

(No Model.)

E. J. BROOKS

SEAL PRESS.

No. 326,897.

Patented Sept. 22, 1885.

Fig. 1.

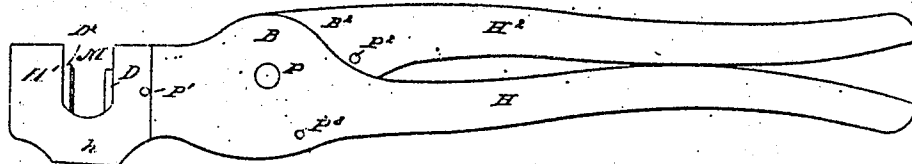


Fig. 2.

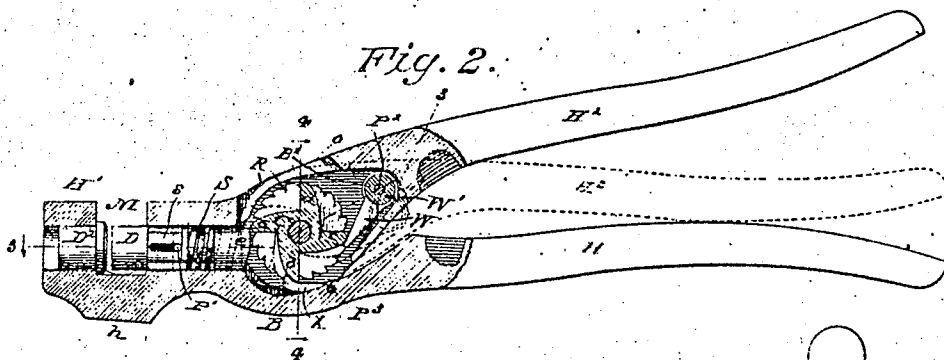


Fig. 3.

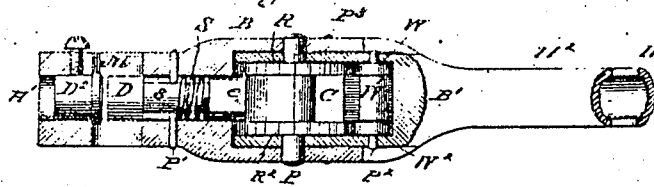


Fig. 4.

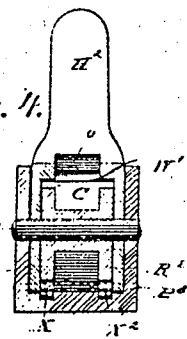
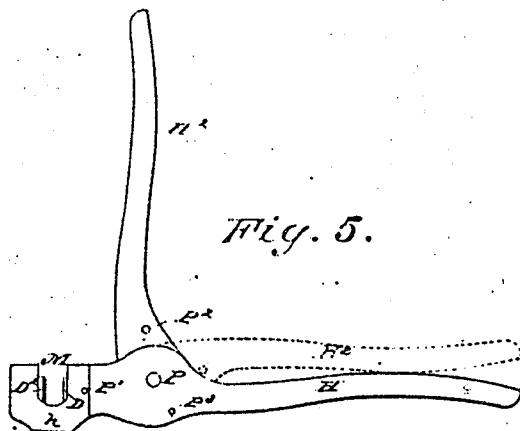


Fig. 5.



Witnesses

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SEAL-PRESS.

SPECIFICATION forming part of Letters Patent No. 326,897, dated September 22, 1885.

Application filed February 28, 1885. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. BROOKS, a citizen of the United States, residing at East Orange, in the State of New Jersey, have invented a new and useful Improvement in Seal-Presses, (Ratchet-Die,) of which the following is a specification.

This invention relates to improvements on my "ratchet" seal-press for thoroughly compressing or punching and stamping all those seals which are so fastened or secured, patented May 6, 1884, (United States Patent No. 292,284.)

