

P. ERICKSON.
SHAPER GUARD.

APPLICATION FILED AUG. 3, 1910.

987,452.

Patented Mar. 21, 1911.

2 SHEETS-SHEET 1.

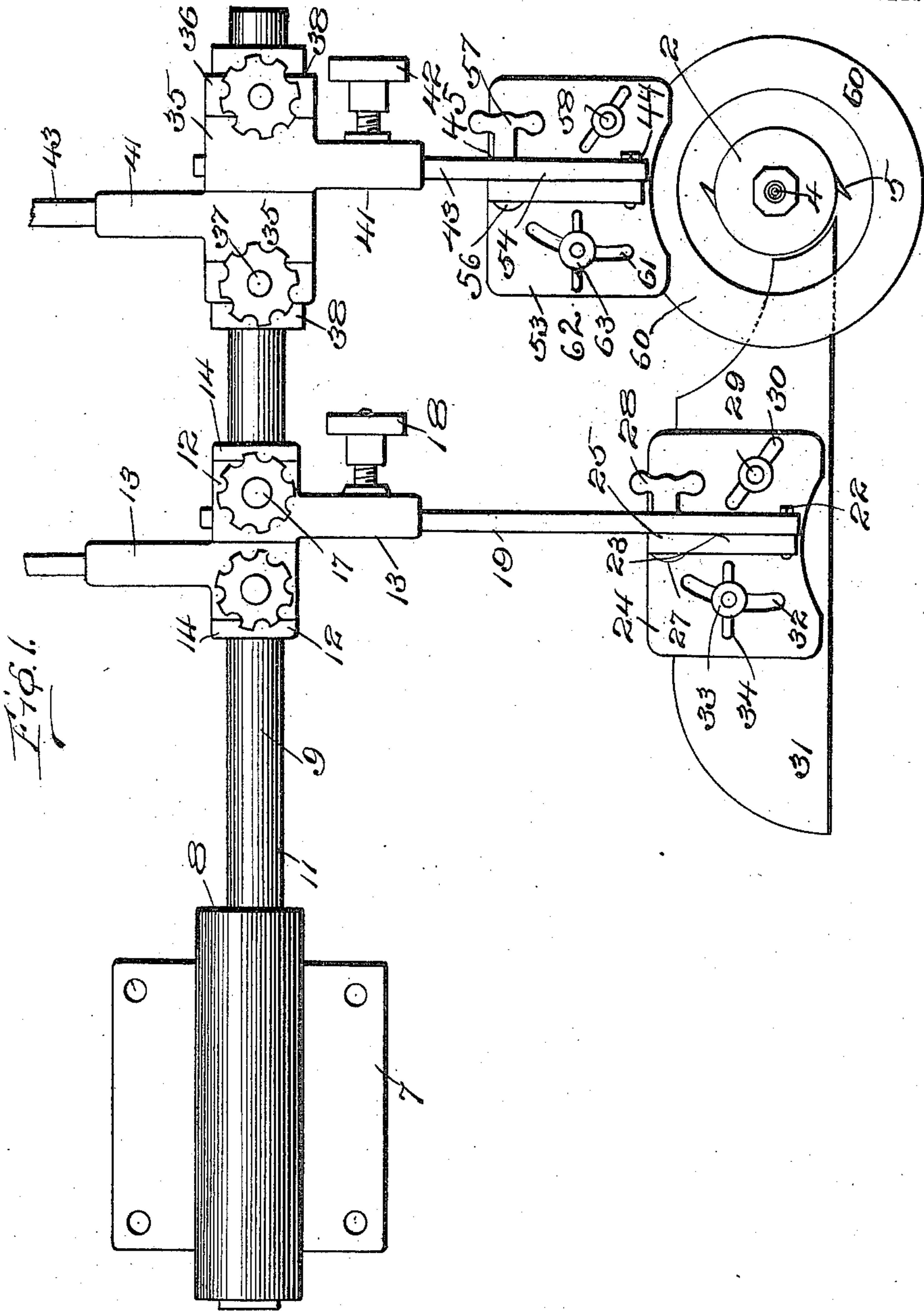


Fig. 1.

