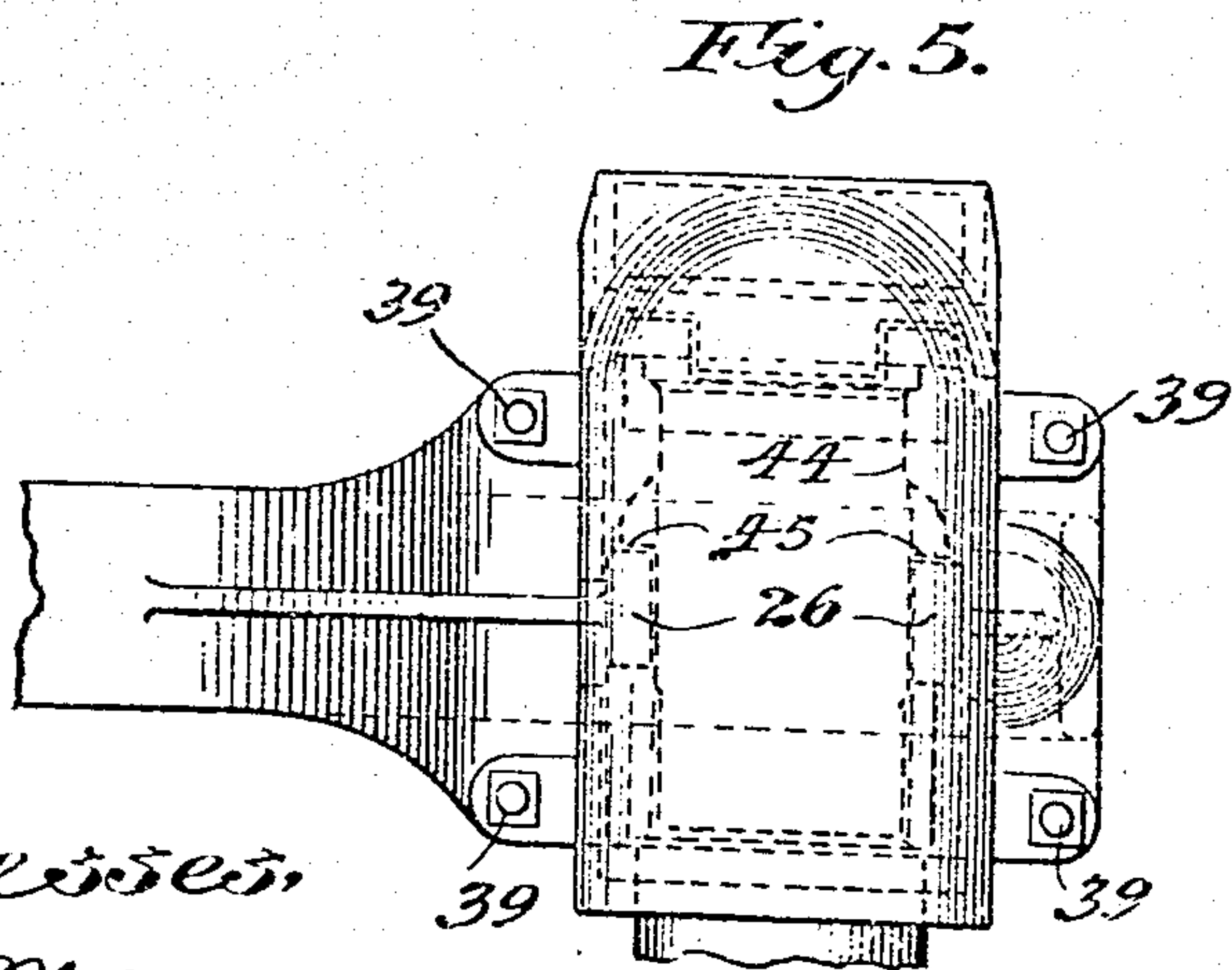
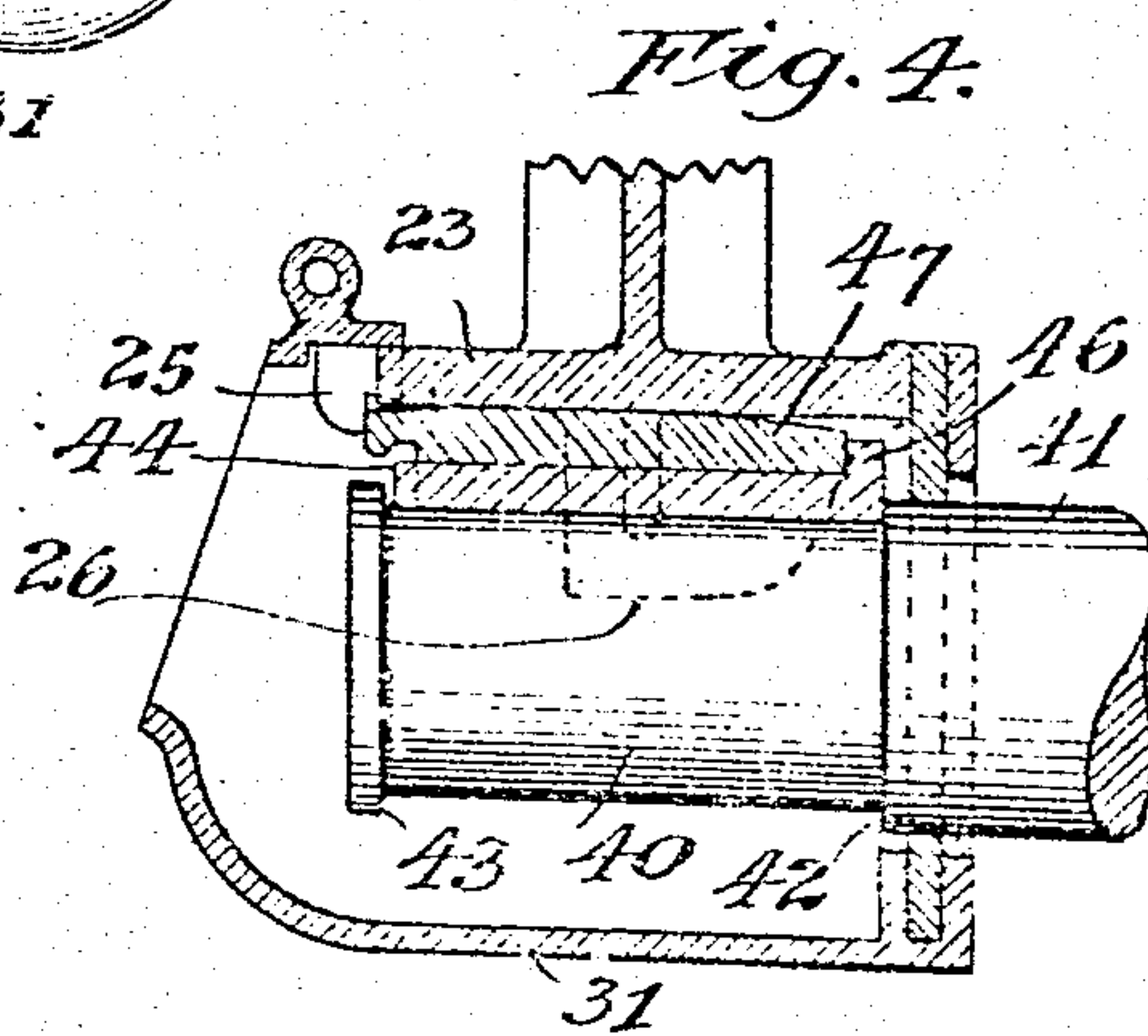
