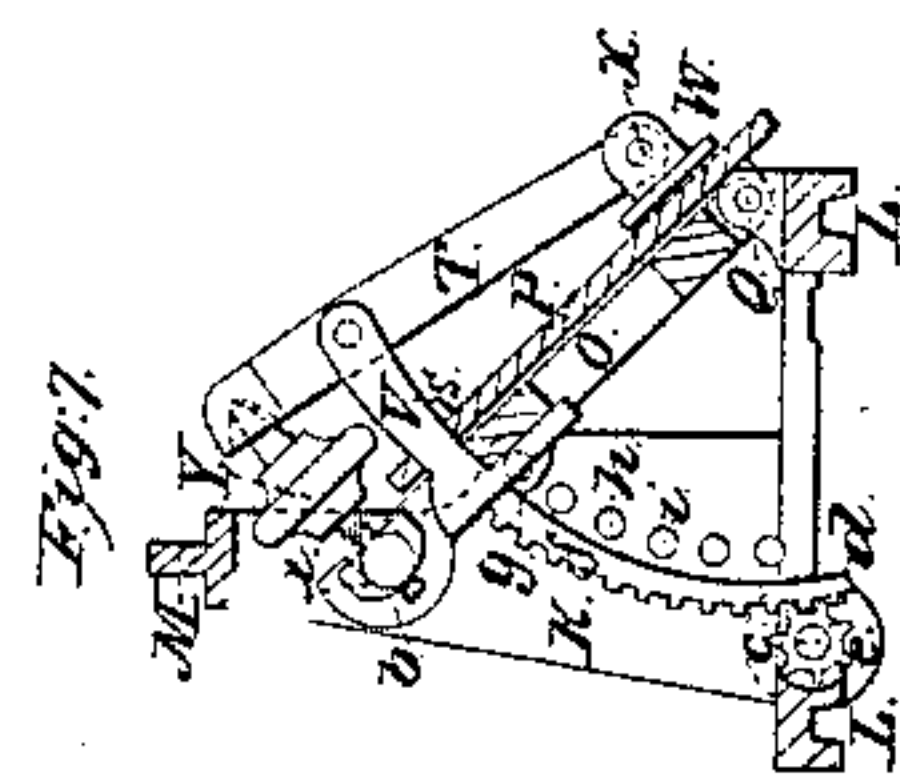
