

E. E. BARNEY.  
TYPE WRITING MACHINE.  
APPLICATION FILED OCT. 18, 1904.

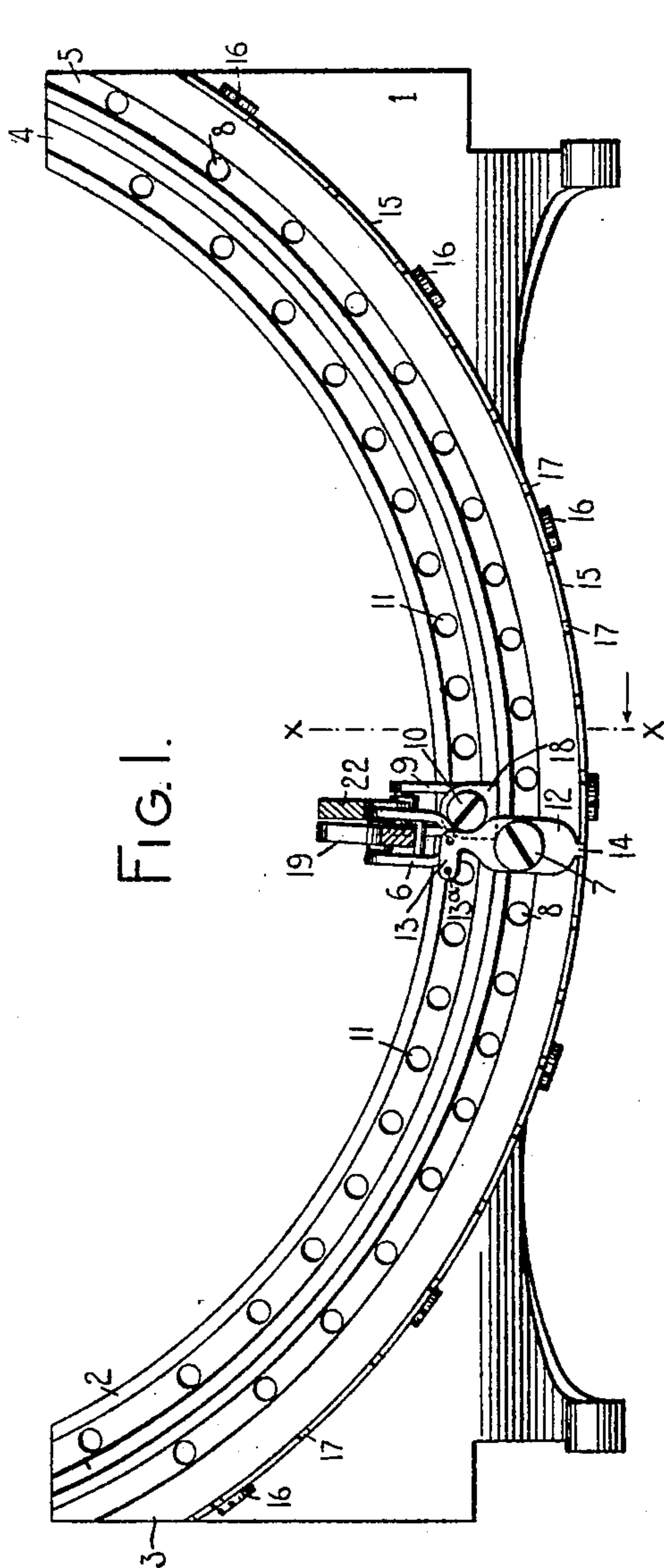


FIG. 1.