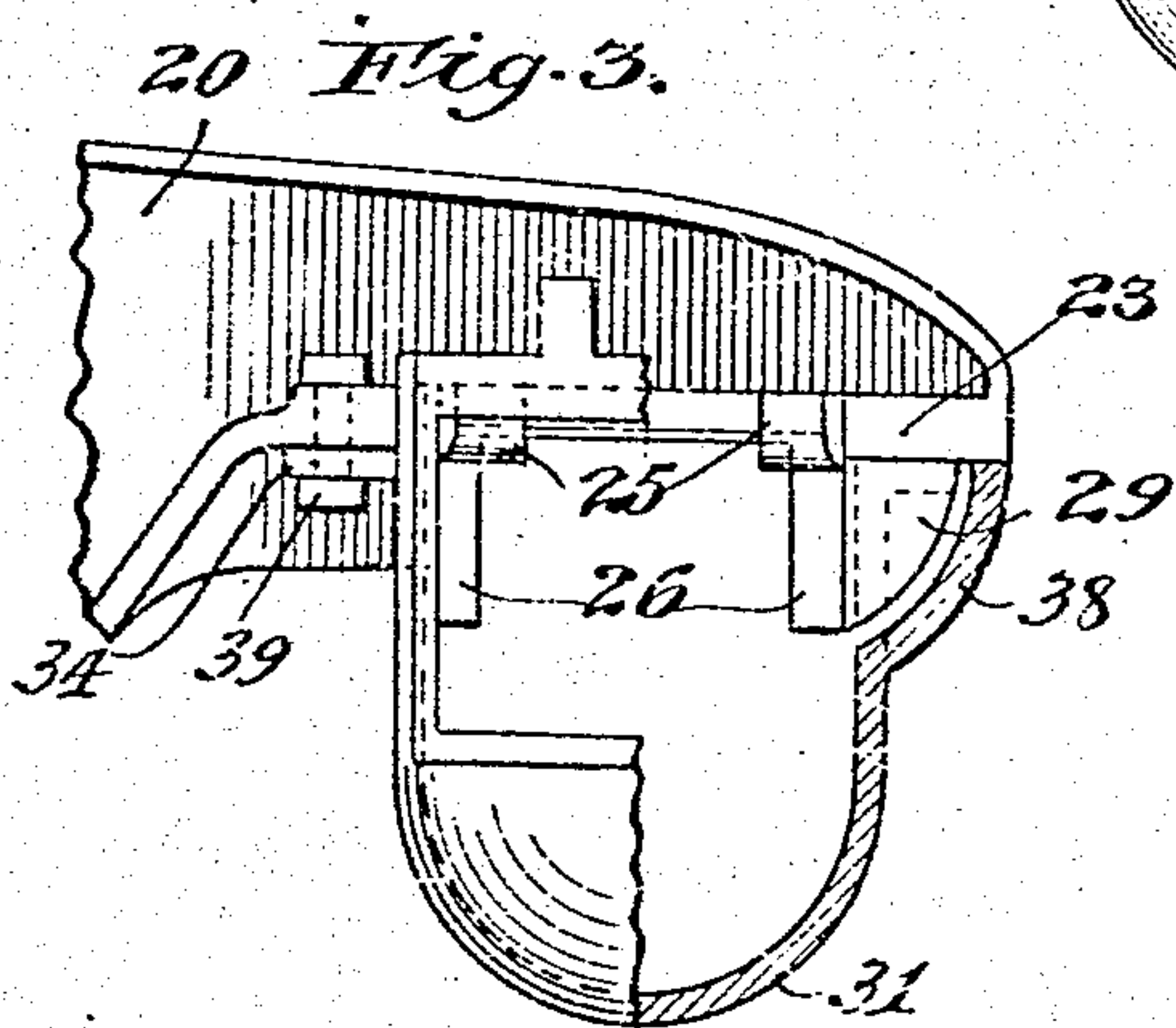
