

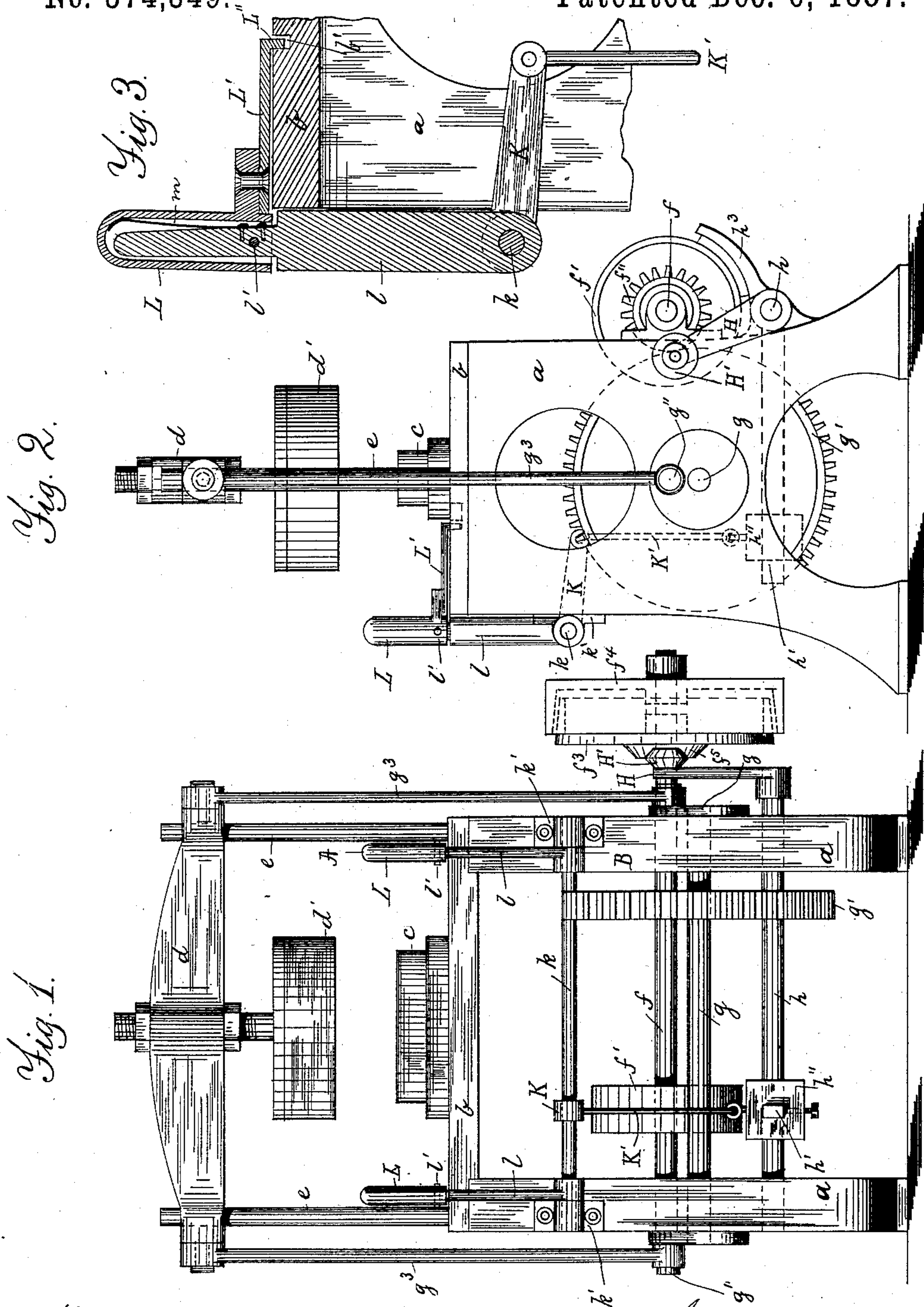
(No Model.)

E. A. DAMON & J. N. GRISWOLD.

MACHINE STARTING DEVICE.

No. 374,349.

Patented Dec. 6, 1887.



Witnesses.
Harry W. Robinson.
Henry Chadbourne.

Inventors.
Eugene A. Damon & John N. Griswold.
by Alban Andrews their attys.

UNITED STATES PATENT OFFICE.

EUGENE A. DAMON, OF SCITUATE, AND JOHN N. GRISWOLD, OF SALEM,
MASSACHUSETTS.

MACHINE-STARTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 374,349, dated December 6, 1887.

Application filed August 27, 1887. Serial No. 218,010. (No model.)

To all whom it may concern:

Be it known that we, EUGENE A. DAMON, a citizen of the United States, and a resident of Scituate, in the county of Plymouth and State of Massachusetts, and JOHN N. GRISWOLD, a citizen of the United States, and a resident of Salem, in the county of Essex and State of Massachusetts, have jointly invented new and useful Improvements in Starting Devices for
5 Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in starting mechanism for sole-cutting or other
15 machines; and it has for its object to prevent accidents to the hands of the operator when placing and removing the work on and from the die or equivalent part of the machine, as will hereinafter be more fully shown and de-
20 scribed.

In the drawings we have represented the starting mechanism as applied to a sole-cutting machine; but it is equally well adapted for other kinds of machinery where there is
25 danger of injury to the hands of the operator in manipulating the work.

