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Aug. 20, 1935.

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2,011,644

SIGHT

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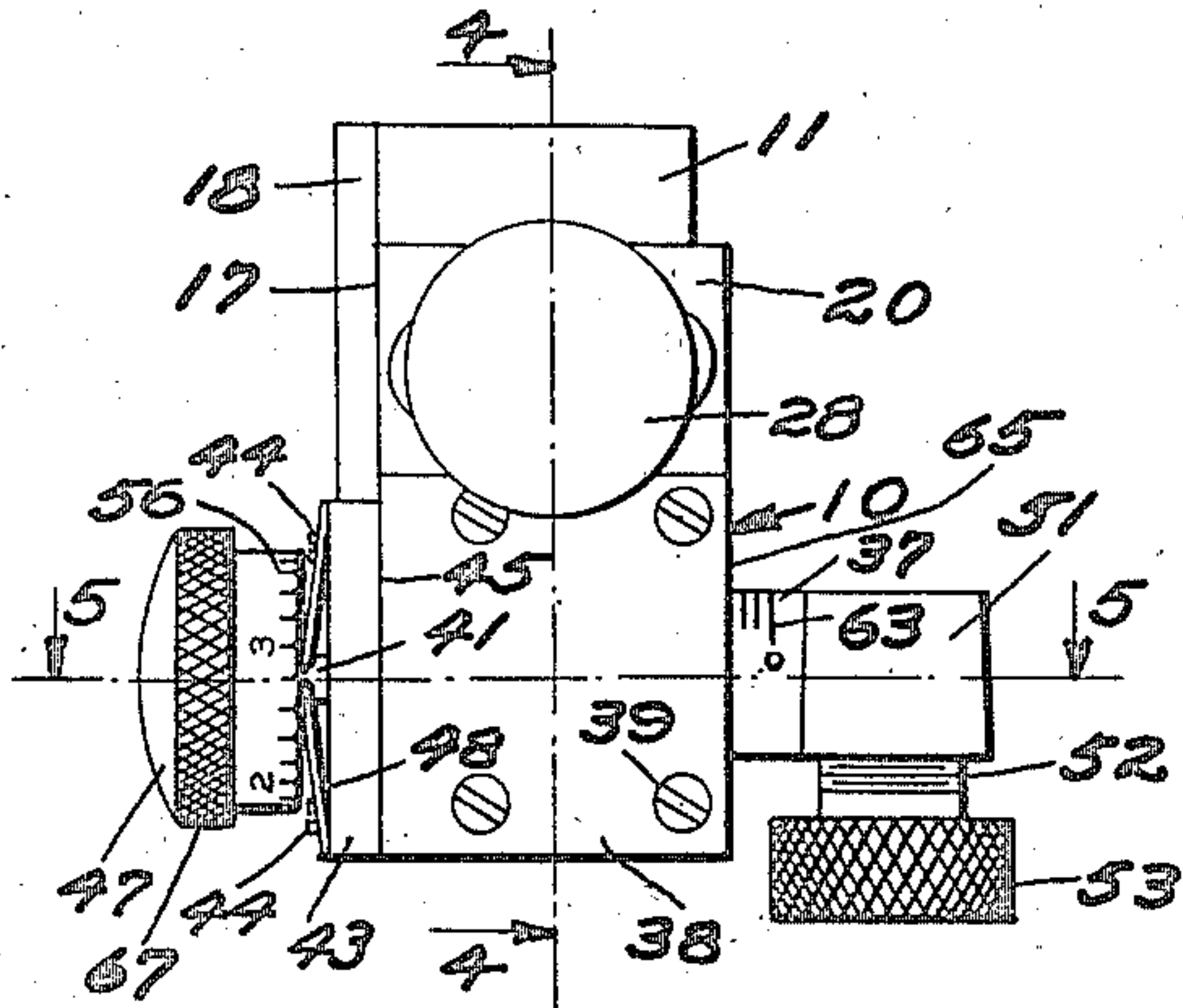


