

P. R. CAMPBELL.
Screw-Press.

No. 213,871.

Patented April 1, 1879.

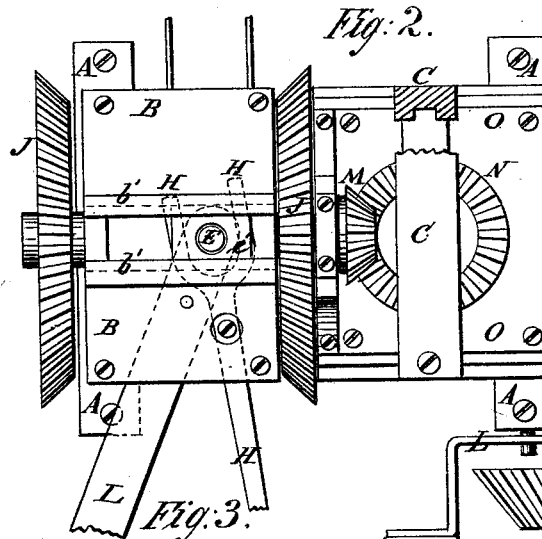
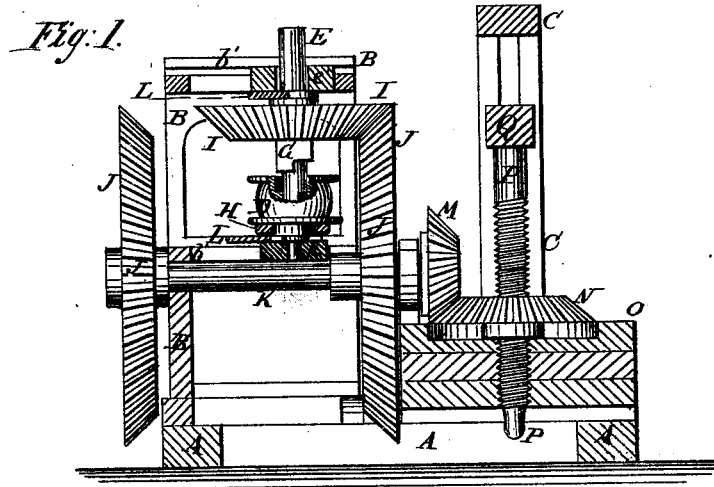


Fig. 4.

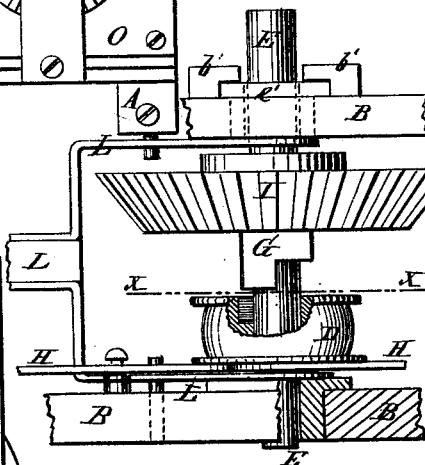


Fig. 5.

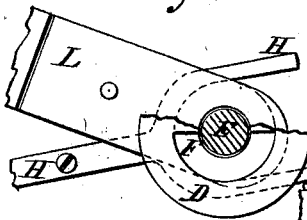
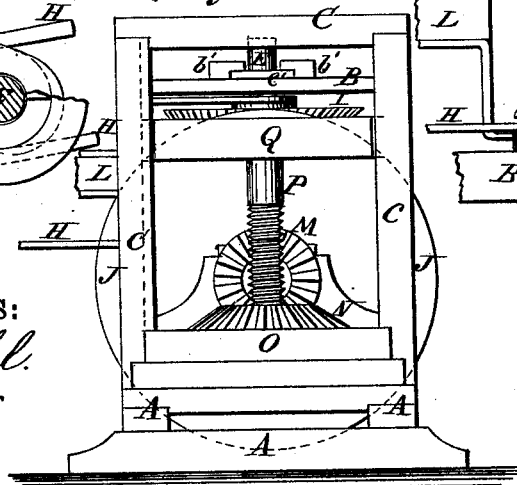


Fig. 3.



WITNESSES:

A. Schehl.
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UNITED STATES PATENT OFFICE.

PETER R. CAMPBELL, OF HURRICANE, MISSISSIPPI.

