

to be set 8. or 10. foot higher than the Hole D. and the *Shutter* made of Iron, or Wood that will not shrink, that it may shut very close; this *Dore* being made large enough to receive the *Cradle* with ease.

G. The *Grate* or *Cradle*, which is narrower below than above, that the Ashes may the more easily fall, and the Air excite the Fire; the bottom being barred as the sides.

H. The *Border* or *Ledge* of the *Cradle*, that rests upon the *Ledge* C.

I. Four *Chains* of Iron fastned to the four corners of the *Cradle*, for taking of it up, and letting of it down.

K. The *Chain* of Iron, to which the other are fastned.

L. The *Pulley* of Iron or *Brass*, through which the *Chain* passeth.

M. A *Hook*, on which the end of the *Chain* is fastned by a *Ring*, the *Hook* fixed being placed in the side of the *Dore*.

N. A *Barr* of Iron in the Walls, to which the *Pulley* is fastned.

The higher the *Shaft* of the Chimney is, the Fire draws the Air the better. And this Invention may be made use of in the *Pits* or *Shafts*, that are *Perpendicular*, or any wise inclining towards it, when there is want of fresh Air at the bottom thereof, or any molestation by unwholsom Fumes or Vapours.

*A way to break easily and speedily the hardest Rocks, communicated by the same Person, as he received it from Monsieur Du Son, the Inventor.*

Though the Invention of breaking with ease, and dispatch, hard Rocks, may be useful on several occasions, the benefit is incomparably great, that may thereby accrue to those, who have *Adits* or Passages to cut through hard *Rocks*, for making passage for Water to run out by, in *Mines* of *Lead*, *Tin*, or any other whatsoever; these *Adits* appearing to be the surest, cheapest, and most advantagious way imaginable, for draining of the same.

That

That which is here to be described, was invented by one of the most Excellent *Mechanicks* in the World, *Monsieur du Son*, who lately put it in practice himself in *Germany*, at the desire of the *Electör of Mentz*. The manner is, as followeth.

The *Mine* or *Adit* is to be made seven or eight foot high, which though it seem to make more work downwards, yet will be found necessary for making the better dispatch by rendring the Invention more effectual.

There is a *Tool* of *Iron* well-steeled at the end, which cuts the Rock, (of the shape shewed by *Fig. 2.* here annexed;) 20. or 22. Inches long or more, and some  $2\frac{1}{2}$  Inches *Diameter* at the steeled end, the rest being somewhat more slender. The steeled end is so shaped, as makes it most apt to pierce the Rock, the Angles at that end being still to be made the more obtuse, the harder the Rock is. This *Tool* is to be first held by the hand, in the place, where the Hole, to be made for the use, which shall here be shewed, is to be placed; that is, in the middle between the sides of the Rock, that is to be cut, but as near the bottom as may be. The *Tool* being placed, is to be struck upon with an Hammer, the heavier the better, either suspended by a Shaft turning upon a Pin, or otherwise, so as one man may manage the Hammer, while another holds the *Tool* or Piercer. If it be hung in a *Frame*, or other convenient way, he that manageth it hath no more to do, but to pull it up at first as high as he can, and let it fall again by its own weight, the motion being so directed, as to be sure to hit the Piercer right. After the stroke of the Hammer, he that holds the Piercer, is to turn it a little on its point, so that the Edges or Angles at the point may all strike upon a new place: and so it must still be shifted after every stroke, by which means, small Chippings will at every stroke be broken off, which must from time to time be taken out, as need requires. And thus the work must be continued, till the *Hole* be 18. or 20. Inches deep, the deeper the better. This *Hole* being made as deep as is required, and kept as streight and smooth in the sides, as is possible, there is then a kind of double *Wedge* to be made, and fitted

fitted exactly for it; the shape whereof is to be seen in the annexed 3. Figure.

This double *Wedge*, being 12. or 13. Inches long, each piece of it, and so made, as being placed in their due position, they may make up a *Cylinder*, cut *Diagonal-wise*. The two flat sides, that are contiguous, are to be greased or oyled, that the one may slip the more easily upon the other; and one of them, which is to be uppermost, having at the great end a hol'ow *Crease*, cut into it round about, for fastning a *Cartridge*, full of *Gunpowder*, to it with a thred, the round end of the *Wedge* being pared as much, as the thickness of the Paper or Pastboard, that holds the Powder, needs to make the outside thereof *even* with the rest of the *Wedge*. This *Wedge* must have an Hole drilled through the longest side of it, to be filled with *priming Powder*, for firing of the Powder in the *Cartridge*; which needs have no more, than half a pound of Powder, though upon occasion a greater quantity may be used, as shall be found requisite.

Then this *Wedge*, being first thrust into the Hole with the *Cartridge*, the round side, where the Priming-hole is, being uppermost, the other *Wedge* is to be thrust in, home to the due position, care being taken, that they fit the Hole in the Rock as exactly as may be. Then the end of the lower *Wedge* being about an Inch longer, than that of the upper outwardly, and flatned, priming Powder is to be laid upon it, and a piece of burning *Match* or *Thread* dipt in *Brimstone* or other such prepared combustibile Matter, fastned to it, that may burn so long, before it fire the Powder, as he, that orders it, may have time enough to retire quite out of the Pit or *Adit*, having first placed a piece of Wood or Iron so, as one end thereof, being set against the end of the lower *Wedge*, and the other against the side-wall, so as it cannot slip. Which being done, and the Man retired, when the Powder comes to take fire, it will first drive out the uppermost *Wedge*, as far as it will go; but the slaunting figure of it being so made, as the farther it goes backward, the thicker it grows, till at the last it can go no farther, then the fire

fire tears the Rock to get forth, and so crackes and breaks it all about, that at one time a vast deal of it will either be quite blown out, or so crackt and broken, as will make it easy to be remov'd: And according to the effect of one such *Cartridge*, more may be afterwards made use of, as hath been said.