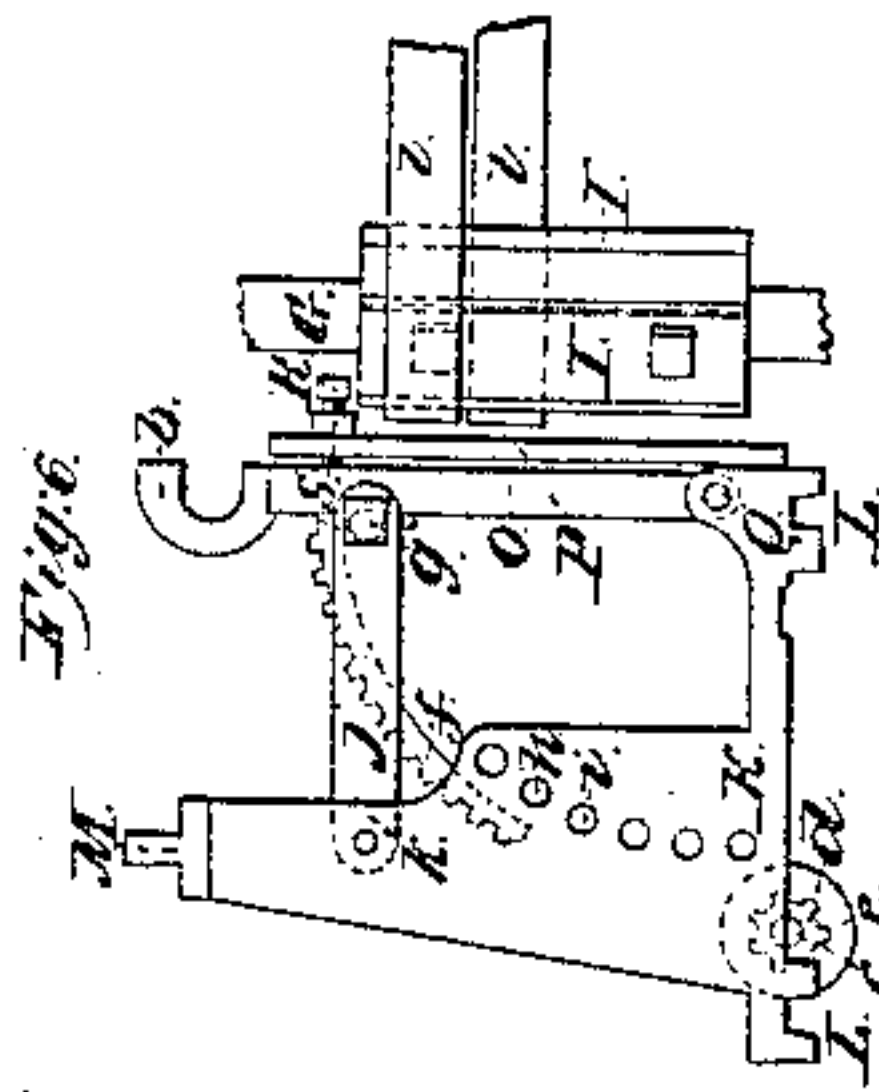
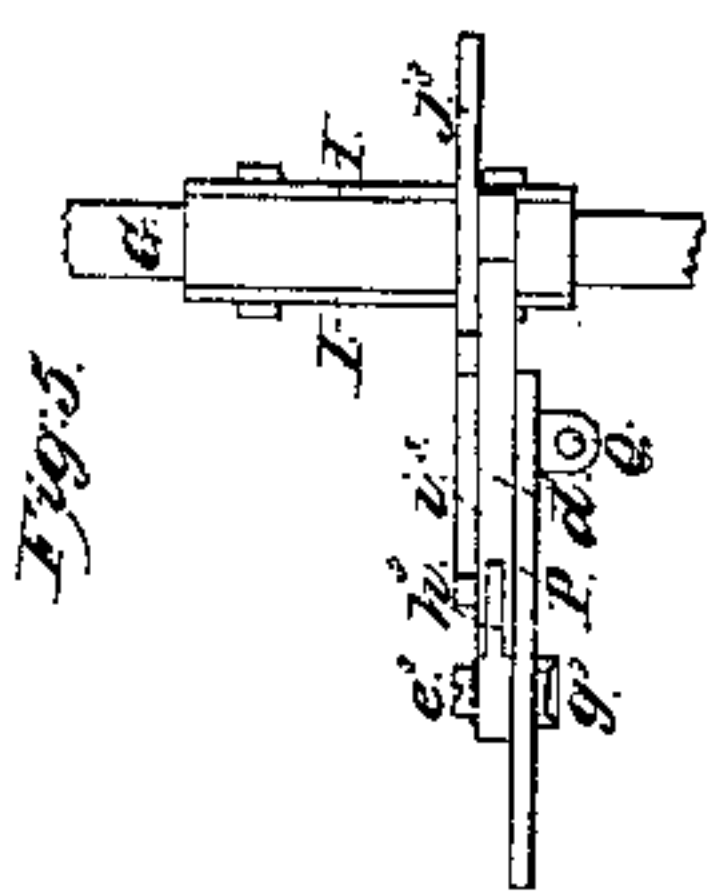
