

(No Model.)

R. H. SMITH.
SEAL PRESS.

No. 286,496.

Patented Oct. 9, 1883.

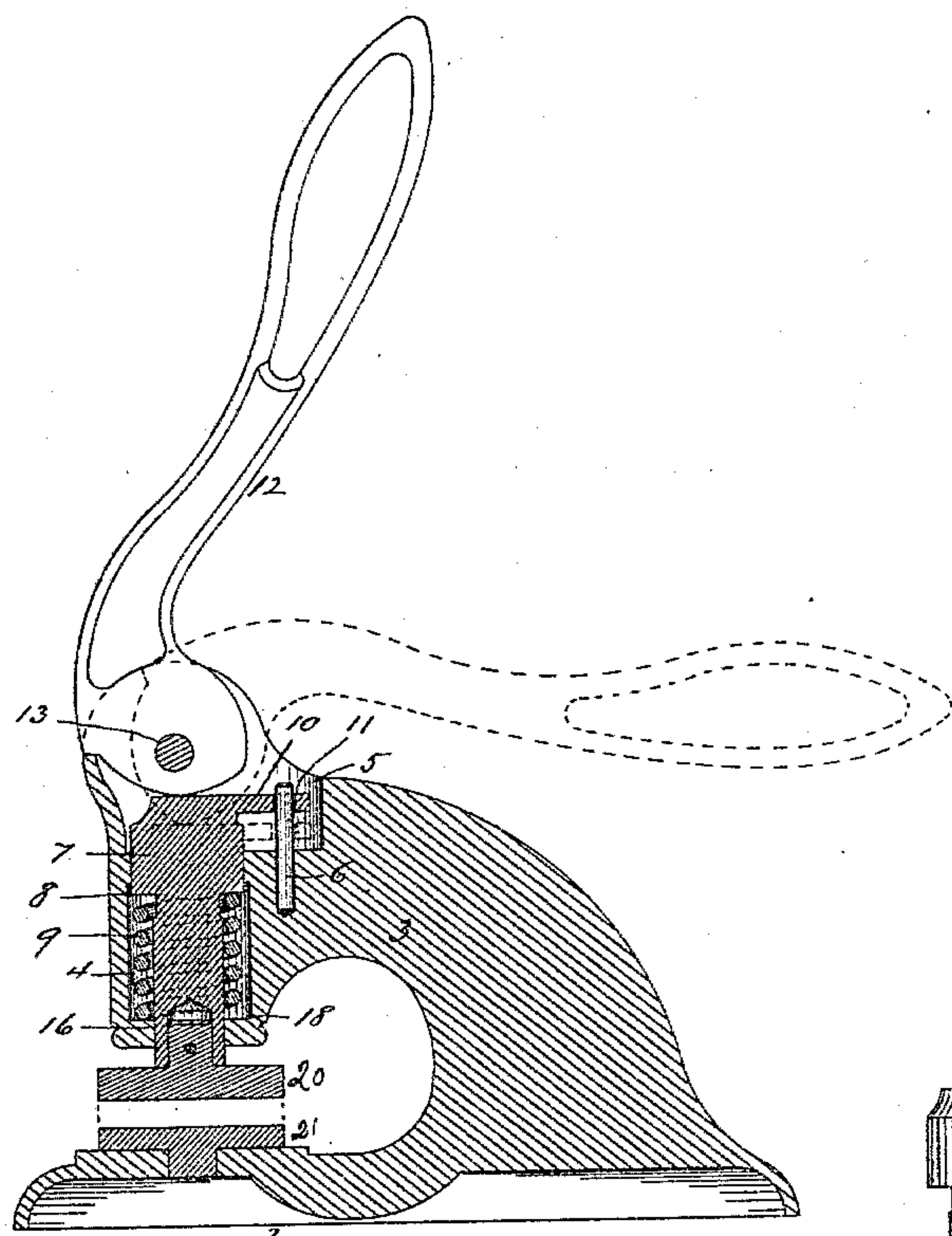


Fig. II

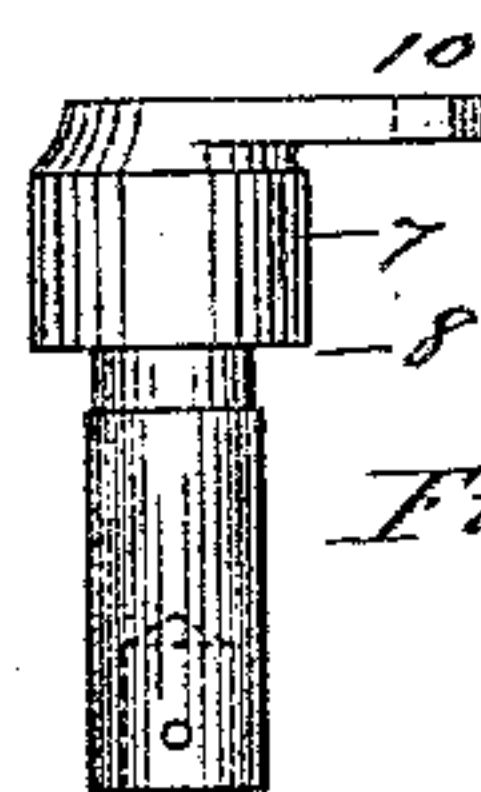


Fig. III

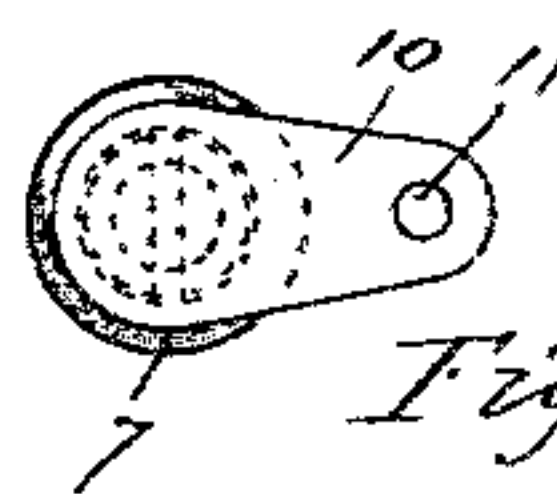


Fig. IV

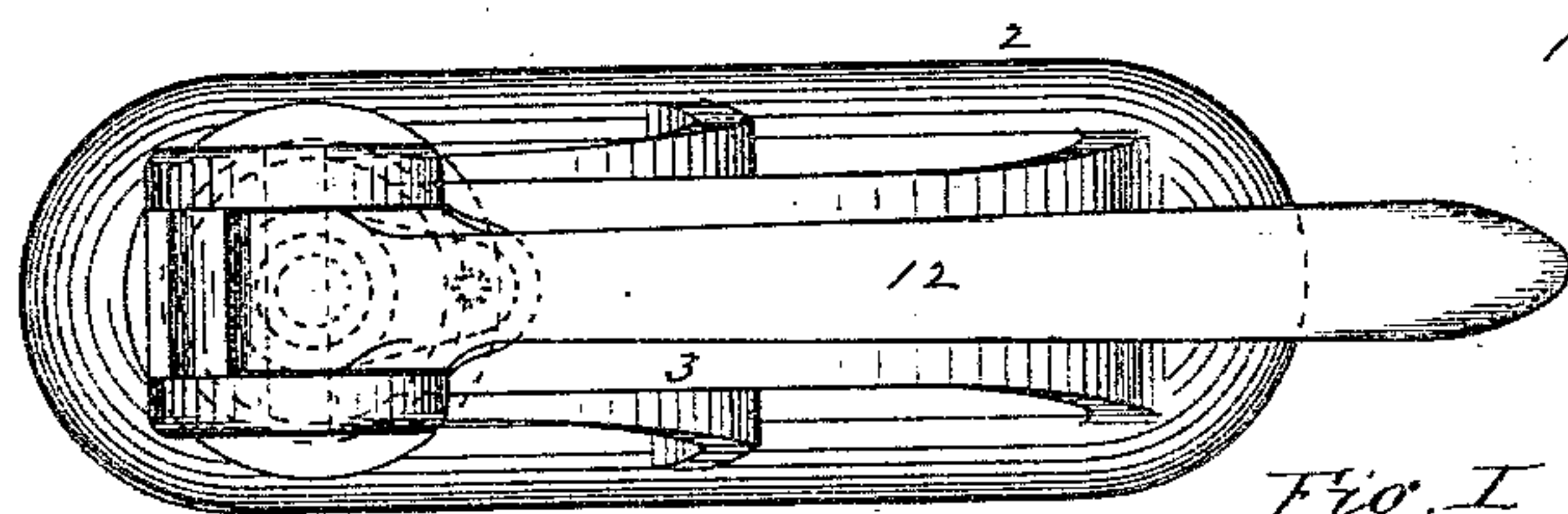