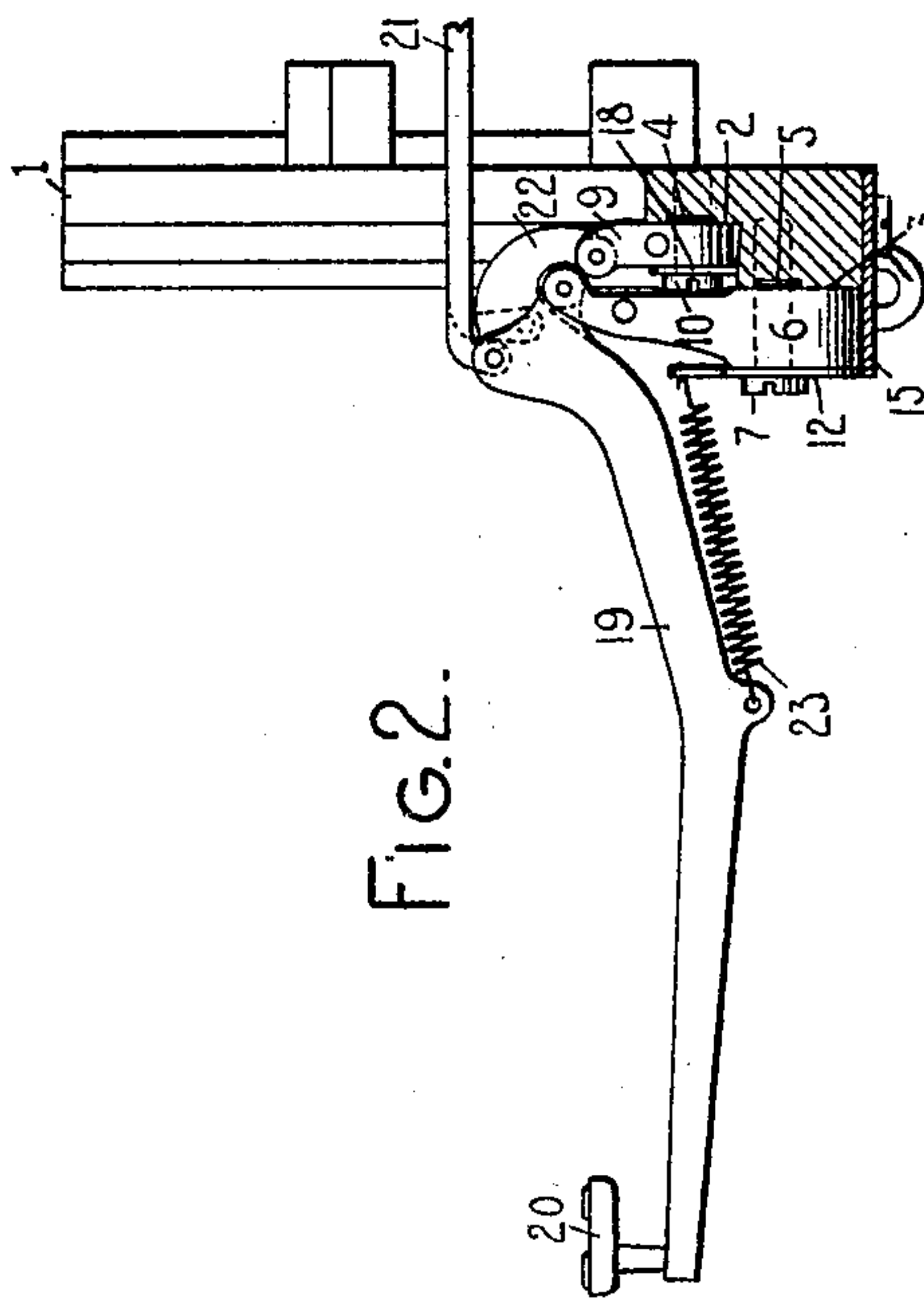


FIG. 2.

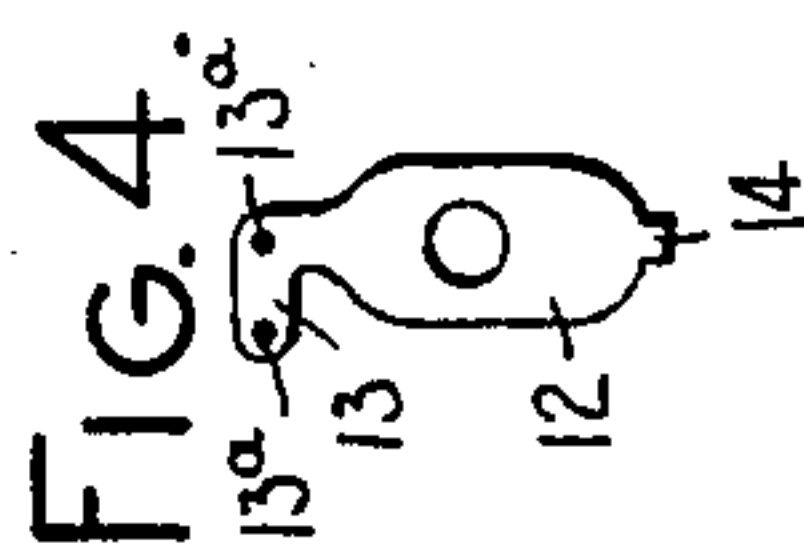


FIG. 4.

