Aug. 14, 1928. 1,680,891

J. C. LEDBETTER

PRESS COMPENSATOR

Filed Aug. 14, 1925 2 Sheets-Sheet 1

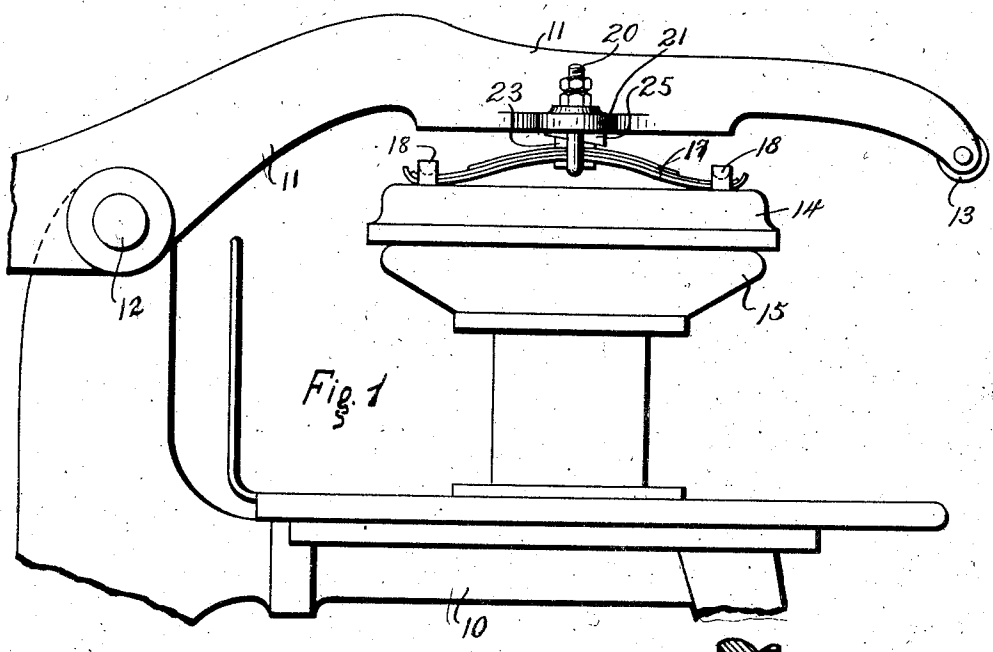


Fig. 1

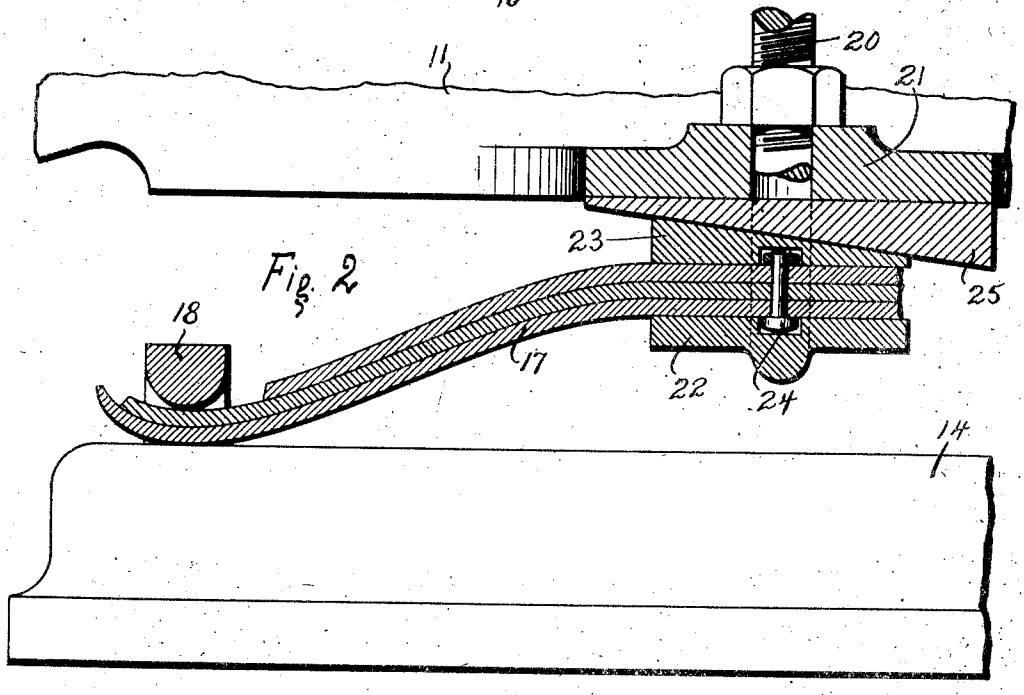


Fig. 2

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