Witnesses

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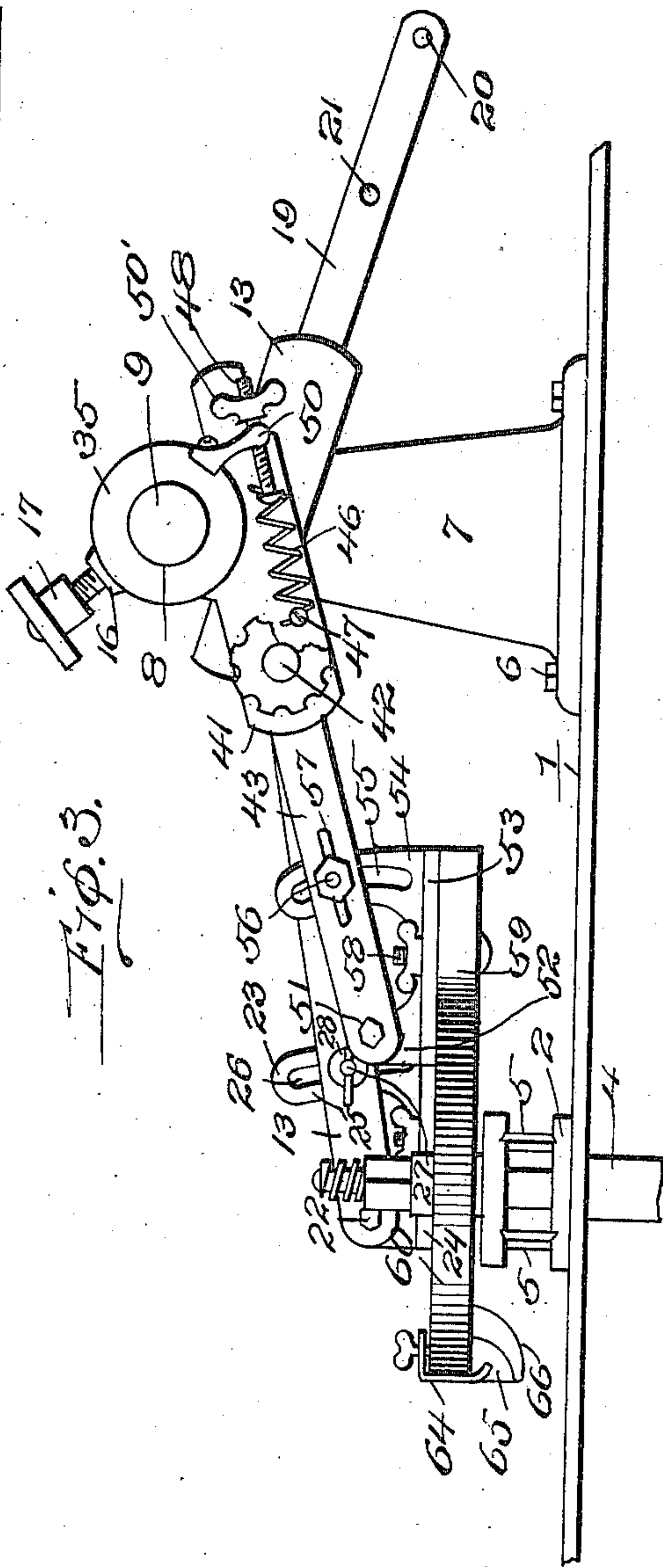
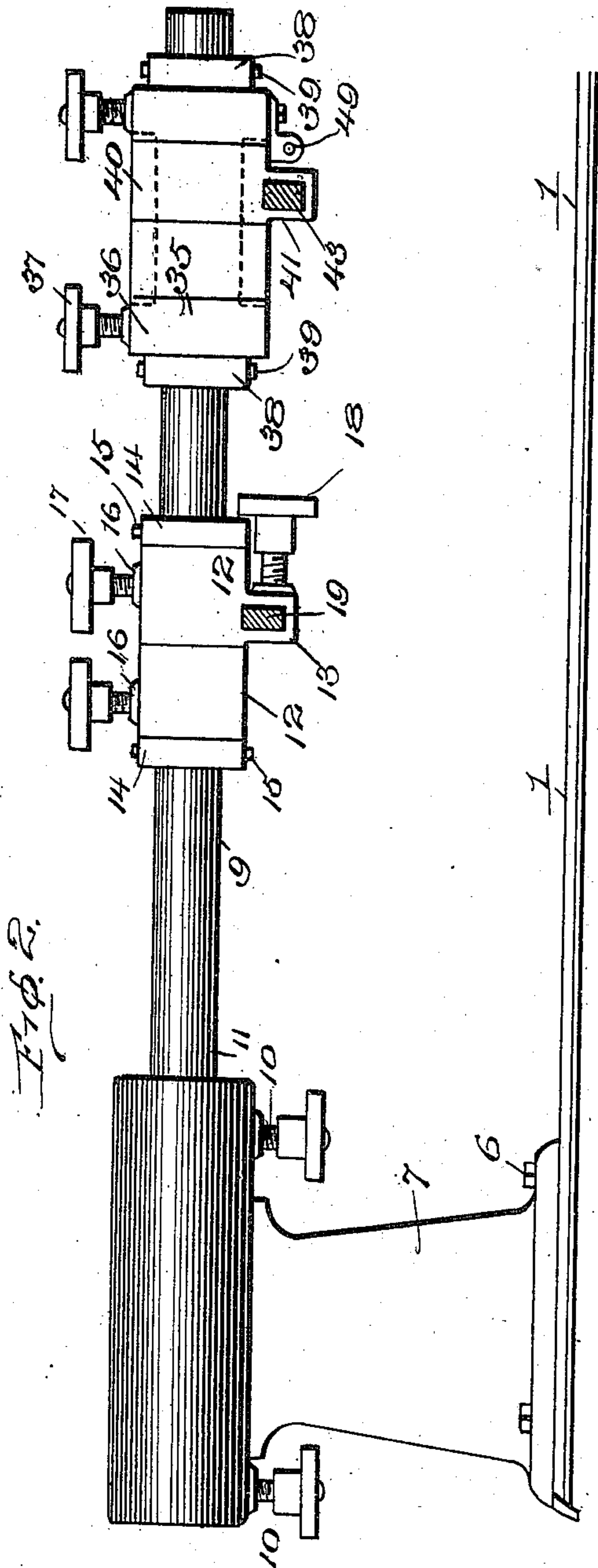
Attorney