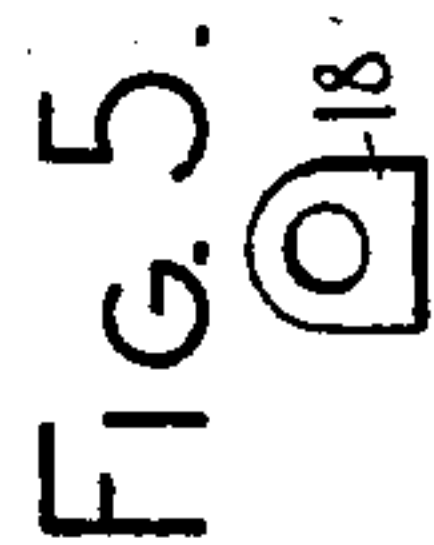


FIG. 5.

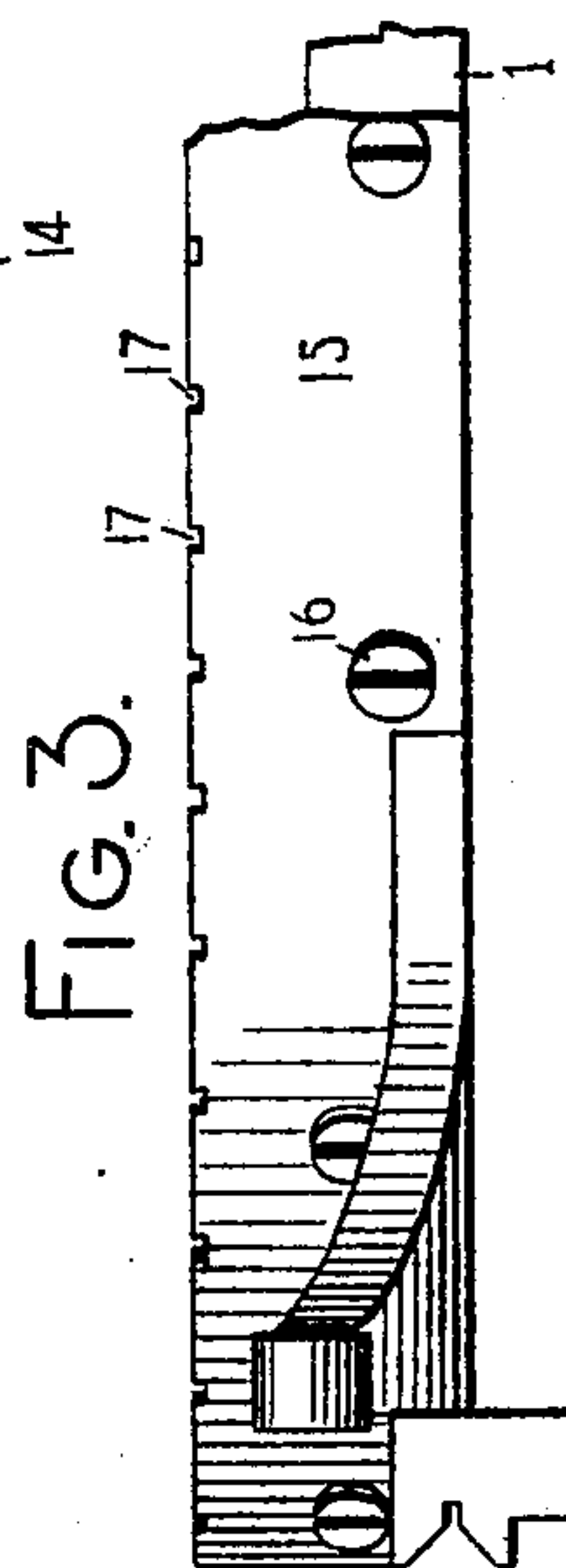


FIG. 3.

WITNESSES:

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HIS ATTORNEY



# UNITED STATES PATENT OFFICE.

EDWIN E. BARNEY, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

## TYPE-WRITING MACHINE.

No. 795,474.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed October 18, 1904. Serial No. 228,992.

*To all whom it may concern:*

Be it known that I, EDWIN E. BARNEY, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to type-writing machines, and has for its main objects to provide an improved construction of type-bar-hanger support and an improved construction of washer or the type-bar hanger.

One embodiment of my invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of a type-bar segmental support, showing several type-bar hangers in position thereon and portions of the type-bars mounted in said hangers. Fig. 2 is a sectional side elevation taken on the line *xx* of Fig. 1 and showing the type-bars mounted in the hangers. Fig. 3 is a fragmentary bottom plan view of the segmental support, showing the left-hand side thereof. Fig. 4 is a detached view of one of the type-bar-hanger washers and showing the same as it appears in front elevation when mounted in the machine. Fig. 5 is a similar view of another construction of washer.

I have shown my invention as applied to a vertically-disposed open segment of the style employed in the Monarch type-writing machine; but it is to be understood that the invention as a whole or in part may be applied to type-writing machines having different constructions of supporting means for the type-bars.