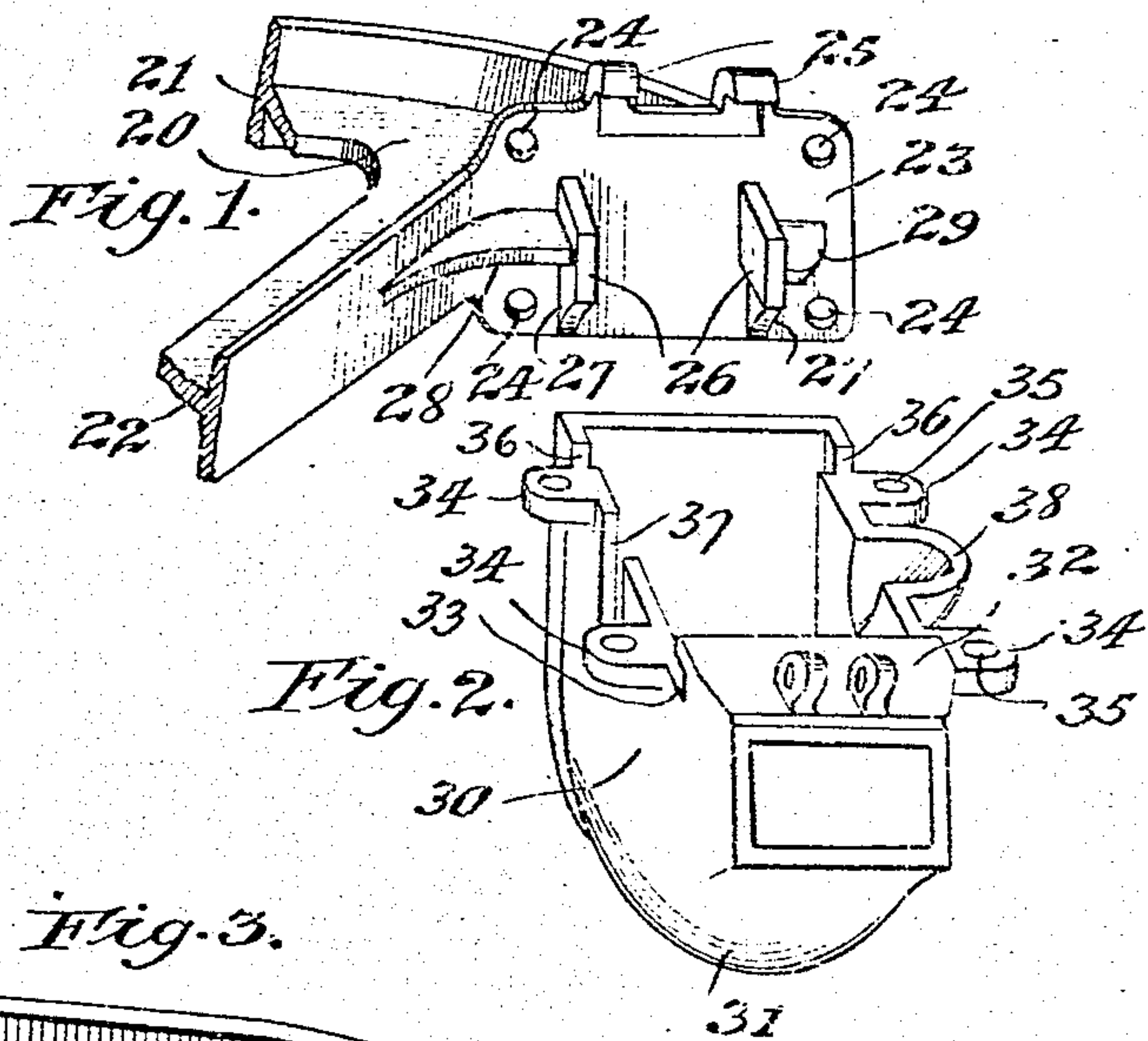


G. G. FLOYD.
CAR TRUCK SIDE FRAME AND JOURNAL BOX.
