

D. Campbell,

Punching Mach.

No. 92,263.

Patented July 6, 1869.

Fig 1

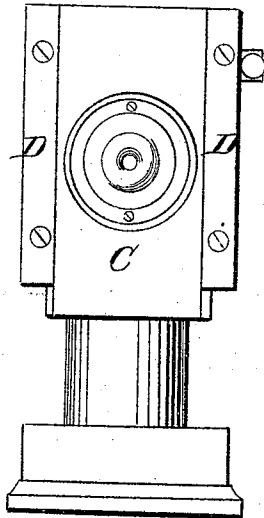


Fig 2

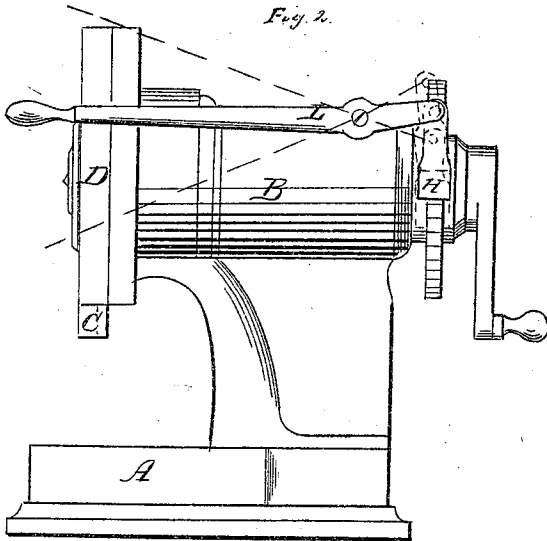


Fig 3

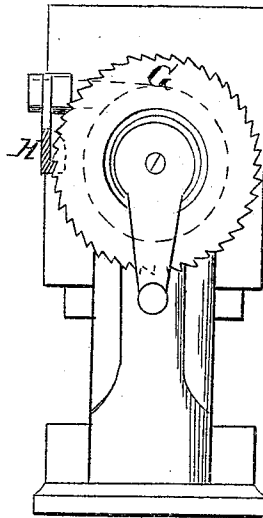
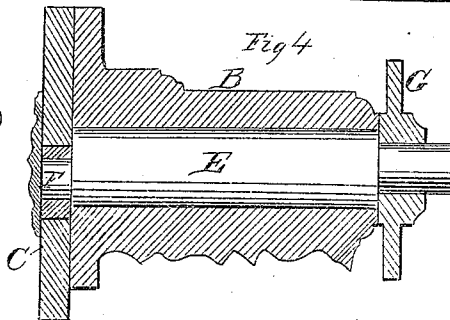


Fig 4



Witnesses
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By his Attorney
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Letters Patent No. 92,263, dated July 6, 1869.

IMPROVEMENT IN POWER-PRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, DANIEL CAMPBELL, of Elizabeth, in the county of Union, and State of New Jersey, have invented a new Improvement in Power-Presses; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view;

Figure 2, a side view;

Figure 3, a rear view; and, in

Figure 4, a longitudinal central section.

This invention relates to an improvement in power-presses, such as are used for punching, cutting, and drawing metals, and for like purposes.

In this class of machines, when the dies are to be changed from one kind of work to another, it is necessary, in order to the nice adjustment of the dies, that several trials or movements of the dies be made, and this requires, in the present construction, two persons, the operator in front, to attend to the adjustment of the dies, and a person at the rear, to turn the shaft for the movement of the upper die or punch, as may be directed by the operator in front. This not only requires two persons, but it is very difficult for the person at the wheel to turn it exactly as it may be required. It is, therefore, a difficult and tedious job to properly adjust the dies.

The object of this invention is to overcome this difficulty, dispense with the second person, and place the whole machine under the control of the operator. To this end,

My invention consists in applying a gear or ratchet-wheel to the shaft of the machine, directly or indirectly, and communicating to the front by a lever-crank, or otherwise, so that the operator may with his one hand turn the driving-shaft while adjusting the dies with the other, thus placing the whole machine entirely under his control.

To enable others skilled in the art to construct and use my improvement, I will fully describe the same, as illustrated in the accompanying drawings.

A represents the bed, B, the head, C, the slide, and

E, the shaft, of an ordinary punching-press, to which is applied, to the rear end of the shaft, a wrist-pin, F, on the front end, imparting a reciprocating movement to the slide.

The punch or upper die is set in the slide, and corresponding dies are placed in the bed.

The adjustment of the lower dies, relatively to the upper, is required to be made with the greatest nicety. It is, therefore, necessary to move the punch or upper die up and down several times in order to attain such nice adjustment, and this is usually done by a person at the rear of the machine turning the wheel under the direction of the operator.

To avoid the use of this second hand, I fix to the shaft, at the rear, a ratchet-wheel, G, and arrange the pawl H upon a lever, I, so that by the movement of the lever, as denoted in fig. 2, the pawl, working in the ratchet, will turn the shaft in proportion to the extent which the lever is moved.

The lever extends forward, as in fig. 2, so as to be convenient to the hand of the operator; therefore in adjusting the dies with one hand, the operator works the lever, turning the shaft to any desirable extent.

As here represented, the arrangement is for moving in but one direction.

It will be readily seen by persons skilled in this class of machinery, that by a duplication of these parts, or other equivalent, the shaft may be revolved in either direction; and while I believe the arrangement of the lever, pawl, and ratchet to be the simplest and cheapest construction, I do not wish to confine myself to such construction, as various devices may be employed to accomplish the desired result.

Having fully described my invention,

What I claim as new and useful, and desire to secure by Letters Patent, is—

In a power-press, in which the vertical slide is arranged so as to be operated by a revolving shaft extending back from the said slide, combining with such slide and shaft a mechanism substantially such as described.

DANIEL CAMPBELL.

Witnesses:

STANLEY G. MASON,

JAS. M. HADDEN.