

925,319.

P. ERICKSON.
SHAPER GUARD.
APPLICATION FILED JUNE 5, 1908.

Patented June 15, 1909.
2 SHEETS—SHEET 1.

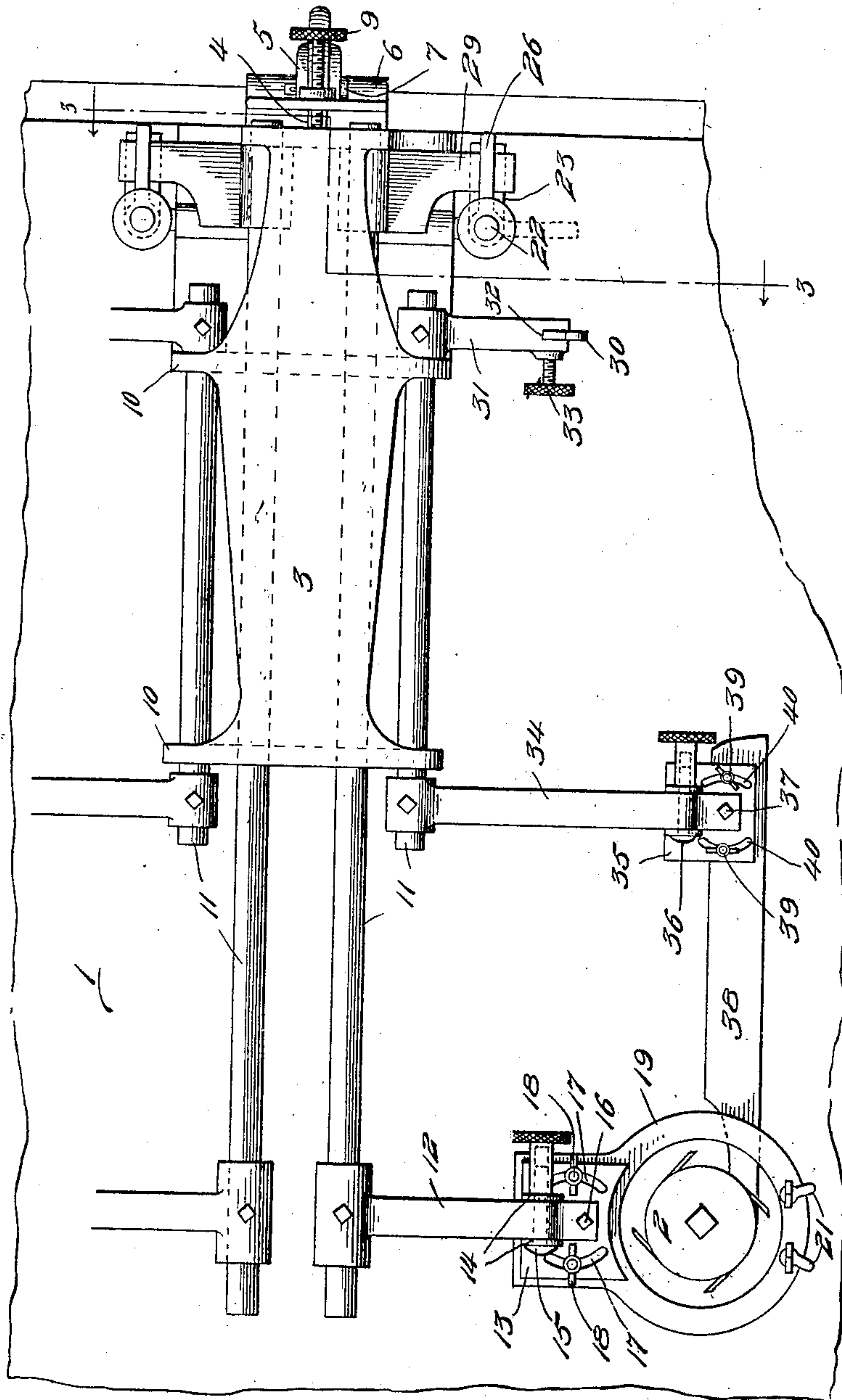


Fig. 1.