APPLICATION FILED APR. 26, 1907.

986,559.

Patented Mar. 14, 1911.

3 SHEETS-SHEET 1.



Witnesses,
J. J. Mann,
Walter M. Fuller

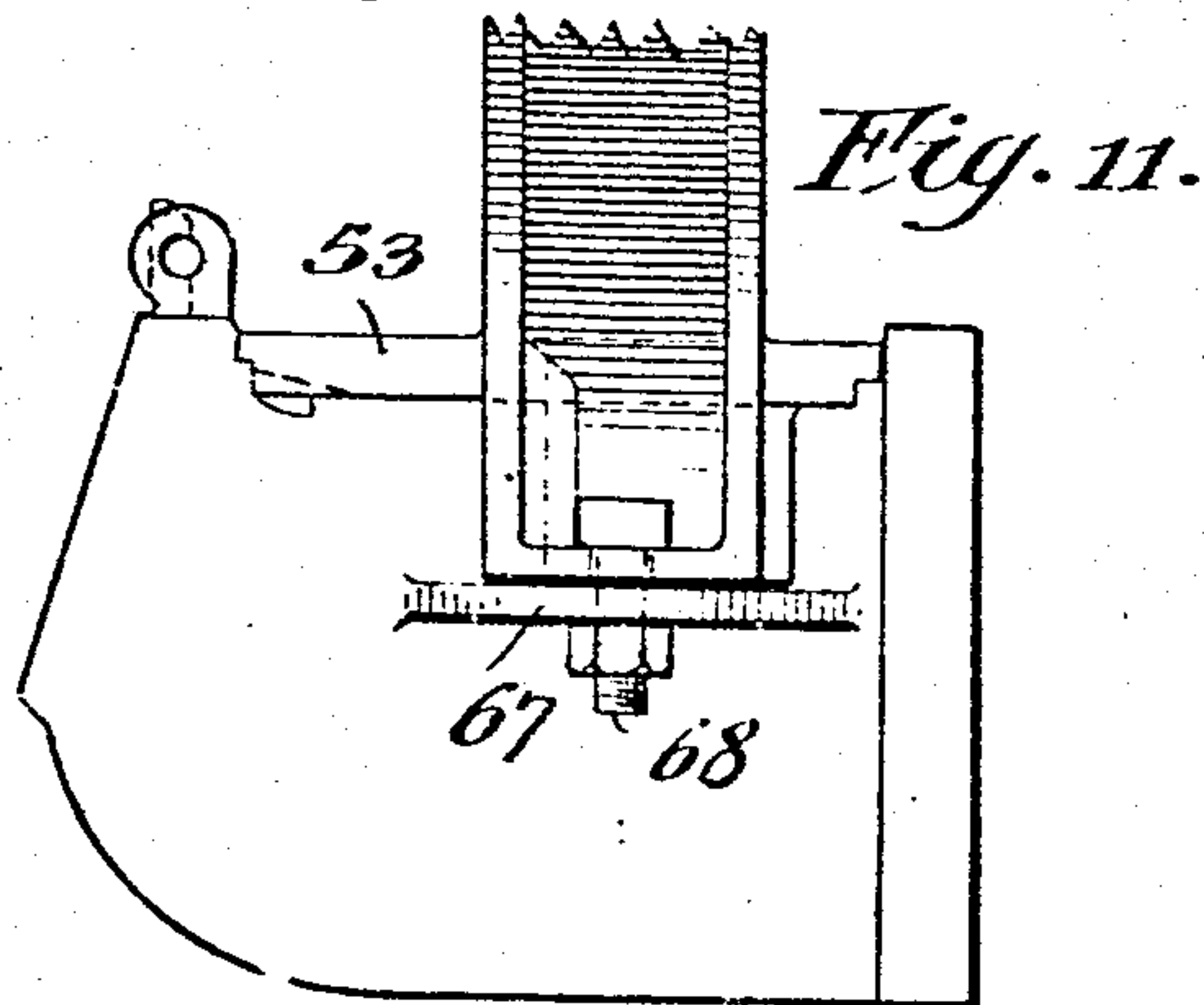
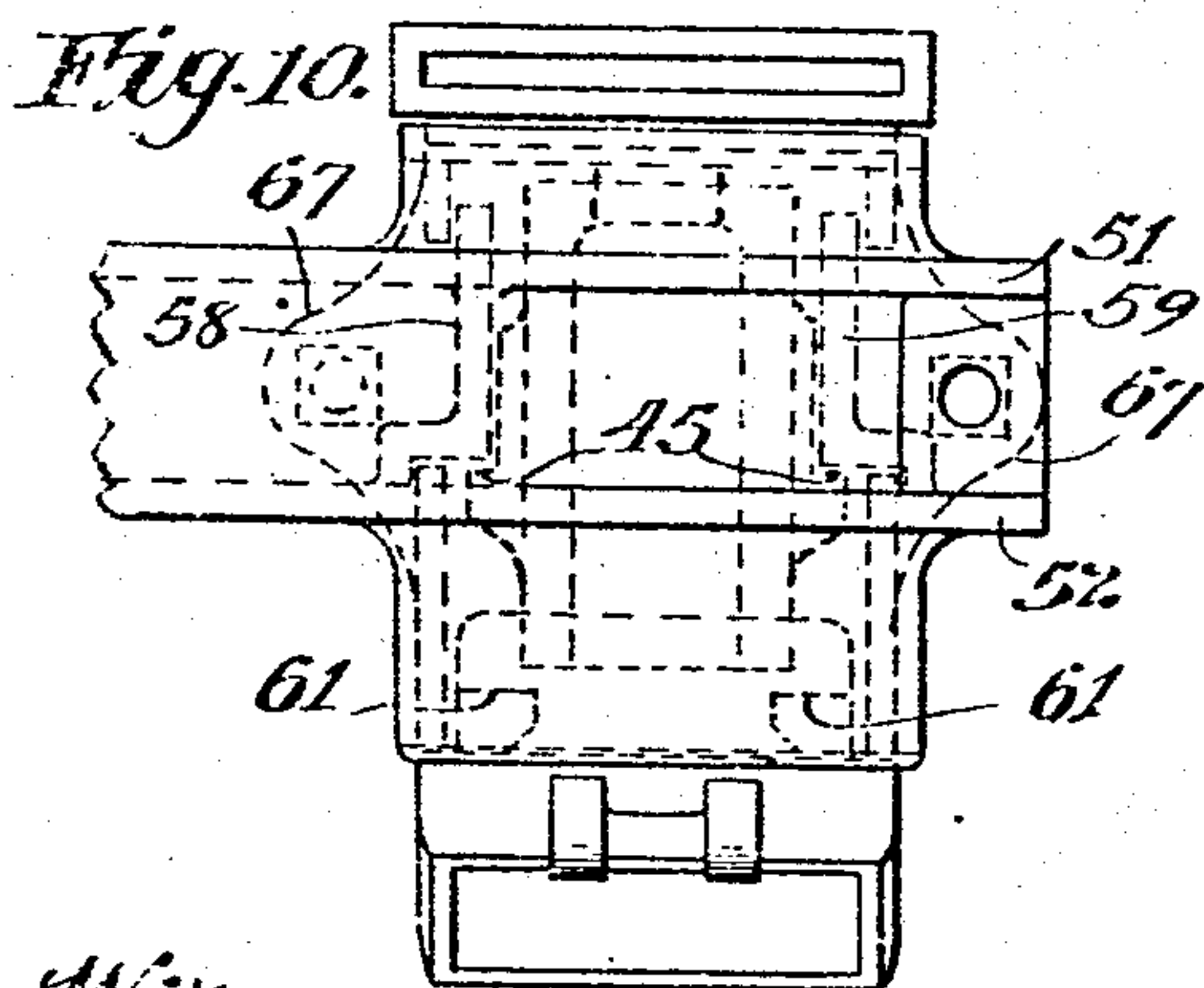
