be put in *Practice* to all Intents and Purpoſes, as if this *Impediment* were abſolutely Removed.

An Account of an Experiment *ſhewn before the* Royal Society, *of Shooting by the Rarefaction of the Air: By* Dr. D. Papin, R. S. S.

WHereas ordinary Wind-Guns do their *Effect* by the Compreſſion of the Air. *Ottho Ghericke* hath found a new Sort that ſhoots by Rarefaction; and he hath Publiſht that device at large in his Book about *Pneumatick Experiments*, but he doth not expreſs how ſtrong was the Effect. I have therefore had the Curioſity to try it my ſelf by another Contrivance, which I take to be better than his: Firſt, becauſe I can make a Rarefaction much more perfect than he could do. Secondly, becauſe his Device could not be uſed but for Guns of a ſmall bore; but my way may be apply'd to the biggeſt bore that can be made by Workmen: So that one might by this means throw up vaſt Weights to a great diſtance.

A A is a Pipe very equal from one end to the other.

B B a ſmall Pipe ſoder'd to a Hole near the end of the Pipe A A, and apply'd to the Plate of the *Pneumatick Engine*.

C C C C ſome kind of Stool to bear up the hinder part of the Pipe A A.

D. a peice of Lead fitted to the bore of the pipe A A.

The pipe A A is to be ſhut at both ends by *Valves* outwardly apply'd, and ſo the ſaid pipe A A, though never ſo big, may be exhauſted of Air by means of the *Pneumatick Engine*: Which done, the *Valve* towards D muſt be ſuddenly open'd, ſo that the whole preſſure of the *Atmoſphere* acting upon the Lead D may drive it along the pipe A A with

ſuch a ſwiftneſs, that it will be able to carry it to a great diſtance: And becauſe ſuch a *Valve* ſhutting a great hole would prove very difficult to be opened, when the pipe A A is of a great Bore, the aperture towards D may be left much ſmaller than the pipe; the ſwiftneſs of the Air being ſo great, that even through a pretty ſmall aperture, it preſſes the lead D as freely almoſt as if the whole Bore was quite open.

Having prepared a Barrel carrying a lead of 2 ounces, the Experiment was ſhewn before the *Royal Society*, and the Effect was found very conſiderable, the force being little leſs than that of the *Wind-Gun* by compreſſion; the ſame experiment being afterwards repeated with a longer Barrel, 'twas found that the length in this way of ſhooting was very little, if any advantage.

Part of a LETTER *from Dr.* Salomon Reiſel, *Chief Phyſician to the Duke of* Wirtemburg, *about an extraordinary* Tincture *given to a* Stone: *Stutgardiæ, Febr.* 12°. 1686.

AUrifaber Stutgardianus, qui & gemmis & Metallicis typis nummorum cudendorum inſculpendis artificioſus eſt, nomine *Chriſtophorus Muller*, Anno 1685, aurum *aqua regis* ſolutum, oleo *Tartari* præcipitatum atque edulcoratum, quod aurum fulminans dicunt, dum in ſcutella, quam Maturellam vocant, ex lapide Chalcedonico coloris unici pellucidi onychini ſeu Cornei, vitro pro fuſione præparato rubro mixtum, & aqua fontana imbutum tereret, ad facienda Encauſta ſeu ſmalta; de quibus *Anton. Nerius* vertente *Andreæ Friſio*, egit *lib. 6. Artis Vitrariæ*; invenit iterato tertium eodem labore: quod color pulveris iſtius puniceus, qui per dies aliquot ſiccatus in vaſculo manſerat, quouſque inter terendum

Tab 1.