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UNITED STATES PATENT OFFICE.

PETER ERICKSON, OF MUSKEGON, MICHIGAN.

SHAPER-GUARD.

987,452.

Specification of Letters Patent. Patented Mar. 21, 1911.

Application filed August 3, 1910. Serial No. 575,369.

To all whom it may concern:

Be it known that I, PETER ERICKSON, a citizen of the United States, residing at Muskegon, 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 the leading object of my invention is the provision of a shaper guard which may be readily attached to an ordinary shaper frame or table and will provide a thoroughly efficient guard therefor.

A further object of the invention is the provision of an improved shaper guard which shall have members adapted to serve both as gages and as guard members and which will be further adapted for use as a presser foot to aid in retaining the work in desired position.

Another object of the invention is the provision of a guard which may be readily adjusted for various work, which may be quickly removed when desired, and which will be an improvement on my Patent #925,319 of June 15, 1909 and will fulfil all the purposes and objects of said guard as set forth in its specification but which will embody novel features of construction and have more readily adjustable and simpler parts than said guard as patented to me.

To attain the desired objects of my invention, I have provided a shaper guard comprising a support, a shaft adjustably supported thereby, and a plurality of adjustable members carried by the shaft, certain of said members being provided with gage bearing and work holding arms, the invention further residing in the novel features of construction and combination and arrangement of parts for service substantially as described and as illustrated in the accompanying drawings.

