

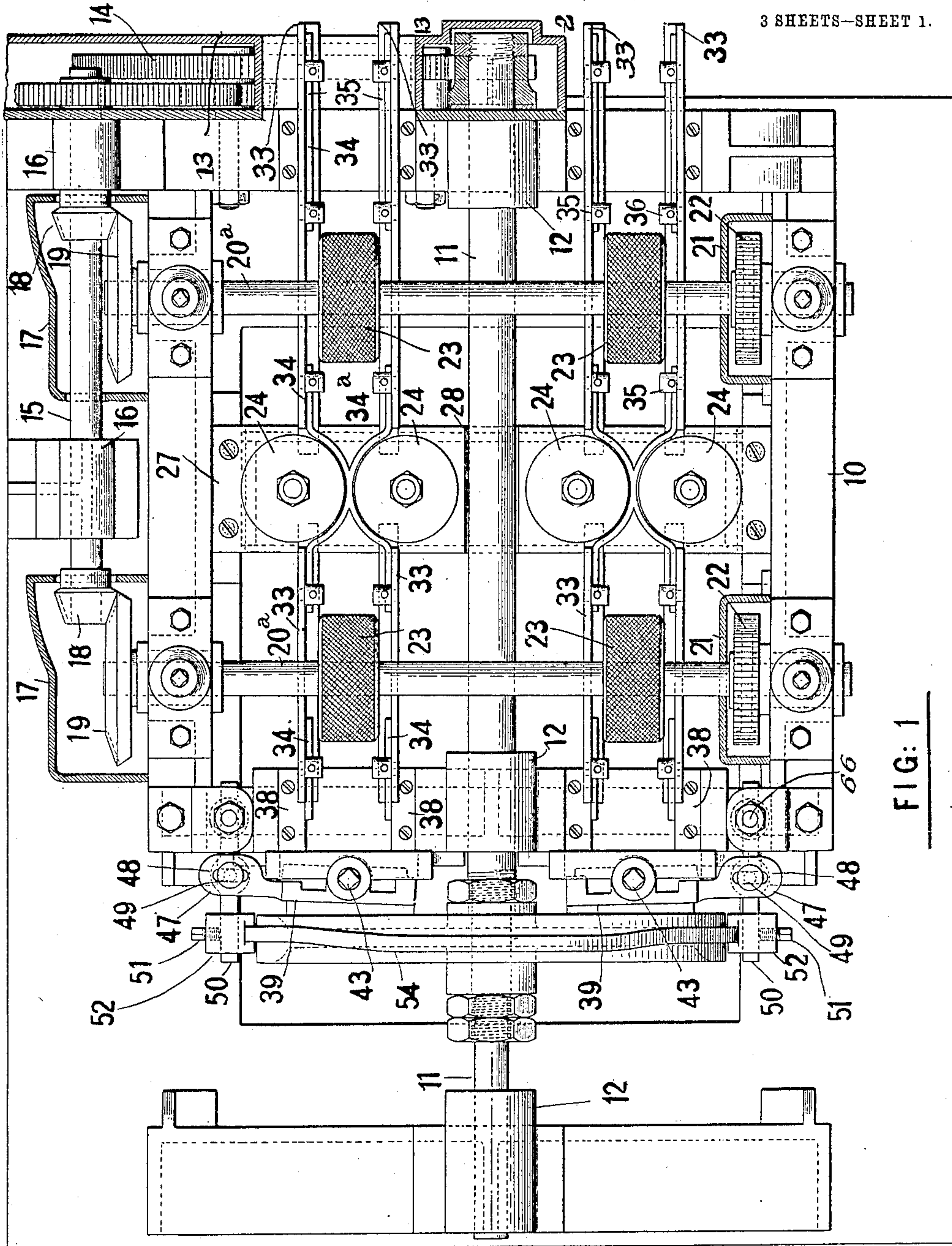
No. 869,573.

PATENTED OCT. 29, 1907.

W. F. HUTCHINSON.
TOOTHPICK MACHINE.

APPLICATION FILED MAY 4, 1906.

