

W. SPILLMAN.
Making Lead Pipe.

No. 62,450.

Patented Feb. 26, 1867.

Fig. 1

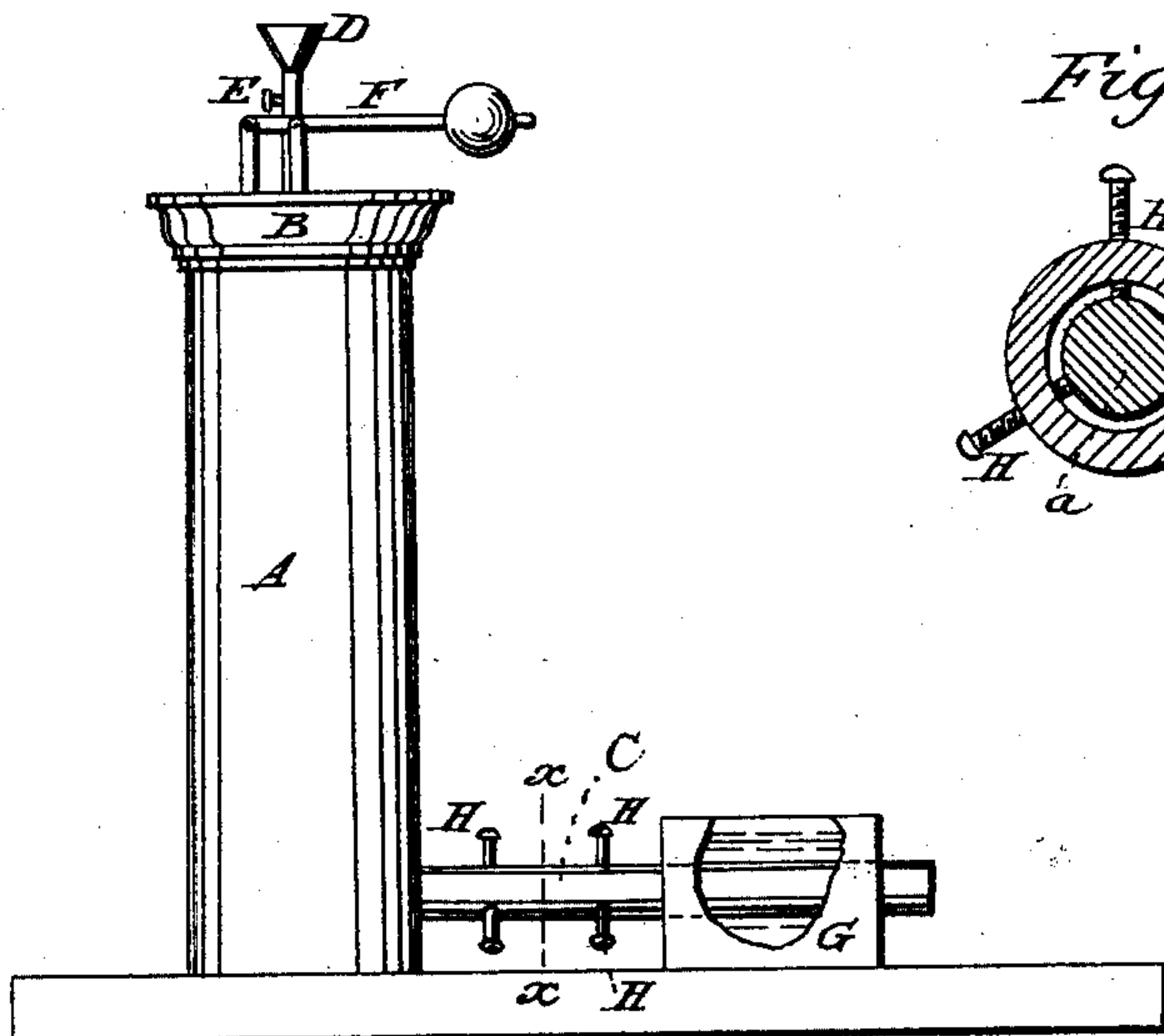