FIG. 1

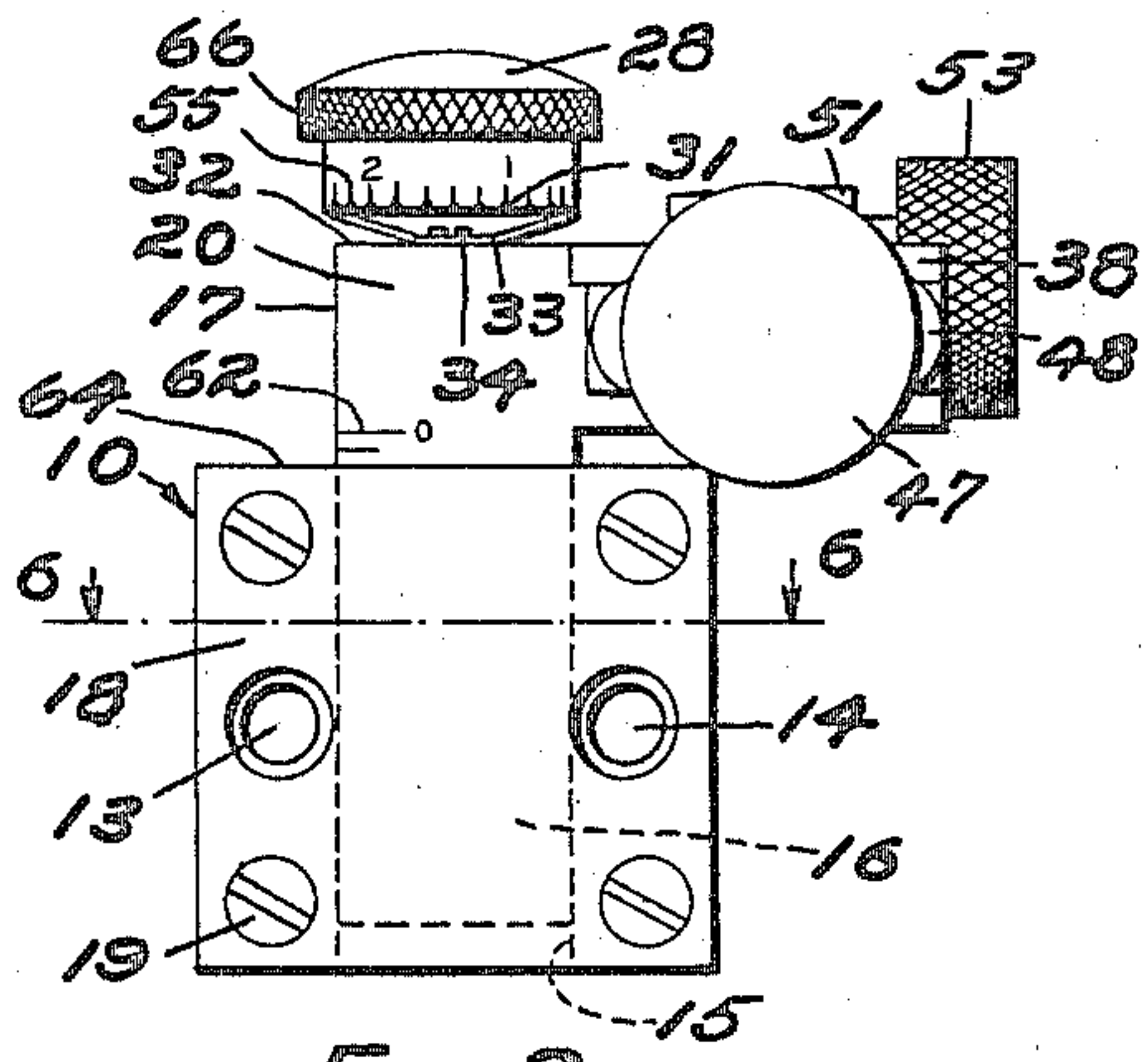


FIG. 2

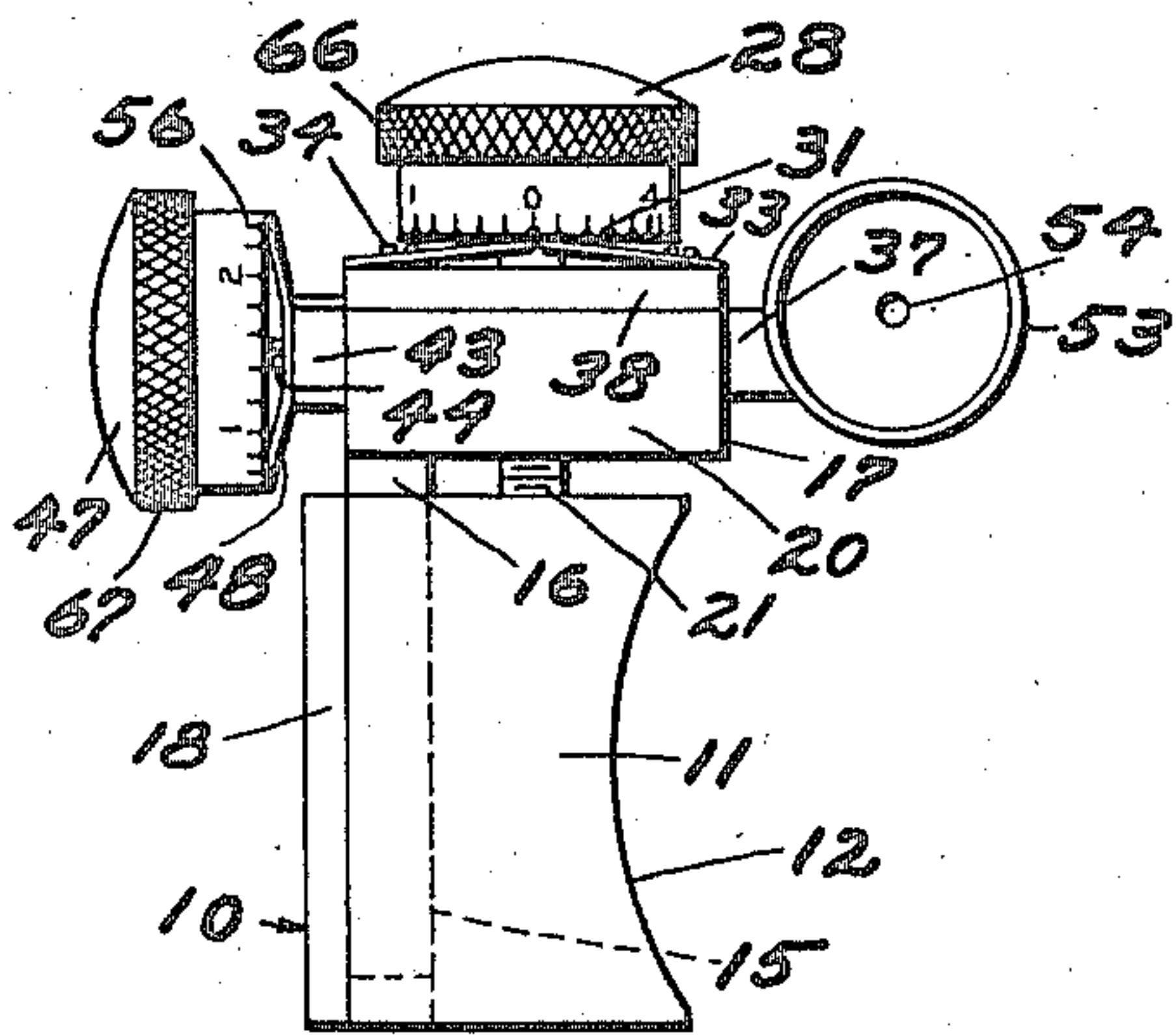


FIG. 3

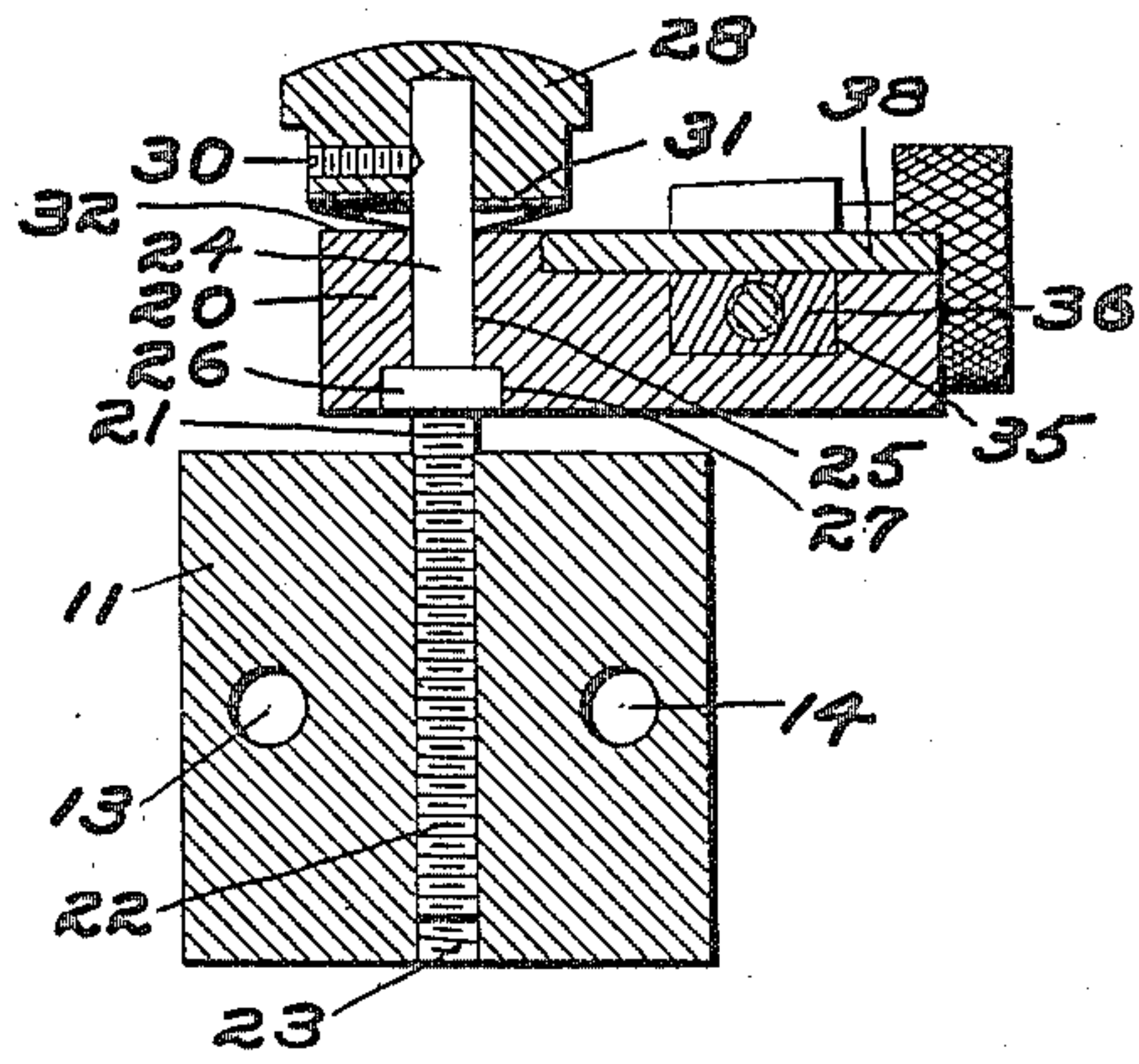


FIG. 4

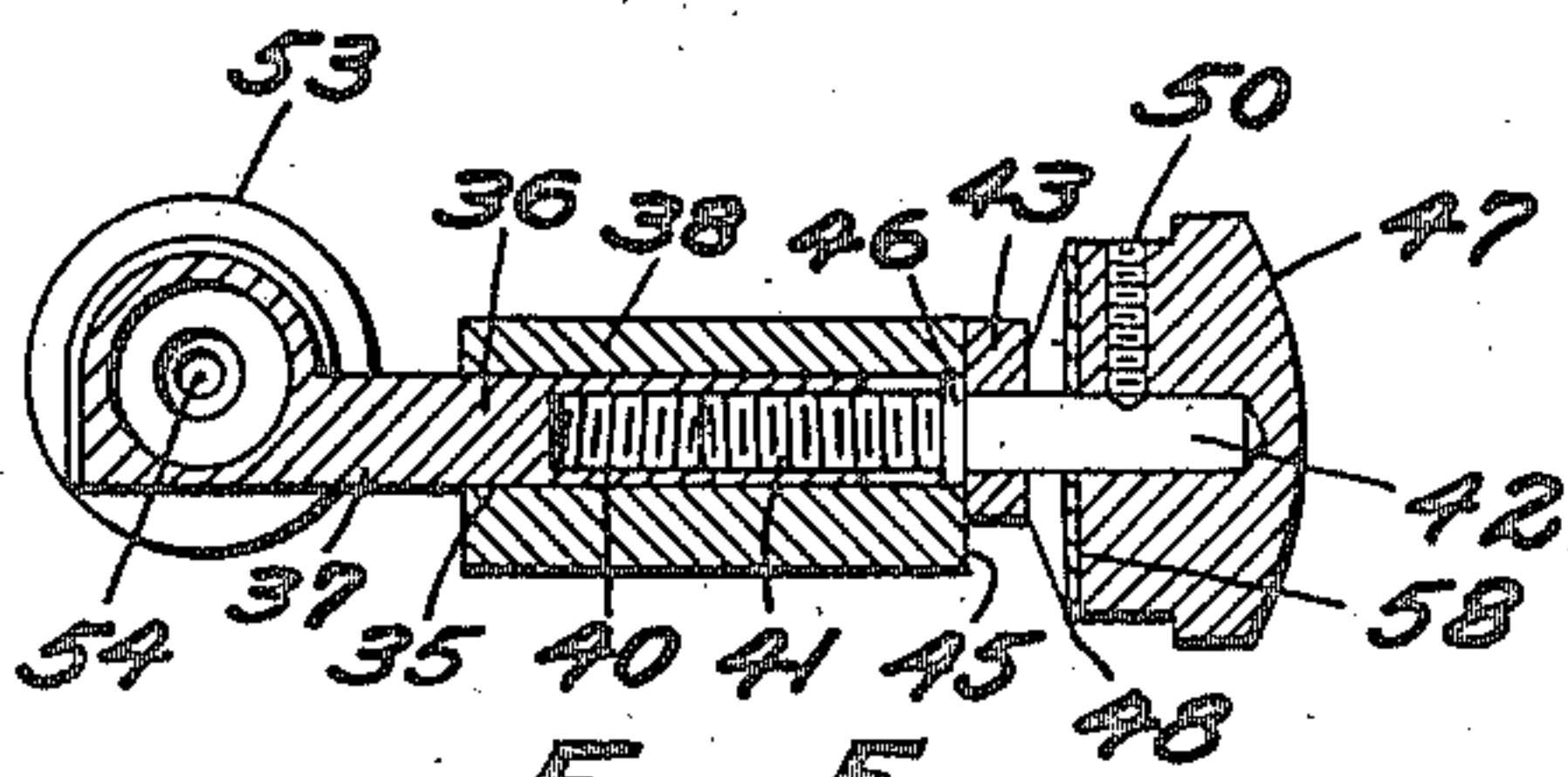


FIG. 5

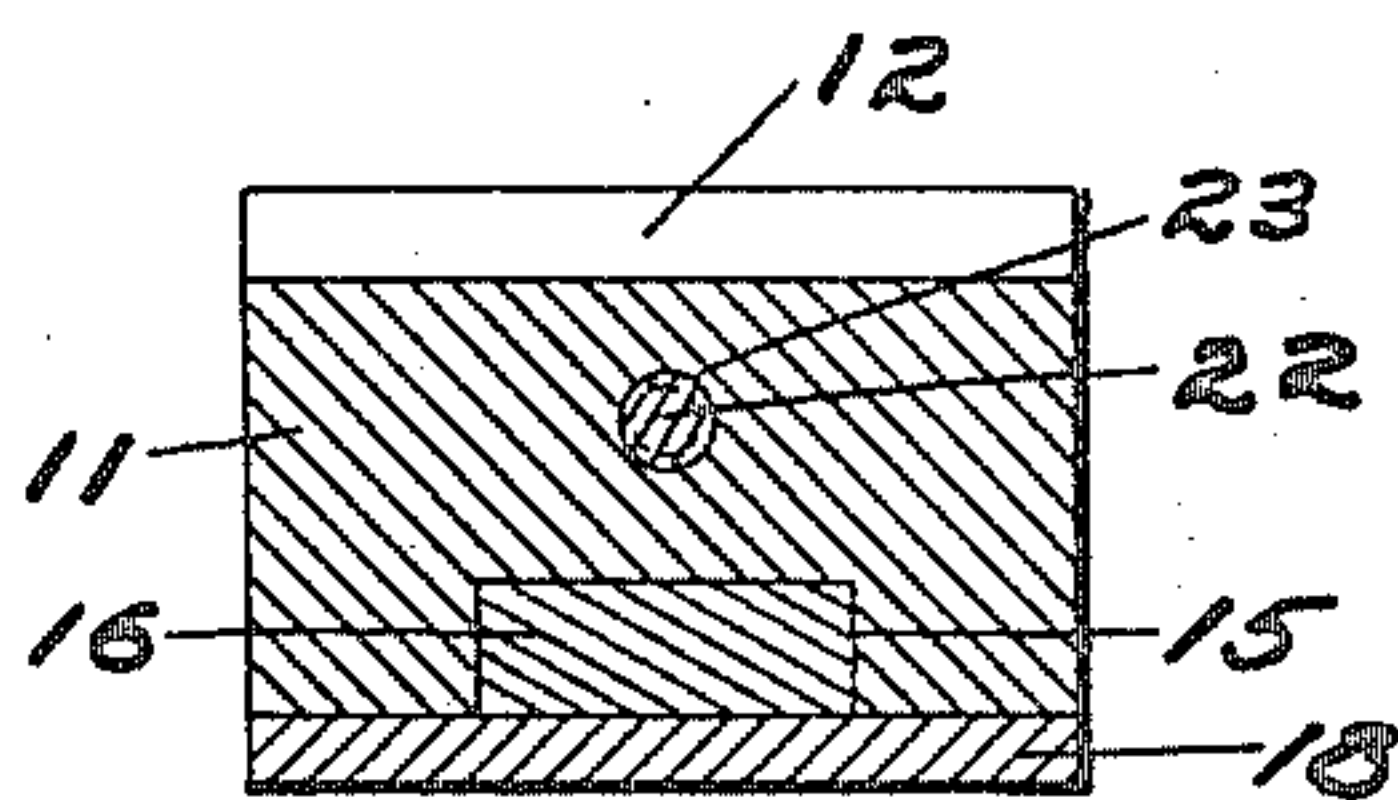


FIG. 6

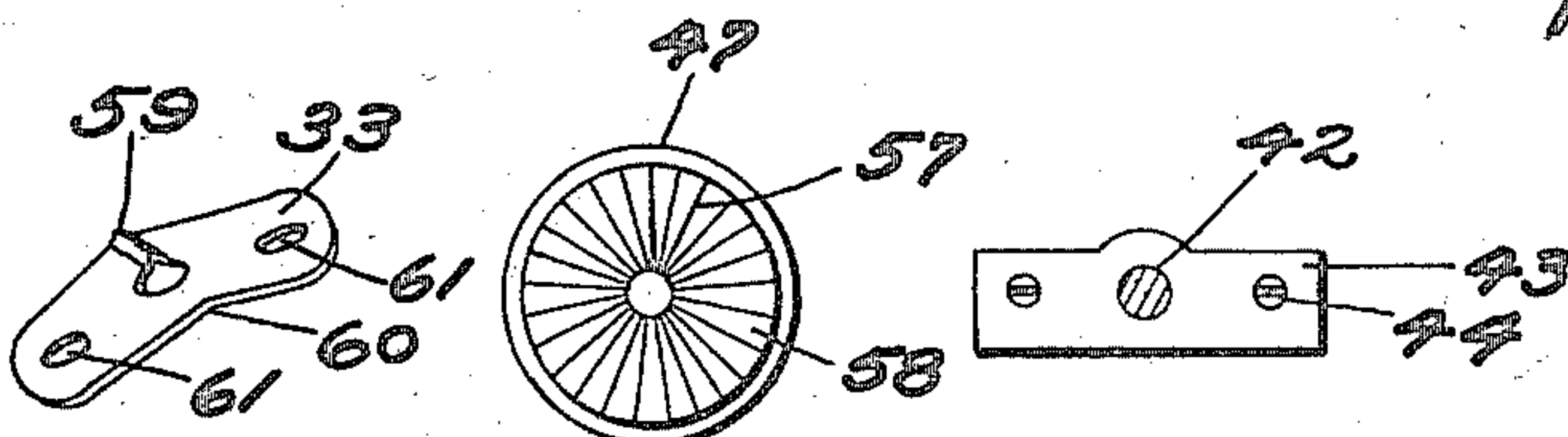


FIG. 7

FIG. 8

FIG. 9

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SIGHT

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Application September 22, 1933, Serial No. 690,577

8 Claims. (Cl. 33—56)

My invention relates to a sight for a firearm and more especially to a rear sight suitable for use on a rifle, or the like, and having provision for vertical or lateral adjustments or both.