Figure 1 represents a top plan view of my shaper guard, one set of adjustable arms being shown fully equipped while the other arms are shown broken away. Fig. 2 represents a side elevation of the guard with the outer portion of the arms broken away, and, Fig. 3 represents a front elevation of the complete guard in operative position.

In the drawings, in which similar characters of reference are employed to denote corresponding parts in the several views, the numeral 1 designates the table of the shaper

while 2 designates the shaper head supported on the table by the shaft, 4, and having the cutters or knives 5.

Secured to the table 1 by the bolts 6 is the support 7 having the bore 8 in its upper portion in which is engaged the shaft 9 adjustably secured in position by the clamping screws 10 engaged in sockets in the support 7 and having their ends engaging the shaft 9, said shaft being preferably provided with a longitudinally extending groove 11 in which the ends of the screws are received. Mounted loosely upon the shaft intermediate its length are the hubs 12 each bearing a tangential arm 13, and in the drawings I have illustrated a pair of said hubs and arms, the arms extending in opposite directions to engage the usual pair of shaper heads between which the shaft extends. Mounted on the shaft on each side of the hubs is a collar 14 secured in position by the wedging pin 15, said collars preventing the lateral movement of the hubs while permitting their pivotal movement. To regulate said pivotal movement of the arms and their hubs on the shaft I form in each hub the threaded socket 16 in which is engaged a clamp screw 17 adapted when depressed to tightly engage the shaft and prevent the movement of the hub thereon.

The arms 13, as indicated in Fig. 1 have a longitudinally extending passage or bore therein and are provided on one side with a socket in which is engaged a clamping screw 18, while extending through the bore of the arm and adjustably secured therein by the screw 18 is a rod 19 having formed in its outer portion the openings 20 and 21. Passing through the opening 20 is a bolt 22 which also passes through the rib 23 projecting upward from the plate 24 which extends on both sides of the rod, the rib having an elongated curved portion 25 having a segmental slot 26 therein, while passing through the opening 21 and said slot 26 is a second bolt 27 adapted to clamp the rod and rib in adjusted position through the engagement of the wing nut 28 on the end of the bolt, the plate being adjusted on the bolt 22 as a pivot.

Clampingly secured to the under side of the plate 24 by the bolt 29 and wing nut 30 is the gage member 31 extending into close proximity to the shaper head 2, the plate also having a curved slot 32 formed therein through which projects the bolt 33

carried by the gage member, a wing nut 34 serving to engage the plate to lock the bolt and thus the gage member in adjusted position.

5 From the foregoing description taken in connection with the drawings it will be seen that I have provided an improved univer-
sally adjustable gage member, the adjust-
ment of the supporting shaft in its support
10 and of the hubs regulating its horizontal angle, while the adjustment of the rod in the arm laterally adjusts said gage member, which is further pivotally adjusted on the pivot points 22 and 29.

15 Mounted on the shaft 9 exterior to the hubs 12 are the pair of sleeves 35 each having an enlarged annular portion 36 through which passes the clamping screw 37 for adjustably securing the sleeves in position on
20 the shaft, while mounted on the shaft on each side of the sleeves are the collars 38 secured by the wedge-pins 39 for preventing lateral movement of the sleeves on the shaft while permitting of their rotation
25 thereon. Mounted on each sleeve 35 is a hub 40 similar to the hub 12 and having a tangentially disposed arm 41 having a bore in which is adjustably secured by the clamping screw 42 the rod 43 having the openings
30 44 and 45 formed in its outer end. The hub 40 is loosely mounted on the sleeve 35, and to retain it and thus the rod 43 in normally depressed position I employ the coil spring 46 having one end secured by the screw 47
35 to the arm 41 and the other end secured to the threaded rod 48 which extends through the opening 49 in the lug 50 carried by the sleeve 35, a wing nut 50' being engaged on the outer end of said rod and bearing
40 against the lug, the adjustment of the nut regulating the tension of said spring.