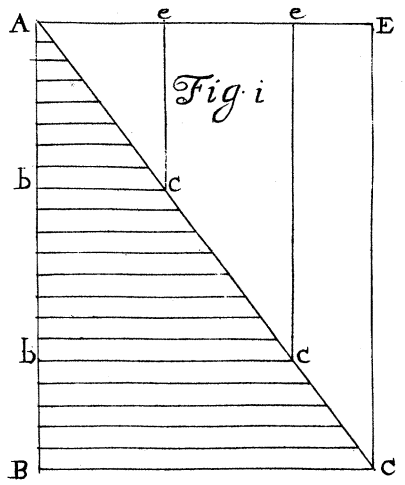
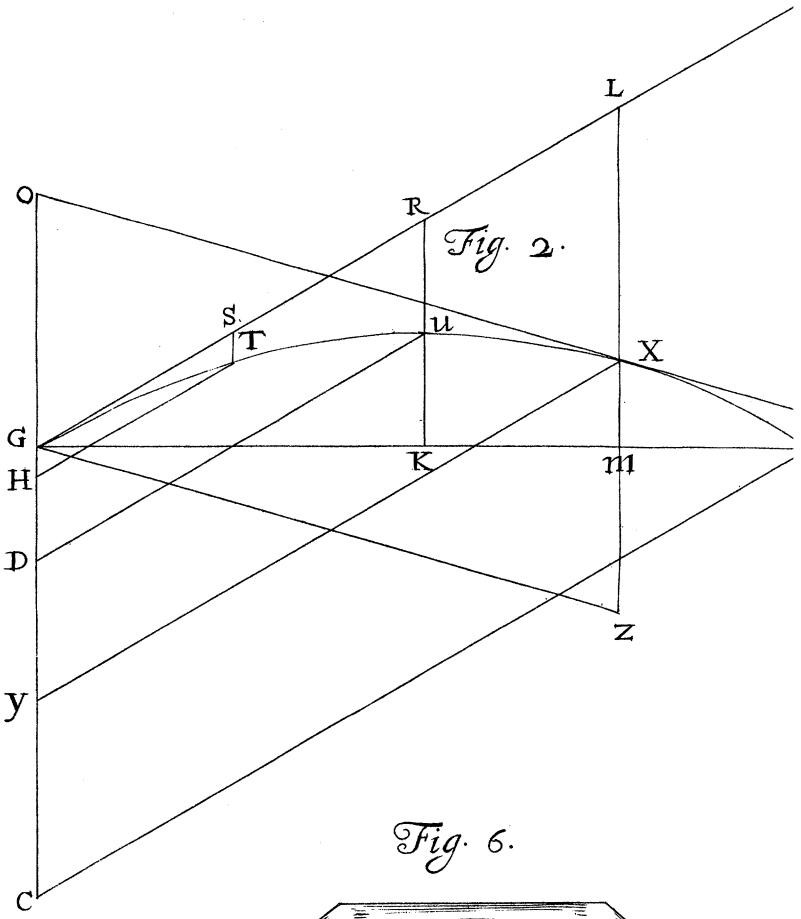


Fig. 1



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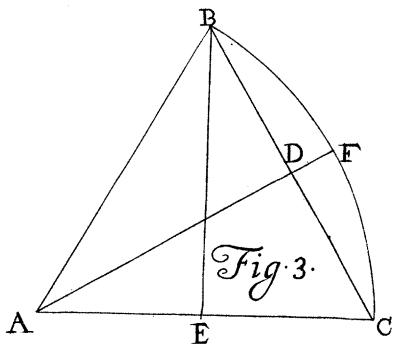
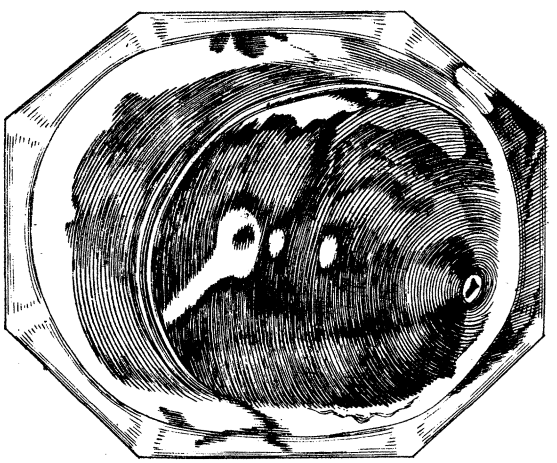


Fig. 3.

Fig. 6.



