

No. 703,202.

Patented June 24, 1902.

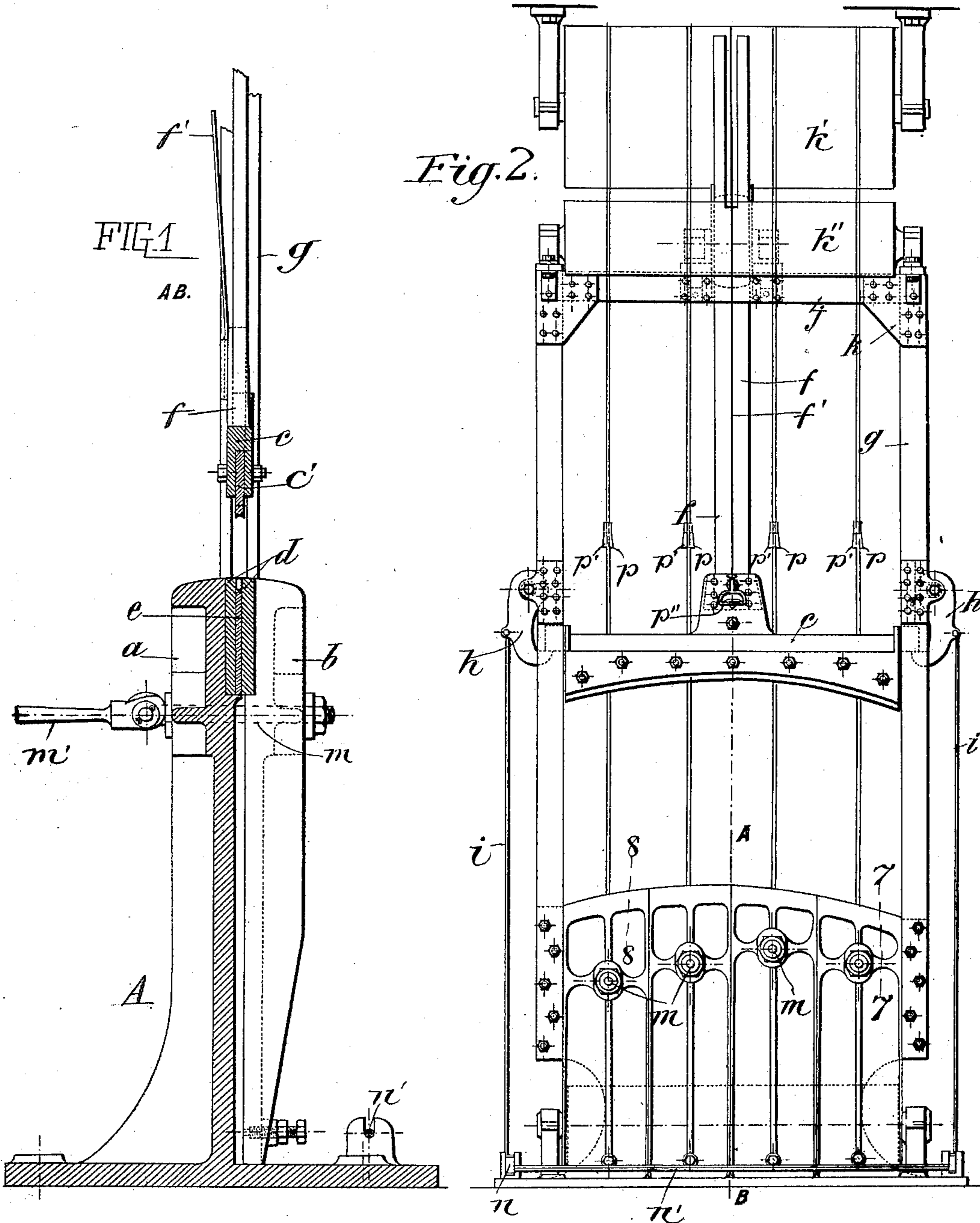
A. HEURTIÉR.

MACHINE FOR FORMING RIBS ON SCYTHES.