In the drawings, 1 is the type-bar segment or support, the front face whereof is formed with concentric steps 2 and 3, the step 2 being back of and higher than the step 3. The front vertical face of step 2 is formed with a shallow groove 4, and the corresponding face of step 3 is formed with a similar groove 5, the grooves 4 and 5 being struck from the same center as the top and bottom of the segment. On the front face of the forward step 3 a series of type-bar hangers is mounted, only one of such hangers 6 being shown. Each hanger 6 is secured in position by a headed screw 7, which screws into a tapped hole 8 in the segment at the bottom of the groove 5, the centers of the series of holes 8 being on an arc struck from the same center

as groove 5. A series of shallower or narrower and shorter hangers is secured behind the first series of hangers against the front vertical face of the rear step 2. The reference-numeral 9 designates one of the hangers of this rear series, and this hanger is secured in position by a headed screw 10, which screws into one of a series of tapped holes 11, formed in the segment at the bottom of the groove 4, the series of holes conforming to the curve of the groove. The arrangement of the two series of hangers is similar to that disclosed in the pending application of Henry W. Merritt.

Interposed between the head of the screw 7 and the hanger 6 is a washer 12, which is provided at its top with a lug 13, formed at substantially right angles to the longitudinal axis and at the bottom with a short depending tongue or lug 14. The lug 13 is formed with two perforations 13<sup>a</sup>.

Secured against the bottom face of the segment 1 is a strip or band of metal 15, which is held in place by a number of headed screws 16, which screw into the under side of the segment. The forward edge of the strip 15, which is in substantially the same vertical plane as the lower ends of the washers 12, is formed with a series of shallow notches 17, so positioned as to receive the depending lug 14 of each washer 12.

Each of the hangers 9 is provided with a washer 18, the bottom edge of which conforms substantially to and is in contact with the top of the forward step 3. The washers 18 are substantially D-shaped in plan and each is arranged so that a portion on each side of the center line is in contact with the top of the step 3. The washers are thus prevented from turning or becoming disarranged.

Pivotally mounted in each hanger 6 is a type-bar 19, carrying at its free end a type-block 20, provided with two types, said type-bar being connected by a link 21 with the type-actuating mechanism, which is of well-known construction and which it is not deemed necessary to show or describe herein. Each of the rear hangers 9 pivotally supports a type-bar 22, which is formed with a gooseneck near its pivot, so as to enable it to clear the hangers of the front series, said bar 22 being actuated similarly to the type-bar 19. Attached to each type-bar is a restoring-spring 23, the rear end of which is hooked into one of the holes 13<sup>a</sup> in the lug 13 of a front washer



12, each lug 13 serving to secure the restoring-spring of the type-bar pivoted in its associated hanger, as well as the spring of the type-bar pivoted in one of the hangers of the rear series, which is behind its associated hanger.

As heretofore constructed the face or faces of the segment against which the hangers have been mounted have been substantially in one plane, so that in screwing down each securing-screw in order to fix the hanger firmly in place that portion of the under surface of the hanger which is nearest the screw is pressed most forcibly against the surface of the segment. This is so because the contacting surfaces of the segment and hanger, though finished as smoothly as is possible in the practicable work of manufacture, are found not to be perfectly smooth and are uneven or formed with minute depressions and elevations. It is therefore impossible to obtain an absolutely perfect contact throughout of the hanger with the segment in the ordinary construction, since those parts of the contacting surfaces near the securing-screw will be pressed together more firmly and closely than the outer portions of the contacting surfaces, or, in other words, those portions farthest removed from the securing-screw. The consequence is that the hanger even after it has been screwed down as tightly as possible may be turned about the securing-screw and so disarranged as to throw its type-bar out of alinement. One of the objects of my invention is to remedy this defect. The surface of the segment being depressed or cut away in the neighborhood of the securing-screw, the surfaces of the segment and hangers are thereby caused to contact at a greater distance from the securing-screw than in the old construction and in four lines of contact, thus giving a greater leverage to the frictional contact, and consequently making it much more difficult to rotate or disarrange the hanger after it has once been secured in position.

As the securing-screws are tightened in order to fix the hangers firmly in place there is a tendency on the part of the washers as formerly constructed to turn with the screw, and they are thereby caused to interfere with their neighbors, and sometimes in the case of the forward washers this turning or displacement causes the restoring-springs 23 to interfere with each other. When my invention is employed, it is impossible for this displacement of the washers to occur, since each forward washer is held immovably in position by the engagement of its lug 14 with the notched positioning member 15, while each rear washer is held immovable by the contact of its bottom edge with the top of the front face of the segment, which serves as a positioning member for the rear washers. Furthermore, the washers serve the purpose of distributing the pressure of the securing-

screws along the lines of the top edges of the hangers and more widely than when the screws alone are used.

