

J. ROBERTSON.
Making Sheet Lead.

No. 8,112.

Patented May 27, 1851.

Fig. 1.

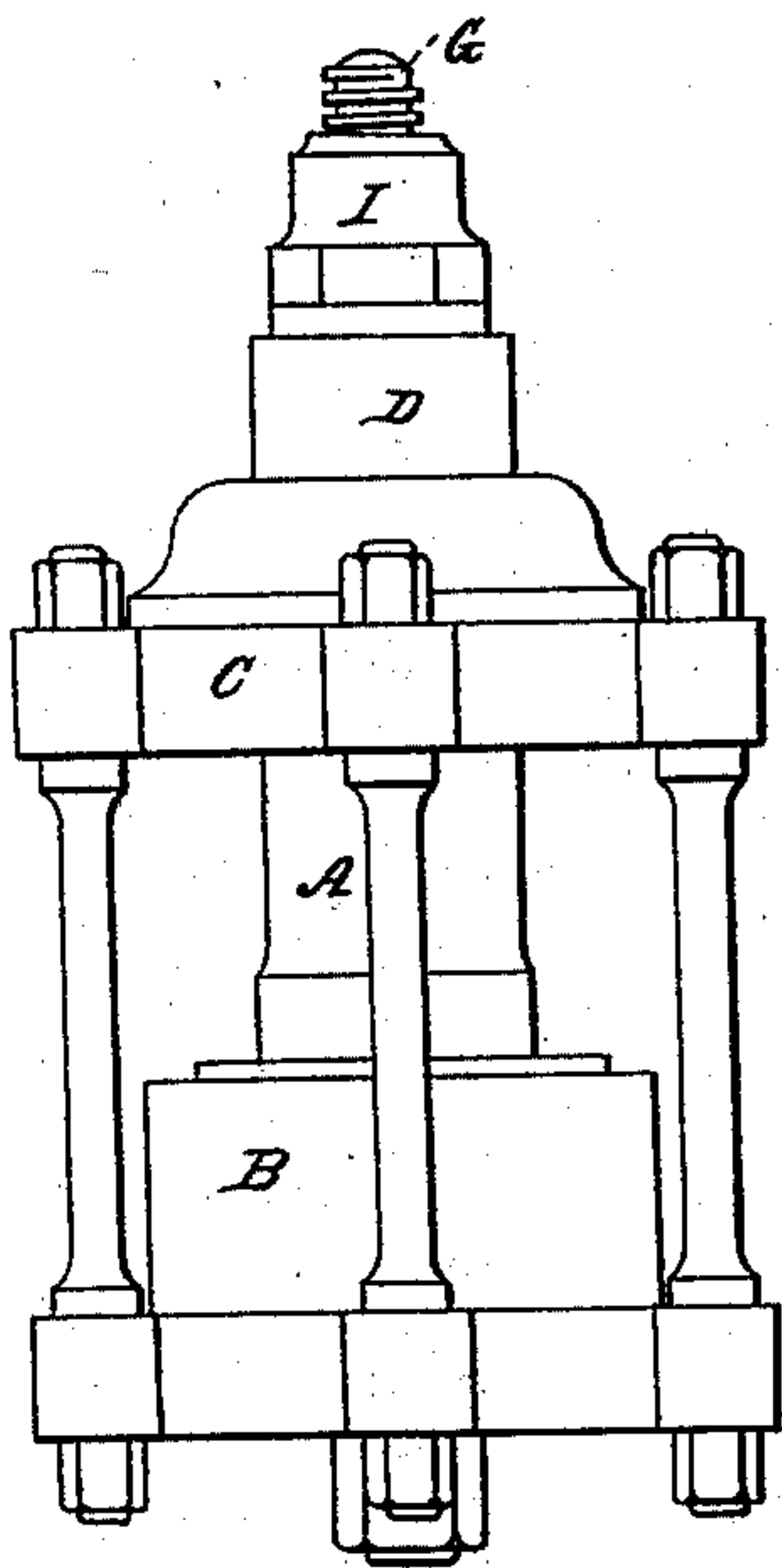


Fig. 3.

