

H. MARTIN.  
CLUTCH-BOX.

No. 176,976.

Patented May 2, 1876.

Fig. 1

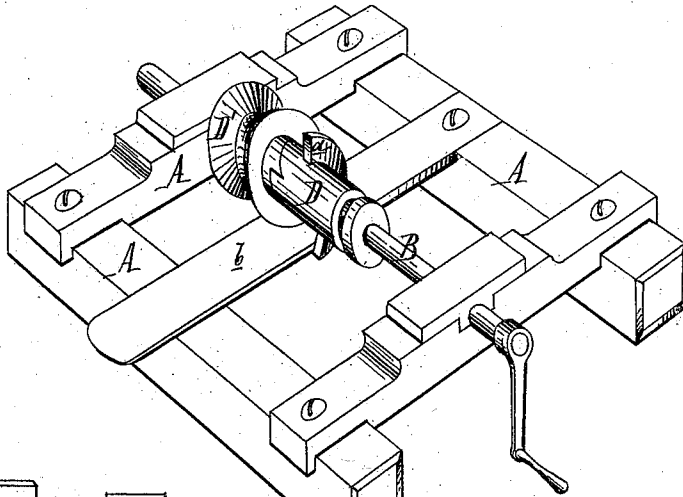


Fig. 2.

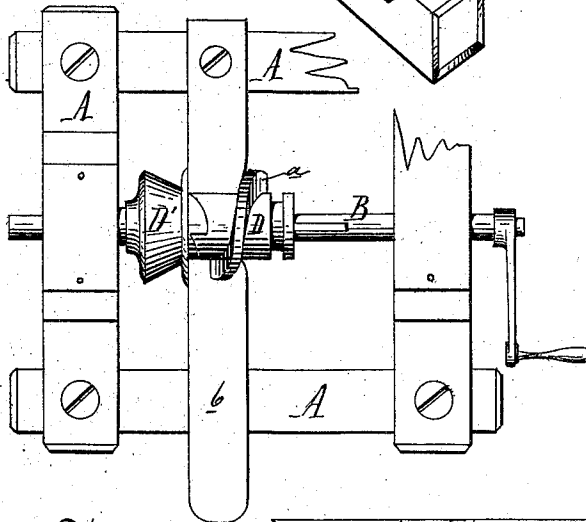
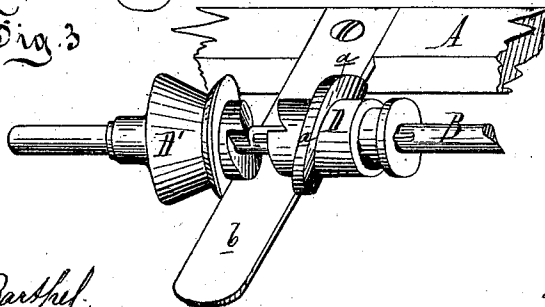


Fig. 3



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# UNITED STATES PATENT OFFICE.

HENRY MARTIN, OF GRAND TRUNK JUNCTION, MICHIGAN.

## IMPROVEMENT IN CLUTCH-BOXES.

Specification forming part of Letters Patent No. **176,976**, dated May 2, 1876; application filed June 29, 1875.

### *To all whom it may concern:*

Be it known that I, HENRY MARTIN, of Grand Trunk Junction, in the county of Wayne and State of Michigan, have invented an Improvement in Clutch-Boxes, of which the following is a specification:

My invention has for its object to provide a means for quickly and easily uncoupling the sliding gland of a clutch-box from its stationary counterpart on the shaft during the revolution of said shaft; and it consists in forming upon the sliding gland or sleeve a spiral rib or thread, of one-half a convolution, or thereabout, whose pitch is equal to a little more than the depth of the detents on the end of said clutch-box, and in combination therewith a lever fixed at one end to some portion of the frame-work, in which the shaft runs, so arranged as to be lifted to come between the spiral rib and the fixed counterpart, and cause the rib, in rotating against its edge, to propel the clutch-sleeve away from, and out of engagement with, its counterpart, which is thus brought to a stand-still in about a half-revolution of the shaft.

Figure 1 is a perspective view of my improved clutch-box and its shaft journaled in a frame-work. Fig. 2 is a plan of the same, showing the clutch-box engaged with its counterpart. Fig. 3 is a perspective view, showing the parts disengaged.

In the drawing, A represents a frame-work, in which a shaft, B, is journaled in suitable bearings. D is the sliding gland or sleeve of an ordinary clutch-box feathered on said shaft, and D' is its counterpart, revolving loosely on said shaft, except when the part D is engaged therewith, it being moved up by an ordinary shipper-lever. (Not shown.) On the gland or sleeve D there is cast a spiral rib, *a*, of little more than a half-revolution, and whose pitch

is a little more than the depth of the detents at the end of the clutch-box. *b* is a lever let into the frame-work at one end, and extending across the axis of the shaft B, just tangent to the periphery of the spiral rib, but capable of being raised up into contact with the clutch-sleeve between the clutch-pulley D' and the rib, and its width is such as that the outer or further end of said rib will take against its edge when it comes around, and, in the rotation of the shaft, will bear against it, propelling itself and the movable gland away from, and out of engagement with, the counterpart D, so that the latter will be free as soon as one-half a revolution of the shaft is made.

Heavy machinery, where clutch-gearing is used, is difficult to throw out of gear by means of the ordinary shippers when in motion, and it is often important to stop the machinery instantly—as, for instance, in a brick-machine, when a stone gets into the mold—in order to prevent breakage and damage. Such machinery cannot be stopped with the clutch shipping-lever heretofore in common use before a number of revolutions of the shaft have been made, and in many cases with great damage, while it is evident that any child having strength enough to raise the lever *b* can throw the clutch-pulley out of gear instantly.

What I claim as my invention is—

The combination, with the frame-work A and shaft B, of the clutch-sleeves D D', the sleeve D having the spiral rib *a* cast thereon, and the spring-lever *b* let into the frame at one end, and extending across the axis of the shaft, all constructed and arranged substantially as described and shown.

HENRY MARTIN.

Witnesses:

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H. F. EBERTS.