Pivotally secured to the rod 43 by the bolt 51 passing through the opening 44 is the rib 52 carried by the plate 53, said plate
45 also having an upwardly extending curved lug 54 having a slot 55 therein in which is engaged the adjusting bolt 56 which also passes through the opening 45 in the rod 43 and has engaged on its end the wing nut
50 57 for clamping the lug 54 to the rod to secure the plate 53 in adjusted position on its pivot 51. Pivoted to the plate by the bolt 58 is the lateral extension 59 of the annular guard member 60 which surrounds the
55 shaper head in the usual manner, while the plate has a segmental slot 61 formed therein through which projects the bolt 62 carried by the extension 59, a butterfly nut 63 engaging the end of the bolt to secure the
60 guard member in adjusted position on its pivot bolt 58.

It will be observed that the guard member 60 is forced downward upon the work by the spring 46 and thus serves as a presser foot
65 to yieldingly hold the work in place. To

facilitate said action of the guard member 60, I secure thereto by the adjustable clamps 64 the block or shoe 65 having a curved edge to align with the edge of the guard and a curved under face for contacting with the work, said
70 block being adapted to be shifted around the periphery of the guard to suit different kinds of work.

From the foregoing description taken in connection with the drawings the construc-
75 tion and operation of my improved shaper guard will be readily understood and its advantages be fully comprehended, and it will be seen that I have provided a practical, simple, inexpensive, durable and thoroughly
80 efficient shaper guard which can be readily applied to any ordinary shaper table to act in conjunction with the shaper or cutter thereof, which is capable of universal ad-
justment to exactly conform to the shaper
85 and work thereon, and which when not desired for use may be readily swung out of the way and there secured merely by the adjustment of a clamping screw. It will
further be observed that I have provided on
90 a single supporting shaft an adjustable gage bearing member having a gage adjustably secured to the outer end thereof and a guard member yieldingly and adjustably supported by the shaft and bearing a presser foot or
95 shoe for engaging the work to aid in retaining the same in position on the cutter.

I claim:

1. A guard for a shaper cutter, comprising a shaft mounted on the shaper table, a
100 sleeve adjustably mounted on the shaft, a lug depending from the sleeve and having an opening formed near the end thereof, a guard bearing collar loosely mounted on the sleeve, a coil spring secured to the collar, a
105 threaded rod secured to the other end of the spring and passing through the opening in the lug, and an adjusting nut mounted on the rod and bearing against the lug to regulate the tension of the spring to cause the
110 guard carried by the collar to press down upon the shaper table, said guard being of shape to fit around the cutter.

2. The combination with a shaft, of a pair of sleeves adjustably secured on the shaft,
115 a gage bearing arm carried by one of the sleeves, a collar loosely mounted on the other sleeve, a guard bearing member secured to the collar, and resilient means for limiting the movement of the collar on the sleeve. 120

3. The combination with a shaft, of a pair of sleeves adjustably secured thereon, a gage bearing arm carried by one of the sleeves, a collar loosely mounted on the other sleeve,
125 a guard bearing member secured to the collar, and a coil spring having one end secured to the arm and the other to the sleeve for limiting and controlling the movement of the arm.

4. The combination with a shaper table, 130

of a shaft supported thereon, a gage bearing member adjustably mounted upon the shaft, a guard bearing member rotatably mounted on the shaft, and a coil spring having one
5 end secured to the guard bearing member and the other end fixedly secured to draw the member down over the shaper head and limit its rotative movement on the shaft.

5. The combination with a shaper table,
10 of an attachment therefor comprising a shaft, a sleeve adjustably secured thereon, an arm pivotally mounted on the sleeve, a guard member for the shaper head carried by said arm, and a coil spring having one
15 end secured to the arm and the other to the sleeve for yieldingly retaining the guard in engagement with the work.

6. The combination with a shaper table, of an attachment therefor comprising a shaft, a sleeve adjustably secured thereon, 20 an arm pivotally mounted on the sleeve, a guard member for the shaper head carried by said arm, a spring having one end adjustably secured to the sleeve and the other end secured to the arm, a second arm mounted 25 on the shaft, and a gage member carried thereby and adapted to coöperate with the guard member.

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

PETER ERICKSON.

Witnesses:

OSCAR C. OLSEN,
W. H. WILSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
