
over a fixed axle for
when there is a wheel in the
the other is a less shaken

~~107~~. What kind of fire is
that produced by the flint
in a pistol. is it always
common fire — common fire

~~108~~ When oil is burned
by on the surface of water
in a glass, if the glass
is afterwards shaken, why
does the surface of the oil
remain smooth, while
the surface of the water
is formed into waves.

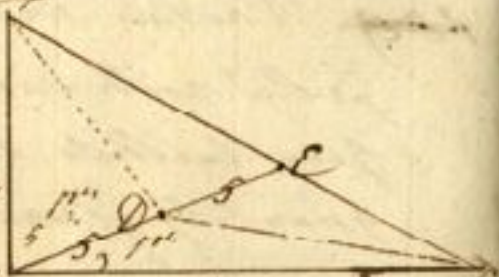
~~109~~. Whether will a barrel
filled with sand or with
iron bullets take the greatest
quantity of water?

~~110~~ When coals are broken
small do they fill a great
space? 20 tons one made 21

111. What are the qualities of
the black matter which
remains in the glass
after burning vitriols
and on oil of turpentine

112. A ship from the observatory
two light houses A. C. at
right angles from the vessel
the sails 5 points from A
5 miles to D the two

light houses
are then equi-
distant the
sails are 5
miles and all
three are in
a straight line
line — required the demonstration
of this —



X a + c

$$\left. \begin{array}{l} 113. \dots ae + yy = b \\ cy + aa = d \\ ay + cc = f \end{array} \right\} \text{M. Simon}$$

114. At particular times
distant bodies appear nearer
than at other times — is this
owing to a greater refractive
power in the air? —

115. Is the refractive power of
the air increased in proportion
to the quantity of water in
the air? —

116. When there are a number
of detached clouds in the
atmosphere the sun
shines between two of them
at one place and is seen
behind the other, is this owing
to

to the reflection of the chords?

#7. May not the diminution of sound in an exhausted receiver be owing to the great pressure of the Atmosphere on the receiver which prevents its vibrations? —

Liburn
#8. A cart or Car where the axle is fixed is turned more easily than when the axle moves with the wheels: because as the wheel round which the machine turns has little motion the other must drag. —

#9. Will not a boat move slower in a shallow than deep canal, tho'

it do not touch the bottom.

X
120. Doctor Franklin accounts for evaporation by chemical attraction so early as 1756

X
121. The emolument of a West India shop may be about 500 \times per cent all sales have the same but they are judged agreeable to their utility and in the larger shops are allowed a

X $\frac{1}{2}$ per cent. number of ounces
#122 The land does not produce above $\frac{2}{3}$ of the Max value of it in the Carix or manufacture —

120 (Doctor M. P. P. 's new
method of burning seat
and upper leather &

121 In North America the
strongest and most valuable
cheese is in this season
Every landholder makes
the name of the Goutton
in cheese they are all
brought into a heap, and
the Goutton are who have
most names in the world
legally chosen

Nov 11 1779

122 A wheel 12 feet
diameter burns seven
in five seconds or
how many seconds
with a wheel 24 feet
diameter burn, every

other circumstances work-
ing the same? —

X
126 To wood pulley in
all their different combi-
nations.

127 When salt is mixed
with burning spirits
where arises the colour
it gives to all surrounding
bodies? —

X
128. A Globe of Water 14
last construction 22 inches
diameter gives sparks as
large as those from iron
conductors? — Dried in
an oven and a little
salt of tartar put into it
to prevent it of all moisture.

~~129~~ When a water and a
plate are perfectly unioned
the plate trembles under
the finger. —

~~130~~ It is affirmed that
the water in a mineral
glass moves round with
the finger? —

~~131~~ Is there any mineral
reason for the frequency of
a haemorrhoid - cure
where the strings lay —

X
132. What are the princi-
pal distinctions between
hard and soft water
— Name on Bleaching.