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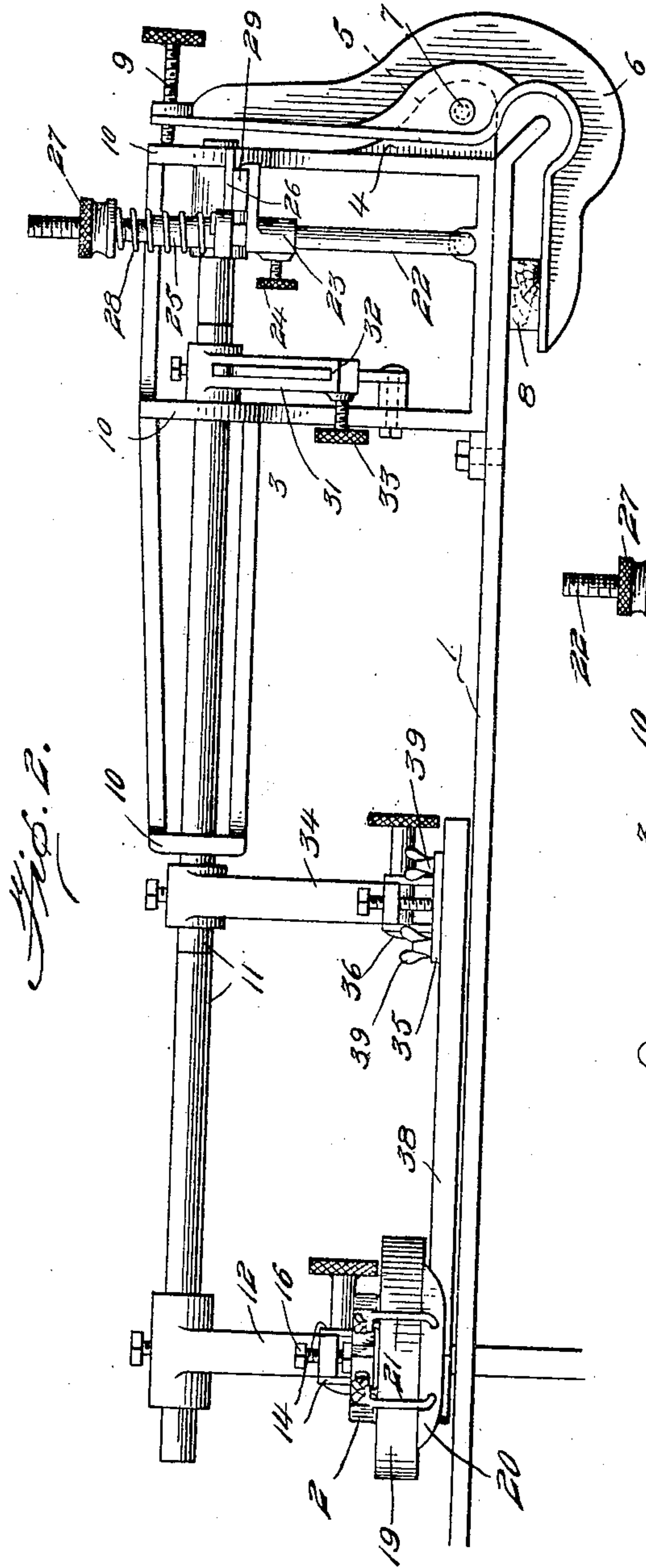


Fig. 2.

