(No Model.)

C. C. TRACY.

DIE FOR LEAD PRESSES.

No. 431,295. Patented July 1, 1890.

Fig. 1.

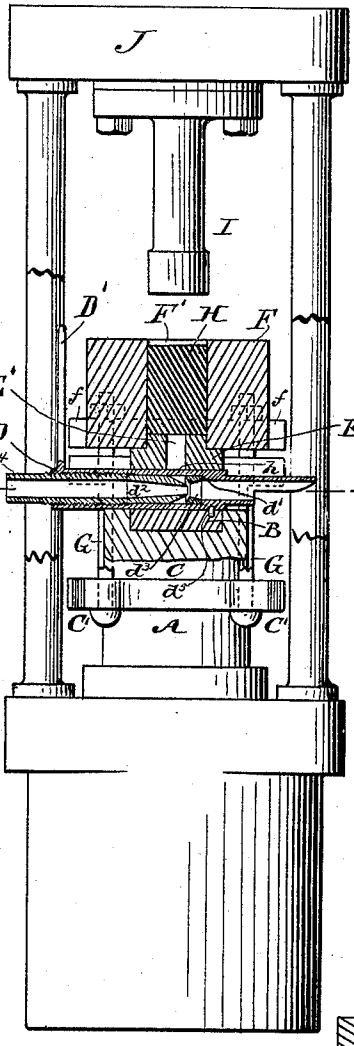


Fig. 4.

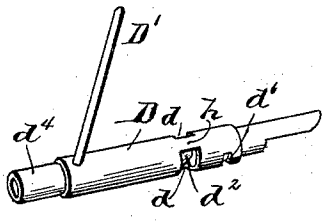


Fig. 3.

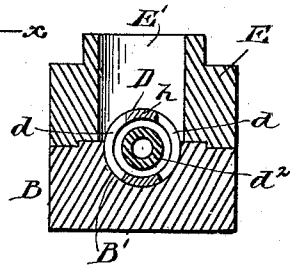


Fig. 5.

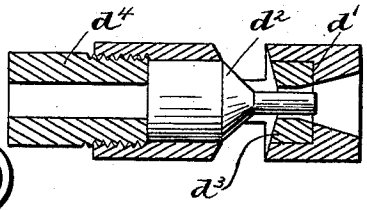
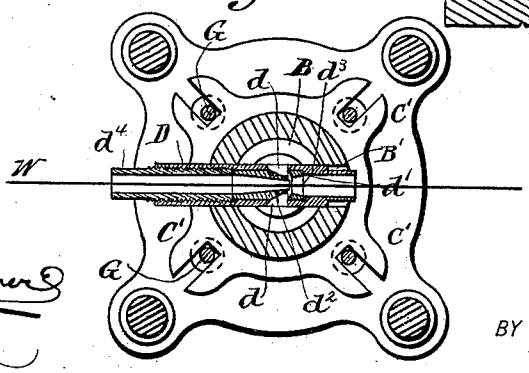


Fig. 2.



WITNESSES:

John W. Dreamer

C. Sedgwick

INVENTOR:

C. C. Tracy

BY Munn & Co.

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHRISTOPHER C. TRACY, OF BROOKLYN, NEW YORK.

DIE FOR LEAD-PRESSES.

SPECIFICATION forming part of Letters Patent No. 431,295, dated July 1, 1890.

Application filed April 11, 1890. Serial No. 347,484. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER C. TRACY, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Dies for Lead-Presses, of which the following is a full, clear, and exact description.

My invention relates to a new and improved die for lead-presses, designed more particularly for covering wire with lead and for making **S**-traps, but may be used for producing other lead articles or products; and the nature of the invention comprises such form of construction of the die and its parts as to enable the attendant to prevent "buckling" of the lead as it issues from the die if a straight and uniform product is to be produced, or to augment the flow as required if a curved pipe or trap is to be produced.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 illustrates, in part, a common hydraulic lead-press, the die being shown in sectional elevation. Fig. 2 is a sectional plan view on the line $x\ x$ of Fig. 1. Fig. 3 is an enlarged transverse section of the die. Fig. 4 is a perspective view of the tubular die and core for covering wire or other objects with lead, and Fig. 5 is a sectional view of the same arranged for making traps or curved products.

