

N. C. Stiles, Clutch.

N^o 52,335.

Patented Jan. 30, 1866.

Fig 1.

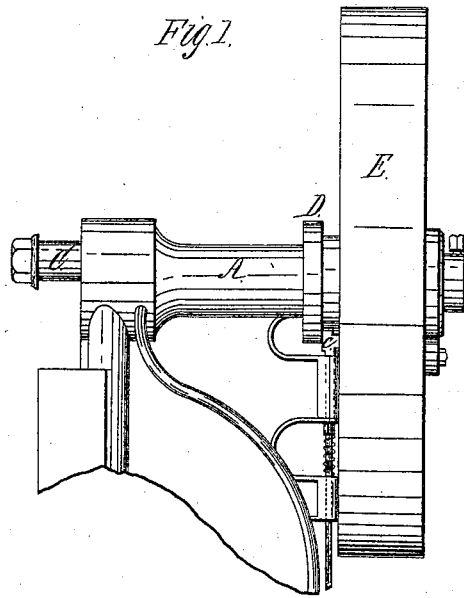


Fig 2.

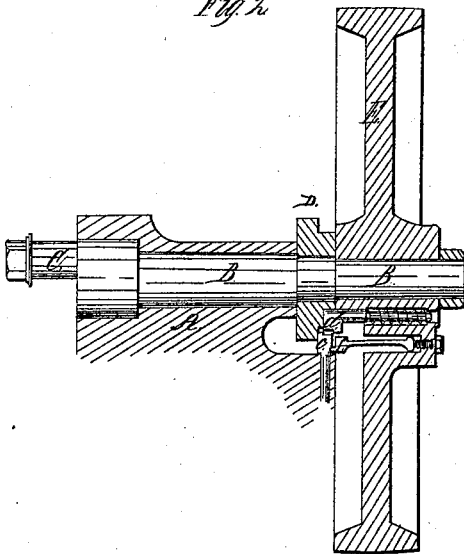


Fig 3.

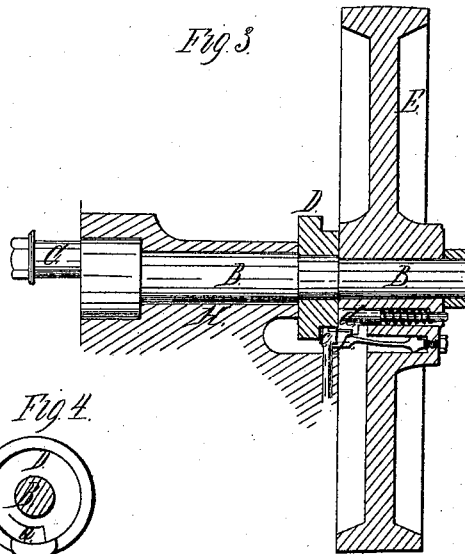


Fig 4.



Fig 5.



Fig 6.



Witnesses:

*John H. Shumway,
Rufus H. Sanford.*

UNITED STATES PATENT OFFICE.

NORMAN C. STILES, OF MERIDEN, CONNECTICUT.

IMPROVED CLUTCH FOR POWER-PRESSES.

Specification forming part of Letters Patent No. 52,335, dated January 30, 1866.

To all whom it may concern:

Be it known that I, N. C. STILES, of Meriden, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Clutches for 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 side view; Fig. 2, a vertical central section in a position as when in connection with the power; Fig. 3, a like section as when disconnected from the power, and in Figs. 4, 5, 6, and 7 detached views to illustrate the operation of the clutch for connecting and disconnecting the power.

My invention relates to an improvement in that part of a power-press known as the "clutch" or the mechanism for connecting or disconnecting the power from the press, which it is often desirable to do at each full operation of the press.

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

A is the frame, supporting in proper bearings a shaft, B, upon one end of which is formed a wrist-pin, C, to which the slide which carries the cutter or punch is attached, either by a pitman (as in my press patented January 26, 1864) or directly to the slide, as in the well-known "Fowler press."

To the rear end of the shaft B, I fix a plate, D, and in its face form a notch, *a*, as seen in Fig. 4, and back of the said plate D, and so as to revolve freely upon the said shaft B, I place a belt or fly wheel, E. Into the hub of the wheel E, I insert a bolt, *d*, as seen in Figs. 2 and 3, which is forced forward to bear against the plate D by means of a spiral spring, as denoted in red. Beneath the said bolt *d*, I fix a spring-latch, *f*, which, when the bolt is pressed back, as in Fig. 3, will catch and hold it in that position, as seen in Fig. 3, and when the said latch is drawn away from the bolt, as seen in Fig. 2, the bolt will be permitted to move forward, so as to catch in the notch *a* in the

plate D, and thus cause the shaft B to revolve with the wheel until the bolt *d* is withdrawn.

To make this operation at the command of the operator, I place a trip, *c*, in the frame, to be operated by means of a lever or treadle extending forward to a convenient position for the operator, and constructed with a cam-shaped shoulder, *s*, as seen in Figs. 4, 5, and 6, corresponding to a projection from the latch, as seen in Figs. 2 and 3, so that when the trip is raised to the position as seen in Figs. 3 and 4 the latch will pass freely under; but when the trip is drawn down, as in Figs. 2 and 5, the projection from the latch will strike the said shoulder and be drawn down, as seen in Fig. 2, so as to permit the bolt *d* to spring forward and lock into the notch *a* in the plate D, which will cause the shaft B to revolve with the wheel E, and will so continue to do until the trip is raised, which it will be, when released from the hand or foot of the operator, by means of a spring (denoted in red, Fig. 1) or an equivalent therefor, the tendency of which is to hold the trip in the position seen in Figs. 3 and 4.

In order to force the bolt *d* back from the position in Fig. 2 to that in Fig. 3 I form an inclined plane upon the face of the trip, as seen in Fig. 7, so that when the trip is raised and the bolt *d* strikes the inclined plane on the trip it will be forced back and caught by the latch, as seen in Fig. 3, and thus disconnect the power from the shaft when the shaft is always in the same position.

The wrist-pin C, I place so that the disconnection shall always occur when the slide or tool-holder is raised to its highest point.

Connection of the power can only occur when the notch *a* is in a certain position—that is, at that point where the bolt is released by the action of the trip. Therefore, if the shaft be turned partially around, as in the position seen in Fig. 6, the bolt would strike the face of the plate and not be released by the latch, so that if the trip were drawn down when the plate D was in any other position than that denoted in Figs. 4 and 5 the power could not be disconnected.

By this arrangement I am enabled to turn the shaft to any position as required for the adjustment of the tool-holder without danger

of accidentally connecting the power—a great advantage in all power-presses, but more particularly so in presses constructed with an adjustment like that in my patent of January 26, 1864. When the tool-holder has been adjusted then turn the shaft to the position denoted in Figs. 4 and 5, in which position the power may be connected, as before described.

I have described my invention as applicable to power-presses only, yet it may be used with equal advantage on any machine or for any purpose where a similar connection or discon-

nection is required. Therefore, without confining myself to any specific use of my improvement,

What I claim as new and useful is—

A clutch for connecting or disconnecting power, consisting of a bolt, *d*, latch *f*, and trip *c*, arranged to operate substantially in the manner described.

NORMAN C. STILES.

Witnesses:

HENRY M. FOSTER,
ORVILLE H. PLATT.