3 SHEETS—SHEET 1.



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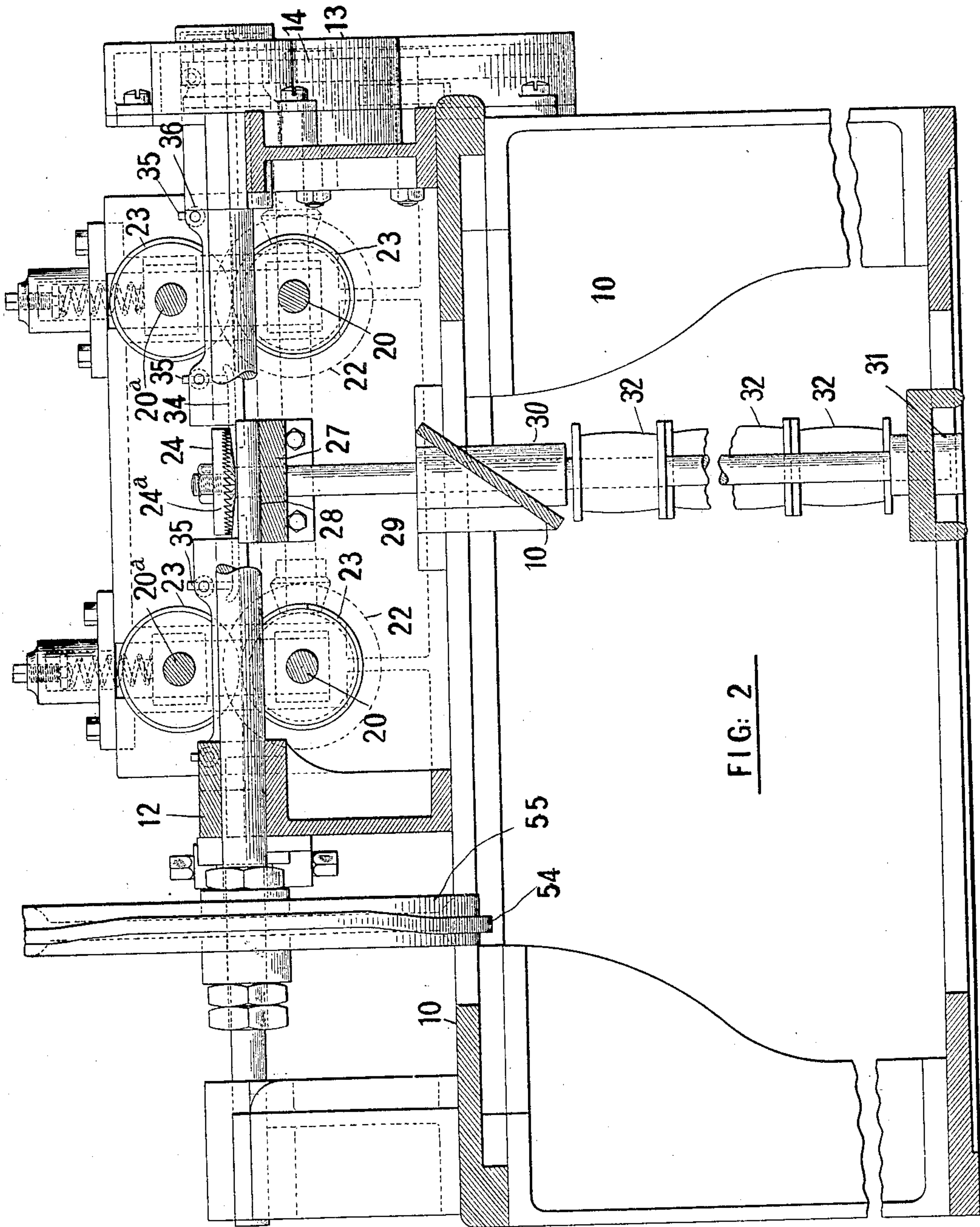