In a more specific aspect the invention relates to a form of rear sight suitable for use on the receiver of a rifle and having a vertically movable slide for effecting changes in elevation of a sighting notch or aperture carried thereon, the notch or aperture being adjustable laterally on the slide to bring about such windage corrections as may be necessary.

The lateral or windage adjustment of sights of the above character is usually effected by a nut carrying the sighting notch or aperture and mounted in a slot in the slide, movement of the nut being produced by a screw threaded through the nut and having its ends carried in bearings in the slide. I have found that there is a tendency, when the screw is rotated to move the nut, for the nut to rotate with the screw, the rotation of the nut swinging the notch or aperture up or down and producing changes in elevation when it is desired to bring about windage corrections only. One of the primary objects of the present invention is to bring about a form of sight having provision for windage adjustments wherein accidental changes in elevation, during windage corrections, are prevented.

Another object of the invention is to bring about a form of sight suitable for use on rifles having narrow receivers or receivers of small diameter wherein ample provision may be made for windage as well as elevation adjustments without making the sight relatively large or otherwise out of proportion to the rifle on which it is mounted.

A feature of the invention resides in a form of sight which is not only highly efficient in operation but which lends itself to ease and accuracy of manufacture.

To these and other ends, the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the drawing:

Fig. 1 is a plan view of a sight according to the invention, on an enlarged scale;

Fig. 2 is a side elevation of the sight shown in Fig. 1;

Fig. 3 is a front elevation of the sight shown in Fig. 1;

Fig. 4 is a sectional view along line 4—4 of Fig. 1;

Fig. 5 is a sectional view along line 5—5 of Fig. 1;

Fig. 6 is a sectional view along line 6—6 of Fig. 2;

Fig. 7 is a perspective view of a spring forming a part of the improved sight;

Fig. 8 is an end view of the windage screw head, and

Fig. 9 is a view of the windage screw bearing.

Referring now to the drawing in which I have illustrated my invention by showing a preferred embodiment of the same, the reference numeral 10 indicates, in general, the improved form of rear sight, wherein a base 11, is hollowed out at 12 to fit the cylindrical surface of the receiver of a rifle (not shown), counterbored holes 13 and 14 extending through base 11 and forming convenient means for attaching the sight to the rifle by means of screws.

The base 11 is slotted at 15 for the reception of stem 16 of slide 17. Stem 16 is of rectangular cross-section, closely fits the slot 15 and is held therein by base plate 18, the latter being secured to base 11 by screws 19. It will be understood that stem 16 is freely slidable in a vertical direction in slot 15, under the control of the elevation screw to be hereinafter described, but is otherwise held against movement by the sides and bottom of the slot 15 and by plate 18. Extending at right angles to stem 16 is slide head 20 which is integral with respect to the stem 16 and, when the sight is mounted on a rifle, is directed from the stem 16 towards the butt end of the rifle.