Fig. I

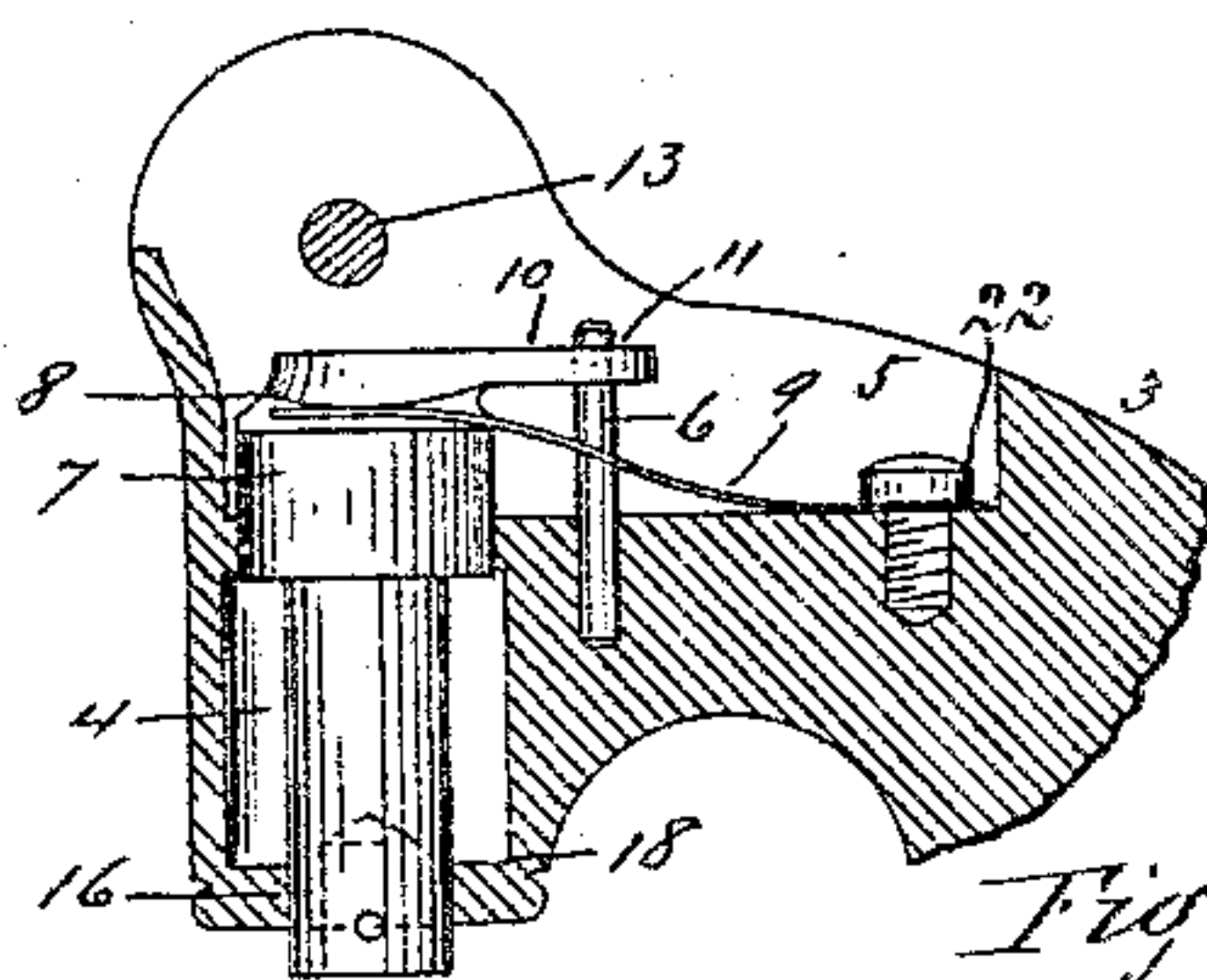


Fig. V

Witnesses.

George V. Curtis
A. B. Dennis

Inventor.

R. Hale Smith.
By T. A. Curtis,
his Atty.

UNITED STATES PATENT OFFICE.

R. HALE SMITH, OF SPRINGFIELD, MASSACHUSETTS.

SEAL-PRESS.

SPECIFICATION forming part of Letters Patent No. 286,496, dated October 9, 1883.

Application filed March 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, R. HALE SMITH, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Seal-Presses, of which the following is a specification and description.