The present invention consists in certain novel combinations of parts, hereinafter described and claimed. Its objects are, first, to insure fully pressing each seal without having to reverse the motion of the die-advancing cam, and at the same time to facilitate carrying and applying the preferred form of press by rendering its lever-handles normally closed together and its dies normally separated or "open;" secondly, to provide for pressing each seal by more than one movement of the actuating lever-handle without permitting incomplete pressing operations; thirdly, to provide for several pressing operations during one rotation of the cam, and by the same means to quicken each pressing operation and distribute wear, so as to increase the "life" of the press; fourthly, to equalize strain on the parts, and at the same time aid in preventing fraudulent manipulation of the press, and, fifthly, to provide a die-press having a pair of lever-handles substantially in line with the dies, and normally closed together with a hammer-face in such a manner as to brace the head of the press and resist the bursting strain within its mouth at each pressing operation.

A sheet of drawings, showing this invention embodied in a seal-press having a pair of dies, as aforesaid, accompanies this specification as part thereof.

Figure 1 of these drawings is a side view of the seal-press in normal condition. Fig. 2 is a sectional side view thereof, showing its movable parts in different positions by full and dotted lines, so as to illustrate the pressing operation. Fig. 3 is an edge view of the die end of the press, partly in longitudinal section on the line 3 3, Fig. 2. Fig. 4 represents a cross-section on the line 4 4, Fig. 2. Fig. 5 is

a side view on a smaller scale, illustrating by full and dotted lines the full stroke of the die-actuating lever-handle.

Like letters of reference indicate the same parts in all the figures.

The external parts of this ratchet-movement die-press are formed by two light castings, preferably of malleable iron, one comprising a rigid lever-handle, H, a recessed body, B, and a recessed head, H', while the other forms the movable lever-handle H', with a recessed body part, B', which fits within said body B.

A strong pivot-pin, P, unites the two castings, extending for this purpose through the side walls of said body B and said body part B', and forms the center upon which the movable handle H' oscillates; and upon this pin, within said body part B', a rotary cam, C, is loosely mounted, the same having preferably four wings, (marked, respectively, a, b, c, and d in Fig. 2,) each terminating in a deep shoulder, which is radial, or substantially radial, to the pin. A pair of ratchet-wheels, R R', rigidly united with the respective ends or sides of the rotary cam C, are acted on by working-pawls W W', Figs. 2 and 3, which are pivoted by a pin, P', parallel with said pin P' within said body part B', so as to move with said movable handle H', and are provided with tail-springs, which bear against solid portions of said body part, as shown in Fig. 2. Said pawls are kept apart by a washer-sleeve, W', on the pin P', and work independently of each other, but simultaneously, if all the parts are in working condition. A pair of detent-pawls, X X', Figs. 2 and 4, in mesh with the respective ratchet-wheels, and each having a tail-spring, are pivoted on a third pin, P'', parallel with the others within the body B, so as to be stationary relatively to said pawls W W'.

A pair of dies, D D', respectively sliding and fixed, occupy cylindrical bores in line with each other, extending inward through the head H' and body B to the cavity of the latter, and separated by the seal-admitting mouth M, within which the inner or face ends of the dies are located. The inner end, e, of the sliding die D is so shaped as to coact properly with the wings a b c d of said cam C, and between this end and its face end a contracted and slotted shank, s, is

formed to receive a spiral spring, S, and an abutment-pin, P, which provide for retracting the die D as soon as it is released by the cam C at the end of each pressing operation. A retracting spring may be applied instead in the manner represented at s in said patent of May 6, 1884.

The head H' is further constructed with a hammer-face, h, formed by a projection diametrically opposite the mouth M, so that the latter may be large and unobstructed, as represented, and at the same time the strain within the mouth at each pressing operation is successfully resisted, while the press with its normally-closed lever-handles may be conveniently used as a hammer by which to tack on ear-cards—an operation ordinarily performed by the sealer.

The duplicated ratchet-wheels R R' and pawls W W' X X' equalize strain on the cam C in operation, by equally distributing it, and at the same time aid in preventing fraudulent manipulation, as aforesaid, by necessitating the simultaneous control of four distinct pawls in order to successfully tamper therewith.

The wings a b c d of said cam C act successively on the inner end, e, of the sliding die D, in the manner represented in Fig. 2, and, owing to their multiplicity, wear is distributed, and its effect thus reduced, as aforesaid, while with four wings, each corresponding in effective movement with the full stroke of the movable lever-handle H', as represented in Fig. 5, each pressing operation may be completed by a single movement of said handle.