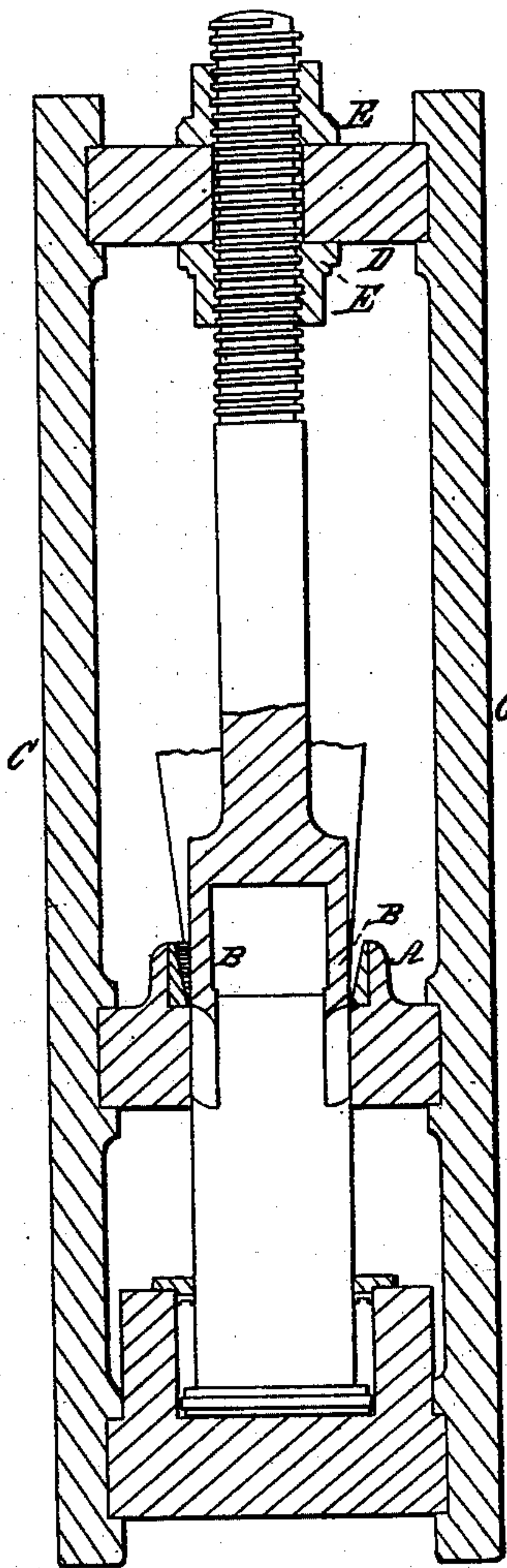
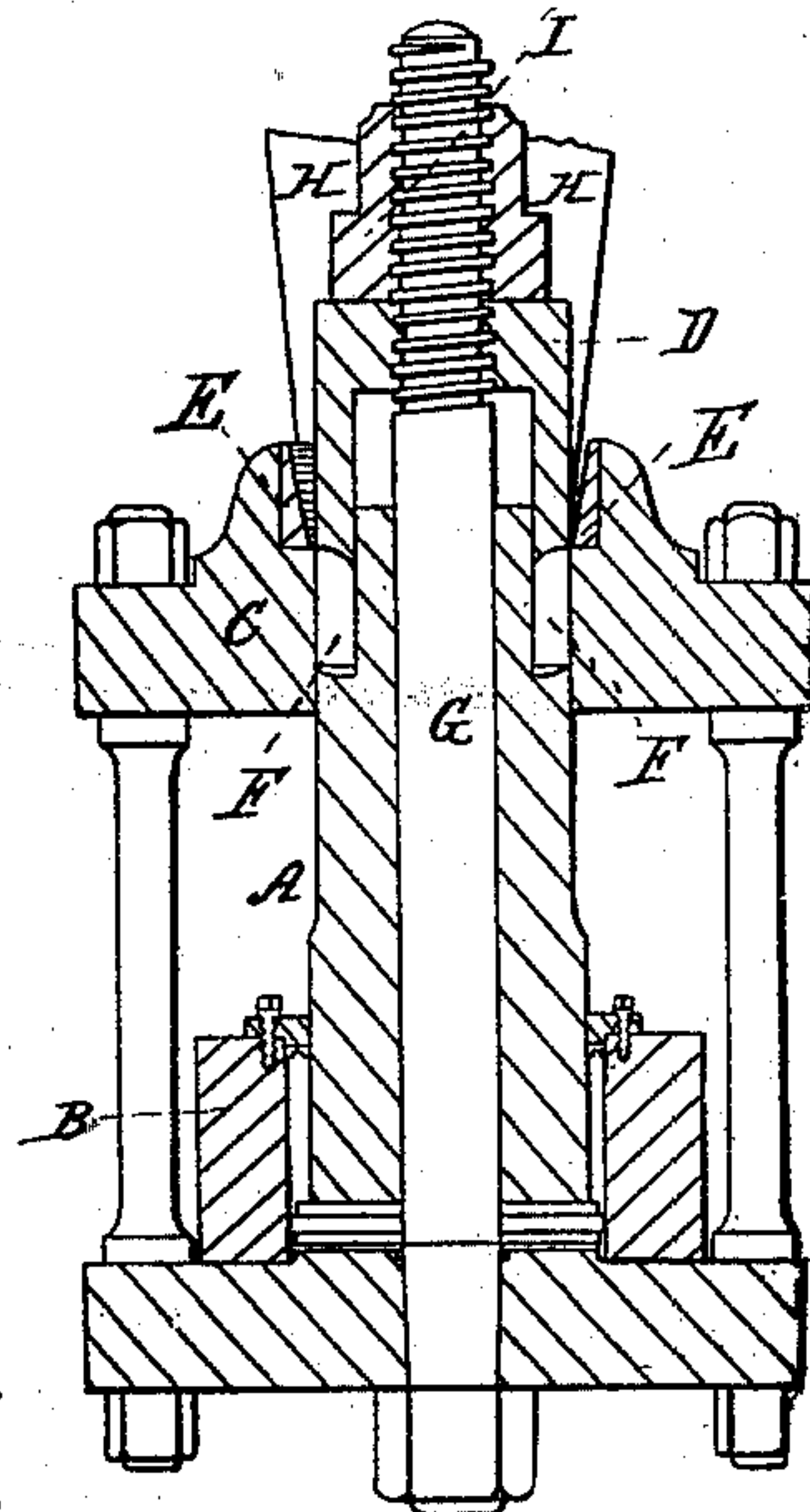