Various changes of construction and arrangements of parts may be made without departing from the gist of my invention, and parts of it may be used without other parts.

What I claim as new, and desire to secure by Letters Patent, is--

1. In a type-writing machine, the combination of a hanger-support, hangers mounted thereon, hanger-washers provided with lugs, means for securing said washers on said hangers, and a notched member, the lugs of said washers fitting into said notched member, which member is independent both of said washers and of the means for securing said washers on said hangers.

2. In a type-writing machine, the combination of a hanger-support, a hanger mounted thereon, a hanger-washer provided with a lug, and a notched band secured to the hanger-support, the lug of said washer fitting into one of the notches in said band.

3. In a type-writing machine, the combination of an upright supporting-segment, type-bar hangers mounted on the front face thereof, hanger-washers provided with depending lugs or tongues, securing-screws passing through said washers and said hangers and screwing into the segment, a notched band secured to the bottom of said segment in such wise that the depending lugs of said washers fit into the notches in said bands.

4. In a type-writing machine, the combination of a hanger-support, a hanger mounted thereon, and a washer for the hanger, the edge of said washer contacting at either side of its center line with said hanger-support.

5. In a type-writing machine, the combination of a hanger-support, a hanger mounted thereon, and a substantially D-shaped washer for the hanger, the edge of said washer contacting at either side of its center line with said hanger-support.

6. In a type-writing machine, the combination of a stepped hanger-support, a hanger mounted thereon, a hanger-washer arranged to contact at either side of its center line with the stepped hanger-support, the arrangement being such that the washer is held in a fixed position.

7. In a type-writing machine, the combination of a stepped hanger-support, a hanger mounted thereon, a substantially D-shaped hanger-washer arranged to contact at either side of its center line with the stepped hanger-support, the arrangement being such that the washer is held in a fixed position.

8. In a type-writing machine, the combination of a stepped hanger-support, a hanger mounted on one of the steps of said support, a substantially D-shaped washer for said hanger, the edge of said D-shaped washer contacting with another step of said support,



and thereby being fixed in position, a hanger mounted on said last-named step, a hanger-washer for said hanger, said washer being formed with a lug, and a positioning member with which the lug engages.

9. In a type-writing machine, the combination of a stepped hanger-support, a hanger secured to one step of said support, a hanger-washer arranged to contact at either side of its center line with said support whereby said hanger-washer is fixedly positioned, a hanger secured to another step of said hanger-support, a hanger-washer formed with a lug, and a notched positioning member engaging the lug of said washer whereby the latter is fixedly positioned.

10. In a type-writing machine, the combination of an upright segment formed with two steps, a hanger secured to the rear step of said segment, a substantially D-shaped hanger-washer, the edge of which contacts with the top of the forward step of said segment whereby the position of said washer is fixed, a hanger secured to the front step of said segment, a hanger-washer formed with a lug, and a notched positioning member with which the lug of said last-named washer engages and whereby the washer is held in a fixed position.

11. In a type-writing machine, the combination of a hanger-support, the face whereof is formed with an arc-shaped groove extending from side to side of the support, a series of type-bar hangers contacting with said support in a single plane and arranged to bridge the arc-shaped groove, said hangers being disposed radially of the arc of the groove, and screws securing said hangers to the support,

said screws entering the support through the bottom of the groove.

12. In a type-writing machine, the combination of a vertically-disposed hanger-support formed with two steps and having concentric grooves in the faces of said steps, two series of type-bar hangers, each series contacting in a single plane only with one of the steps of said hanger-support and arranged to bridge the groove in said step, each series of hangers being disposed radially of the arc on which the groove is struck, and screws securing the hangers to the support, said screws entering the support through the bottoms of the grooves.

13. In a type-writing machine, the combination of an upright type-bar segment, the front face whereof is formed with two concentric steps, the front face of each step being provided with a shallow groove, the grooves and steps conforming to arcs struck from the same center, two series of type-bar hangers, each series arranged radially and bridging one of the grooves, and screws securing the hangers to said segment, said screws entering tapped holes in the bottoms of the grooves, the centers of the series of tapped holes being on arcs struck from the same center as the arcs of the grooves and steps of said segment.

Signed at Syracuse, in the county of Onondaga and State of New York, this 13th day of October, A. D. 1904.

EDWIN E. BARNEY.

Witnesses:

HENRY W. MERRITT,  
ALF. E. VENESS.