The piston A of the press has mounted upon it or applied thereto in any suitable manner a die-block B. This may be fitted in a recess in the base-block C, formed with the slotted lugs C′, and placed on the piston A; or it may be set in a recess in the piston. I use the base-block to permit the removal of the die from the press.

In a curved seat B′ in the block B is fitted the tubular die D. This is formed with side openings d. One end of the tubular die is provided with the shoulder d', and in it is firmly held the core d^2, the point of which passes or is coincident with the openings d, and the said core is by preference made conical and of less external diameter at its end than the die-ring d^3, held by the shoulder d'. This difference in diameter regulates the thickness of the lead pipe or covering, and I shall provide interchangeable cores of varying sizes to be used for different thicknesses of pipe or layers. The core may be held in the tubular die by a follower d^4, secured into the die. If wire is to be covered, this follower should be hollow and also the core; but if lead pipe is to be produced it may be solid, and in the latter case the core may also be solid, as in Fig. 5, instead of hollow, as in the other figures.

Over the tubular die-tube D is placed the cap E, centrally apertured at E′, to coincide with the openings d in the die-tube. Upon the cap E is placed the hollow top block F, formed with slotted lugs f. These correspond with the slotted lugs C′ of the base-block C, and in these lugs are fitted bolts G, to securely hold the top block and base-block and the die-piece between them firmly together. The top block forms the reservoir for lead H, and the opening F′ in said block, in which the lead is placed, is of a size to receive the press-mandrel I, secured to the platen J of the hydraulic press. The die D is adapted to be turned axially in its seat by a lever D′ or otherwise to shift the division piece or bridge h to the right or left to increase or diminish the flow of lead at either side of the tips to prevent buckling, or to form a curved pipe, as required.

For the purpose of limiting the rotary movement of the die a segmental slot d^6 is formed in the tubular die, which engages a stud d^5 in the die-block B.

In operation, to cover wire W or any similar object the same is first passed through the die, as shown in Fig. 2. The top block is then supplied with lead and the press set in action, which causes the mandrel I to press the lead through the openings d, causing it to flow around the conical core d^2, to surround the wire in the die-ring d^3, and feed out through the outer end of the shell. In case of buckling the die D is turned slightly toward the side at which the buckling takes place. This reduces the supply of metal at that side, and prevents buckling. In case a curved product is to be made the tubular die is turned so as to nearly cut off the flow of metal at one side. This causes the tube to

issue in a curve, and by simply reversing the tubular die while the press is still in action a reverse curve will issue from the die. In this manner an S-trap may be produced of most perfect design and at one operation.

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

1. A lead-press die adapted to be rotated in its seat and formed with side openings at which the lead enters the die, and provided with a core coincident with the said openings and of less diameter than the die-ring at the front of the die which forms the exterior of the product, substantially as described.

2. The combination, with a lead-press, of a rotating die formed with side openings, substantially as described.

3. The combination, with a lead-press, of a rotating and hollow die formed with side openings to receive the lead, substantially as described.

4. The die-tube having side openings d, in combination with the core and outer die-ring d^3, substantially as described.

5. The die-tube D, formed with the division piece or bridge h, in combination with a die-ring, and a core central thereto, substantially as described.

6. The die-tube D, held in a seat and formed with the division piece or bridge h, and provided with a core and outer die-ring, in combination with the upper block formed with an aperture E′, substantially as described.

7. The hollow die-tube D, formed with the bridge h, and provided with the tip-core d^2 and outer die-ring, substantially as described.

8. The block B, formed with a seat to receive the die-tube, in combination with the upper block E, formed with the opening E′, substantially as described.

CHRISTOPHER C. TRACY.

Witnesses:
H. A. WEST,
C. SEDGWICK.