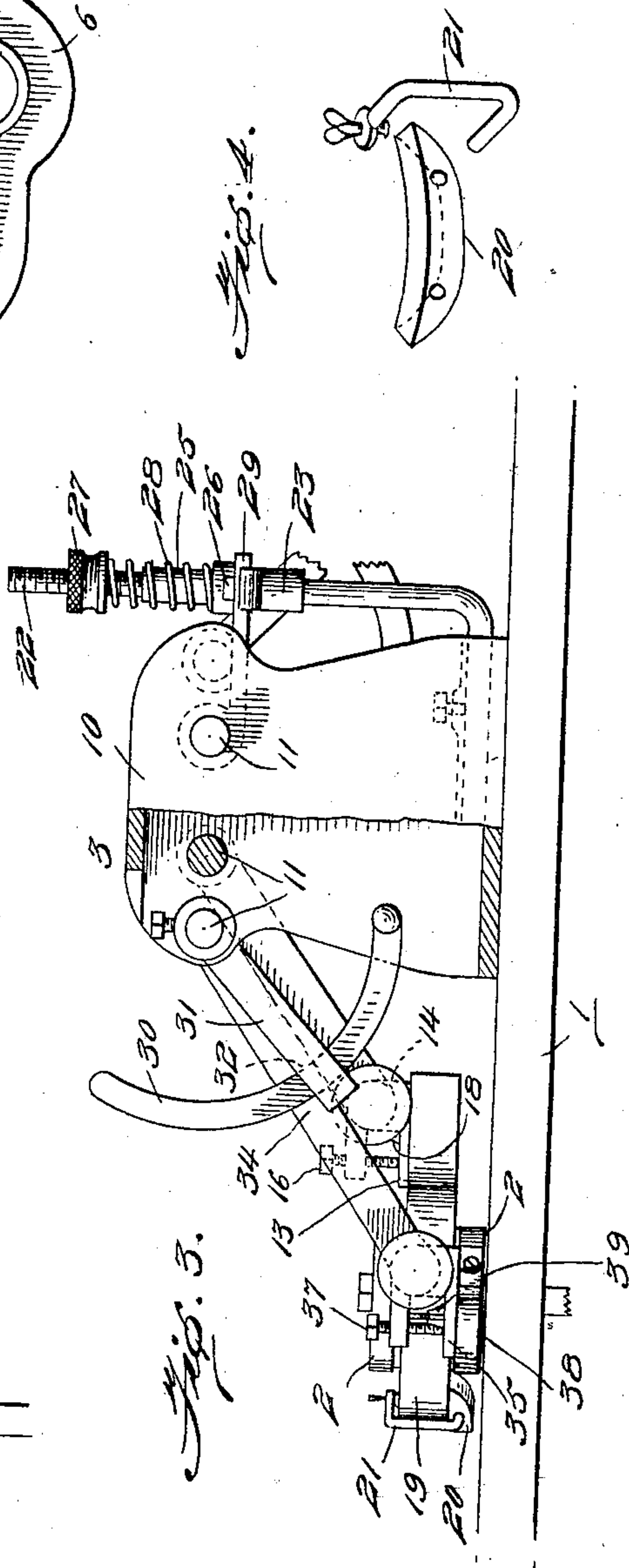
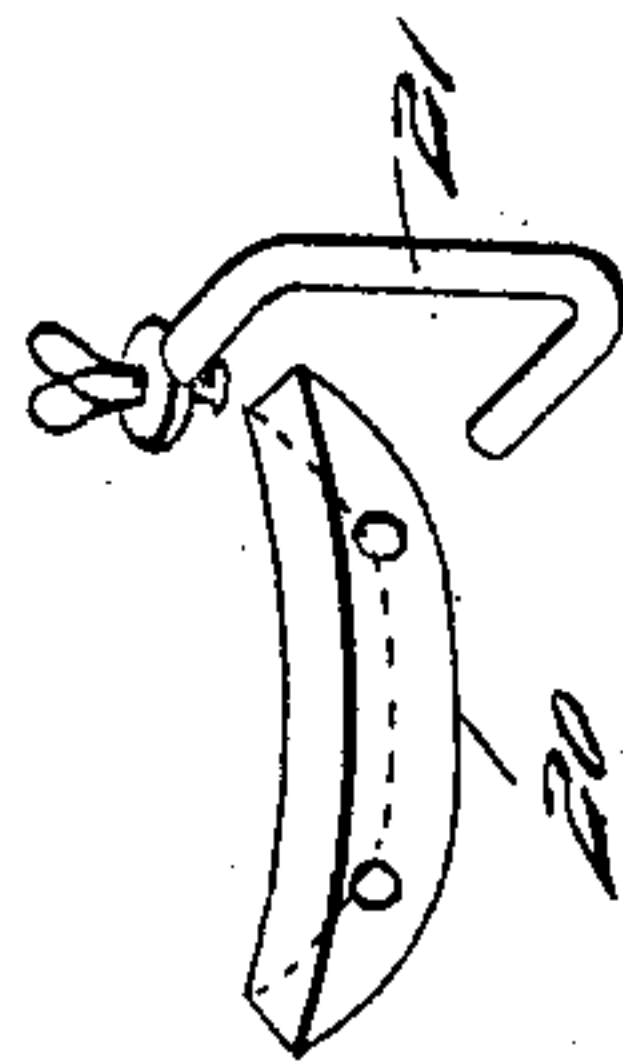


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

PETER ERICKSON, OF WHITEHALL, MICHIGAN.

SHAPER-GUARD.

No. 925,319.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed June 5, 1908. Serial No. 436,796.

To all whom it may concern:

Be it known that I, PETER ERICKSON, a citizen of the United States, residing at Whitehall, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Shaper-Guards, of which the following is a specification.

My invention relates to improvements in shaper guards, and has for one of its objects, the provision of a practical device of this sort which will serve both as a guard and as a presser foot for holding the work in place.

Another object is the provision of a device of this character which may be readily attached to the shaper or other machine and which will be adjustable so as to adapt it for different kinds of work.

Another object of my invention is to provide an efficient guard for the cutter which may be quickly swung out of position for changing the cutters, and a final object is to provide a device for the purposes named which shall be practical and efficient in every way.

