R. E. BECKERT.

SEAL PRESS, &c.

APPLICATION FILED OCT. 15, 1921.

1,399,735. Patented Dec. 13, 1921.

Fig. 1.

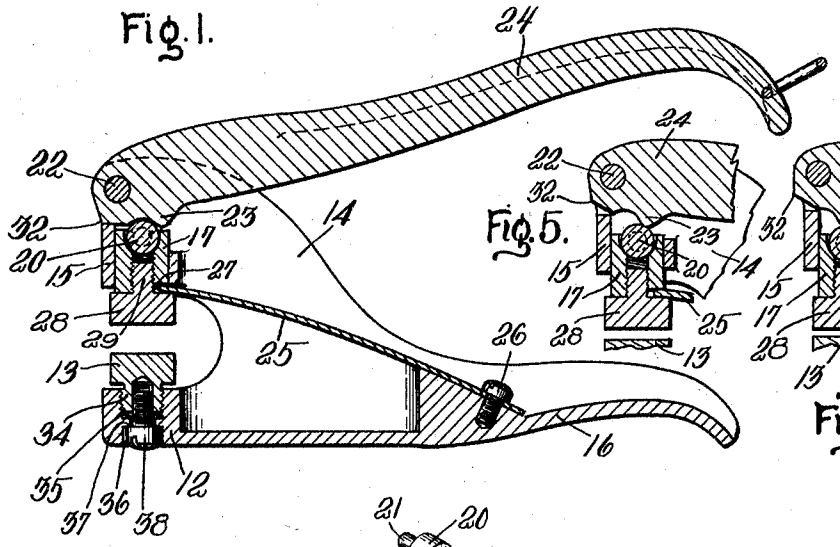


Fig. 5.

Fig. 6.

Fig. 2.

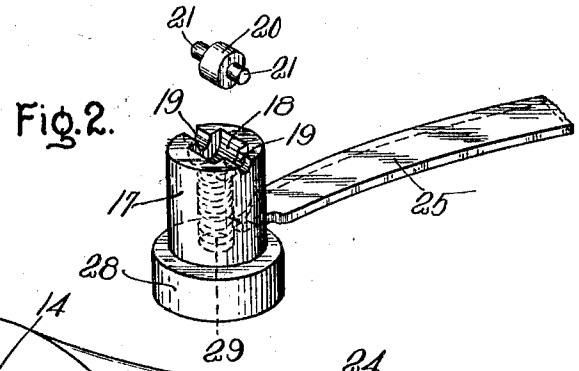


Fig. 3.

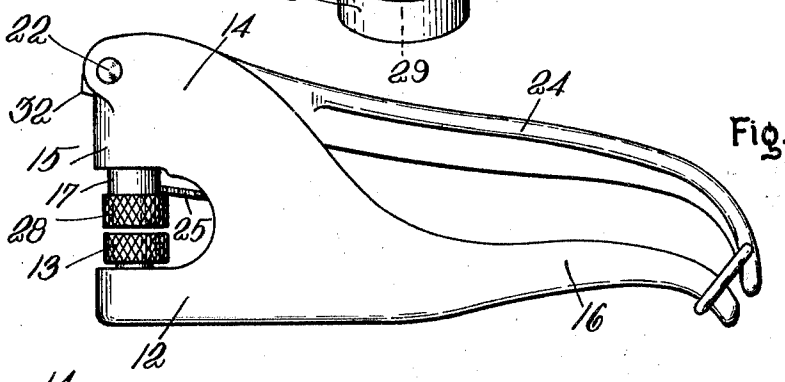
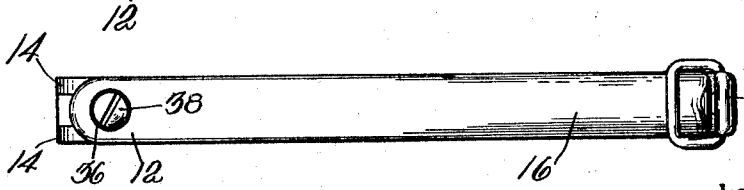


Fig. 4.



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UNITED STATES PATENT OFFICE.

RICHARD E. BECKERT, OF REVERE, MASSACHUSETTS.

SEAL-PRESS, &c.

1,399,735. Specification of Letters Patent. Patented Dec. 13, 1921.

Application filed October 15, 1921. Serial No. 597,821.