FIG. 2

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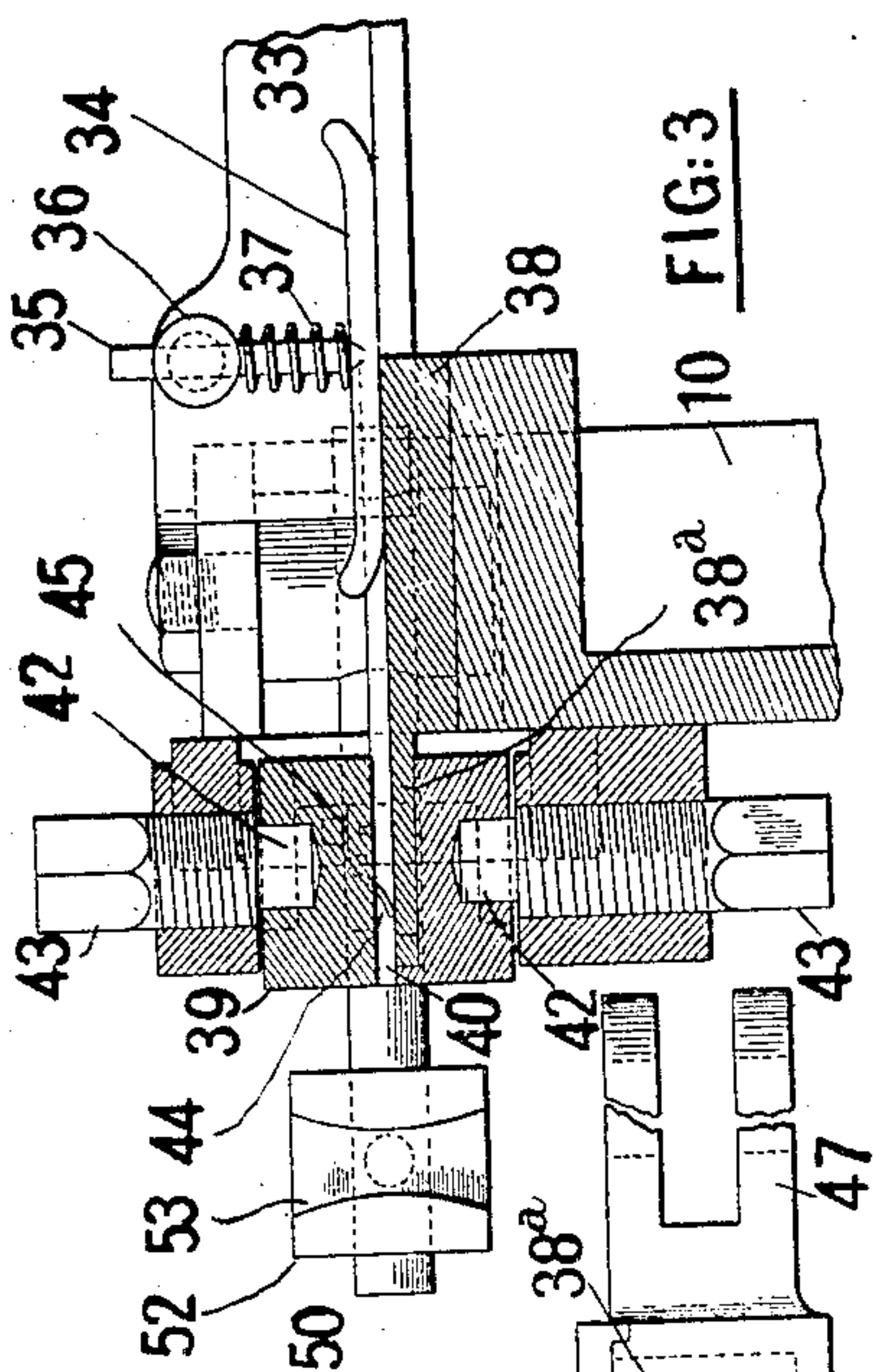


