





天下太平

地仁

算律

二三四五十六十





# Diving Bell

1 Calculation — A cubic foot  
of fresh water weighs 62.5 lb  
— A Gallon = 8 lb

— A bell 3.5 feet Diameter at the large  
end & 2.75 feet D. at the small end  
and 3.5 feet high with depth  
23.47 cubic feet of water ~~4.66~~ 146.6 lb

From this deduct the weight of the  
Bell and the remainder is the weight  
to be hung on the bell — Deduct  
also the weight of the diver



2. A cubic foot of air will support  
a man for 4 minutes without  
any assistance — but during  
however one cubic foot should  
be served for every 3 minutes  
in which case no accident can  
possibly happen from want of  
air —

3. The trouble and expense of pro-  
curing Dephlogisticated air for  
the whole supply is too great but  
a quantity of this air mixed with  
Atmospheric air would be an  
improvement —

4. Condensed air has been proposed  
but ~~this would~~ the trouble  
and expense of procuring it



would ~~not~~ greatly exceed the  
advantages derived from it

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3. Doctor Waller's original mode  
of supplying the bell with air  
is the best

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6. Added to prevent the bell  
turning round in a current  
— magnetic needle to show  
what motions the bell may  
receive

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7. Air vessel in form of the  
bell but narrower below  
made of metal —



# Experiments

1. Down and up immediately  
- quite dry -
2. Signals - Air sent down -
3. Articles hooked -
4. Book - paper pen and ink
5. Phosphorus match - Gerbes -
6. - Augmentation of Sound -  
- Magnetic needle - Electricity  
- Music - sound common  
- called to the surface -  
- Bell raised by Descending  
the balance weight -
7. Small downy bell of glass  
- Bird - mouse - paper - paper  
- quickened air -



8. To beat a Gong below —  
9. To try the effect of condensed air  
on scents — bot. alk. mixt. —



Doctor Walley's Pumping Bell  
contained 60 cubic feet was 5 feet  
in Diam at bottom and 3 at top,  
two air barrels 36 gallons each  
care with lead —