

Richard Newsham of Cloth-Fair, London, Engineer,

MAKES the most *useful, substantial, and convenient Engines* for quenching Fires, which carries continual Streams with great Force. He hath play'd several of them before his Majesty, and the Nobility at St. James's, with so general an Approbation, that the largest was at the same time ordered for the Use of that Royal Palace: And as a further Encouragement (to prevent others from making the same Sort, or any *Imitation* thereof) his Majesty has since been graciously pleas'd to grant him his *second* Letters Patent, for the better securing his Property in *this*, and several other *Inventions* for raising Water from any Depth, to any Height required.

THE largest Engine will go through a Passage about three Foot wide, in complete working Order, without taking off, or putting on any thing: And may be worked with ten Men in the said Passage. One Man can quickly, and with Ease, move the largest Size about, in the Compass it stands in: And is to be play'd without rocking, upon any uneven Ground, with Hands and Feet, or Hands only, which cannot be parallel'd by any other Sort whatsoever. There is *Conveniency* for above 20 Men to apply their full Strength, and yet reserve both Ends of the Cistern clear from Incumbrance, that others at the same time may be pouring in Water, which drains through large Copper Strainers. The Staves that are fixed through the Leavers, along the Sides of the Engine, for the Men to work by, though very light, as alternate Motions with quick Returns require; yet will not spring and lose Time the least: But the Staves of such Engines as are wrought at the Ends of the Cistern, will spring or break, if they be of such a Length as is necessary for a large Engine, when a considerable Power is apply'd: And cannot be fix'd fast, because they must at all Times be taken out, before That Engine can go through a Passage. The playing two

Streams at once, do neither issue a greater Quantity of Water, nor is it new, or so useful, there having been of the like Sort at the Steel-yard, and other Places, 30 or 40 Years; and the Water being divided, the Distance and Force are accordingly lessen'd thereby: That Way of working not becoming more publick, is a visible Proof, that it doth not answer; for with a very small Addition, any Engine will do the same.

THERE is a Mistake very common among such as are not well acquainted with the Laws of Nature, and the Effects of Mechanical Powers, who imagine, that the more Purchase the Leavers have upon the Forcers in the Barrels (without any Regard to Time) the greater the Performance, both as to Length of the Stream, and Quantity of Water deliver'd; but 'tis well known, that Notion is wrong; for the greater the Purchase is, by applying the operating Power, more distant from the Centre, the slower will the Motion of the Forcers be; which is consistent with all Mechanical Effects; thus, What is gain'd by the Power, is lost in Time.

THOSE who pretend to make the Forcers work in the Barrels, with a perpendicular Stroke, without Rack, Wheels, Chains, Crank, Pully, or the like, by any kind of contrived Leavers, or circular Motion whatsoever, with less Friction, than if guided and work'd by Wheel and Chains, (which of all Methods is the best,) do only discover their Ignorance; they may as reasonably argue, that a great Weight can be dragg'd upon a Sledge, with as little Strength, as if drawn upon Wheels.

THE approv'd Duration of those Chains both from Water and Rust, has been sufficiently experienc'd for some Years, in several Parts of this and other Kingdoms; but to instance some Places at Home, particularly at the Hand-in-Hand, and other Assurance Offices, whose Business it is to be first and last at every Fire that happens in