FIG: 3

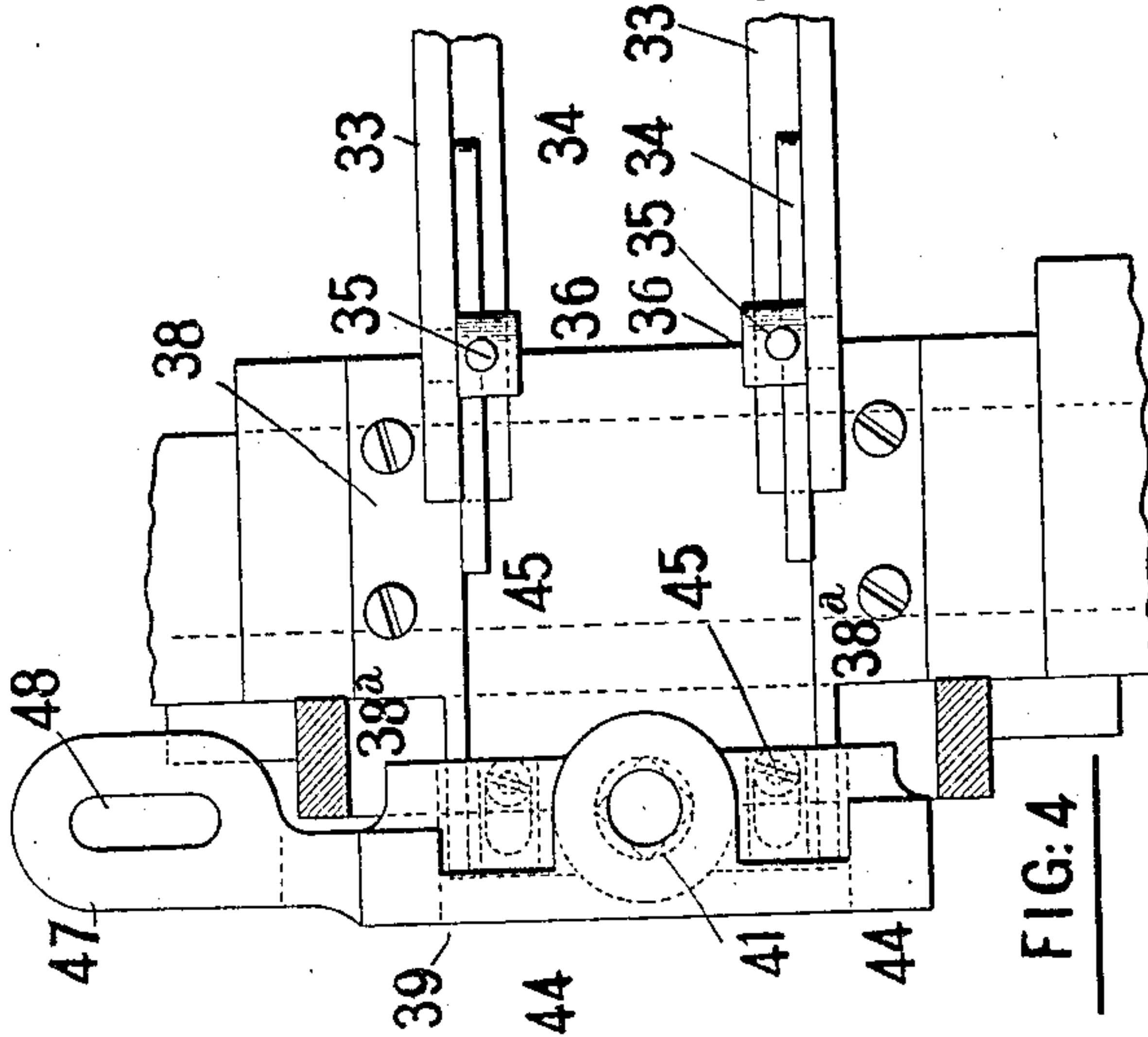


FIG: 4

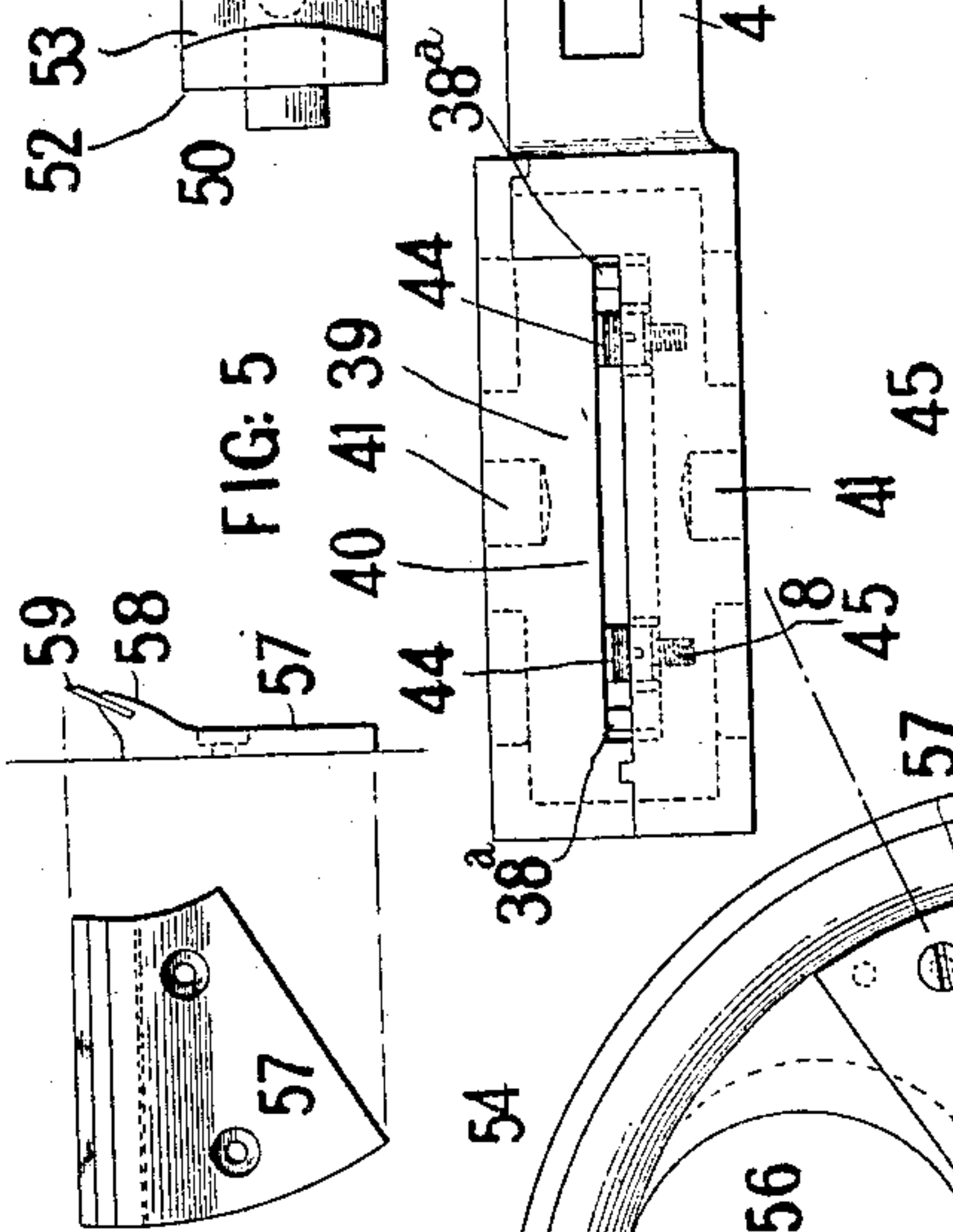