Full strokes of the lever-handle H' may be insured by known pawl-and-ratchet devices—such, for example, as the one shown in said patent of May 6, 1884—so that the cam C shall always stop in proper position for the succeeding operation; but apart from the latter it is advantageous that sealers be permitted to make more than one stroke of the handle, so as to use the latter in the position most convenient to each. And this is provided for in my present seal-press, as shown in the drawings, without permitting incomplete pressing operations, as aforesaid, owing to the coaction of the lever-handle H' with its body part B', the working-pawls W W', ratchet-wheels R R', detent-pawls X X', winged cam C, and die D, as already described. Referring to Fig. 2, it will be seen that by oscillating said handle H' the cam C may be turned a greater or less distance at each stroke, but only forward, and the seal cannot be released by retracting the die D or permitting it to recede until said cam has turned forward to the position in which it is represented by dotted lines in Fig. 2, or a corresponding position, in reaching which the summit of a cam-wing—a, for example—must pass behind the die en l e, thus fully pressing the seal that is in the mouth M.

As soon as a seal is fully pressed it is instantaneously released by the retraction of the die D by said spring S, the radial shoulders

of the cam C permitting such retraction, and if the pressing was done by a full stroke of the lever-handle H', or one tooth of each ratchet-wheel at a time, the handles are closed at its end, as represented in Fig. 1, and in dotted lines in Figs. 2 and 5, and the dies are left fully open, ready to receive the next seal between them, as shown in Figs. 1 and 5, and in dotted lines in Fig. 2.

Should the cam C become disarranged with reference to the lever-handle H' by incomplete strokes, leaving the handles separated at the end of the pressing operation, it is only necessary to close the handles and then oscillate said handle H' with short strokes, so as to turn the ratchet-wheels one tooth at a time, until the die D is again retracted by the spring S, which action can be heard. The press is then ready for use again.

Should dust get into the chamber within the body B and body part B', it may be shook out through an opening, o, Figs. 2 and 4, in the latter, or the parts may be rendered dust-tight by making said body and body part more nearly circular, and extending concentric solid portions of each so as to mask the openings in the other.

Having thus described my said improvement in seal-presses, (ratchet-die,) I claim as my invention and desire to patent under this specification—

1. In a seal-press, the combination, substantially as herein specified, of a rotary cam having a radial or substantially radial shoulder following its summit or each summit thereof, a pawl-and-ratchet device which limits the rotation of said cam to one direction, and a spring-retracted movable die advanced by said cam, and released for retraction by being passed by such shoulder and not otherwise, for the purpose set forth.

2. In a seal-press, the combination, substantially as herein specified, of a lever-handle free to receive long or short oscillations, a pawl-and-ratchet device transmitting rotary motion therefrom, a rotary cam so turned in one direction only, and having a radial or substantially radial shoulder following its summit or each summit thereof, and a movable die advanced by said cam and released for retraction by being passed by such shoulder and not otherwise, for the purpose set forth.

3. The combination, in a seal-press, of a lever-handle having a given full stroke, a pawl-and-ratchet device transmitting rotary motion therefrom, a rotary cam so turned in one direction only, and having a wing for each part of a complete circle represented by said full stroke of said handle, with a radial or substantially radial shoulder following each summit thereof, and a movable die advanced by said cam and released for retraction by each of said shoulders, substantially as herein specified, for the purposes set forth.

4. The combination, in a seal-press, of a movable lever-handle, two distinct sets of pawl-and-ratchet devices transmitting rotary

motion therefrom, a rotary cam having the respective ratchet-wheels rigidly united to its respective ends, and a movable die advanced by said cam, substantially as herein specified, 5 for the purposes set forth.

5. A seal-press having a pair of dies normally open, and a pair of lever-handles substantially in line with said dies and normally closed together, and constructed with a body 10 and head integral with one of said handles, the

latter having a mouth to receive the seals in the pressing operations, and constructed with a hammer-face projection diametrically opposite said mouth, substantially as herein specified, for the purposes set forth.

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