F. J. JARECKI.

SCREW PRESS.

APPLICATION FILED MAR. 13, 1917.

1,245,235. Patented Nov. 6, 1917.

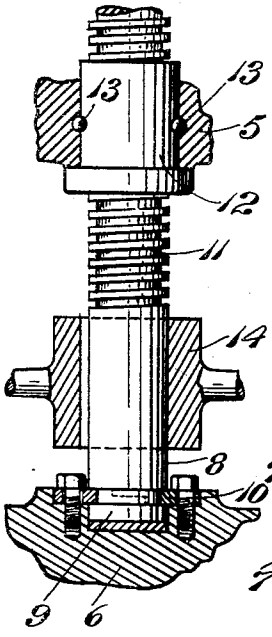

Fig. 2.

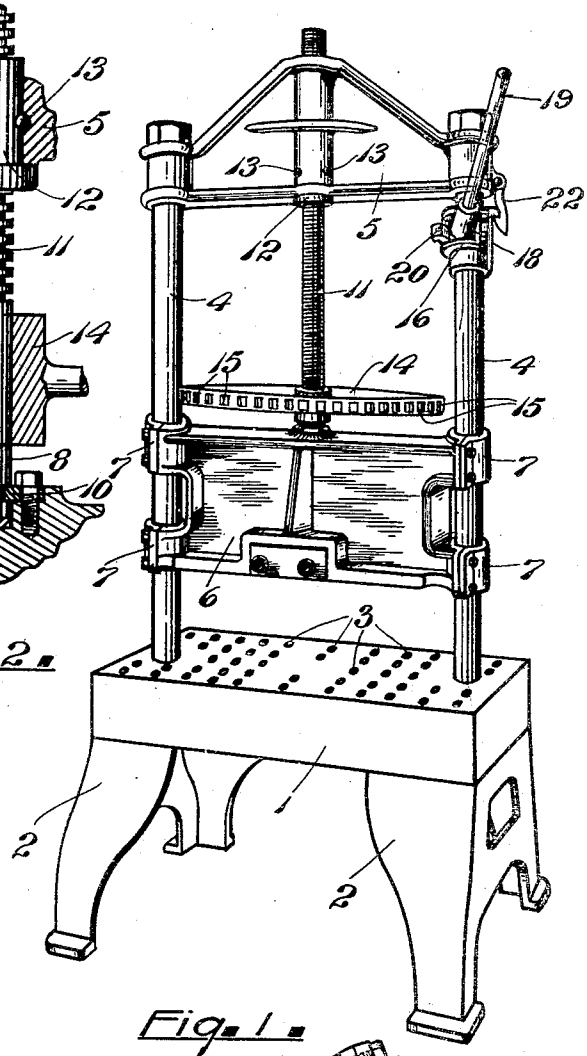

Fig. 1.

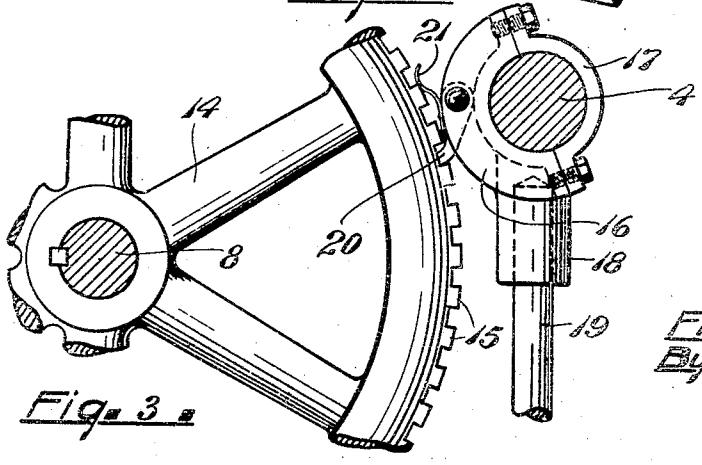

Fig. 3.

Inventor
Frank J. Jarecki
By Moulton & Linnance
Attorneys.

UNITED STATES PATENT OFFICE.

FRANK J. JARECKI, OF GRAND RAPIDS, MICHIGAN.

SCREW-PRESS.

1,245,235. Specification of Letters Patent. Patented Nov. 6, 1917.

Application filed March 13, 1917. Serial No. 154,456.

To all whom it may concern:

Be it known that I, FRANK J. JARECKI, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Screw-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to screw presses and it is a primary object and purpose of the invention to provide a screw press with many new features of construction whereby it may be readily operated, the wheel for operation of the press being located adjacent the work whereby the operator at all times may keep the work in view while using the press. This is especially desirable in shearing in punches in dies and does away with using a regular punch press in testing and trying out punches and dies as heretofore. A further object of the invention consists in a novel construction of operating lever for the wheel of the screw press by means of which a very heavy pressure may be had in forcing the ram of the press downward as is necessary in shearing in punches or the like. Various other objects and purposes together with novel constructions for attaining the same will appear upon understanding of my invention as disclosed in the accompanying drawing in which:

Figure 1 is a perspective view of the screw press.