FIG: 5

FIG: 6

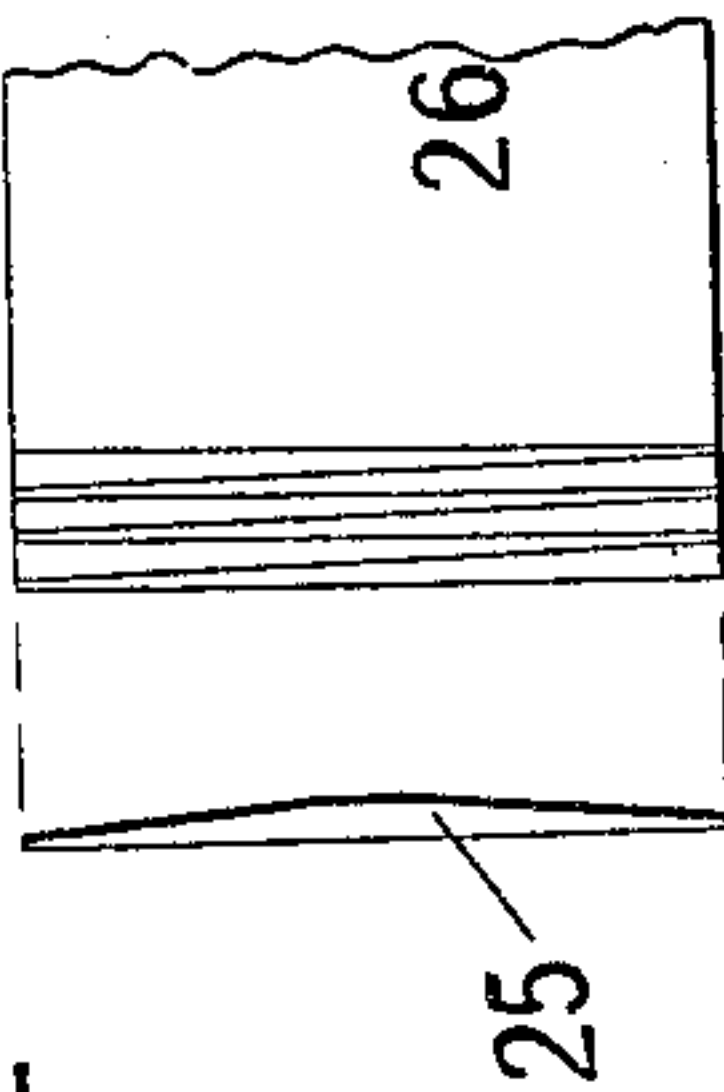


FIG: 7