~~133~~ Will lime added to alkali
lime salts render ^{them} more
susceptible to bleaching?
— It will

~~134~~ What is the best method
of ascertaining the strength
of the ley? — Hydrometer

X
135. How are the roads of
Ireland repaired - of
Ireland conducted - of
Ireland before the grand
jury at the Assizes -
that such a road or bridge
wants to be repaired -
committee - Expense of

~~136~~^x. A wooden cut either
in the hands or feet
with occasion a locked
jaw - this does not help
him in ^{my} operation

~~137~~^x. When a bed of paper
is put on a string of
a wooden - and another
string under it - the
former is secured the
paper stays off -

~~138~~^x. Barton Pulley

~~139~~^x. The Irish a ball that
the procedure in their
criminal courts is ma-
jor than in Scotland

~~140~~^x. The Irish affair that
Magna Carta was
given to them by King
John - years before it was
given to England

~~141~~^x. Heavy body weighed
in water loses part of its
weight. How comes it
that water weighs as
much in water as in
air?

152. In long vibrations,
any given alterations
of heat and cold will
produce a proportionate
greater attraction of the
water —

153. Doctor Templeton
powerful machine
produces with my
large conductors sparks
not so large as from
the sphere it self,
or with my Machine
thence

154. The Thunder was
cracks are said about
this, it is said will
not take place if
the coal touches the

plate or is plunged into
water before it is laid
on the fire — or touched by the
hook

155. If a tooth new pulled
is immediately replaced
is it possible that it will
wear down? It is —

It is affirmed that a
tooth
with the same quantity
of water will go faster
at night than in the
day! give the reason?

Drogheda 5 Jan^r 1786

156. The air will so pro-
portional to the quantity of heat.
if so in water & bodies
Why is a body when suspen-
ded in any move from one
a horizontal plane —

~~148.~~ In the focus of a burning
glass when thrown on the
open air a feather ascends
is not the air heated? —

X
149. Why do Barometers at
low water yield the gaps
which they leave on the
ground till the tide flows
when the gaps swim on
the cavity eat it. —

Dublin 1st July 1780

~~150.~~ Is a fog owing to Electricity
— Electrified fountain —

X
151. Why must a quarter poun
be applied to a work of
suction's pump, when the
pipe to the water is long. —

~~152.~~ In what manner do
solid bodies announce the sound
of vibrating strings &c. and
what is the best form for
that purpose? — W. G. —

~~153.~~ The Electrometer measures
only the height of the electric
atmosphere but not the quantity
of the charge. This depends
upon the power of the Machine

X
154. Sir Thomas Brett
mentioned to me an experi-
ment of Electricity which is
new. If a web is killed
by Electricity thrown the
head, a shock sent imme-
diately through the heart
brings it to life, this he

think he is owing to the matter
given to the heart - He also
told me that he had collected
a society for the relief of dumb
persons, called the British and
society, and had recommended
Electricity, the utility of which
he thinks proved by the cure
of the water -

~~156~~ To ascertain what
is the effect of an animal
or vegetable, might not a
small piece of meat or
egg be put into an
Electrical jar and then
for highly charged with
vibrations and then? -

~~156~~ Some think the Electrical
matter exists in the glass
itself and is not extracted
from the matter in working
on electrical machine
Phlogiston -

~~157~~ What is the ^{nature} of
the crushing stone?

~~158~~ In the process of
beating what is the
use of boiling the beer?

Sir Thomas Bell makes
excellent without boiling -

~~159~~ When horses are yoked
together in carts or waggon
if one is spirited and the rest
slow the good horse does
all the work and is over-
burdened -

~~160~~ - One great advantage which
the animal machine has
over all others is the little
friction, owing to the insertion
of the muscles so near the centre
of the joint - In the four foot
animals the muscles are in-
serted at a great distance, by
which means they are stronger,
can run faster, but they do not
last so long.

~~161~~ - When a stone descends be-
low the surface of water
will the waves continue to
be formed in a conical
shape?

~~162~~ - If a piece of silk is kept
tight round a pocket or
watch case it will not
burn tho' held to the
candle. If you the same?

~~163~~ - A leg of Mutton may
be boiled on a chain from
just from any fire -

~~164~~ - Punch may be boiled
in a glass inverted with
a paper over its mouth
held over the candle -

X
165. Would not two
eye glasses in the re-
fracting telescope correct
as well as three? No -

XX
166. If the line of Logarithms
is numbered backward
from 30 making 80
10 70 20, &c. it will
be a line of seconds

~~167~~ ^x A table of natural sizes
to the center & is very
useful in gunnery & navig.
&c.