With the above and other objects in view, the invention comprises first a frame provided with means for securing it to the shaper table, supports in the frame and arms carried by the supports, and the arms carrying adjustable guard members.

The invention also consists of a device of the character named embodying certain other novel features of construction, combination and arrangement of parts substantially as disclosed herein and shown in the accompanying drawings, in which:

Figure 1, is a top plan view of the invention as applied to a shaper, only a portion of the shaper being shown. Fig. 2, is a side elevation of the same. Fig. 3, is an end elevation, with parts broken away. Fig. 4, is a detail view of the presser foot or shoe.

In the drawings: the numeral 1, designates the top or table of the shaper and 2, the cutter or shaper head extending up through the table. The supporting frame 3, of my invention is provided with an out-standing lug 4, on its outward side, which lug is received in the pocket 5, of the angular clamp 6, the clamp being pivoted to said lug by means of a pivot bolt 7. The lower angular arm of the clamp extends beneath the table as shown in Fig. 2, and a block of wood 8, or the like material is preferably placed between the clamp and the under

surface of the table top, to better clamp the frame in place. The clamp is adjusted by means of the thumb screw 9, carried in the upstanding arm of the clamp which bears against the end of the frame. The frame extends inward over the table and is provided with transverse portions 10, in which are journaled the rock shafts 11. These shafts are arranged in pairs, one long and one short to each pair, the long shaft supporting the guard and presser foot, while the shorter outer shaft carries the gage or fence.

Where the machine has only one shaper head, only one pair of supporting rock shafts would be employed, but as ordinarily such machines have two shaper heads, two pairs of supporting rock shafts would be necessary as shown in the drawings. While in the present instance there are shown two sets of shafts, but one set of mechanisms has been illustrated and will be hereinafter described, it being evident that the same may be duplicated upon the other set of shafts.

A rocker arm or supporting arm 12, is mounted on the inner end of the longer supporting shaft and pivoted in the end of this arm is the supporting plate 13, said plate having the ears 14, which embrace the sides of the rocker arm, through which are passed the pivot bolt 15, to pivot the supporting plate to the end of the arm. The arm is extended beyond the pivotal point and a set screw 16, is engaged in the extended end and bears upon the top of the supporting plate to adjust the inclination of this supporting plate with respect to the arm. Curved or arc shaped slots 17, are formed in the supporting plate through which the clamping screws 18, pass, the clamping screws being engaged in the guard 19, which guard is of the usual circular shape to pass over the shaper head, and by means of these clamping screws, the guard may be adjusted with respect to the supporting plate. This guard also serves as a presser foot to yieldingly hold the work in place, as will be described. A block or shoe 20, having a curved edge to aline with the edge of the guard and a curved under face is adjustably secured to the guard by means of the clamps 21, the shoe bearing upon the work and holding it in place. The presser block or shoe may be applied to any portion of the guard to suit the different kinds of work.

An upright post or support 22, is mounted in the outer portion of the frame, and an ad-

justable stop block 23, is adjustably secured upon said post by means of a clamping screw 24. A tubular member 25, is slidably mounted upon the upper portion of the post, having an angular foot extension 26, to register with the stop block on the post. A set screw or nut 27, is mounted upon the upper threaded end of the post and a spring 28, is confined on the post between the thumb nut and the tubular member. A rocker arm 29, on the outer end of the guard supporting shaft rests upon the stop block and is yieldingly held in engagement with the stop block.

A quadrant arm 30, is secured near the outer portion of the frame and the radial rocker arm 31 on the outer end of the shorter shaft has an opening 32, therethrough to receive the sector or quadrant arm, there being a set screw 33, for clamping the radial arm in any position upon the quadrant arm. A supporting arm 34, is carried on the inner end of this shorter shaft, and a supporting plate 35, is secured to the free end of this arm by a pivot bolt 36, the inclination of the supporting plate being adjusted by means of a set screw 37, in the extended end of the supporting arm in the same way as the supporting plate on the end of the supporting arm 12 is adjusted. A gage 38, is carried by the supporting plate 35, being adjustably secured to said plate by means of the clamping screw 39, which passes up through the curved slot 40, in the plate. The free end of the gage rests upon the collar of the shaper head in the usual manner and this gage may be made of wood or any other material.

In practice the gage is adjusted the proper height above the table by means of the radial arm 31 and there clamped by means of set screw 33. The inclination of the gage with respect to the supporting arm is then adjusted by means of the set screw 37 in the end of the supporting arm and the gage may be adjusted radially with respect to the supporting plate by means of the clamping screw 39, to bring it in proper engagement with the shaper. The height of the guard and presser foot above the table is adjusted by means of the stop block on the post 22, and the spring pressed member 25, on the post allows the presser foot to yield upwardly when the work is inserted beneath the same. The tension of the presser foot is adjusted by means of the thumb nut on the upper threaded end of the post. The shaper guard may also be adjusted radially and angularly on the end of the supporting arm and the presser block or shoe may be adjusted to any portion of the guard.