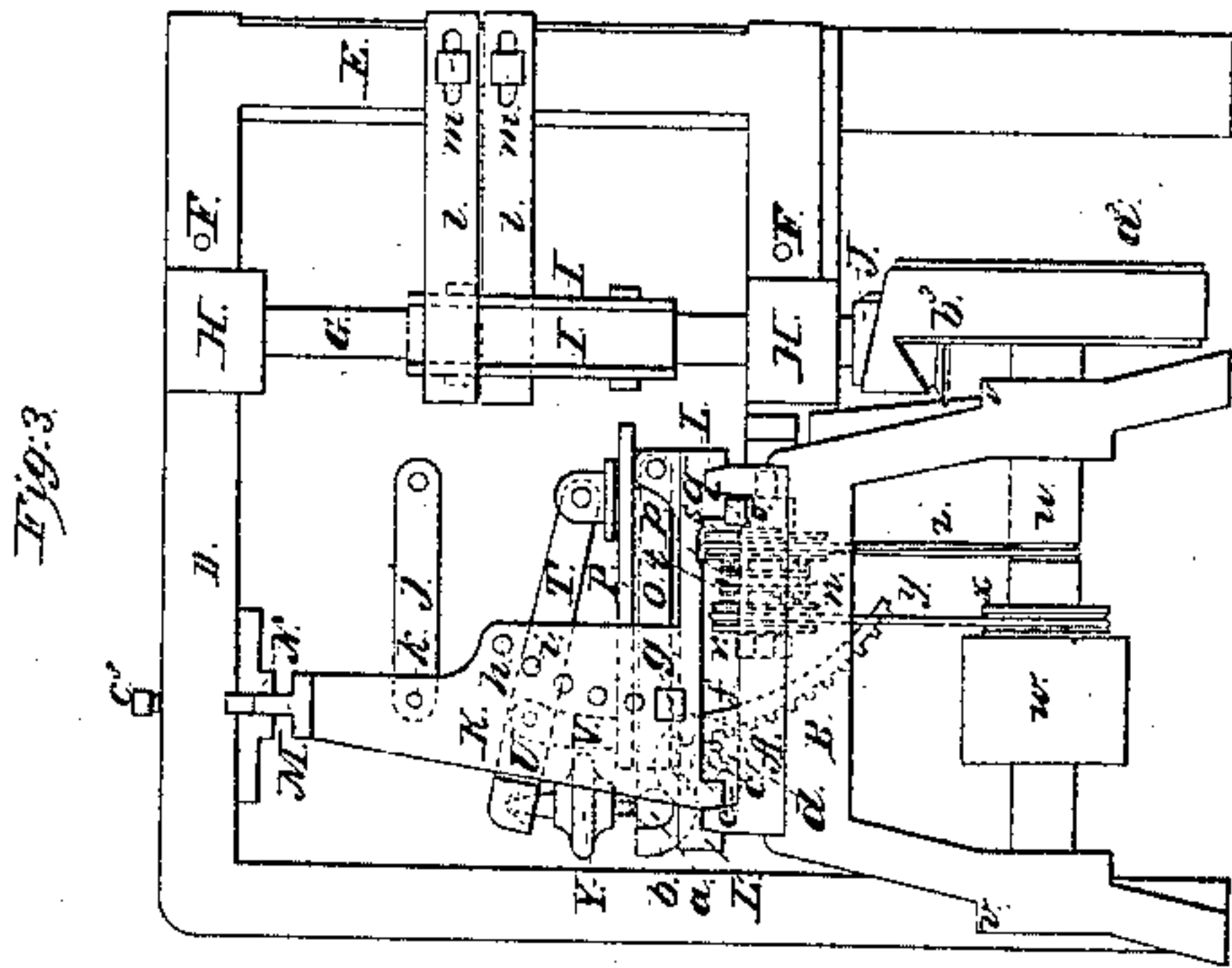