168 Powder barrels should
be turned every month
when the heavy part
the salt petre is said
to fall down.

~~169~~ Weight of a ~~24~~ pound
cannonade is 15 lb
of the long 24 pounder
is 28 lb. the charge of
the former is 1 pound
of the latter 6 pound
Short Guns can be
bore true long Guns
can neither be bore nor
cast true.

^x 170 - Capt. Cunningham
reports is 70 feet by the
rule - the said breadth
the depth in the water
is 12 feet at one end
and 6 feet at the other

^x 171 Capt. Cunningham
observed nearly the same
thing in the wreck of the
Cannonade that Count
de Sipske -

~~172~~ The red, yellow and blue
cannot be produced by the
composition of any others
- from their being all the
others which may be
produced -

~~170~~ What is the correct way
of finding the virtual focus
of a concave lens.

X
~~174~~ Will the red, yellow and
blue rays of the spectrum
when united produce a white

~~175~~ Will any two colours, not
adjacent, produce the inter-
mediate, for example, blue &
what is the readiest method
of proving this? —

~~176~~ When a beam bulges
downward, if a wedge
of hard wood be inserted
than below is drawn
in the beam will rise
— the slope of a ladder
produce the same effect.

~~177~~ In the smaller animals
the circulation of the
blood is quicker than
in large ones — In a
little man, than a large
man —

X
~~178~~ Will the unannealed
glass break with any
thing that scratches
its surface; e.g. a file

X
~~179~~ Does Poggini's Amal-
gam —

~~180~~ Why are the sparks
from an electrical cylinder
larger when taken from
that part which is just
entering on the rubber
than from any other? —

A point when fixed on the
conductor or on the rubber
shows the form of a candle
from the point & both
situations —

If there are two discs
cannot size the one may
be made to pass through
the other. In the same
manner two pieces of wood
of the same dimensions may
be mortised into each
other so as equally to pass
through each other —

183. What alloy does
Government use for
the Gold and Silver
coinage? The proportion
is 11 Oz Pure Gold 1 Oz
^{Copper} Alloy is coined into 24 $\frac{1}{2}$
Guineas — 11 Oz 2 Den.
pure Silver with 18 Den.
^{Copper} alloy is coined into 62 Sh.
and 1 Lib. of Copper is coined
into 26 half pence —
3 half pence are nearly
equal to an ounce Silver.
+ Copper is the alloy both for
Gold and Silver —

#54. How can it be said
that flowers are purifiers
of the air when the cutting
them down renders the
country more pestilential?

#55. A sheet of broken
glass thrown on a heap
of the same, produces much
light —

#56. An annealed glass tube
harder than when cold,
will not cut the hand —
This kind of glass cannot
be ground or cut, the mo-
ment the surface is broken
it flies to pieces —

#57. Crater may be made
of any kind of glass but
bottle glass is probably
the best — Middle of the
jet is the best metal —
above it is too light and
under it too heavy — below it
has too much lead, this
last probably is best for
prisms —

#58. All sorts of tea grow
on the same tree the Probe
undermost is dried in the
sun — the green tea on
upper plote on a charcoal
fire, it must therefore imparts
some of the particles of the
upper charcoal, hence its
effects in the nose. —

#89 It is reported that the
Romans in the time
of Nero had a stone which
was malleable —

#90 Can the poles of a great
magnetic ^{reference} ~~stone~~ be like
an axis: Magnet. N. & S.

#91 What proportion does
the point of a bar of
different Gun. bear to
each other? —

#92 Is what is the spirit within
water in a water owning
and will there not be a
spirit in a vessel of water
at rest? —

#93 With what velocity does
water issue from a jet or
hole in the bottom of a vessel

is it what a body would acquire
by falling through the whole or only
half the perpendicular altitude?