To all whom it may concern:

Be it known that I, RICHARD E. BECKERT, a citizen of the United States, residing at Revere, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Seal-Presses, &c., of which the following is a specification.

This invention relates to an implement which comprises a body, two coöperating dies adapted to compress a lead seal, or to perform other work, one of said dies being a lower die fixed on the body, and the other and upper die, movably engaged with the body, a lever which is manually movable to force one die toward the other, and a spring adapted to yieldingly raise the movable die and the lever, the arrangement being such that when the lever is moved against the force of the spring the upper die is forced toward the lower die, and the dies are caused to coöperate in performing their function, which may be the compression, and marking for identification, of a lead seal used with a length of wire in sealing freight cars, meters, etc.

The invention is embodied in certain improvements hereinafter described and claimed, having for their object increased efficiency and desirability of an implement characterized as above stated, whether adapted for pressing and marking lead seals, or for other analogous uses.

Of the accompanying drawings forming a part of this specification,—

Figure 1 is a sectional view of an implement embodying the invention, adapted for use as a seal press, the upper die being raised.

Fig. 2 is a fragmentary perspective view, showing the upper die, the plunger which carries the die, the anti-friction roll carried by the plunger, and a portion of the spring, the roll being separated from the plunger, and the parts shown being considerably enlarged.

Fig. 3 is a side elevation, showing the upper die depresed to the limit of its acting movement.

Fig. 4 is an edge view of the implement.

Figs. 5 and 6 are fragmentary sectional views, showing different positions of the upper die.

The same reference characters indicate the same parts in all of the figures.

An implement embodying the invention, when adapted for use as a seal press, comprises a body which includes a die-holding portion 12, having a lower die 13, a standard preferably formed by spaced apart upstanding ears 14, and provided with a tubular plunger guide 15, and a handle portion 16. A plunger 17 movable in said guide, is provided with a recess 18 in its upper end, and with open bearings 19 at opposite ends of the recess. 20 represents an anti-friction roll, having trunnions 21, said roll and trunnions being adapted to be dropped loosely into the recess and bearings.

The periphery of the roll is slightly spaced from the wall of the recess, so that the friction developed by the rotation of the roll is borne wholly by the trunnions 21 and bearings 19. The axis of rotation of the roll 20 is at right angles with the longitudinal axis of the plunger, and in the same plane, the upper portion of the roll projecting above the plunger.

Fulcrumed by a pin 22 to the standard ears 14, is a lever which includes a cam 23 and a handle 24. The cam forms the short arm, and the handle the long arm, of a member, which is, in effect, a bell-crank lever. 25 represents a spring fixed at one end by a screw 26 to the body, and projecting at its free end into a recess 27 in the plunger. The spring is adapted to yieldingly raise the plunger and prevent it from turning in the guide, so that the axis of the roll is maintained in a position parallel with the fulcrum pin 22. The spring acts through the plunger and roll to yieldingly raise the lever and hold it normally in the position shown by Fig. 1.

An upper die 28 is secured to the plunger, preferably by means of a screw-threaded shank 29. When the plunger and lever are fully raised, as in Fig. 1, the cam 23 is at one side of the axis of the roll, the upper portion of the roll being above the nose of the cam. When the lever is depressed by the operator, the cam swings toward the longitudinal axis of the plunger, and in swinging from the position shown by Fig. 1, to that shown by Fig. 5, imparts a relatively quick downward movement of considerable amplitude to the roll and plunger, this movement being sufficient to seat the upper die 28 on a lead seal interposed between the two dies. While the

lever is moving from the position shown by Fig. 5, to that shown by Fig. 6, the relative positions of the nose of the cam and the periphery of the roll are so changed that the cam imparts a slower downward movement to the roll and plunger, this movement being of less amplitude than the movement to the position shown by Fig. 5, and sufficient to cause the compression of the seal. The cam in swinging from the position shown by Fig. 5, to that shown by Fig. 6, exerts an increased leverage or force on the upper die, so that the muscular force of the operator is advantageously exerted while the seal is being compressed, this being an important advantage. Another important advantage results from the fact that a minimum separation of the handles 16 and 24 is permitted when the handle 24 is raised, the said handles being so arranged relatively to each other, that the operator's hand may be conveniently and effectively closed upon them in operating the implement. This is due to the fact that the initial downward movement of the handle 24, effected while the cam is moving from the position shown by Fig. 1, to that shown by Fig. 5, causes a downward movement of the plunger which is greater in proportion to the movement of the handle than the final movement effected while the cam is moving from the position shown by Fig. 5, to that shown by Fig. 6.