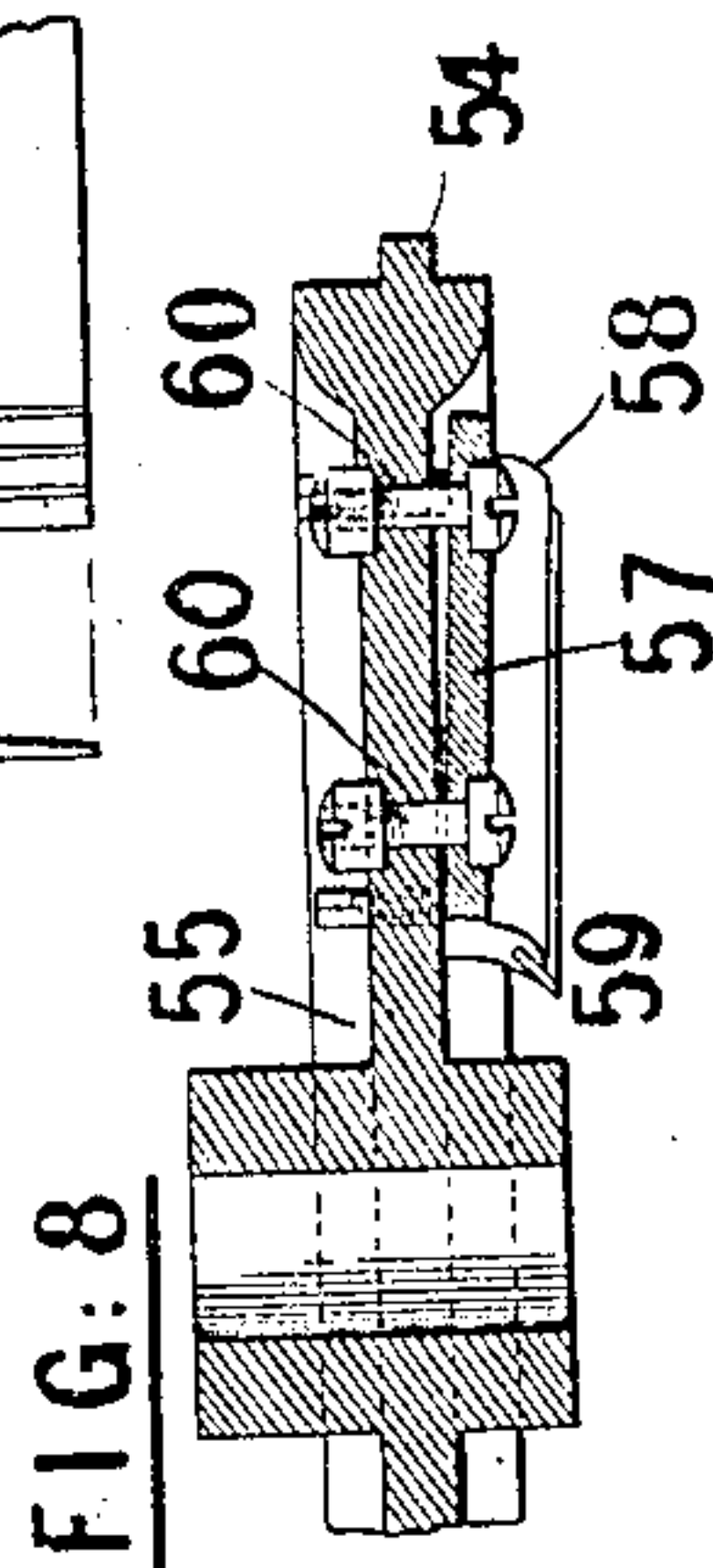
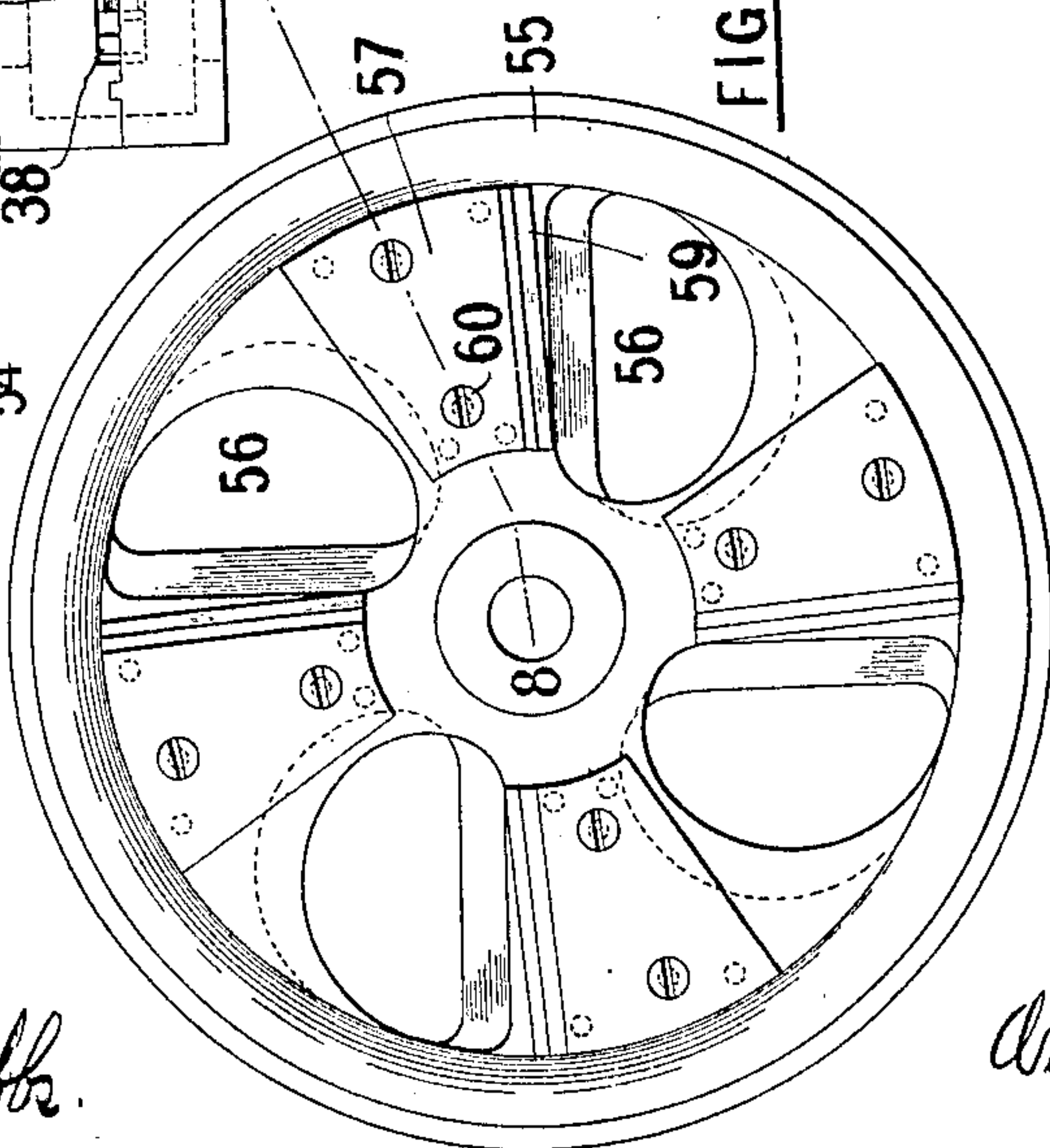


