

No. 628,626.

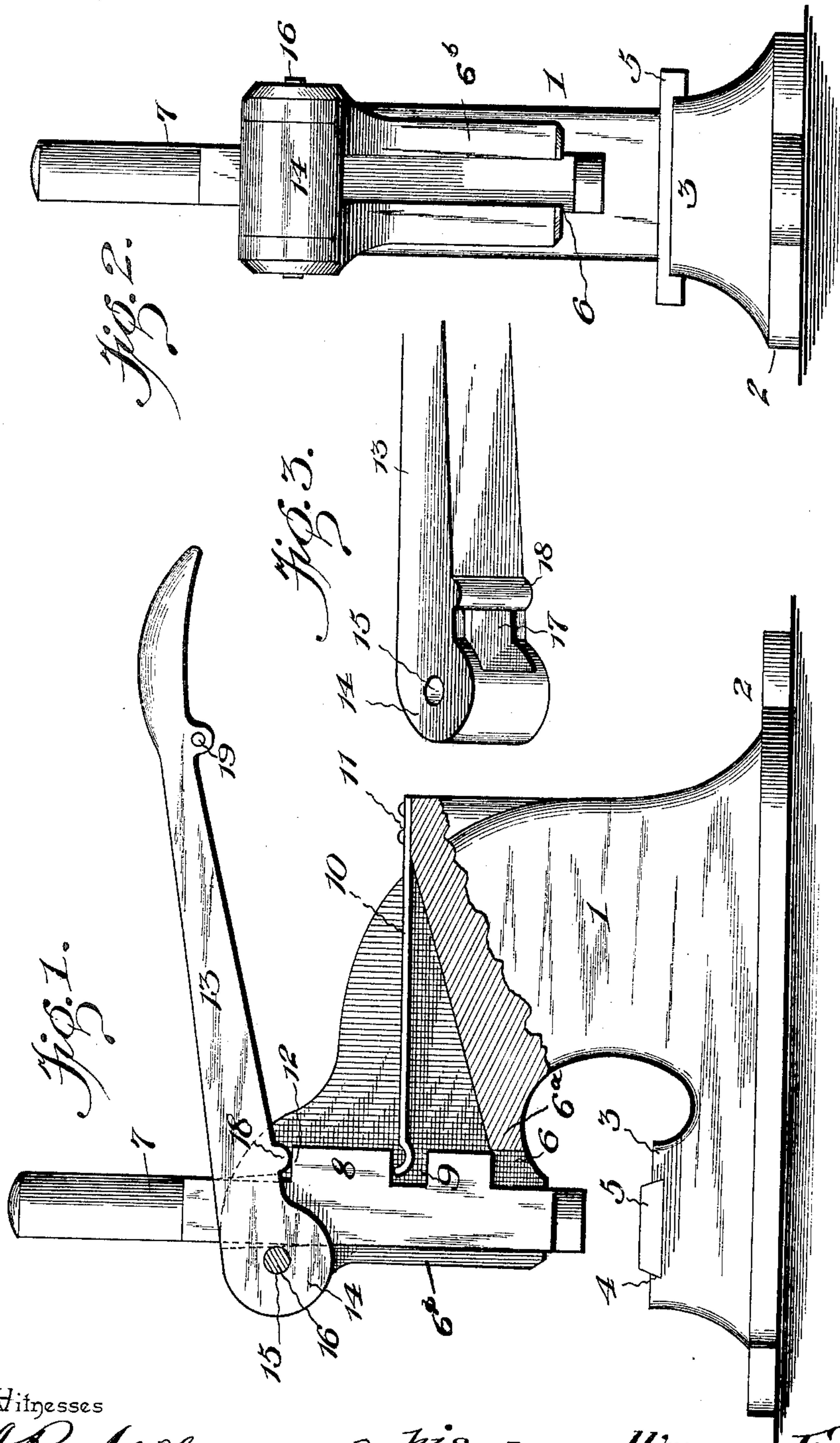
Patented July 11, 1899.

W. E. HEWIT.

DIE PRESS.

(Application filed Feb. 23, 1898.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM E. HEWIT, OF DAVID CITY, NEBRASKA.

DIE-PRESS.

SPECIFICATION forming part of Letters Patent No. 628,626, dated July 11, 1899.

Application filed February 23, 1898. Serial No. 671,309. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. HEWIT, a citizen of the United States, residing at David City, in the county of Butler and State of Nebraska, have invented a new and useful Die-Press, of which the following is a specification.

My invention relates to die-presses adapted for use in dental and other work; and the object in view is to provide a simple construction and arrangement of parts with special reference to the application of power to the plunger by which the male-die member is carried.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view, partly in section, of a press constructed in accordance with my invention. Fig. 2 is a front view. Fig. 3 is a detail perspective view of the operating-lever detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a frame or stock suitably provided with a base-plate 2, and also having an anvil 3, of which the upper surface is transversely channeled to form a seat 4 for a die-plate 5. The stock is cored or otherwise recessed for the reception of the operating parts of the press, the front portion of the recess being shaped in cross-section to form a guide 6 perpendicular to the plane of the upper surface of the anvil, for the reception of the plunger 7. The body portion of the plunger which fits in said guide is cross-sectionally rectangular in construction, the front and rear sides bearing one on the intumed flanges 6^a, forming the front wall of the guide, and the other on the short rear guide-wall 6^b, and said plunger also is provided with a rearwardly-extending wing 8, fitting in a parallel-sided portion of the cavity or recess of the stock and provided at an intermediate point with a notch or seat 9 for the reception of the extremity of a return-spring 10, the latter being secured, as at 11, to the stock and projecting forwardly into the cavity or recess for engagement with said seat. The upper end of the wing 8 forms a shoulder or abrupt

bearing 12, adapted for receiving the pressure of an operating-lever 13 of the second order, said lever being provided at its extremity with an enlargement 14, having a transverse perforation 15 for the reception of a fulcrum-pin 16, which is arranged in front of the vertical plane of the plunger. The operating-lever is slotted, as shown at 17, to receive the plunger, and thereby assist in guiding the latter, and the bearing-rib 18 of the lever extends transversely across the under side of the latter for contact with the bearing-shoulder 12.