Movement of slide 17 in a vertical direction is effected by means of elevation screw 21, threaded at its lower end 22 for reception in vertical threaded opening 23, of base 11, the cylindrical upper end 24, of elevation screw 21, being rotatably mounted in the vertical opening 25 of slide head 20. Elevation screw 21 is held against movement in the direction of its axis, in one direction, by means of collar 26, integral with screw 21 and seated in counterbored opening 27 and, in the opposite direction, by means of micrometer head 28, into which the upper end 24 extends, the elevation screw 21 being held in micrometer head 28 by one or more set screws 30. Between the lower face 31, of micrometer head 28, and the upper face 32, of slide head 20, is a spring 33 secured on face 32 by means of screws 34 and bearing against the lower face 31.

Extending transversely across the rear end of slide head 20 is an upwardly facing slot 35, in which the stem 36, of sight bar 37 is received, stem 36 being of rectangular cross-section and closely fitting the slot 35. Stem 36 is held against movement, except in a transverse direction with re-

spect to slide head 20, by the sides and bottom of slot 35 and by slide plate 38 secured, on the upper surface of head 20, by screws 39.

Extending into slot 35, and into threaded opening 40 of stem 36, is windage adjusting screw 41 having a cylindrical stem 42 rotatably mounted in bearing 43 secured by screws 44 on the outer face 45, of head 20, at one end of slot 35. Screw 41 is held against axial movement, in one direction, by collar 46, which is integral with screw 41 and bears against the inner side of the bearing 43, and is held against movement in the opposite direction by micrometer head 47, which bears against spring 48 secured on bearing 43 by screws 49. Stem 42 extends into micrometer head 47 and is secured therein by set screw 50. The outer end of sight bar 37 is enlarged, as at 51, the enlarged end 51 being bored and threaded for the reception of the threaded end 52 of disc 53. Disc 53 is provided with the usual peep hole 54 by means of which the rifle, on which the improved sight is mounted, is sighted.

Micrometer heads 28 and 47 are graduated at 55 and 56 the graduations corresponding in number to a series of radial grooves or notches 58 on the inner end faces 31 and 57 of micrometer heads 28 and 47 respectively. Grooves or notches 58 co-operate with ribs 59 of springs 33 and 48 to hold the micrometer heads 28 and 47, and thus screws 21 and 41, against movement as each graduation on the heads comes opposite a reference line or point on the sight. It will be understood that the ribs 59 do not lock the heads 28 and 57 against movement but that extra pressure is required to force the ribs out of the grooves, as the heads are rotated, the ribs entering the grooves with an audible clicking sound. Springs 33 and 48 are arched at their centers 60 the ribs 59 being formed by indenting the under sides of the springs. Preferably the screws 34 and 49 do not clamp the springs on the sight the springs being provided with openings 61, in which the heads of the screws are received, the openings 61 being somewhat elongated so that the springs are free to spread out or flatten as they are compressed by the micrometer heads.

Stems 16 and 36 are graduated, as at 62 and 63, each graduation corresponding to one complete turn of the micrometer heads 28 and 47. The adjacent edges 64 and 65, of plates 18 and 38 respectively, form convenient reference lines for reading the graduations on the stems. For example, if the 0 graduation on stem 16 is opposite the edge of plate 18, and the micrometer head 28 rotated one complete turn, the slide 17 will be elevated, by the threaded end 22 of elevation screw 21, to bring the next line of scale or graduations 62 opposite the edge 64 of plate 18. The knurling 66 and 67 on micrometer heads 28 and 47 form convenient means for rotating the heads while the set screws 30 and 50 insure that the screws 21 and 41 will rotate with the heads, the thrust of these screws in the threaded openings 23 and 40 of base 11 and stem 36 producing the movement of the stems. The relation between the graduations on stem 36 and micrometer head 47 is similar to that of stem 16 and micrometer head 28.

In the construction described above, the elongated slotted arm and sliding nut, of the usual sight, have been eliminated, the sighting bar extending from the slide only to the extent necessary to bring the sighting disc over the axis of the bore of the rifle, on which the sight is

mounted, and to the right or left of this axis a sufficient amount to take care of the windage corrections necessary. The relatively short amount of extension of the sight bar is such that there is practically no danger of the latter being bent, in case the rifle on which the sight is mounted is dropped. In addition I have brought about a more compact arrangement wherein the bearings supporting the sight bar are of much greater area than is possible with the usual form. The relatively long, wide and flat bearings of the sight bar and slide head eliminate the possibility of elevational movements of the disc 53, due to rotational movement of the sight bar. The construction of the sight has thus been greatly simplified while giving added ability to secure those minute and accurate adjustments necessary for target and game shooting.