(Application filed Dec. 10, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES
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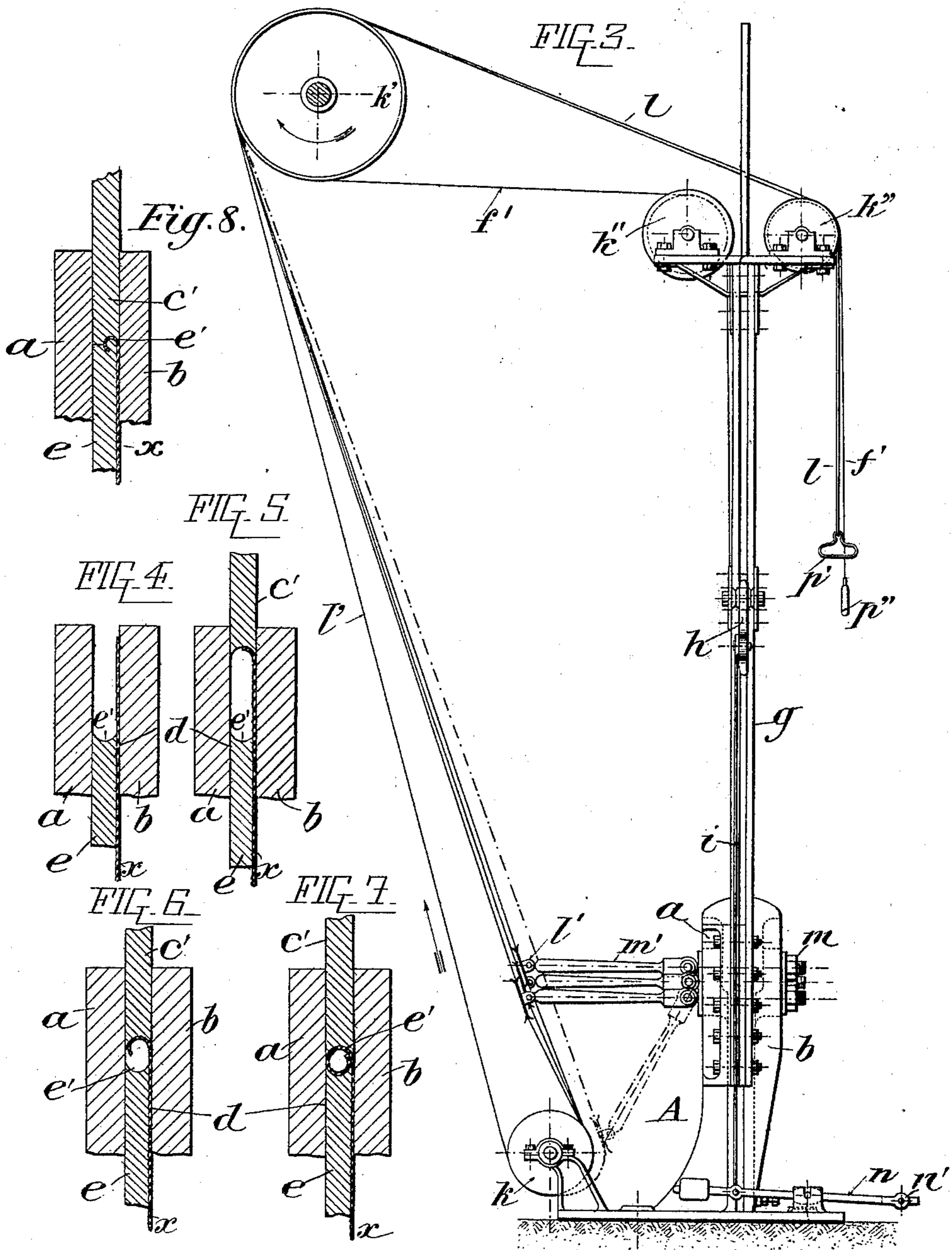
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UNITED STATES PATENT OFFICE.

ANTOINE HEURTIÉR, OF ST. ETIENNE, FRANCE.

MACHINE FOR FORMING RIBS ON SCYTHES.

SPECIFICATION forming part of Letters Patent No. 703,202, dated June 24, 1902.

Application filed December 10, 1901. Serial No. 85,307. (No model.)

To all whom it may concern:

Be it known that I, ANTOINE HEURTIÉR, engineer, a citizen of the Republic of France, residing at 18 Rue du Grand Sonnet, St. Etienne, Loire, in the Republic of France, have invented certain new and useful Improvements in Machines for Forming the Ribs on Seythes, of which the following is a specification.

10 This invention relates to a machine for forming ribs on scythe-blades, and has for its object to provide certain improvements in a machine of this character whereby the operation of forming ribs on scythe-blades is
15 accomplished with facility.

To this end the invention consists of a machine for forming ribs on scythe-blades comprising a base having a fixed jaw, a movable jaw secured thereto, a frame supported on
20 said base, a ram guided in said frame, matrices carried by said base and ram, means for clamping a scythe-blade between said jaws, power-transmitting mechanism for actuating said ram, and means coöperating with said
25 power-transmitting mechanism for actuating said clamping means, as will be more fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is
30 a vertical section of the clamping-jaws of my improved machine, showing adjacent member in part. Fig. 2 is a front view of the machine. Fig. 3 is a side view thereof. Figs.
4, 5, 6, and 7 are enlarged transverse sections
35 of the clamping-jaws and matrices, showing the various positions thereof in the formation of the rib of the scythe-blade as taken at line 7 7, Fig. 2; and Fig. 8 is a transverse section
40 of the jaws and matrices at the opposite ends

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the
45 base of my improved machine for forming the ribs of scythe-blades. The base A is formed with an upright fixed jaw *a*, to which is secured a movable jaw *b*, that is maintained in normally open position—that is, slightly separated from the jaw *a*. (Not so
50 shown.) The jaws are provided with clamping-faces *d*, between which and secured to the fixed jaw *a* is the lower matrix *e*, that is

convex at its upper edge. Supported upon the fixed jaw *a* are the uprights *g* of the frame of the machine, the upper ends of the
55 uprights being connected by the transverse beam *j*, as shown in Fig. 2.