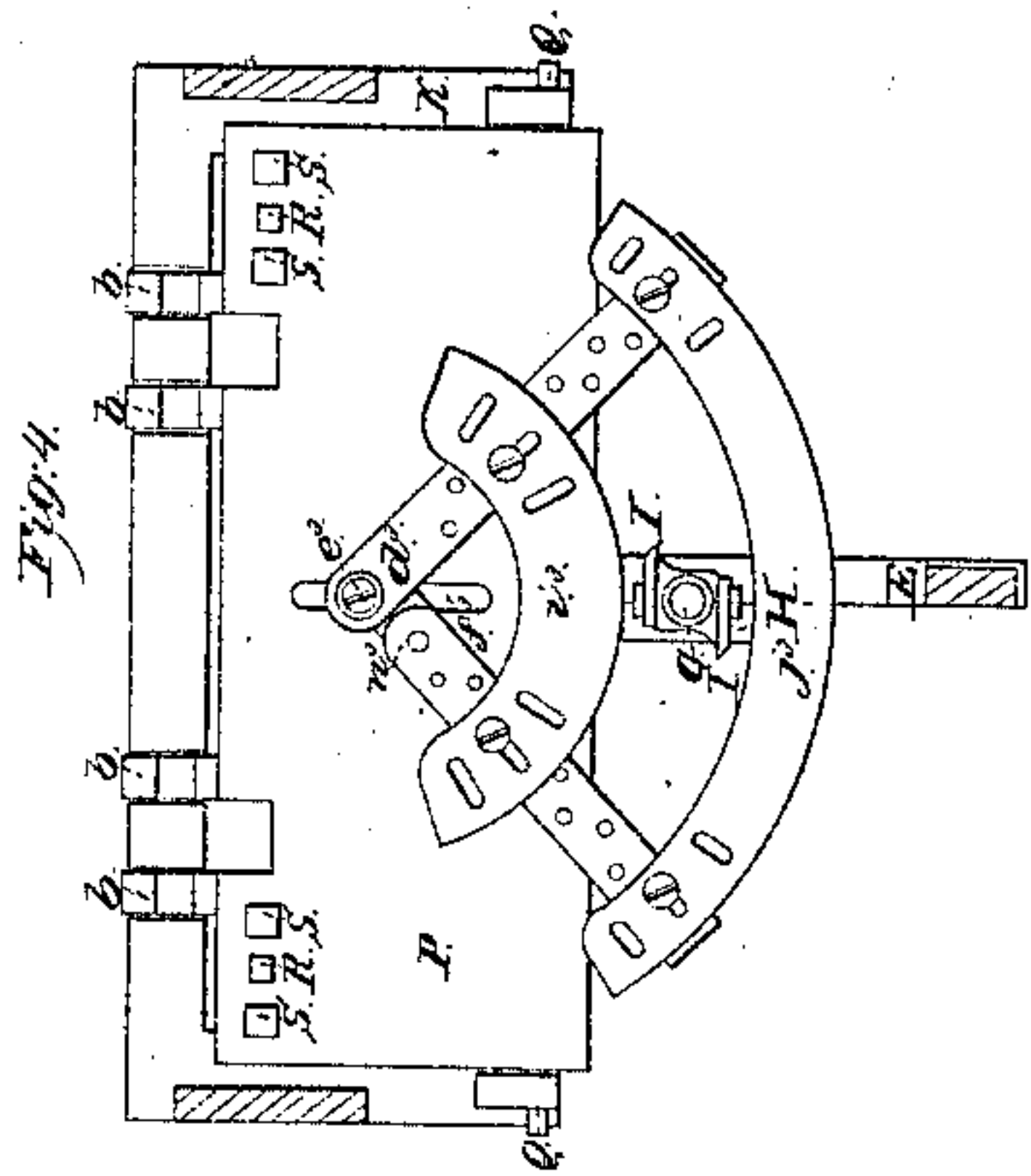
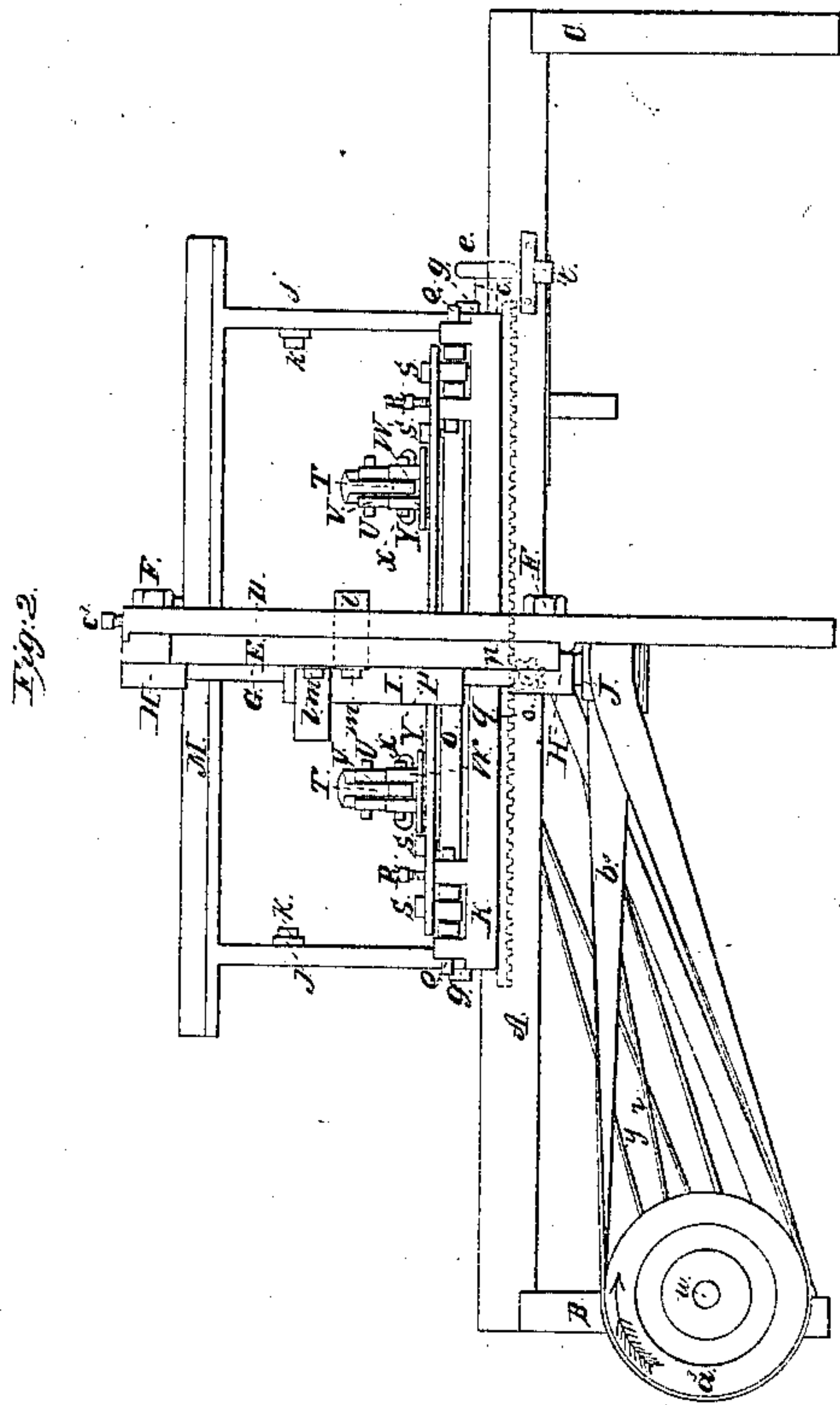