Fig. 3

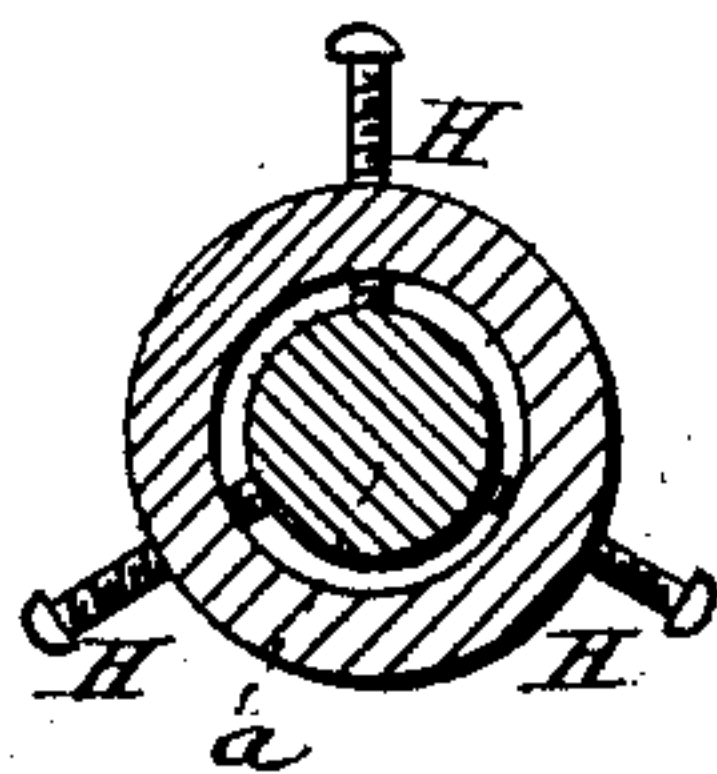
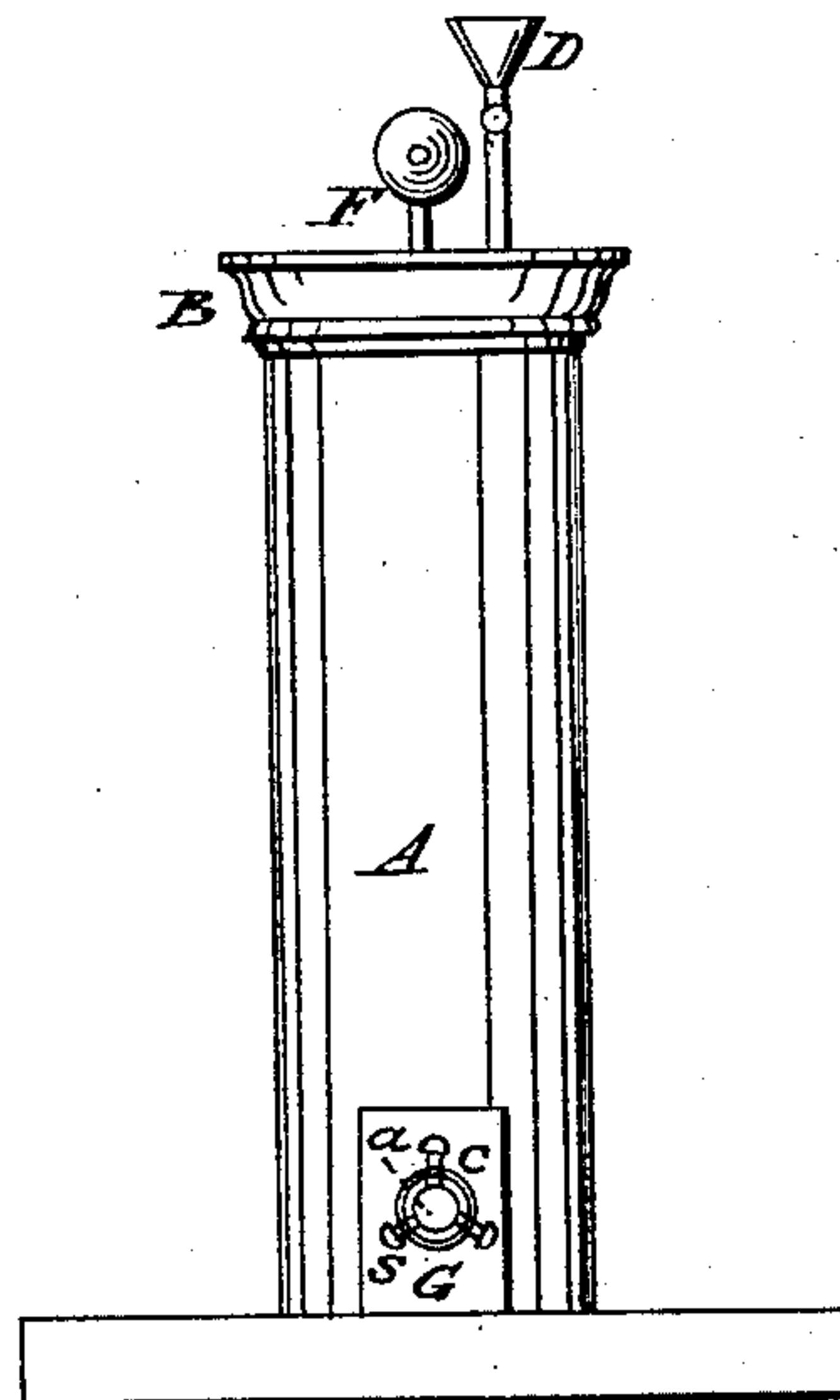