Fig. 2 is a partial sectional and side view illustrating the mounting of the screw and,

Fig. 3 is a fragmentary sectional plan enlarged of the operating wheel and the ratchet lever for working the same.

Like reference characters refer to like parts in the several views of the drawing.

In the construction of the press a bed 1 is provided which may be supported at its ends by standards 2. The bed has a plurality of holes 3 interiorly tapped and threaded through which a die or the like may be secured firmly to the bed.

Standards 4 are located on each end of the bed 1 and project vertically therefrom being connected at their upper ends by a cross beam 5 whereby a frame capable of withstanding heavy strains is formed. A ram 6 is slidably mounted between the standards 4, at its opposite ends having concave guides formed for the reception of the standards and clips 7 are secured loosely upon the ram to retain it against displacement. A rod 8 at its lower end is formed with a head 9 which is loosely and rotatably secured in the upper side of the ram 6 by means of the plate 10 as shown in Fig. 2. The major portion of this rod is threaded as shown at 11 and is inserted in an interiorly threaded nut 12 permanently secured by means of pins 13 in the beam 5. A hand wheel 14 is keyed or otherwise permanently secured to the rod 8 immediately above the ram.

The wheel 14 may be operated by hand or by means of a ratchet lever there being formed on the circumference of the wheel a plurality of projections or teeth 15 spaced apart as best shown in Fig. 3. A member 16 is loosely mounted upon one of the standards 4 and secured in place by a clip 17. From the member 16 a boss 18 projects in which a handle or lever 19 is located. A pawl 20 is pivotally mounted on the member 16 and is adapted to engage in the notches between the teeth 15 on the wheel being yieldingly held in a notch by a leaf spring 21 fastened to the pawl and bearing adjacent its end against the wheel 14. The hand lever and attached parts as a whole may be held in upper position if desired by the dog 22 mounted on the frame and engaging therewith as shown in Fig. 1.

In the operation of the press a die is secured on the bed 1 and a punch to coöperate therewith is secured in place on the lower side of the ram 6. In testing out the punch with respect to the die the ram is moved by operating the wheel 14 to lower the ram and attached punch toward the die and by reason of the fact that the wheel is mounted directly above the ram the operator may, while lowering the said ram, at all times keep the work in view and see that a perfect alinement with respect to the die is had. In practice the die secured to the bed is hardened and the punch is forced to place, or as it is called, "sheared" in the die before said punch is hardened. To accomplish this a heavy pressure must be exerted and if necessary the hand lever may be used to turn the wheel 14, it being apparent that through this construction a very heavy pressure can be obtained sufficient to shear in any punch that the press can accommodate.

From the foregoing it will be apparent that I have produced a screw press especially

adapted to punch and die work and one in which the punch or die can be observed at all times in the operation of the press and a perfect alinement of the punch with respect to the die secured by it. The location of the wheel immediately above the ram is of great value in that the operator of the press in lowering the ram can, during such operation, observe at all times the movement of the punch with respect to the die which cannot be otherwise than imperfectly observed if the die is placed on the bed of a punch press with the punch on the ram and the punch press then operated by hand. Furthermore with a press of this kind the die can be worked and tested by the maker thereof without requiring the assistance of others in operating the punch press by hand for said testing. The press is of comparatively simple construction and is a very efficient and economical tool for use by tool and die makers and may be made sufficiently strong to withstand all pressure necessary for the complete trial and testing of shearing in punches and dies.

I claim:—

1. A screw press comprising a bed, a vertical standard at each end of the bed, a beam connecting the upper ends of the standards, a ram slidably mounted between the standards, a screw threaded rod rotatably connected at its lower end to the ram, and threading into the beam at its upper end, a wheel secured to the rod, a handle loosely mounted on a standard and adapted to rest against the ram in operative relation to the wheel, and means on the wheel and handle for turning the wheel on actuation of the handle.

2. A screw press comprising a bed, a vertical standard at each end of the bed, a beam connecting the upper ends of the standards, a ram slidably mounted between the standards, a screw threaded rod rotatably connected at its lower end to the ram, and threading into the beam at its upper end, a wheel secured to the rod immediately above the ram, a plurality of teeth around the circumference of the wheel, a handle loosely mounted on one of the standards, and a pawl on the handle adapted to engage between adjacent teeth on the wheel.

3. A screw press comprising a bed, a vertical standard at each end of the bed, a beam connecting the upper ends of the standards, a ram slidably mounted between the standards, a screw threaded rod rotatably connected at its lower end to the ram and threading into the beam at its upper end, a wheel secured to the rod immediately above the ram, a plurality of teeth on the wheel, a handle loosely mounted on one of the standards, a dog on the frame adapted to engage with and hold the handle away from the wheel, a pawl on the handle, and a spring attached to the pawl adapted to bear against the wheel when the handle is in operative relation thereto.

4. In a screw press, the elements claimed in claim 1 combined with means for holding the handle above and away from its operative position with respect to the wheel.

In testimony whereof I affix my signature.

FRANK J. JARECKI.