From the foregoing description taken in connection with the drawings, it will be evident that my invention accomplishes all the objects herein aimed at, and that it is thoroughly practical and desirable.

I claim:

1. In a shaper guard, a frame, means for securing the same in place, a gage adjustably supported from the frame, a circular guard adjustably supported from said frame and a shoe having a curved edge to aline with the edge of the guard and a curved under face, said shoe being secured to the guard.

2. In a shaper guard, a frame, means for securing the same in place, a gage adjustably supported from the frame, a circular guard adjustably supported from said frame and a shoe having a curved edge to aline with the edge of the guard and a curved under face, said shoe being secured to the guard, and a supporting arm on which said guard is adjustable both radially and angularly.

3. In a shaper guard, the combination of a frame, means for securing the same in position, a post mounted on the outer portion of the frame, an adjustable stop block thereon, a shaft, a guard thereon, a tubular member slidably mounted on the upper portion of the said post and having an angular foot extension to register with said stop block and an arm on the outer end of the guard-supporting shaft, and a spring operating on said tubular member.

4. In a shaper guard, the combination of a frame, means for securing the same in position, a post mounted on the outer portion of the frame, an adjustable stop block thereon, a shaft, a guard thereon, a tubular member slidably mounted on the upper portion of said post and having an angular foot extension to register with the said stop block and an arm on the outer end of the guard-supporting shaft, and a spring operating on said tubular member and a gage adjustably supported from said frame.

5. In a shaper guard, the combination of a frame, means for securing the same in position, a post mounted on the outer portion of the frame, an adjustable stop block thereon, a shaft, a guard thereon, a tubular member slidably mounted on the upper portion of said post and having an angular foot extension to register with the said stop block and an arm on the outer end of the guard-supporting shaft, and a spring operating on said tubular member, and a gage adjustably supported from said frame, and means for adjusting the gage frame above the top of the table.

6. In a shaper guard, the combination of a frame, means for securing the same in position, a post mounted on the outer portion of the frame, an adjustable stop block thereon, a shaft, a guard thereon, a tubular member slidably mounted on the upper portion of said post and having an angular foot extension to register with the said stop block and an arm on the outer end of the guard-supporting shaft, and a spring operating on said tubular member, and a gage adjustably

supported from said frame, and means for adjusting the gage frame above the top of the table.

7. In a shaper guard, a pair of rock shafts 5 mounted in a common support and extending in the same direction, one of which pair being longer than the other, a guard and presser foot supported from the longer shaft of each pair and a gage carried by the 10 shorter shaft.

8. In a shaper guard, a pair of shafts one longer than the other mounted in a common support and extending in the same direction, a guard and presser foot carried by the 15 longer shaft, a gage carried by the shorter shaft, a rocker arm on the inner end of the longer shaft, a supporting plate pivoted on the end of said arm and to which said guard is connected and means for adjusting the 20 guard with respect to the rocker arm.

9. In a shaper guard, a pair of shafts one longer than the other mounted in a common support and extending in the same direction, a guard and presser foot carried by the 25 longer shaft, a gage carried by the shorter shaft, a rocker arm on the inner end of the longer shaft, a supporting plate pivoted on the end of said arm and to which said guard is connected and means for adjusting 30 the guard with respect to the rocker arm,

and a shoe having a curved under face and secured to said guard.

10. In a shaper guard, the combination with a supporting frame, a pair of shafts 35 mounted on a common support in the frame and extending in the same direction, a guard carried by one of the shafts, a rocker arm on one of the shafts, a post mounted on the frame, a stop block adjustably held on said post to form an abutment for the rocker 40 arm, a presser block on the post to hold the arm in engagement with the stop block, a spring to yieldingly hold the presser block in engagement with the arm, and means to adjust the tension of said spring. 45

11. A shaper guard, comprising a frame, one or more pairs of shafts similarly equipped mounted therein, a guard carried by one of the shafts of such a pair and a 50 gage carried by the other shaft thereof, rocker arms on the shafts, means for yieldingly holding the outer rocker arm on the one shaft and means for clamping the outer rocker arm on the other shaft.

In testimony whereof I affix my signature, 55 in presence of two witnesses.

PETER ERICKSON.

Witnesses:

J. H. WILLIAMS,
CHAS. HANISH.