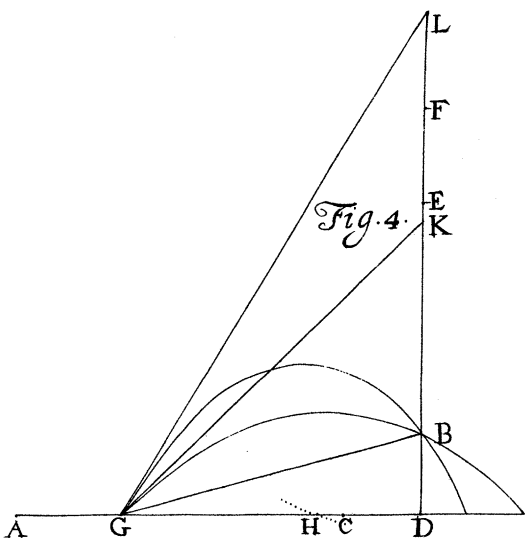
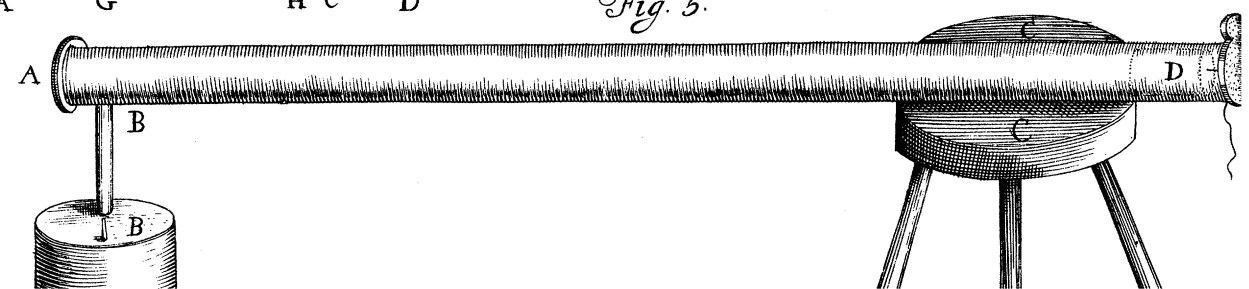
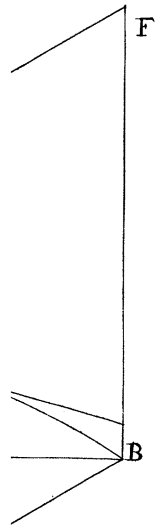


Fig. 4.

Fig. 5.

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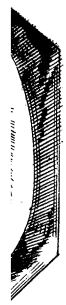
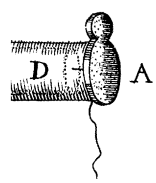
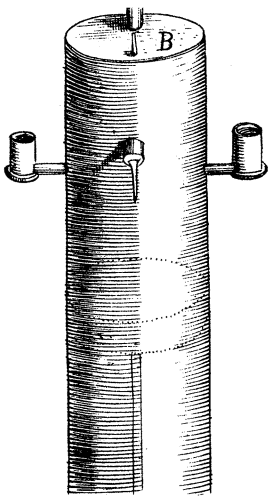



D
A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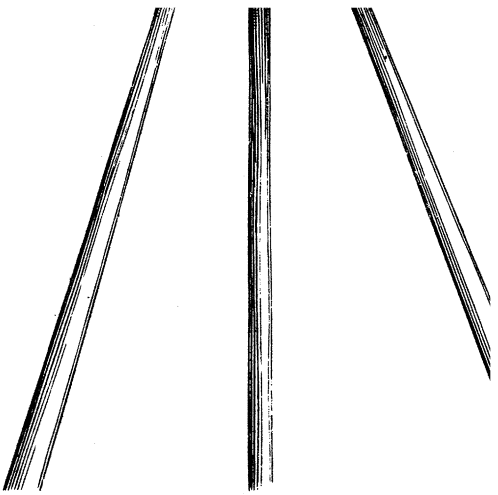
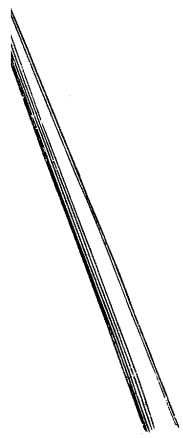




Tab 1.