Fig. 2.



UNITED STATES PATENT OFFICE.

JOHN ROBERTSON, OF BROOKLYN, NEW YORK.

COMBINATION OF DIES FOR SHEET-LEAD MACHINES.

Specification of Letters Patent No. 8,112, dated May 27, 1851.

To all whom it may concern:

Be it known that I, JOHN ROBERTSON, of Brooklyn, Kings county, and State of New York, have invented a new and useful Mode of Manufacturing Sheet-Lead, whereby the various thicknesses of sheet lead are produced by two dies only; and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an outside view of the machine; Fig. 2 is a section, and Fig. 3 a modification of a machine for the application of the attachment hereafter specified. Fig. 2 is a sectional view of a hydraulic press and sheet-lead machine A being the water ram, B being the water cylinder, C the top of machine with the lead chamber, F with interior die E for the purpose of thickening the sheet lead, G being a strong wrought iron bolt fixed to the bottom of press and passing through the water ram for the purpose of resisting the pressure and holding and regulating the interior die, H representing the sheet of lead pressed out from the lead chamber. But in machines at present known and used, each time it is required to produce sheet lead of a different thickness a new die is required to replace the former and thus a die is required for every thickness of sheet lead, causing great expense and much labor and time in changing them in a machine which must necessarily be so ponderous in a manufacture of this description, where the dies must be over two feet in diameter. Now the manner in which I accomplish the manufacture of the various thicknesses of sheet lead in contradistinction to this is as follows: The interior die D being placed on the iron binding bolt G is adjusted by screwing it up or down on this bolt and further secured in its proper place by the check nut I on the top of the bolt G. And at the exit of the sheet from the lead chamber F is placed the exterior stationary conical die E, thus completing my invention, from which it will be easily seen that by de-

pressing the interior cylindrical die at any determined height on the bolt G by means of the adjusting screw, the annular opening or distance from the interior and exterior dies will be increased or diminished. Thus the closer the interior die is placed down to the lead chamber F the annular opening for the sheet of lead is made smaller producing a thinner sheet, and the farther it is placed from the lead chamber or nearer the top of the exterior die E the annular opening will be increased producing a greater thickness of sheet lead. The annular sheet of lead is slit or cut by a cutter in the exterior die as the lead passes through and is opened up and received and rolled upon a roller.

Fig. 3 is a different arrangement of a similar machine containing the adjustable interior cylindrical die, and the stationary conical exterior die A and B by which means the lead is pressed out in the same manner as before described, but the interior adjustable cylindrical die B instead of being fastened to the bolt passing through the water ram and fixed to the bottom of press as before described. The framing of press *c c* is extended upwards for the purpose of holding the press top D in which the interior adjustable cylindrical die B is fixed and adjusted by the check nuts E. Fig. 3 is represented not for the purpose of claiming the construction of this press, but simply to show the application of the dies as before described to a press of this construction.

Having thus described my invention and the manner of its application to the foregoing machines for the manufacture of sheet lead what I claim as my invention and desire to secure by Letters Patent is—

The adjustable interior cylindrical and the exterior stationary conical dies in combination and for the purposes described irrespective of the precise manner in which they are applied or by which the adjustment is effected.

JOHN ROBERTSON.

Witnesses:

W. DAVIDSON,
THOS. PROSSER.