The advantage of the above-described construction resides in the fact that the pressure is applied by the operating-lever in a direction approximately in alinement with the plunger and with the long bearing-wall 6^b, and the bearing-line of the rib 18 of the lever upon the shoulder 12 is parallel with the fulcrum of the lever and of a length equal with the width of the plunger. Thus in the operation of the lever there is no tendency to twist or wear the fulcrum-pin unevenly. Furthermore, inasmuch as the lever, which is fulcrumed in front of the line of movement of the plunger, bears upon the plunger in rear of its line of movement there is a slight tendency of the rib 18 to crowd the plunger toward the extended front wall 6^a of the guide, and this tendency is sufficient to cause the plunger to follow said wall 6^a in its movement, and particularly during the depression thereof; but rearward displacement of the plunger at its upper end, particularly when the plunger is elevated, is prevented by the rear wall of the slot or guide 17 in the lever, said slot or guide being arranged to engage a cross-sectionally-rectangular portion of the plunger adjacent to and above the plane of the shoulder 12 and is of a length sufficiently greater than the distance between the front and rear surfaces of the plunger to allow the necessary swinging movement of the lever with relation to the line of movement of the plunger. This comparatively - contracted guide-opening 17, however, adapts the same to perform another function—namely, that of limiting the upward movement of the plunger when returned by the spring 10, and also to limit the upward swinging movement of the lever. In other words, with a fixed ful-

crum 15 and a guide opening or slot 17 of a length only slightly in excess of the interval between the front and rear surfaces of the plunger, said lever having a bearing upon the shoulder 12 of the plunger, the upward movement of the plunger after the lever reaches a horizontal position or a position perpendicular to the plunger causes the reduction of the interval between the vertical planes of the proximate portions of the front and rear walls of the guide 17 until said interval becomes equal to that of the distance between the front and rear surfaces of the plunger, whereupon said front and rear walls of the guide 17 engage the contiguous surfaces of the plunger, and thus lock the latter, as well as the lever, against farther upward movement. Obviously the advantage in positively checking the upward movement of the lever and plunger is that if the lever after depression is released quickly the upward movement of the parts does not carry them beyond their operative relations, and hence there is no liability of disarrangement or dismounting. Furthermore, the rear end of the spring 10 at its point of attachment to the stock is exposed, thus facilitating the replacement of a broken spring or one which has lost its resilience, the top of the recess in which the spring operates being open. Furthermore, the parts of the apparatus are so constructed that the plunger must be introduced into its guide at the upper end of the latter, after which the application of the lever and the fitting of the fulcrum-pin 16 in place locks the several members of the apparatus in their operative positions.

The operating-lever is preferably provided contiguous to its free grip end with an eye 19, to which may be attached a connection from a foot-lever or treadle, (not shown,) whereby the device may be operated by foot-pressure.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a die-press, the combination of a stock having an anvil provided with a die-plate seat, and also having a recess disposed in a longitudinal vertical plane and provided with parallel side walls, the front portion of said recess being constructed to form a guide having an extended front guiding-wall, a plunger mounted in the recess of the stock for movement perpendicular to the plane of the die-seat and in contact at its front side with said extended guide-wall, and also provided with a rearward-extending abrupt bearing-shoulder, an operating-lever terminally fulcrumed upon the stock, in front of the plunger, provided with a slot or guide through which the plunger extends, and also provided in rear of said slot or guide with a transverse bearing-rib for contact with said bearing-shoulder of the plunger, and a return-spring for the plunger, substantially as specified.

2. In a die-press, the combination of a stock having an anvil provided with a die-plate seat, and also having a recess disposed in a longitudinal vertical plane and provided with parallel side walls, the front portion of said recess being constructed to form a guide having an extended front guiding-wall, a plunger mounted in the recess of the stock for movement perpendicular to the plane of the die-seat and in contact at its front side with said extended guide-wall, and also provided with a rearward-extending abrupt bearing-shoulder, an operating-lever terminally fulcrumed upon the stock, in front of the plunger, provided with a slot or guide through which the plunger extends, and also provided in rear of said slot or guide with a transverse bearing-rib for contact with said bearing-shoulder of the plunger, and a return-spring for the plunger, substantially as specified.

3. In a die-press, the combination of a stock having an anvil provided with a die-plate seat, and also having a recess disposed in a longitudinal vertical plane and provided with parallel side walls, the front portion of said recess being constructed to form a guide having an extended front guiding-wall, a plunger mounted in the recess of the stock for movement perpendicular to the plane of the die-seat and in contact at its front side with said extended guide-wall, and also provided with a rearward-extending abrupt bearing-shoulder, an operating-lever terminally fulcrumed upon the stock, in front of the plunger, provided with a slot or guide through which the plunger extends, and also provided in rear of said slot or guide with a transverse bearing-rib for contact with said bearing-shoulder of the plunger, and a return-spring for the plunger, said slot or guide of the lever being arranged to receive a cross-sectionally-rectangular portion of the plunger, and being of a length slightly exceeding the interval between the front and rear surfaces of said rectangular portion of the plunger, whereby the upward movement of the lever and plunger is limited by the contact of the front and rear walls of said slot or guide with the contiguous surfaces of the plunger, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM E. HEWIT.

Witnesses:

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