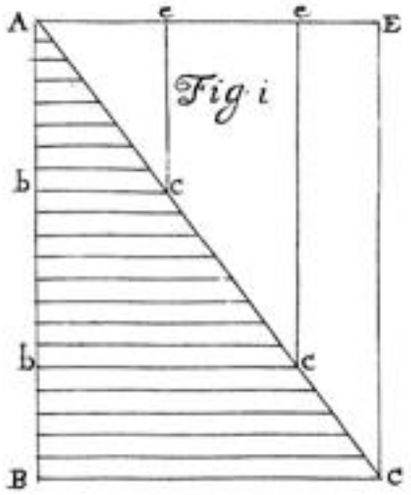
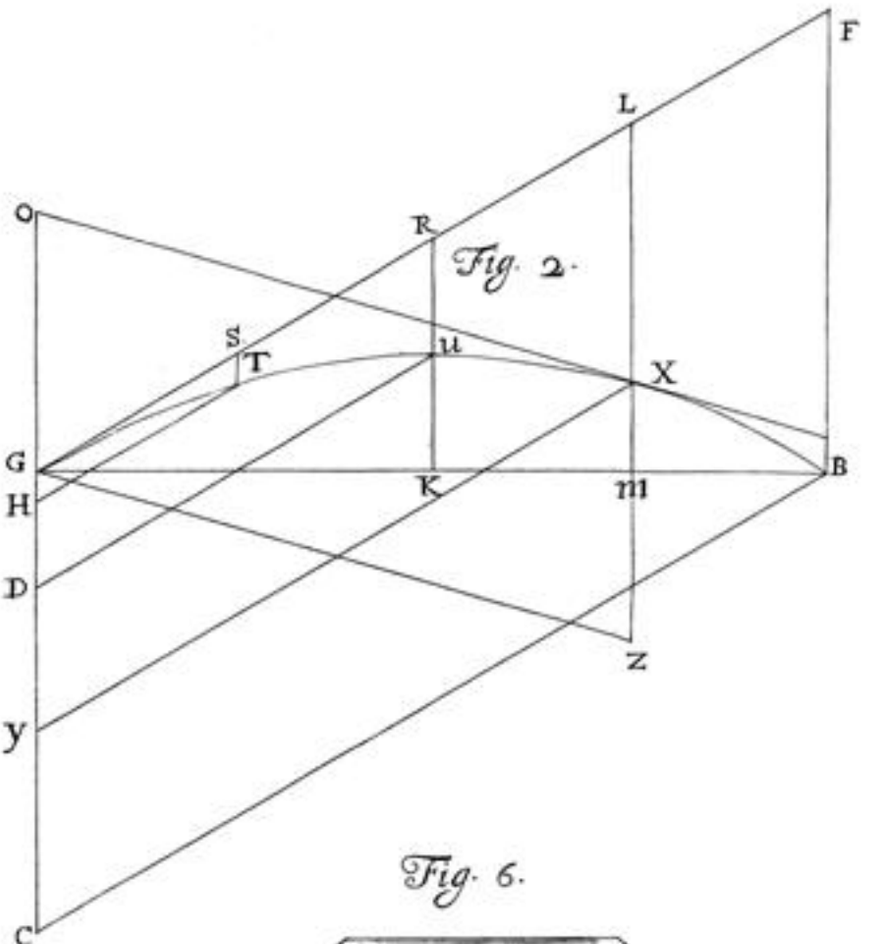


Fig. 1



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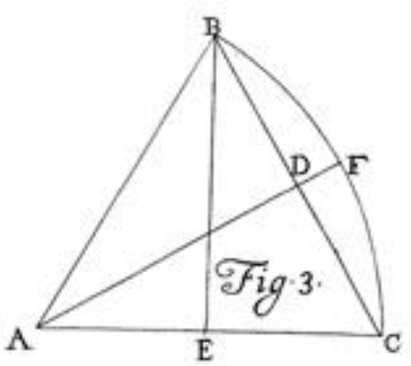

Fig. 3.

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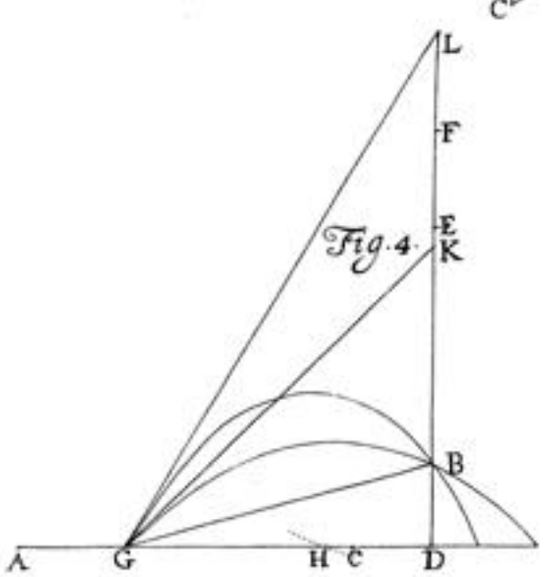

Fig. 4.

Fig. 5.