#94 To find the area of the
Three Zones —

1. $\text{Rad: Sine } 47^\circ :: \frac{1}{2} \text{ area of the}$
 $\text{Globe: area of the Torrid Zone}$

2. $\text{Rad: Diff Sine of } 23^\circ \& 66^\circ$
 $:: \text{area of the Globe: area of Tropics}$

3. Add half the Torrid to
the whole Temperate Zone
subtract this sum from
the area of the Globe the
remainder is the area of
a frigid zone —

9 miles
Torrid Zone

9 miles
Frigid

9 miles

~~195~~ When a solid is dissolved
in a fluid is the compound
equal in weight to the solid
and fluid weight separately
and what proportion does
the specific gravity of the
compound to either of the
simplex - Epsom Salt will
dissolve in an equal bulk
of water —

196. Does the shadow of
the earth never reach the
moon as Whiston alleges
and is an eclipse of the
moon occasioned by the
shadow of the earth or sphere
length, the earth's shadow
is $2\frac{1}{2}$ times the diameter of the
earth or 3 times the diameter

197. Does Electricity pro-
mote evaporation?

~~198~~ Does a living animal
exhaust electricity through
its body, but when dead on
its body is it a worse con-
ductor in the latter case
than the former? —

199. Why does a musical
glass sound graver the
more water is put in it?

200. In staining glass
red gold is made use
of silver for yellow for

201 The great advantage
of a chamber in Guns
or Mortars is that the fire
being more collected it acts
with greater force, also it acts
on the center of gravity of the
ball in consequence no part
is lost by the obliquity -

X
201 Count De Leppe's Expt
Does not prove that the
~~recoil~~ recoil takes
place after the shot has
left the piece the shot
must leave the piece be-
fore the carriage can be
consequently moved backwards
by the recoil -

202. It is always observed
that in the manag^t.
of artillery the Deviations
of small bullets are gr^t.
than ~~small~~ ^{large} ones, that a
1st Lt shot is much more
to be depended on than
a 2d or 1d powder
— Capt. Burch

203. Mr. Robins has proved
that 21 Drams of the
pow is the best strength of
cannon - Capt. Burch

204. The principal advantage
of graining powder is
that we can be certain of
its goodness, but meat powder
if good is as strong as wine
X Capt. Burch

Monday, 2 July

198 In what part of a vessel will a leak have the greatest effect supporting the depth from the surface of the water the same?

199 It is affirmed that a ship will make less water when sailing at a good rate than when at anchor?

200 A vessel has frequently a very great motion heeling and pitching when there is very little wind; on the other hand she will often lie at rest when there blows a pretty hard breeze.

201 It is difficult to ascertain the proper angle of a sail, so many circumstances concur that it cannot be the same in two vessels.

202 When across the sensation of rolling and moving about we feel when we come to shore, and a day after it continues for some days after?

203 What is the cause of what is called the stir and half tide, or of the tide's flowing and ebbing so much longer on shore than in the spring?

Contd 10 July

To observe a good achrom.
glass observe whether the glass
is such as to show the object
of the lens without other, if they
have thin pieces of glass between
to keep them together the glass
is not a good. D. L.

The condensation of the
air are left through a
refracting than a reflecting
telescope - condensation of
the air is less than in
the telescope -

When the magnifying
power is the same the
power is ^{more} ~~more~~ by the achrom.
than by the reflecting telescope
but according to Herschel's
and Doctor Long - comparing
his achrom. with a
reflecting telescope of the same

magnifying power found
the reflect. telescope has the com-
munication of light. D. L.

The magnifying power
of a reflecting telescope is
in the proportion of the field
of the two glasses, at what
distance must the object
be seen through the eye
of the telescope, one side
said?

Being: Mr. L. in common
shall in a pamphlet that
the reflecting telescope which
Mr. Short gave out is magni-
fied 120 times, magnifying only
120 times, this is a great
error, and it is a pity
that the invention of the achrom.
glass occasioned Mr. Short's death
D. L.

216. Colland's achromatic
object glass does not pro-
duce a distinct image
in the focus, it will not
make a camera obscura
quite the same! —

217. It is affirmed that
a hard body rubbing on
a soft the hard will wear
sooner, e.g. a pivot in a
brass plate — D.C.

218. The effects of long and
short vibrations on the
going of a clock are as the
versed sine of the arches,
described. Pachel Longford
is making experiments
on his clock to ascertain
the comparative advantage
of long and short vibrations.

