May 1, 1923. 1,453,390

H. HELLBERG

SPLASH COUNTERDROP PRESS

Filed Aug. 26, 1921

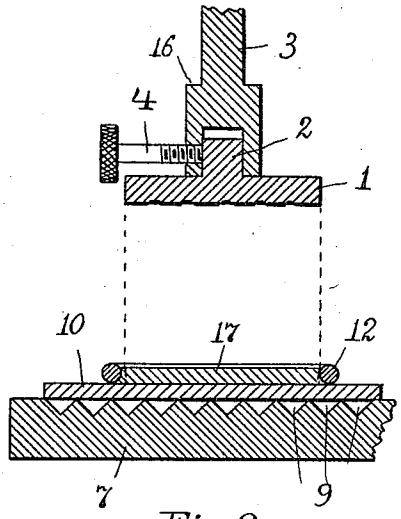


Fig. 2

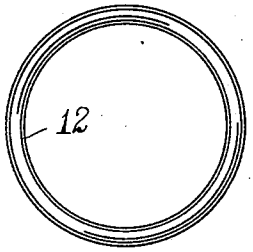


Fig. 3

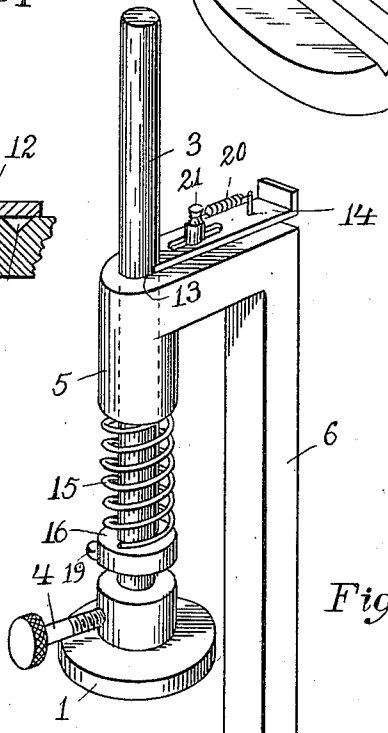


Fig. 1

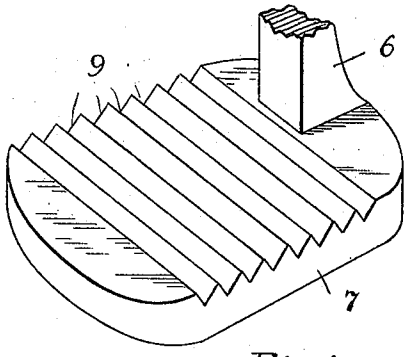
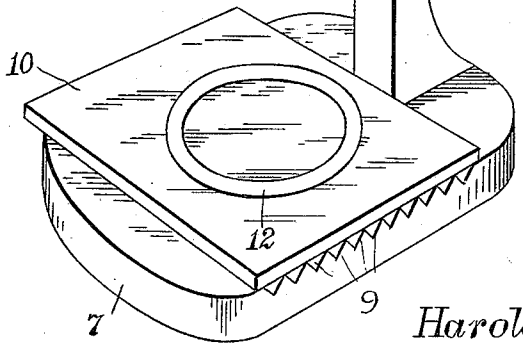


Fig. 4



Inventor,
Harold Hellberg;
By A. B. Upham,
Attorney.

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UNITED STATES PATENT OFFICE.

HAROLD HELLBERG, OF SOMERVILLE, MASSACHUSETTS.

SPLASH COUNTERDROP PRESS.

Application filed August 26, 1921. Serial No. 495,463.

To all whom it may concern:

Be it known that I, HAROLD HELLBERG, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Splash Counterdrop Presses, of which the following is a specification.

The object of this invention is the construction of a mechanism by means of which to handily and accurately produce the male member of a seal press. In doing this I first cut the female die in a well known manner; then attach the same to the lower end of a vertically slidable support; locate a sheet of non-conducting material below the same, and lay upon this sheet a ring having its inner diameter substantially equal to the diameter of the die, so positioning it that the die will descend into it. A suitable molten metal is then poured within the ring, and the die released and permitted to drop forcibly into contact with the molten metal. When the latter has cooled and hardened and the die removed, the suitably impressed male die member is found ready for application to the seal press with its companion female die.

In the drawings forming part of this specification, Fig. 1 is a perspective view of a splash counter drop press embodying my invention. Fig. 2 is a sectional elevation of parts thereof. Fig. 3 is a face view of the ring employed. Fig. 4 is a perspective view of the base of the machine.

As shown in Fig. 2, the female die 1 is provided with a hub 2 adapted to be inserted in the lower end of the spindle 3 by means of a set screw 4. The spindle is vertically slidable in a head 5 supported by a standard 6 rising from a base 7. The portion of the base beneath the die 1 is corrugated, as by grooves 9, and upon the corrugated surface is laid a thin sheet of non-conducting material, preferably asbestos 10. Upon this asbestos mat is placed a ring 12 whose inner diameter is such as to loosely fit the periphery of the die 1, as indicated by the vertical dotted lines in Fig. 2.

The spindle 3 is formed with a notch 13 adapted to be engaged by a slidable lock 14 for holding the spindle and the die poised at a suitable distance above the ring 12, a helical spring 15 located about the spindle between its shoulder 16 and the head 5 serving to both assure and intensify the descent of the die when the lock 14 is withdrawn from the notch 13.

In order accurately to locate the ring 12, the die 1 and spindle 3 are lowered into the ring, so that when the spindle is raised and locked, the ring is left correctly positioned.

The ring being filled with a desired melted alloy 17 and the lock 14 withdrawn, the female die 1 descends instantly, and the work is done.

I prefer to use the non-conducting sheet or mat 10 in order that the molten metal shall remain fluid until after the die 1 descends into it. If a smooth metal surface were used for supporting the ring, there would be danger of the premature hardening of the melted metal. In fact, I find that even with the asbestos mat the metal beneath it conducts the heat away from the same too rapidly, so that I find it best to corrugate the surface of the base, whereby the mat 10 is supported by sharp edges incapable of abstracting heat with any degree of quickness.

It is evident that the face of the die 1 being wholly parallel with the mat 10, the two faces of the male die will also be found to be perfectly parallel, and no machine work will be needed for fitting the same to the press.

To enable the spring 15 to be varied in its degree of effect upon the spindle 3 and the die carried thereby, I prefer to have the shoulder 16 formed as a collar adjustable on the spindle, as by a screw 19, as shown in Fig. 1, whereby to increase the energy of descent of the die member 1, or to decrease the same.

It is more convenient to provide the lock 14 with a light spring 20 anchored at one end to a screw 21 which passes through a slot in the lock into the standard and controls the movement of the latter, and anchored at its other end to a pin rising from the lock itself, by means of which the lock is made to snap into engagement with the notch 13 the instant the spindle 3 is raised to its upper position.

What I claim is:

1. A die forming mechanism comprising a base having a horizontal supporting surface, a standard, a spindle slidably supported by said standard to descend vertically toward said surface and having means at its lower end for carrying a die member, and a wire ring removably supported upon said

surface and loosely fitting the periphery of said die member.

2. A die forming mechanism comprising a base having a horizontal supporting surface, a standard, a spindle slidably supported by said standard to descend vertically toward said surface and having means at its lower end for carrying a die member, a sheet of non-conducting material covering said surface, and a ring supported by said sheet and loosely fitting said die member, said supporting surface being grooved to reduce heat-transmission between it and said sheet.

In testimony that I claim the foreging invention, I have hereunto set my hand this 24th day of August, 1921.

HAROLD HELLBERG.