IMPROVEMENT IN SCREW-PRESSES.

Specification forming part of Letters Patent No. **213,871**, dated April 1, 1879; application filed December 16, 1878.

To all whom it may concern:

Be it known that I, PETER RENEY CAMPBELL, of Hurricane, in the county of Warren and State of Mississippi, have invented a new and useful Improvement in Screw-Presses, of which the following is a specification:

Figure 1 is a vertical section of my improved press. Fig. 2 is a top view of the same, part being broken away to show the construction. Fig. 3 is a side view of the same. Fig. 4 is a detail view, showing the band-wheel clutch. Fig. 5 is a detail top view of the band-wheel, clutch, and lever, the shaft being shown in cross-section through the line *x x*, Fig. 4, and part of the band-wheel being broken away.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved screw-press which shall be so constructed that it may be operated by steam-power, horse-power, or other desired power, and which shall be simple in construction, easily adjusted and controlled, and reliable in operation.

The invention consists in the combination, in a screw-press, of the clutch with the band-wheel that receives motion from the driving-power, and with the shaft and the gear-wheels that drive the screw; in the combination of the socket-held wheel, having a screw-thread formed in its eye, and having gear-teeth formed upon its rim, with the screw of the press, and with the driving gear-wheels; and in the combination of the two levers with the frame, and with the shaft that carries the band-wheel and the driving gear-wheel, as hereinafter fully described.

A is the base-frame of the machine. B is the gearing-frame, and C is the press-frame. D is the band-wheel, which is driven by a belt from a steam-engine or other convenient power, and which revolves upon the shaft E. The hub of the band-wheel D is provided with a recess, F, to engage with a clutch-piece, G, attached to the shaft E, so that the said band-wheel D may be made to carry the said shaft E with it in its revolution when desired. The band-wheel D is raised and lowered, to throw the clutch F G into and out of gear, by means of a lever, H, the inner end of which is forked

to pass around the shaft E below the band-wheel D, and which is pivoted to a fulcrum-block attached to the frame B.

To the shaft E, at or above the clutch G, is attached a large bevel-gear wheel, I, the teeth of which, by a lateral movement of the shaft E, may be made to mesh into either of the gear-wheels J, attached to the shaft K upon the opposite sides of the frame B, to revolve the said shaft K in one or the other direction, as may be desired. The journals of the shaft E revolve in bearings *e e'*, that slide in ways *b'* in the frame B as the said shaft is moved laterally.

The shaft E is moved to shift the gear-wheel I by the lever L, the inner part of which is forked, and has holes or slots in the ends of its arms to receive the shaft E, one arm of the said lever being below the band-wheel D, and its other arm being above the gear-wheel I. The arms of the forked lever L are pivoted to the frame B.

The shaft E may be secured in place when adjusted by locking the lever L, or by inserting a key-block between the bearings *e' e* and the end of the slot through which the said shaft E moves.

The journals of the shaft K revolve in bearings in the frame B, and to the forward end of the said shaft K is attached a small bevel-gear wheel, M, the teeth of which mesh into the teeth of the bevel-gear wheel N, swiveled to the platform O of the press-frame C.

In the eye of the gear-wheel N is formed a screw-thread, which fits upon the thread of the screw P. The lower part of the screw P passes down through a hole in the base of the press, and to its upper end is attached a cross-head or follower, Q, which slides up and down within the press-frame C.

With this construction, the operator, by means of the lever H, can instantly throw the gearing into and out of gear with the power, and, by means of the lever L, he can throw the gear-wheel I into gear with one or the other of the gear-wheels J, according as the screw P is to be turned up or down.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, in a screw-press, of the clutch F G with the band-wheel D, that receives motion from the driving-power, and with the shaft E and the gear-wheels I J M N, that drive the screw P, substantially as herein shown and described.

2. The shaft E, provided with the band-wheel D and cog-wheel I, revolving in bearings *e e'*, which are adapted to be slid in ways *b'* in the frame B by the lever L, substantially as and for the purpose described.

3. The combination of the two levers H L with the frame B, and with the shaft E, the band-wheel D, and the driving gear-wheel I, substantially as herein shown and described.

PETER RENEY CAMPBELL.

Witnesses:

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B. S. T. MONTGOMERY.