The graduations on the stems are concealed within the slots and no confusion can be had in reading them since the elevation or windage readings include only such graduations as become exposed beyond the cover plates as the micrometer heads are rotated. The elevation and windage micrometer heads are both on the left hand side of the sight where they may be conveniently read and adjusted by a right handed shooter while they are also readily accessible to a left handed shooter.

While I have shown and described a preferred embodiment of my invention, it will be understood that it is not to be limited to the details shown, but is capable of modification and variation within the spirit of the invention and the scope of the appended claims.

What I claim is:

1. A rear sight for a rifle including, a base adapted to be attached to the rifle, said base being provided with a vertical opening, a slide, a stem on said slide mounted for vertical movement in said opening, a head on said slide extending rearwardly from said stem, said head being provided with a transversely extending opening adjacent the rear end thereof, the opening being of non-circular cross-section, a sight bar, a stem on said sight bar extending into the opening from one end thereof and closely fitting the opening and a screw mounted on the slide at the other end of the opening, said screw extending into the opening and being received in a threaded opening in the sight bar stem.

2. A rear sight for a rifle including, a base adapted to be mounted on the rifle, a slide mounted for vertical movement on the base, a rearwardly extending head on said slide, a sight bar having an elongated stem of rectangular cross-section, said head being provided near the rear end thereof with a transversely extending opening of rectangular cross-section in which the stem is received for sliding transverse movement, a windage scale on said stem at one end of the opening and means on the slide for moving the stem in the opening to vary the amount of the scale exposed.

3. A rear sight for a rifle including, a base adapted to be mounted on the rifle, a slide mounted for vertical movement on the base, a rearwardly extending head on the slide, an elongated sight bar having an opening at one of its ends adapted to receive a sighting disc, said head having an opening extending transversely there-through and adapted to receive the other end of the sight bar opposite from the disc and means extending into the transverse opening at the end thereof remote from the sight bar opening and

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engaging said bar for effecting movement thereof in said opening transversely of said head and in the direction of the bar length.

4. A rear sight for a rifle including, a base adapted to be mounted on the rifle, a slide mounted for vertical movement on the base, said slide having an opening extending transversely therethrough, a bearing mounted on said slide at one end on the opening, a screw mounted for rotation in said bearing and having the threaded end thereof extending into the opening, a sight bar telescoped into said opening from the opposite end thereof, said sight bar having a threaded opening in which the screw is received and means for rotating the screw.

5. A rear sight for a rifle including, a base adapted to be mounted on the rifle, said base having an outwardly facing slot, a slide, said slide being provided with a downwardly extending stem mounted in the slot, a cover plate on said base for holding the stem in the slot, a rearwardly extending head on the stem, an upwardly facing transverse slot in said head, a sight bar having a stem in said last named slot, a plate on the head for holding the sight bar stem in the last named slot, means for supporting a sighting disc on the bar, means for moving the slide stem in the first named slot and means for moving the sight bar stem in the second named slot.

6. A rear sight for a rifle including, a base adapted to be mounted on the rifle, said base having a vertical outwardly facing slot of rectangular cross-section, a cover plate on said base closing one of the open faces of the slot to form a vertical opening of rectangular cross-section, an elevation slide, said slide having a vertical stem of rectangular cross-section fitting the opening, a slide head on said stem extending rearwardly therefrom, an upwardly facing transverse

slot at the rear end of said head, a cover plate on said head forming in conjunction with the second named slot a transverse opening of rectangular cross-section, a sight bar having at one end a disc receiving aperture, a stem on the opposite end of said bar, said stem being of rectangular cross-section and extending into and closely fitting the transverse opening, a screw on said slide extending into said base and adapted to effect vertical movement of the slide stem in the vertical opening and a screw mounted on the slide and extending into the transverse opening and engaging the stem of the bar to effect transverse movement thereof.

7. A rear sight for a rifle including, a base adapted to be attached to the rifle, a slide mounted for vertical movement on said base, said slide having an opening of non-circular shape extending horizontally therethrough, a sight bar having a stem fitting and slidably mounted in the opening and a free end extending horizontally outwardly from the head, the free end of the bar having a sighting opening therein, and means on said head for moving said stem in the opening transversely of the head to vary the distance the free end of the bar extends horizontally outwardly from the head.

8. A rear sight for a rifle including, a base adapted to be attached to the rifle, a slide mounted for vertical movement on the base, said slide being provided with an opening of non-circular shape extending horizontally therethrough, a sight bar telescopically received in the opening and extending horizontally outwardly therefrom, the sight bar having a sighting opening in its outer end, and a screw mounted on the slide and threaded into the sight bar to vary the amount the latter extends into the opening.

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