Two compound pendulums
consist of Bars of steel
and of a compound of
and he says it
is equal to the old gravim.
pendulum of a bar. —

219. Observed in the Oct.
of the Phil. trans? a case
in squinting where both
eyes were of equal goodness.

~~220~~ Colland got the hint
of the achrom. glass from
a watchmaker Hall in the
following manner. Hall
after spending 30 years in
making opt. in optics
at last died a man who
had been employed by him
as a glass grinder, being
now out of business applied
to Colland for work, he told

him that Mr. Hall had made
a very great discovery a few
weeks before his death. It was
making an oblique glass of two
plates by which all the in-
teriors were removed and that
of Mr. D. would attend that
an accident he might per-
ceive all his tools and
one of these compound glasses
Mr. D. had purchased
for a whole for 30 Guineas
and taking the glass to
pieces ~~and~~ ^{and} the
construction and ended!
set him up to work on
the principles —

29 Perhaps the cause
of an earthquake is
the motion of the air —

229 When a Ship strikes
on a rock and the water
is admitted through her
bottom every part, her sides
are frequently blown up
by the embow air, this
Steamer will blowing up
the vessel ~~with~~ ^{by} water —

23 French ships are
much sharper built
Protrusion ~~have~~ but
much more, are much
stender in frame they
sail better — they are
narrower at the bow than
they more frequently found
than the British Ships

230. Variety is desirable in
any part of the world and
almost all of them fit to
be eaten like coltsfoot. This
of great use to the govern
in time of war when they
are obliged to live on
salt provisions - walsley.

Zebra

X
231. The absorption of carbon
and nitrogen air is no part
of the process of the animal
respiration.

232. A skinn is on foot
has to bring skin in
Cork by a paper & paper
box composed of glass
like a cork. This can
passage with skin answer.

233. It is remarkable
that there is no Mahago
any furniture in France
in grain, altho' the Spaniards
build their ships sometimes
in the west Indies.

~~234~~ 234. If a hole is bored with
both a Gemlet in the trunk
of a plant tree and a small
quantity of mercury poured
it in it will kill all the
insects in the upper
part of the trunk in
8 or 10 hours. Capt. P. B.

235. The East India Company
the Navy office and all
the other Government offices
never accept of bills they
buy in the office with one

~~228~~ Mon. De la Lande
went to home to get the
arr't respecting the motion
of the earth repeated but
could not with all his in-
fluence which was very great
effect it. Jurgonelli's Expe-

~~229~~ Horses fed on dry hay
in a close stable with
soon become broken wind
D. Dr. Lee - ic.

~~230~~ What quantity of water
will raise any given
quantity of water in the
common steam engines?

~~231~~ Cucumbers are raised
in Capt. Peet's Garden
without any artificial
heat in the open Garden -

~~240~~ A rough surface
feels warmer than a smooth
altho' the Therm: shows the
same temperature in both.
Is this owing to the hand touch-
ing fewer parts of the rough
surface? -

X
241. Every carriage wheel
has its spokes in pairs
swath Dupin, is not this
an objection to shoes?
them with a circular hoop?
The felloes of good wheels are
left a little a proud at
the ends to allow for the
sinking of the spokes. -

224

242.

It is affirmed by a Mr. Mac-
that there is a pump above
that will lighten a vessel
of 700 Tons an inch every
stroke!! x impossible

243. The best shot for an
engagement is two round
shot two of this kind of
shot ^{is best} discharged with $1\frac{1}{2}$ lb
of powder will go through
both sides of a ship, and
seldom spread more than
6 feet

Steam engine applied to move
beams walls - raise water - sola-
tu motion - move waggons -
Row boats - grind corn -

Hydrostatics -
Diving bell -
Pneumatic fountain -
New Fontaine's cup -
with a figure of Fontaine -
Intermitting fountain -
Forcing - sucking - spirit -
Centrifugal - Thresh - Rope
De la Hire's - oblique pump -
manometer - Double pumps -
Water mills - wind mills
Steam mills - Flour, Saw,
Powder - Cotton - woolen - Flax -
Sack - Nitrous - Dyeing -
Soft grinding - Pick -
Bleach mill -