The object of my invention is to provide a seal-press whose die-plunger may have a vertical movement in the line of its axis and of the axis of the recess in which it moves in forcing the die against the counter-die, and without undue tilting of the plunger against its bearings, and I accomplish this by the mechanism substantially as hereinafter described, and illustrated in the accompanying drawings, in which—

Figure I is a plan view of a seal-press having my invention applied thereto. Fig. II is a vertical longitudinal section of the same at the axis of the plunger. Fig. III is a side view of the plunger. Fig. IV is a plan view of the same, and Fig. V is a sectional view of a modification of the invention.

In the drawings, 2 represents the base of a seal-press made according to my invention, and 3 represents the arm in whose end and from the top is made a vertical recess, 4, and in rear of this and connected therewith is a cavity, 5. This recess 4, I prefer should be made of cylindrical form in cross-section, and may be cast therein, so that a small portion of its interior surface near the upper end may be bored out smooth, and this recess extends down to a horizontal interior shoulder, 18, and a smaller hole is made at 16 through the lower part of the arm and below the cavity 4. I secure a small rod, 6, in the arm in the bottom of the recess 5, which rod projects upward into the recess, as shown clearly in Fig. II.

I make the plunger 7 cylindrical, with a portion thereof near its upper end made smooth and fitted snugly into the upper smoothed portion of the recess 4, but so as to have a free vertical movement therein. A horizontal guide-piece, 10, is made upon the upper end of this plunger, and projects rearward, with a vertical hole, 11, made therein, through which the rod 6 extends when the parts are in place. The plunger has a horizontal shoulder,

8, near its upper part, and I make this plunger of smaller diameter below this shoulder, with its lower end to have a sliding bearing in and project through the hole 16 below the recess 4, and adapted to have a die, as 20, secured to its lower end, to operate in connection with a counter-die, 21, secured to the base of the press beneath the die.

In putting the parts in position, I place a spiral spring, 9, of a proper size to receive the lower and smaller portion of the plunger within the recess 4, and insert the plunger into this spring and recess 4, with its lower end projecting through the hole 16, and with the upper end of the rod 6 inserted through the hole 11 in the horizontal guide-piece 10 of the plunger. The ordinary operating cam-lever, 12, is pivoted in place at 13, and the die 20 secured to the lower end of the plunger, and the machine is ready for use.

It will be seen that as the spring 9 bears upward against the shoulder 8 on the plunger, its operation is to move the plunger upward after each downward movement of the latter in the line of its axis, and without any tendency to tilt the plunger out of this line of movement, while the guide-rod 6, as the guide-piece 10 slides thereon, operates to keep the plunger in its true vertical position, so that said plunger has a true concentric movement in its bearings.

It will also be seen that the only parts of the device which require to be smoothly finished for bearing-surfaces are the upper and lower parts of the plunger, the bearing 16, the upper part of the recess 4, and the rod 6, with the hole 11 through the guide-piece 10, the other parts being allowed to remain as originally cast.

In the modification shown in Fig. V the flat spring 9 is secured to the arm at 22, and is forked at its free end, and strides the upper end of the plunger 7 and presses upward against the shoulder 8 to force the plunger upward, and the rod 6 projects upward through an opening in the flat spring 9 and through the hole 11 in the guide-piece 10 to guide the plunger in its vertical movement.

In the ordinary construction of seal-presses the actuating-spring is placed beneath and to

bear against the guide-piece projecting from the rear of the plunger, and the result is that the plunger while being actuated upward by the spring is also given a tilting movement, 5 thereby causing it to move against one side of its lower bearing and against the opposite side of its upper bearing, and as there is no guide-rod 6 in the ordinary construction, the guide-piece of the plunger moves against the sides 10 of the cavity 10, which in this tilting movement of the plunger, as the latter and its bearings become worn, does not guide the plunger properly. In the use of my device, however, these objections do not exist, as all the move- 15 ments of the plunger are made in a direct line with its axis, and the result is that the letters and devices made on and in the die and counter-die are much better preserved and are not

bruised and mutilated by any imperfect movements of the plunger. 20

Having thus described my invention, what I claim as new is—

The combination, with the arm of a seal-press provided with a plunger-recess, of a plunger located in said recess, a cam-lever to move the 25 plunger downward, an actuating-spring secured in said arm to move the plunger upward, a projecting guide-piece on said plunger, and a guide-rod secured in said arm engaging with said guide-piece of the plunger, 30 substantially as and for the purpose set forth.

R. HALE SMITH.

Witnesses:

T. A. CURTIS,
G. V. CURTIS.