Fig. 2



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WILLIAM SPILLMAN, OF COLUMBUS, MISSISSIPPI.

Letters Patent No. 62,450, dated February 26, 1867.

IMPROVEMENT IN APPARATUS FOR MAKING LEAD PIPE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I WILLIAM SPILLMAN, of the city of Columbus, in the county of Lowndes, and State of Mississippi, have invented a new and improved "Machine or Apparatus for Making Lead Pipe and Solid Bars from Melted Lead;" and that the following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The present invention consists in so constructing the apparatus or machine for making lead pipe and solid bars from melted lead, that all loss by oxidation of the lead, while thus in a melted state, will be prevented. In the accompanying plate of drawings, my said improved machine or apparatus is represented—

Figure 1 being a side view of the apparatus.

Figure 2, an end elevation; and

Figure 3 a transverse section taken in the plane of the line $x x$, fig. 1.

A, in the drawings, represents a metallic cylinder, which may be of such size and length as may be necessary for the amount of lead to be operated on. B the cap or head-plate of the cylinder, through which tube the lead is to be drawn. D a funnel for holding rosin, tallow, or any other suitable material for generating gas, steam, or smoke when let into the cylinder hot. E is a stop-cock, and F a safety-valve. H screws for holding a polished cylindrical metallic rod in the centre of the tube C. G is a water-tank through which the tube C passes. In fig. 3, a illustrates the proper position of the cylindrical metallic rod, and how it is held in its proper position by the screws H H H. In the construction of this apparatus, it is necessary to make a cylinder of cast iron or boiler iron of the size desired. If cast, the lower head may be cast with it, and the upper head well fitted and secured by bolts or otherwise, so as to be air-tight. To this head the funnel and safety-valve should be attached. The tube C, if designed for round bars or pipe, should be bored out and well polished, with the outer end slightly larger than the inner. The tube should be from three to four feet long, so that at least one foot of it at the outer extremity can pass through the water-tank. The rod a , fig. 3, should also be well polished and slightly tapered as far back as the lead would be chilled by the water. This cylindrical rod should be of equal length with the tube C, and with the smaller end outward. For making solid bars the rod a may be dispensed with, and a tube or tubes of the size and shape required attached, always taking care to have the outer end slightly enlarged so far as the lead would be chilled by the water. It is well to here remark that water, even to a boiling heat, will chill the lead sufficiently to draw with safety. A cylinder from three to six feet deep, and the lead raised to a degree of heat sufficient to burn paper (if full) will, if the tubes are properly prepared, force bars or pipes out by its own gravity.

It will be seen, then, that all that is necessary for the successful operation of this machine is to place the cylinder A in a suitable furnace for heating, adjust the tube C, and close the outer end with a metallic stopper, the inner end of which must be made smaller than the cavity of the tube, and so constructed that when the lead chills around it, there will be sufficient attachment to draw the bar out. The furnace should be so constructed that the tube C for its whole length may be kept hot all the time, to the point cooled by its passage through water. Then fill up the cylinder with lead and raise the heat until the lead will burn paper, then pour cold water into the tank G, and commence drawing the chilled bar or pipe. It would be better, however, in all these cases, before applying heat, to screw on the cap or head so as to exclude the air and thereby prevent a loss of lead by oxidization. To force the lead through the tube C, if its own weight should fail to do it, place some rosin, tallow, or other suitable substance for generating gas, smoke, or steam. When the substance used is sufficiently heated to become fluid, turn the stop-cock E, and let a small portion into the cylinder, and weight the safety-valve down so as to give the necessary pressure.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

The funnel D, and stop-cock E, arranged as described, in combination with the cylinder A, tube C, and water-tank G, substantially as and for the purposes set forth.

The above specification of my invention signed by me this day of , 1866.

W. SPILLMAN

Witnesses:

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