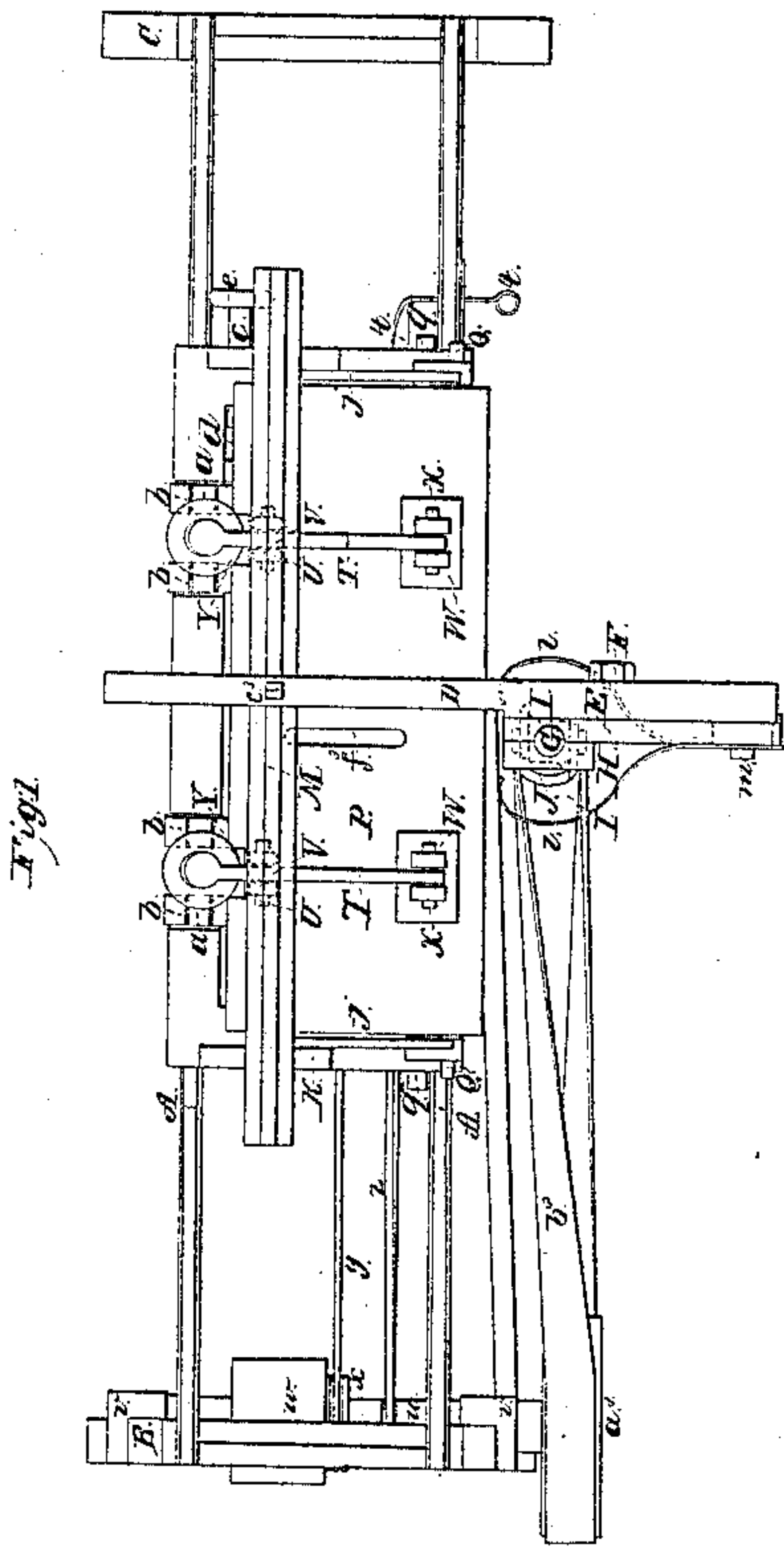