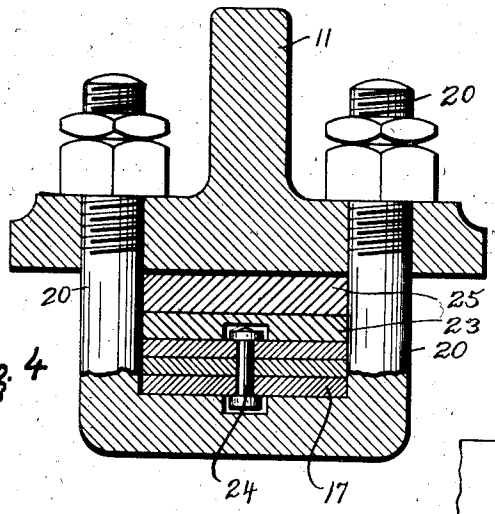


Fig. 4

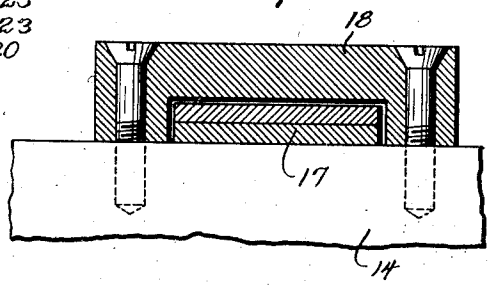


Fig. 5

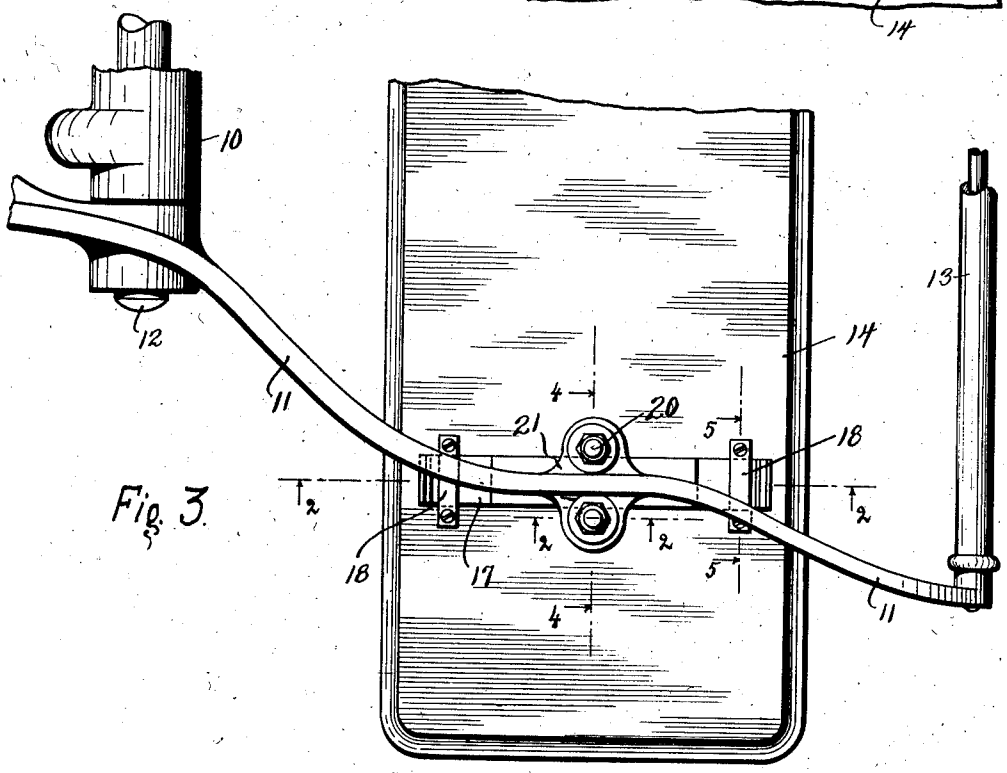


Fig. 3

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UNITED STATES PATENT OFFICE.