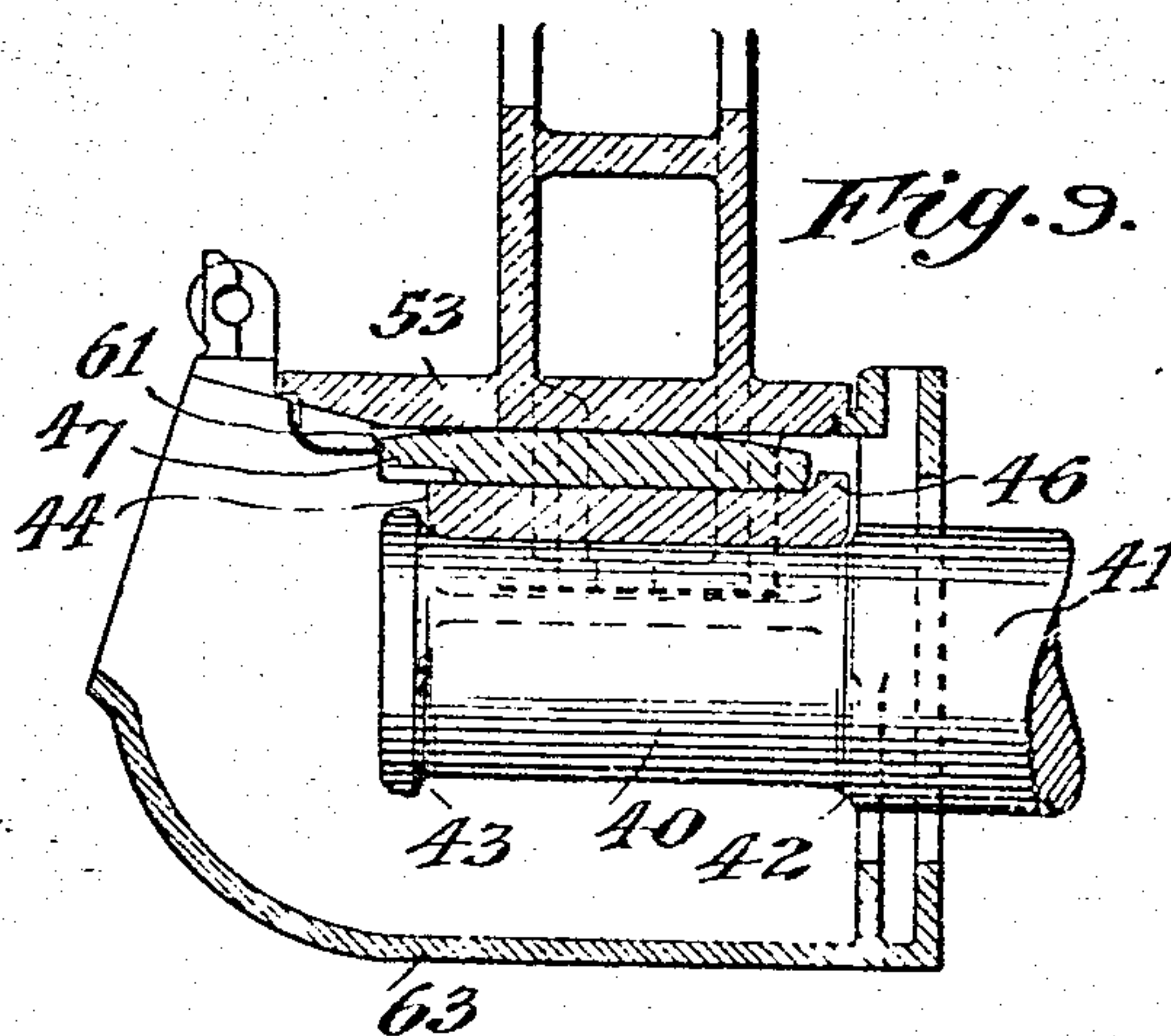