L. Gilson, Making Sash.

N^o 10,230.

Patented Nov. 15, 1853.



UNITED STATES PATENT OFFICE.

LEONARD GILSON, OF BRIGHTON, MASSACHUSETTS.

MACHINE FOR DRESSING CIRCULAR SASH, &c.

Specification of Letters Patent No. 10,230, dated November 15, 1853.

To all whom it may concern:

Be it known that I, LEONARD GILSON, of Brighton, in the county of Middlesex and State of Massachusetts, have invented new and useful improvements in machines which I call "finishers" for smoothing clapboards, trying outdoor stuff, working out moldings and circular sash, and all articles necessary to finish a house; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan, Fig. 2 is a side elevation, Fig. 3 is an end elevation, Fig. 4 is a plan of the bed and cutter with an apparatus attached for working out circles, Fig. 5 is an end view of the bed and cutter with the circular apparatus attached, Fig. 6 is a view of the carriage and cutter with the face of the bed turned up parallel to the cutter, Fig. 7 is a section of the carriage with the bed turned up at an angle of forty five degrees.

The same letters refer to like parts in all the figures.

To construct this machine a substantial frame, A, A, is formed, resting on stands, B and C, with the top edges of the said frame made perfectly straight. Near the center of the machine, there is a cross frame, D, secured firmly to the frame, A, A, with a cutter frame, E, made to slide back and forth, to suit the proper dimensions of the stuff to be tried out; and when the said cutter frame is set in its proper position, it is secured firmly to the cross frame by bolts, F, F. There is a shaft, G, with journals fitted to revolve in boxes, H, H, on the cutter frame; and one or more cutters, I, I, on the center of the said shaft, and a pulley, J, on the lower end to drive the said cutters; the edge of the cutters can be made straight, or in a form suitable to cut any shaped molding required. There is a carriage, K, the under side of which has longitudinal grooves, L, L, fitted to the top edges of the frame, A, A, to guide it as it runs back and forth: there is also a slide, M, at the upper extremity of the carriage extending its whole length, or more, and fitted to run in a groove, N, in the cross frame, for the purpose of more effectually guiding the carriage while in motion. Connected with the carriage there is a bed frame, O, and an adjust-