13. Church and steeple set on fire and blown up -
14. Lady's head dress set on fire -
15. Six eggs put into a glass tube - a shock sent through
16. Doctor Huggins Amalgam
17. Cannon's face in the corner of the room -
18. Franklin's monument -
19. Fly on the wire of a charged jar.
20. Impact between two poppers
21. Electrical motor
22. Powder room blown up w/ suff. air -
22. New Expⁿ on Lightⁿ
22. Elec^t Glass
23. Monuments -obelisks
24. Straton's Pharos -

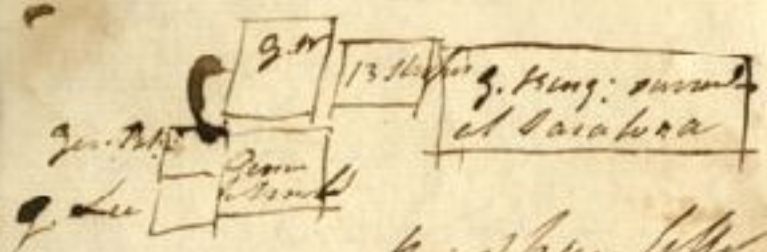
- Mechanics -
1. Pulleys (Differently combined)
 2. A waggon with two sets of wheels with an inclined plane and pulley -
 3. Balance - Centrif^g of 2
 4. Models of glass house -
 - plough field - cotton gin -
 - loom - printing press -
 - pattering ram - Fort -
 - saw mill - Intermittent fountain -
 Instruments for weighing gold & other metals -
 Liverpool Ditto -
 wind mill -
 Models for architecture -
 5 orders, arches &c -

25. Spirit tube coloured
26. New bells &c
27. Fly and spirit tubes
28. Both using - Figures drawn
This and many more by
a charged jar
29. Home sale
30. Electro-phorus, condenser
31. Wax on the conductor
32. Fragments paper models
33. Eclipses - Lando kept
34. New Experiments with the
Chain - spirit on a board
35. German to fire the Cannon
Drank of water
36. Three glass balls filled with
different colours - Figures
- 37.
- 38.

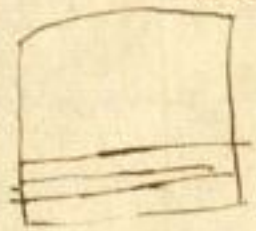
- New Experiments
- Electricity
- 1 x Ship - 3 Experiments
 2. Moving wheels
 - 3 x Spider
 - 4 Two jars one neg. the
other positive discharged
together
 5. Double jar
 6. Spirits fired different
 7. Glass cannon
 8. Bolivian Phosphorus
 9. Electrified fountain
 10. Electrified thermometer
 11. Fly moving on an inclined
plane
 12. Vertue fly with a ball on an

Plan of the room where
Mr. Washington's desk is seen
in Belfast.

above the chimney



This plan of the
with full papers
for the Estate 1776
which was very in-
telligent.



Copy of the oath for Election
I, A. D. do swear that I have
not received, or had by my self
or any person who has been or
beant for me, or for my wife
and benefit, or for the use and
benefit of any of my family
or provided to my knowledge
or belief directly or indirectly,
any sum or sums of money,
office place or employment,
gift or reward, or any po-
tential security for any mo-
ney office or employment
or gift in order to procure my
vote at this election.

This is put up in the
Washington

Chymical articles
Vit. and Mineral acids —
out of Tarter —
Spir. of Sal. Ammon.
Ether Rectified —
Glauber Salt —
Camphor — Nitre —
Pearl - pot - ashes —
Spirit of wine —
oil of turpentine
Lime - Syrup of roses —
solution of red roses —
Phosphorus - of urine
Artificial Arabian stone
Circibles - Retorts - Schiats
Tubes - Glass funnels —
Mortars Glass - Marble —

Fulvis fulminans
Cinnam. fulminans



Memorandum

To send to Dundee

An Electric machine for

Doctor Stewart -

Printed sheets of hist. & B. 11

Manuscript for Mr. Ferris -

Optical cards for Dr. M. Ormiston

22. 13. 2

13

17

45. 13. 2

5. 5

45. 13. 2

6. 6 10