On the drawings, Figure 1 represents a front elevation of a sole-cutting machine provided with our improvement. Fig. 2 represents an
30 end view of the machine, showing the driving-pulley as removed; and Fig. 3 represents an enlarged vertical section on the line A B, shown in Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the
35 drawings.

a a represent the upright standards or base of a sole-cutting machine, having die-supporting plate or table *b* in their upper ends, as is
40 usual in machines of this kind.

c is the die, secured in a suitable manner on the top of plate *b*.

d is the vertically-movable block-carrying beam, that is guided on the stationary rods or
45 posts *e e*, and to said beam is secured, as usual, the die-block *d'*. (Shown in Figs. 1 and 2.)

f is the driving-shaft, located in bearings in the standards *a a*, and to said shaft are secured,
50 as usual, the brake-pulley *f'*, the pinion *f''*,

and the friction-clutch *f³*, the latter being capable of longitudinal adjustment on said shaft *f* to and from the loose driving-pulley *f⁴*, that is located on the outer end of said shaft *f*, as is common in sole-cutting or similar machines. 55
The pinion *f''* meshes in the teeth of the gear *g'*, secured to the shaft *g*, that is journaled in bearings in the standards *a a*, said shaft having cranks *g'' g''* in its outer ends, to which are pivoted the lower ends of the connecting-rods 60
g³ g³, the upper ends of which are pivoted to the ends of the beam *d*, and in this manner and by this means a vertical up-and-down motion is imparted to the said beam and its block
65 *d'* when the shaft *g* is rotated.

Below the driving-shaft *f* is located, in bearings in the standards *a a*, the rock-shaft *h*, on which is hung the weighted lever *h'*, to which the weight *h''* is adjustably secured. Said lever *h'* is provided, as usual, with a brake-shoe, 70
h³, that is normally held in contact with the brake-pulley *f'* by the influence of the weight *h''* on the lever *h'* when the machine is not operated, as shown in Figs. 1 and 2. To the rock-shaft *h* is secured the clutch-lever *H*, 75
having a wedge-shaped roller or wedge or incline, *H'*, in its upper end, that is brought in contact with the wedge-shaped or tapering hub *f⁵* on the clutch *f³* when the lever *h'* is raised, causing the said clutch to be friction- 80
ally connected to the rotary pulley *f⁴*, and thus causing the shaft *f* to be rotated as long as the said clutch is forced against the loose driving-pulley.

The above-described machine is old and 85
well known in the art, and we desire to state that we do not claim said machine as our invention, as it is merely shown and described to properly illustrate the working of our improved starting mechanism, which latter may 90
be applied to a machine of the kind above described, or to other machinery of any kind where there is danger of the operator cutting or otherwise injuring his hands while manipulating the work to be cut or shaped. 95

Our improved starting mechanism is so constructed and arranged that both hands of the operator must be used simultaneously in starting the machine, and it is thus impossible to get his hands injured when the machine is in 100

motion. The mechanism is so constructed that the machine cannot be started with one hand only.

Our starting mechanism is carried out as follows: k is a rock-shaft located in bearings $k' k'$, secured to the standards $a a$. To the rock-shaft k are firmly secured the hand-levers $l l$, to the upper ends of which are pivoted, at $l' l'$, the handles $L L$, which are preferably made hollow to enable their being rocked on the fulcra $l' l'$, as shown in Fig. 3. To each handle L is secured the forwardly-projecting locking bar or rod L' , the end of which is made in the form of a downwardly-projecting lip, L'' , (shown in Fig. 3,) adapted to drop and lock in the notch or recess b' in the top of the plate or table b , as shown in Figs. 2 and 3, when the machine is at rest.

The locking-bars $L' L'$ may be held in the locked position shown in the drawings by their own gravity or by the influence of a spring, m , located within each handle L , between its interior and the upper end of its lever l , as shown in Fig. 3.

K is a lever secured to the rock-shaft k , and to the inner end of said lever is connected the rod K' , the lower end of which is suitably connected to the weight h'' on the lever h' , as shown.

To start the machine, the operator must grasp both of the handles $L L$, and by pulling them forward they are rocked on their fulcra $l' l'$ sufficiently to raise the lips $L'' L''$ on the locking-bars $L' L'$ out of their respective recesses or notches $b' b'$, and by pulling the said handles still more forward the levers $l l$ are actuated, causing the rock-shaft k to be rocked in its bearings, the lever K , rod K' , weight h'' , and lever h' to be raised, the shaft h to be rocked sufficiently to cause the brake-shoe h^3 to be liberated from the brake-pulley f' , and

the inclined roller H' on the lever H to actuate the friction-clutch f^3 , so as to lock it temporarily to the loosely-rotating pulley f^4 , thus setting the various parts of the machine in operation, and they will continue such operation as long as the operator pulls forward on the said handles $L L$. When the operator lets go the handles $L L$, the weight h'' causes the brake-shoe h^3 to be brought against the brake-pulley f' and the inclined roller H' to be disengaged from the clutch f^3 at the same time as the shaft k is rocked to the position shown in the drawings by the influence of the weight h'' , rod K' , and lever K , and thus causing the lips L'' on the locking-bars L' to drop into their respective recesses b' .

It will thus be seen that the machine cannot be started except by simultaneously operating both handles $L L$ and their levers $l l$, as above described.

Having thus fully described the nature, construction, and operation of our invention, we wish to secure by Letters Patent, and claim—

The safety starting mechanism, as described, consisting of a pair of levers, $l l$, a shaft, k , the handles $L L$, locking-bars $L' L'$, having lips or projections $L'' L''$, adapted to be locked in recesses $b' b'$, and suitable intermediate connecting mechanism from the shaft k to the driving-pulley of the machine, as and for the purpose set forth.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, on this 22d day of August, A. D. 1887.

EUGENE A. DAMON.
JOHN N. GRISWOLD.

Witnesses:

ALBAN ANDRÉN,
LENA GOODELL.