able bed plate, P, both made to turn up and down together on the same axis by means of two or more pins, Q, Q, near the front edge of the carriage; but the adjustable bed plate can be so constructed as to turn on a separate axis, placed in the bed frame, if required, this, however, I consider a mechanical equivalent. The bed plate is adjusted by means of set screws, R, R, near the back edge, tapped through the said bed plate with their points resting on the bed frame; and by turning these set screws the bed plate can be raised, or lowered, from the bed frame, thereby making it capable of being set to any point of nicety required; it is then secured in its proper position by bolts, S, S, extending through the bed plate into the bed frame. Above the bed plate there are two or more levers, T, T, hung by a pin, U, to stands, V, V, rising from the back of the bed frame, and a clamp W, is hung by a pin, X, to the forward end of each lever; this clamp has two ears projecting from the upper side, their distance apart being sufficient to receive the end of the lever between them; the pin, X, runs through the ears of the clamp and also through the end of the lever giving the said clamp a chance to swing on the said pin, X, so that the clamp will naturally hang with its under surface parallel to the upper surface of the bed plate when raised above the said bed plate. The advantage in hanging the clamp to the lever in this way is that the under surface of the clamp will favor itself to the upper surface of different thicknesses of stuff, or to inclined surfaces such as clapboard. The fulcrum of the lever T, is at the pin U, and the back end of the lever extends a little beyond its fulcrum; and directly under the back end of each lever there is a set screw, Y, which screws up against the lever and presses the plate, W, down on to the stuff, holding it firmly to the bed plate while it passes by the cutters. The set screw, Y, is tapped into a nut, *a*, which is hung in ears, *b*, *b*, projecting from the back side of the bed frame. In order to swing the bed up and down I place a short shaft, *c*, in the lower part of the carriage, near the back side, with a pinion, *d*, on the inner end and a wheel, *e*, to turn it by, on the outer end. I then attach to the under side of the bed frame a circular rack, *f*, the axis of which is at the same point of the axis of the bed frame at,

Q, which meshes into the pinion, d , and by turning the wheel, e , the bed frame together with the bed plate can be turned up at any angle required, from a right angle to an angle of forty-five degrees from the cutters.

5 In Fig. 7 the bed frame and bed plate are turned up at an angle of forty-five degrees and secured in that position by a bolt, g , at each end of the carriage passing through a hole in the end of the carriage and
10 screwed into the end of the bed frame.

In Figs. 3, 6 and 7 there is a series of holes, h , i , &c. in each end of the carriage for the reception of a bolt, g , by which the
15 bed frame can be secured at different angles; then by means of the set screws, R, R, the bed plate can be adjusted as occasion may require.

In Figs. 1, 2 and 3 the bed frame and
20 bed plate are turned down in their lowest position or at right angles with the cutters and secured in that position by bolts, g , g .

In Fig. 6 the bed frame and bed plate are turned up in vertical position or parallel
25 to the cutters and secured firmly in that position by a bar, j , at each end of the carriage; one end of the said bar being connected to the bed frame by the bolt, g , and the other end of the carriage by a bolt,
30 h . When the bed is in a vertical position the levers, T, T, the set screws, Y, Y, and the stands, V, V, are removed, and two or more springs, l l , are used to press the stuff firmly against the bed while it is passing by the cutters. The said springs are secured by bolts, m , m , to the cutter frame and extend out on a circle, each side of the
35 cutters, to the bed. Thus, by arranging the bed and carriage as above described, a piece of stuff can be worked out perfectly square, or shaped to any angle required. To drive the carriage back and forth a horizontal feed shaft, n , is hung near the center, and cross ways, of the frame, A, with a pinion, o ,
40 on one end, and a clutch, p , on the center; the pinion, o , is fitted to mesh into a rack, q , which is attached to the under side of the carriage; the said rack extending the whole length or more of the carriage; the clutch
45 is fitted to slide a short distance on the shaft and by means of a spline is made to revolve with it; on the inner end of this shaft, a short distance from the clutch, there is a small loose pulley, r , and between the clutch
50 and pinion there is a larger loose pulley, s ; there is a shipper, t , by which the clutch is made to slide back and forth on the shaft, to clutch either of the pulleys as occasion may require. In the forward part of the
60 machine, there is a horizontal main shaft, u , with journals fitted to revolve in boxes, v , v , on the stand, B; near the center of this shaft there is a driving pulley, w , and at the end of the driving pulley there is a small
65 pulley, x , directly opposite the small loose