The lever is provided near its fulcrum with a stop portion 32, which abuts against a stop portion formed by the upper end of the guide 15, and limits the upward movement of the lever, so that the lever prevents the loose roll 20 and its trunnions from dropping out of the recess 18, and bearings 19, regardless of the position of the implement, the roll being removable only when the lever is detached from the standard ears. I am therefore enabled to conveniently install and confine the roll by dropping it and its trunnions into the recess 18 and bearings 19, and then connecting the lever with the standard ears, by driving in the fulcrum pin 22.

The lower die 13 and the die-holding portion 12 of the body are preferably provided with means for adjusting the lower die and locking it in any adjusted position. To this end the lower die is provided with a tubular nipple 34, which is externally and internally screw-threaded. The holding portion 12 is provided with a socket 35, having an internal thread engaging the external thread of the nipple, so that rotation of the lower die adjusts said die vertically. The holding portion is also provided with an outwardly facing abutment 37. Said abutment, as here shown, is at the inner end of a recess 36. 38 represents a locking screw, the threaded shank of which is engaged with the internal thread of the nipple 34. The head of the screw is adapted to be seated on the abutment 37. In adjusting the lower die the screw 38 is first loosened, the die is adjusted by rotating it, and the screw is then turned to a bearing on the abutment 37 to lock the die.

I claim:

1. An implement comprising a body including a die-holding portion, provided with a lower die, a handle, and a standard provided with a plunger guide; a plunger movable in said guide and provided with an upper die, and with an anti-friction roll, whose axis of rotation is in the plane of, and at right angles with the longitudinal axis of the plunger; a lever fulcrumed on the standard and including a cam forming a short arm, and a handle forming a long arm, said arms constituting in effect a bell-crank lever; and a spring adapted to yieldingly raise the plunger and the lever; the form and relative arrangement of said cam and roll being such that when the plunger and lever are raised, the cam is at one side of the axis of the roll, and when the lever is depressed, to depress the plunger and its die, the cam swings to a position above said axis, whereby the leverage or depressing force exerted by the cam on the roll, the plunger, and the upper die, increases when the upper die, in approaching the lower die, contacts with work interposed between the dies, and whereby the cam is caused to impart a relatively quick initial movement and a slower final movement to the plunger, so that a minimum separation of the said handles, when the lever is raised, is permitted.

2. An implement substantially as specified by claim 1, the said plunger being provided with open bearings, and with a recess between the bearings, and the said roll being provided with trunnions, the roll and trunnions being adapted to be loosely inserted in said recess and bearings, the plunger guide and the lever being provided with complemental stops which so limit the upward movement of the lever, that the lever prevents removal of the roll and its trunnions from the recess and bearings in the plunger.

3. An implement substantially as specified by claim 1, the said plunger being provided with a recess receiving the free end of the spring, the form and arrangement of the spring being such that the spring prevents rotation of the plunger in the guide, and maintains the axis of the roll parallel with the axis of the lever.

4. An implement of the character described, comprising a body having a die-holding portion, and a standard provided with a plunger guide; a plunger movable in said guide, and provided with an upper die; a level fulcrumed on the standard and adapted to depress the plunger and its die, means being provided for yieldingly raising said plunger and die; and a lower die; said

die-holding portion and lower die being provided with die-adjusting and locking means, embodied in a tubular externally and internally threaded nipple on the lower die, an internally threaded socket in the said die-holding portion, engaging the external nipple thread, an outwardly facing abutment on the die-holding portion, and a locking screw having a head adapted to be seated on said abutment, and a threaded shank engaging the internal thread of the nipple.

In testimony whereof I have affixed my signature.

RICHARD E. BECKERT.

Correction in Letters Patent No. 1,399,735.

It is hereby certified that in Letters Patent No. 1,399,735, granted December 13, 1921, upon the application of Richard E. Beckert, of Revere, Massachusetts, for an improvement in "Seal-Presses, etc.," an error appears in the printed specification requiring correction as follows: Page 2, line 127, claim 4, for the word "level" read *lever;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 17th day of January, A. D., 1922.

[SEAL.]

KARL FENNING,

Acting Commissioner of Patents.