JAMES CAMROD LEDBETTER, OF NEW YORK, N. Y., ASSIGNOR TO THE PROSPERITY COMPANY, INC., OF SYRACUSE, N. Y., A CORPORATION OF NEW YORK.

PRESS COMPENSATOR.

Application filed August 14, 1925. Serial No. 50,149.

This invention relates to pressing machines as for example garment presses and ironing machines and more particularly relates to improvements in means for adjustably mounting a press head on a press lever and which improvements I refer to as a press compensator.

Jaw type pressing machines now in general use ordinarily employ a toggle or other suitable operating mechanism for closing the press head or ironing jaw. The toggle necessarily has combined therewith a pressure adjuster for varying the pressure between the jaws by regulating the clearance between the pressing jaws so that the machine may be made to receive thick heavy garments at one time, or thin lightweight garments at another time. This pressure adjuster is a necessary adjunct to pressing machines and frequently takes the form of a hand-wheel screw, or possibly a cam device, or other means for finely regulating the length of the toggle within desired limits so as to cause the head to close with greater pressure against the buck at one time than at another.

Likewise, presses now in use employ evener or compensation means as springs, at the point where the head is attached to the front end of the press lever which is to even up and compensate for unevenness in the garment or other work to be pressed and to permit the meeting faces of the pressing members to engage as uniformly as possible all the way across thereof.

The pressure adjuster and the compensator comprise two separate parts separately located; and it is in the main an object of this invention to eliminate one of the parts, namely, the hand wheel pressure adjuster and combine its function with an improved compensator located as usual on the press head. In other words, I provide a combination pressure adjuster and compensator in one and the same part thereby eliminating one of the parts from the press structure.

It follows, therefore, that my improvements accomplish several purposes, namely, pressure adjustment, yieldable pressure, and anchorage of the head to the lever with relative oscillating movement therebetween which is compensation; and that all these functions are inherently in one compact part located at one place on the press instead of being made of two parts and located at different points.

Having the above objects and others in view, reference is now made to Figure 1 of the accompanying drawings which illustrates a side view of the pressing machine in closed position.

Figure 2 shows a fragmentary side view of one jaw of the press illustrating in section the construction of the combination leaf spring compensator and pressure regulator and showing the attaching means which anchors it to the press jaw and to the press lever, this view being taken on the line 2—2 of Figure 3.

Figure 3 illustrates a fragmentary plan view of a pressing machine with the leaf spring compensator disposed between the lever and jaw.

Figure 4 illustrates a cross sectional view taken on the line 4—4 of Figure 3 showing an adjustable wedge by which the distance is varied between the lever and the press jaw.

Figure 5 illustrates a cross sectional view taken on the line 5—5 of Figure 3 to show the construction of means for attaching the ends of the spring to the jaw.

As shown in the drawings, a pressing machine frame 10 carries a swinging press lever 11 pivoted at 12 on the frame. The front end of the press lever is usually made with a handle 13 by which the operator assists in raising and lowering the press head or jaw 14 high above the buck or lower jaw 15. It is the usual practice to provide toggle means or other suitable actuating mechanism on the rear end of the press lever 11 by which the lever is pivoted up and down in the frame to open and close the press. This mechanism is not shown since it has no bearing on the present invention, but it will be explained that it is the usual practice to include a pressure regulator (also not shown) as a part of said actuating mechanism, but with my invention the pressure regulator is eliminated from the actuating mechanism and becomes a part of the compensator on the head.

A leaf spring 17 is interposed between the press lever 11 and the pressing head or jaw 14 and this spring is fitted with adjustment means to permit the distance between the

lever and head to be varied in order that greater or less pressure be obtained in operating the press. The leaf spring 17 preferably has its outer ends attached to the head 14 while its central portion is attached to the lever 11, but this arrangement may be reversed if desired. Loops 18 are anchored to the head 14 and each loop is provided with an opening therein to receive each end of the spring which ends are movably confined in the loops 18 to permit slight crawling motion as between the spring ends and the head when the springs flex down under pressure of the lever.