pulley, r , on the feed shaft. There is an open belt, y , running from the pulley, x , to the pulley, r , to run the carriage back, and a cross belt, z , running from the larger loose pulley, s , to the main shaft, to feed
70 the carriage forward. On the outer end of the main shaft, outside of the frame, there is a pulley, a^3 , on which a belt, b^3 , is placed running to the cutter pulley, J, to drive the
75 cutters; the belt, b^3 , runs from the top of the pulley, a^3 , to the inside of the cutter pulley, and from the outside of the cutter pulley to the under side of the pulley, a^3 . When the main shaft is set in motion the belt, b^3 , drives the cutters; and the cross
80 belt, z , feeds the carriage forward when the clutch is moved against the pulley, s , and when the clutch is removed from the pulley, s , and brought in contact with the pulley, r , the carriage is made to run back; and when
85 the clutch is removed from both pulleys, to a central point between them, so as not to come in contact with either, the carriage remains still. When it is designed to make circular work the carriage is placed on the
90 center of the frame and secured in that position by a set screw, c^3 , in the top of the cross frame; the bed is then turned down at right angles with the cutters, and the levers, T, T, are removed, and an angle
95 frame, d^3 , is placed upon the bed plate, as represented in Figs. 4 and 5. The angle frame has a bolt, e^3 , in its vertex extending down through a slit, f^3 , in the bed plate with a nut, g , (Fig. 5,) on the lower end
100 of it, under the bed plate; the slit in the bed plate is made long, so as to admit the bolt to slip back and forth, together with the angle frame, to suit different sized circles; when the angle frame is placed in
105 the proper position to suit the circle to be worked, the belt, e^3 , is screwed up and held firmly to the bed plate whereby forming an axis on which the angle frame is made to turn. One leg of the angle frame has a
110 joint, h^3 , in it near the vertex to increase or diminish the angle for the purpose of adjusting it to long or short segments. The legs of this angle frame project out by the cutter one leg one side of the cutter and
115 the other leg the other side of the cutter and are designed to open far enough to admit of smoothing short stuff, on a circle, without the legs coming in contact with the cutter. When it is designed to work off,
120 or smooth the outer edge of the short segment the axis of the angle frame is placed, from the inside edge of the cutter, a distance equal to the radius of the circle to be worked; the legs of the angle frame are
125 then set at a proper distance apart and a segment plate i^3 , bolted on, to them, inside of the cutter. The stuff to be worked is laid upon the segment plate and secured thereto by bolts, dogs, or any of the usual
130

methods, then by taking hold of one leg
of the angle frame and swinging it around
the stuff passes by the cutters and is
smoothed off to the circle required. When
5 it is designed to work off the inside edge
of a circular piece of stuff, such as the
felly of a wheel, the axis of the angle frame
is placed, from the outside edge of the cut-
ter, a distance equal to the radius of the
10 circle required; the legs of the angle frame
are then adjusted as before and a segment
plate j^3 , corresponding with the circle re-
quired, bolted on to them outside of the
cutter, the stuff is then secured to the seg-
15 ment plate and passed by the cutter as be-
fore. There should be several sizes of seg-
ment plates to suit different sizes of circles
and changed accordingly.

What I claim as my invention, and desire
to secure by Letters Patent is—

1. I claim the swing bed frame and adjust- 20
able bed plate in combination with the lever
T, clamps W, and set screws Y, substan-
tially in the manner and for the purpose
herein set forth.

2. I claim an angle frame with a joint at, 25
or near, the vertex to increase or diminish
the angle, with a movable segment plate
thereon, in combination with the bed plate
and cutter, for circular work as herein de- 30
scribed.

LEONARD GILSON.

Witnesses:

CHARLES W. HAWKES,
HARVEY JEWELL.