FIG: 8

FIG: 9

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UNITED STATES PATENT OFFICE.

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TOOTHPICK-MACHINE.

No. 869,573.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed May 4, 1906. Serial No. 315,255.

To all whom it may concern:

Be it known that I, WILLIAM F. HUTCHINSON, of Nyack, in the county of Rockland and State of New York, have invented a new and Improved Toothpick-Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in machines for cutting tooth picks from wood veneers and my present invention is an improvement on a machine referred to in Letters Patent of the United States, No. 773,570, dated November 1, 1904.

The object of this invention is to improve the construction of the previous machine and especially with a view of making a machine which will operate much faster, which will work in a more positive manner and in which the parts are arranged so as to be easily accessible.

More specifically this invention provides means for having a single cutter operate simultaneously on a plurality of veneer strips to the end that more work can be done.

With these ends in view my invention consists of certain features of construction and combinations of parts which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view with parts in section, of the machine embodying my invention; Fig. 2 is a longitudinal section on the line 2—2 of Fig. 1; Fig. 3 is a detail sectional view of a part of the mechanism for guiding the stock to the cutter; Fig. 4 is a plan view of the mechanism shown in Fig. 3; Fig. 5 is a side elevation of the guide block which guides the stock to the cutter; Fig. 6 is a detail of the stock showing the shape into which it is divided; Fig. 7 is a detail end view or elevation of the cutting wheel and the cutters thereon; Fig. 8 is a cross section on the line 8—8 of Fig. 7; and Fig. 9 is a detail in face and edge elevation of one of the cutter knives and its holder.

The machine has a suitable frame 10 on which is journaled longitudinally a drive shaft 11 which is mounted in suitable bearings 12, and which can be driven in any convenient way, although I have not shown the driving means. At the front end of the machine the drive shaft 11 enters a housing or boxing 13 in which is arranged a chain of gears 14 and these I have not shown in detail because it will be readily understood that a suitable gearing can be provided for driving the shaft 15 on the side of the machine frame from the driving shaft 11. The shaft 15 is supported in bearings 16 and it is partly inclosed in boxes 17 which serve to protect the gears 18 and 19 by which gears the shaft 15 connects with the cross shafts 20, see Fig. 2, and these extend across the machine frame, enter boxes 21 and there con-

nect by means of gears 22 (see Figs. 1 and 2) with corresponding shafts 20^a on the top of the machine, and thus it will be observed the shafts 20 and 20^a are arranged in pairs and are adapted to carry the milled feed rolls 23 which serve to carry the stock through the machine. It will be observed that the feed rolls 23 are arranged in front and rear of the cutter heads or planer heads 24, which are arranged in pairs and have beveled teeth 24^a on the underside so that when the stock strip 26 (see Fig. 6) is run through the machine and cut into picks 25, the latter will be sharpened because of the bevel of the stock.

The planer heads 24 are supported above the cross brace 27 which has a depression 28 to make room for the shaft 11 but this feature of the machine is of no consequence as the cross brace simply serves as a support for the vertical shafts 29 which carry the planer heads 24. The shafts 29 are mounted in suitable bearings 30 and 31 and are driven by pulleys 32. It will be noticed that the shafts 29 have no connection with the other shafts for the reason that the planer heads should be very rapidly driven in order that they may cut smoothly upon the stock.

Each pair of feed rolls 23 is arranged in a feedway for the stock and this way is formed by the angle irons 33, although obviously any suitable guideway can be substituted for the angle irons. The stock 26 is of a width corresponding to the length of the picks and the angle irons 33 are spaced apart sufficiently to permit the stock to be fed through evenly and in order that the stock may be held flat and prevented from jumping, guide shoes or rails 34 are arranged to press downward upon the stock near the edges, the shoes or rails being provided with guide posts or fingers 35 which extend through bosses 36 on the sides of the angle irons 33 and light springs 37 around the posts 35 serve to press the shoes or rails into contact with the stock. This is shown best in Fig. 3. A modification of the pressure shoes or rails 34 is provided near the planer heads 24 (see Fig. 1), and in this case the opposite shoes or rails curve inward between the planer heads, as shown at 34^a at which point they are preferably united and they serve to hold the stock flat, while it is in actual contact with the planer heads. By this arrangement of the presser shoes or rails and by the arrangement of the feed rolls 23 the stock is held flat and is carried firmly and smoothly through the machine.