### *Observables upon a Monstrous Head.*

This was the Head of a *Colt*, represented in the annexed *Figure 4.* first viewed by Mr. *Boyle*, who went into the Stable where the *Colt* lay, and got the Head hastily and rudely cut off, the *Body* thereof appearing to his Eye compleatly formed, without any *Monstrosity* to be taken notice of in it. Afterwards he caused it to be put into a Vessel, and covered with *Spirit of Wine*, thereby chiefly intending, to give good example, together with a proof, that by the help of the said *Spirit*, (which he hath recommended for such Properties in one of his *Essays* of the *Usefulness* of *Natural Philosophy*) the parts of *Animals*, and even *Monsters*, may in *Summer* it self be preserved long enough, to afford *Anatomists* the opportunities of examining them.

The Head being opened, and examined, it was found,

*First*, That it had no sign of any *Nose* in the usual place, nor had it any, in any other place of the Head, unless the double Bagg CC, that grew out of the midst of the forehead, were some rudiment of it.

*Next*, That the *two Eyes* were united into one *Double Eye*, which was placed just in the middle of the Brow, the *Nose* being wanting, which should have separated them, whereby the two Eye-holes in the Skull were united into one very large round hole, into the midst of which, from the Brain, entred one pretty large *Optick Nerve*, at the end of which grew a great *Double Eye*; that is, that *Membrane*, called *Sclerotis*, which contained both, was one and the same, but seemed to have a *Seam*,  
by

Fig: 1

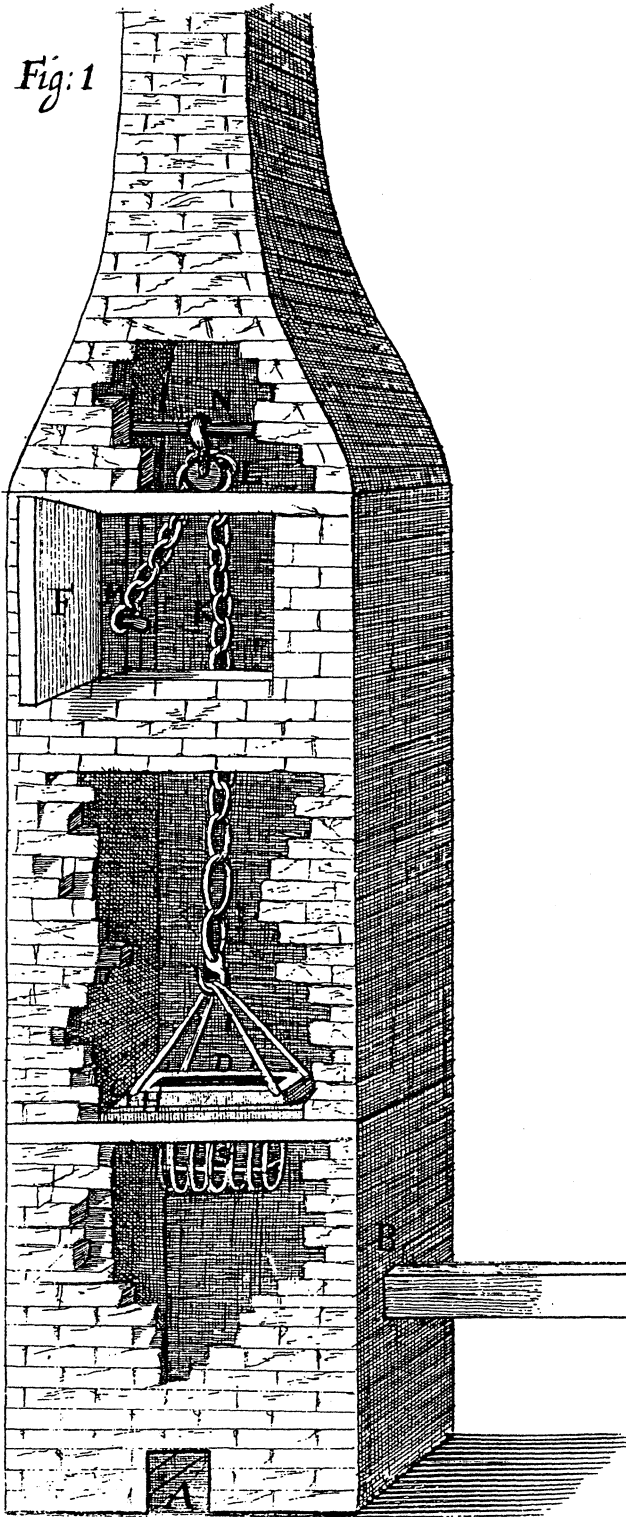


Fig: 2

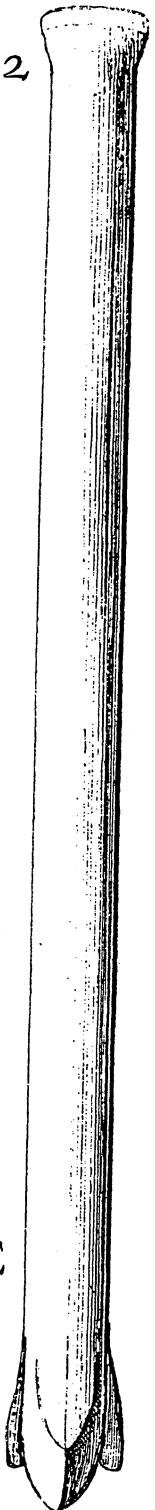


Fig: 3