The adjustable anchor means for attaching the spring 17 to the lever 11 comprises an adjustable anchor U-bolt 20 which straddles the spring 17 and straddles the lever 11. Each part of the U-bolt 20 passes upwardly through an ear 21 made on the lever 11. The lower portion of the anchor bolt carries an integral flat spring seat 22 which rests on the underneath side of the spring 17 and a stationary wedge shaped plate 23 is held immovable by a bolt 24 on the upper side of the spring 17. An adjustable movable slide wedge 25 is interposed between the press lever 11 and the stationary wedge plate 23.

The stationary wedge 23 and the movable adjustable wedge 25 cooperate to provide outer parallel faces which steadies the spring 17 and holds its rigid on the press lever 11 at the central portion thereof while the outer ends of the spring are free to flex or spring up and down. Nuts are tightened up on each leg of the U-bolt 20 thereby locking the two wedges in place. By loosening the anchor bolt 20, the slidable adjustable wedge 25 may be moved in or out to regulate the separating distance between the spring 17 and press lever 11 thereby enabling the operator to adjust the pressure exerted by the head 14 on the buck 15 when the press closes. In order to press very thick work, the wedge 25 may be slid outwardly and the anchor bolts 20 tightened up thus providing more clearance between the cooperating press jaws. Conversely, for thin work the wedge 25 is adjusted inwardly to bring the head 14 closer to the buck 15 thus accommodating the press jaws to thin work.

It is usually necessary to provide what is called compensating or evener means on garment presses and ironing machines in order that uniformity of contact be secured as between large area meeting jaws. Should the garment be thicker on one side than another, then that portion of the press jaws would engage first. The compensator referred to must permit the jaws to yield or move along a longitudinal axis relatively to the press lever and thus a slight relative motion is afforded by the leaf spring 17 one of which is usually employed at each end of the head 14. This invention not only renders unnecessary the hand adjustment wheel but combines the function of that part with the compensator and so I have eliminated one part, namely, the hand wheel and, as constructed, the spring compensator 17 will compensate for unevenness in the work as well as provide adjustment means to vary the pressure.

The compensating function is not necessarily adjustable, at least it need not be and this function is inherent in the long flexible spring ends. Compensation is independent of and bears no relation to the pressure adjuster. The pressure adjuster is necessarily variable by the wedge 25 and does not interfere with or bear any relation to the compensating function of the spring. In other words the spring 17 is the compensator while the wedge 25 is the pressure regulator, and they are combined into a single compact simple structure.

What I claim is:

1. A pressing machine comprising in combination, cooperating pressing jaw parts adapted to open and close on the work, a press lever part for attachment with one jaw, a leaf spring interposed between the lever and jaw, anchor means attaching the ends of the spring to one part, anchor means attaching the center of the spring to the other part, and adjusting means cooperating with the spring and one of the parts to vary the distance therebetween and thereby to vary the distance between the lever and jaw to regulate the closing pressure between the jaws.

2. A pressing machine comprising cooperating jaws, a press lever adapted to raise and lower a jaw, a leaf spring interposed between the lever and jaw, means to attach the spring to said lever and jaw, adjusting means carried centrally on the spring to vary the distance between the lever and the leaf spring, and a loose connecting means attaching the ends of the spring to the jaw affording a freedom of motion between the jaw and the spring ends.

3. A pressing machine comprising cooperating jaws, a press lever adapted to raise and lower a jaw, a leaf spring interposed between the lever and jaw, and means to attach the spring to said lever and jaw, a slidable adjusting wedge carried centrally on the spring and movable to vary the distance between the lever and spring, means locking the wedge in fixed position, and means attaching the ends of the spring to the jaw affording freedom of motion between the jaw and the spring ends.

4. A press regulator and compensator, comprising a lever, an arched leaf spring anchored thereto, a pressing member carried by the leaf spring, and an adjustable means

carried between the leaf spring and press lever by which the distance between the lever and spring may be varied.

5. A pressure regulating means and compensating means for a press having jaws, comprising a lever attached to one of the jaws to open and close the press, a leaf spring disposed between the lever and the press jaw to afford compensation between the meeting press jaws independently of the regulating means, anchor means for attaching the leaf spring to the lever and to the jaw, and a regulating means cooperating with the leaf spring and with the lever to vary the distance therebetween independently of the compensating means.

In testimony whereof I affix my signature.

JAMES CAMROD LEDBETTER.