At the rear end of each feed-way is an extension of the guideways or feedways 33, which has a tongue 38^a extending into the slot 40 of the guide block 39, and the stock, where it projects through the slot, is cut off by the knives, to be presently referred to, which shear down or up across the block. To cut what is known as single end picks, that is, picks which are wide at one end and narrow at the other, I oscillate the

block 39 after the manner disclosed in my former patent above referred to, so that the stock will be shifted slightly and a knife shearing across the block will cut wider first on one side and then on the other of the stock, as shown clearly by the lines in Fig. 6. To provide for this oscillation of each block 39, the block is centrally pivoted and a cam mechanism is used for oscillating it. To pivot the block it is provided with recesses 41 on top and bottom, which receive the pivots 42, see Fig. 3, on the ends of the screws 43, which are arranged above and below the block in extensions of the frame 10. By this arrangement the block is pivoted nicely and by adjusting the screws 43 the height of the block can be nicely regulated.

In the slot 40 of the block 39 and near the opposite sides are presser feet or flat springs 44 which serve to hold the stock flat against one wall of the slot so that when a knife shears across the guide block, the stock will not wobble but a clean cut will be made. The springs are held in place by screws 45 and it will be understood from the description to follow that when the cutter head or wheel 55 revolves the knives will cut upwardly on one block 39 and downwardly on the other, and so the springs 44 are in one case arranged to press downward and are fastened to the top, wall of the slot 40, as shown in Fig. 3, while in the other case they would press upward and be fastened to the bottom wall of the slot, as in Fig. 5.

To oscillate each block 39 it is provided with a projecting bifurcated arm 47 which on the top is slotted as shown at 48 to receive the stud 49 by which it connects with the shaft 50 which extends through the bifurcation of the arm 47, and secured by a set screw 51 (see Fig. 1), is a block 52 which is secured to the shaft 50 and has a cam groove 53 adapted to ride on and follow the cam 54 which is produced on the rim of the cutter head or wheel 55. This wheel is fastened to the shaft 11 as shown in Fig. 1, and is of such a size that one side of it comes opposite one block 39 while the other side of it comes opposite the other block and the cutter head is provided with clearance spaces 56 and with knife blocks 57 which are raised slightly at one edge, as shown at 58, and carry the knives 59 which are adapted to shear across the blocks 39. The knife blocks and the knives are held in place by suitable fastening and adjusting screws 60. The cam 54 is arranged so that it will cause the shaft 50 to move backward and forward so as to oscillate the blocks 39 and the cam is arranged with reference to the knives 59 so

that between each knife the guide block 39 will be oscillated to get the effect shown in Fig. 6, and already described. Obviously the knives must have slightly different pitch to provide for the shifting of the guide block and this feature is shown in my former patent referred to above.

The drawings show my machine set to cut single end picks, but the machine has been specially devised to cut at will either single or double end picks by a simple adjustment of parts. Thus, to adjust the machine of the drawings to cut double-end picks, *i. e.* picks of the same width at both ends, the operator will loosen the set-screws 51 so that the cam-blocks 52 when actuated by the cam, ride loose on the slide-rods 50 without operating same. The slide-rods 50 will then be adjusted to bring the oscillating guide-blocks 39 into a position where their shear-faces will be at right angles to the veneer-stock as it feeds through the guides. The guide-blocks are then fixedly secured in this position by locking the slide-rod with set-screws shown in the form of bolts 66 in Fig. 1. These simple operations amounting only to loosening one set-screw and tightening another, comprise all that need be done to adjust the machine to the new purpose,—except that the knives 59 and the knifeblocks 57 must also be adjusted into flat-wise positions relative to the face of the wheel instead of being raised at one end as shown in Fig. 8.

It will be seen that the arrangement which I have described enables two strips of stock to be fed consecutively into the machine, that the stock is held flat, beveled at the edges, and further that both strips are cut into picks by a single cutter head which arrangement is made by having the cutter head located between the two feedways and on an axis parallel with the stock feed.

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

In combination, a feed-way having the oscillating section, rotating cutting means adapted to shear across the face of the oscillating section, a cam actuated reciprocating cam block, a reciprocating rod, a releasable connection between the rod and the cam block, an operative connection between the rod and the aforesaid oscillating section, and means to lock the rod against reciprocation in its support.

WILLIAM F. HUTCHINSON.

Witnesses:

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FRANK L. STUBBS.