The ram *f* is provided with a cross-head *c*, that is guided at its ends in suitable ways formed in the uprights *g*, said cross-head *c*
60 having secured thereon the upper matrix *c'*, that is concave at its lower edge to conform to the convex edge of the lower matrix *e*. The adjacent edges of the matrices are provided with similarly-tapering semicircular
65 grooves *e'*, which are of larger diameter at the right-hand end of the matrices, as shown in Figs. 4 to 7, and of a considerably smaller diameter at the left-hand end of the matrices,
70 as shown in Fig. 8, so that the rib of the scythe-blade *x* will taper toward one end.

On the base A, at the rear edge thereof, is mounted a horizontal drum *k*. At a suitable height is arranged a large drum *k'*, which is properly journaled in ceiling-hangers, and at
75 the upper end of the frame are mounted the parallel drums *k''*. Over these drums pass the belts *l*, that coöperate with clamping means arranged on the fixed jaw *a*. The movable jaw *b* is provided with a plurality
80 of bolts *m*, that project through the fixed jaw *a* and have connected therewith the cam-levers *m'*, the outer ends of which being connected with the belts *l* by means of the pivotal links *l'*. The belts *l*, doubling around
85 the drum *k*, pass upwardly to and over the drum *k'* to and over the forward one of the drums *k''*, from which they depend and terminate with handles *p p'*.

The guide-rod of the ram *f* is guided by the
90 transverse beam *j*. To the cross-head *c* of the ram is attached one end of the belt *f'*, that passes over the rear one of the drums *k''*, around the drum *k'*, forwardly to and over the other one of the drums *k''*, depending
95 therefrom and provided at its end with a handle *p''*.

At a suitable height on the uprights *g* are arranged the cams *h*, that are connected by means of the rods *i* with the weighted operating-levers *n*, said levers being connected
100 by the transverse rod *n'*, so that the two cams can be operated simultaneously.

The movable jaw *b* is normally separated

from the fixed jaw *a*, and in such position the cam-levers *m'* depend in inclined direction, as shown by dotted lines in Fig. 3. A scythe-blade *x* of suitable form is placed between the jaws with the upper edge thereof somewhat above the convex edge of the matrix *e*, as shown in Fig. 4, and the jaws are then clamped. The clamping of the jaws takes place by pulling upon the ends of the belts that are provided with the handles *p*. This pulling action upon the belts *l* causes the same to frictionally engage the rotating drum *k'*, so that the belt portions that are connected with cam-levers are drawn in upward direction, carrying the levers *m'*, to assume a somewhat horizontal position, and thereby clamp the jaws *a* and *b*, as shown in Figs. 1 and 3. In order to unclamp the jaws, the handles *p'* on the other ends of the belts *l* are pulled. This causes the rotating drum *k'* to carry the belts *l* in opposite direction, so that the cam-levers *m'* will be returned to their normally lowered position, as shown in Fig. 3.

In order to raise the ram *f*, the belt *f'*, carrying at its end the handle *p''*, is pulled in downward direction, so that frictional engagement of the belt *f'* with the rotating drum *k'* causes the ram to be raised to the height that the cams *h* will engage the ends of the cross-head *c*. The cams *h* are thrown out of engagement with cross-head by depressing the weighted operating-levers *n*, which act upon the cams through the connecting-rods *i*.

The scythe-blade *x* is clamped between the jaws while the ram is in raised position. By releasing the ram the rib-forming operation takes place, in which operation the matrix *c'* will strike upon the upper edge of the scythe-blade *x* and cause it to curl up into a circular rib, as shown in Figs. 5 to 7.

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

1. In a machine for forming ribs on scythe-blades, the combination of a base having a fixed jaw, a movable jaw secured thereto, a frame supported on said base, a ram guided in said frame, matrices carried by said base and ram, means for clamping a scythe-blade between said jaws, power-transmitting mechanism for actuating said ram, and means cooperating with said power-transmitting mechanism for actuating said clamping means, substantially as set forth.

2. In a machine for forming ribs on scythe-blades, the combination of a base having a fixed jaw, a movable jaw secured thereto, a frame supported on said base, a ram guided by said frame, cam means for clutching the cross-head of said ram, releasing means connected therewith, matrices carried by said ram and base, means for clamping a scythe-blade between said jaws, a rotating drum, a plurality of belts for actuating the jaw-clamping means, and a belt for raising said ram, said belts being operated by engagement with said drum, substantially as set forth.

3. In a machine for forming ribs on scythe-blades, the combination, of a base having a fixed jaw, a movable jaw secured thereto, a frame supported on said base, a ram guided by said frame, cam means on said frame for clutching the cross-head of said ram, releasing means connected therewith, matrices carried by said ram and base, said matrices being provided with tapering grooves and having adjacent edges concave and convex, cam-levers for clamping the jaws, belts connected with said levers, a drum for actuating said belts, and a ram-lifting belt actuated by said drum, substantially as set forth.

In testimony whereof I have hereunto set my hand, in presence of two subscribing witnesses, this 26th day of November, 1901.

ANTOINE HEURTIÉR.

Witnesses:

BANDENAS,
GEORGES DUMROS.