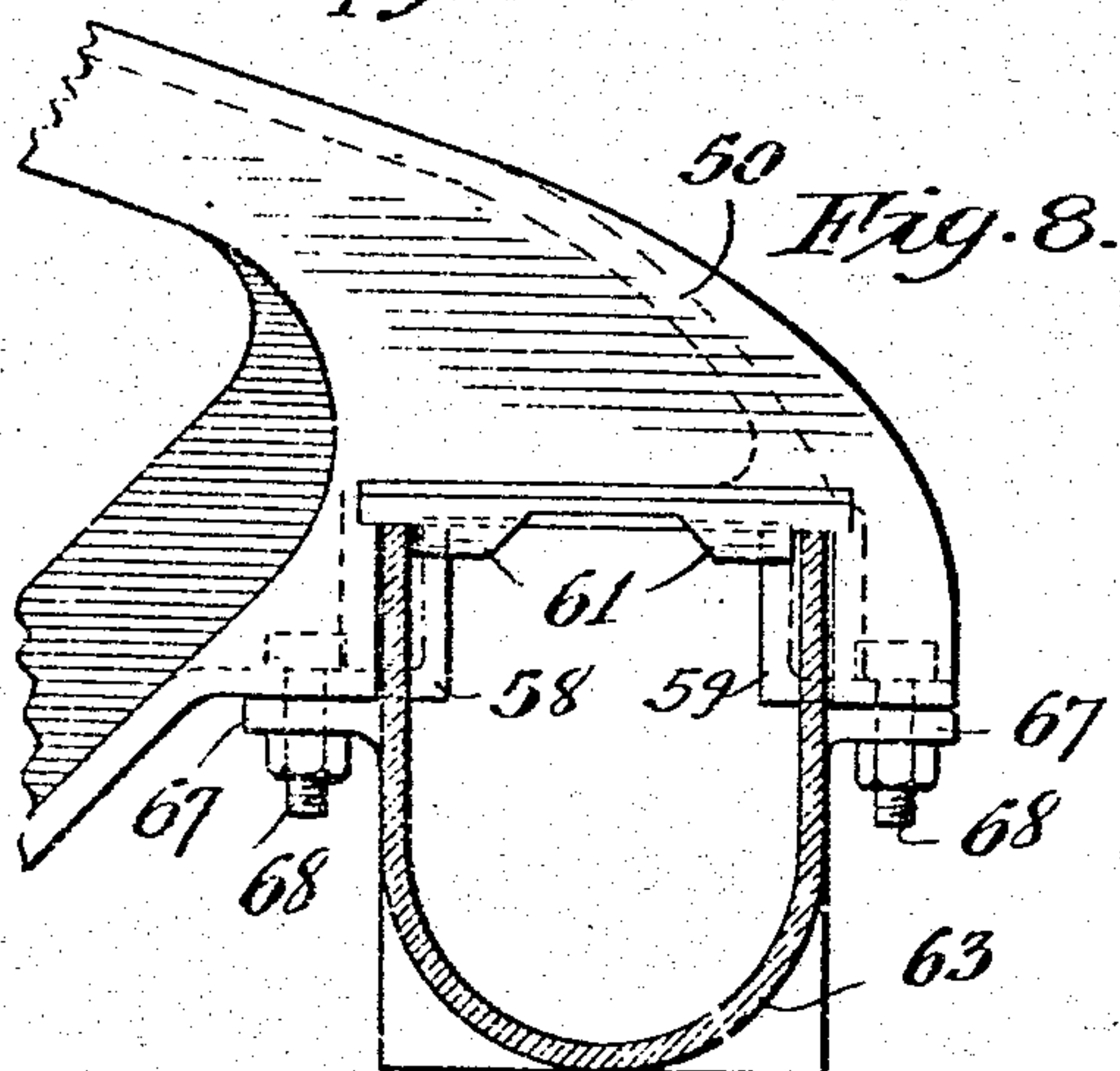
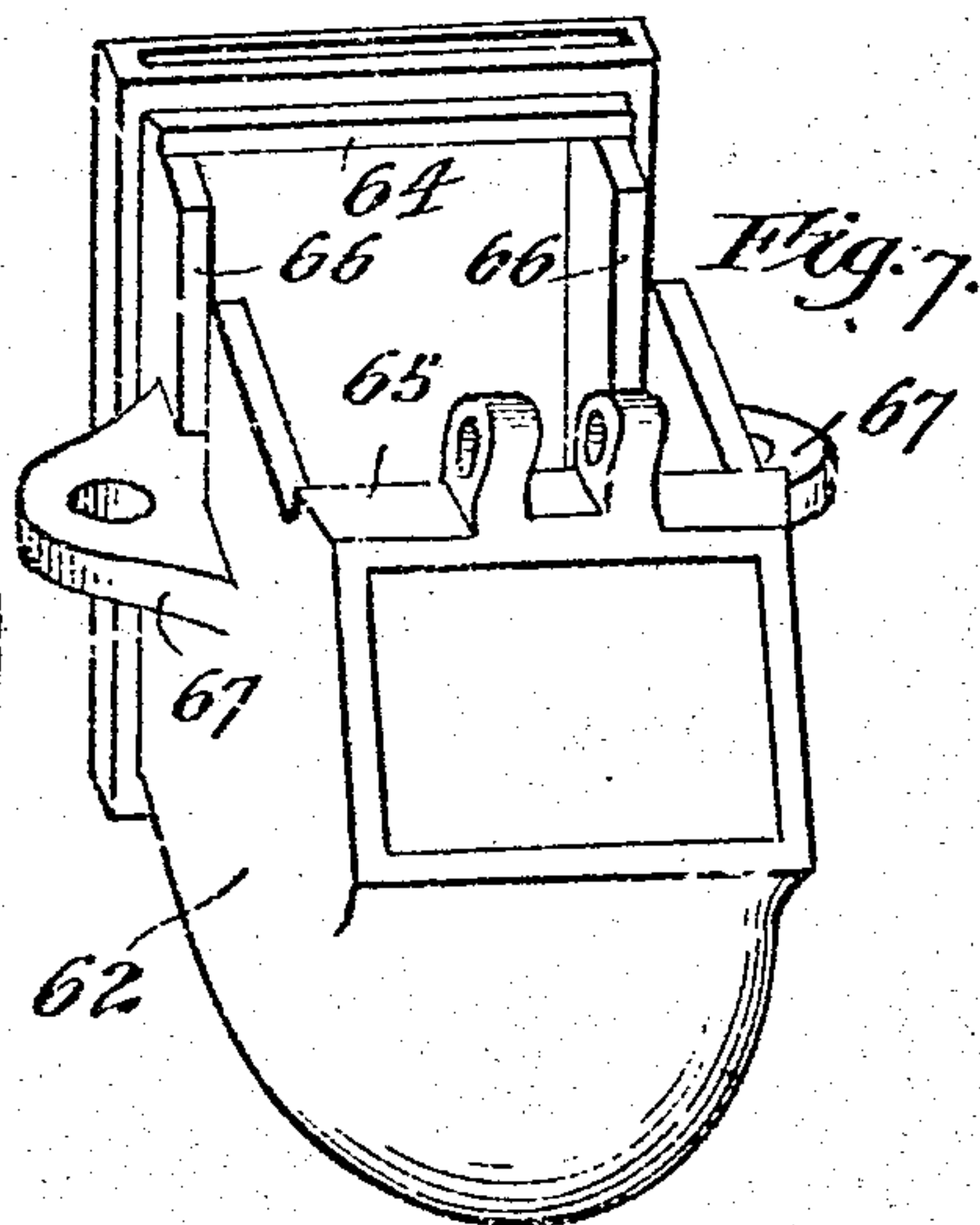
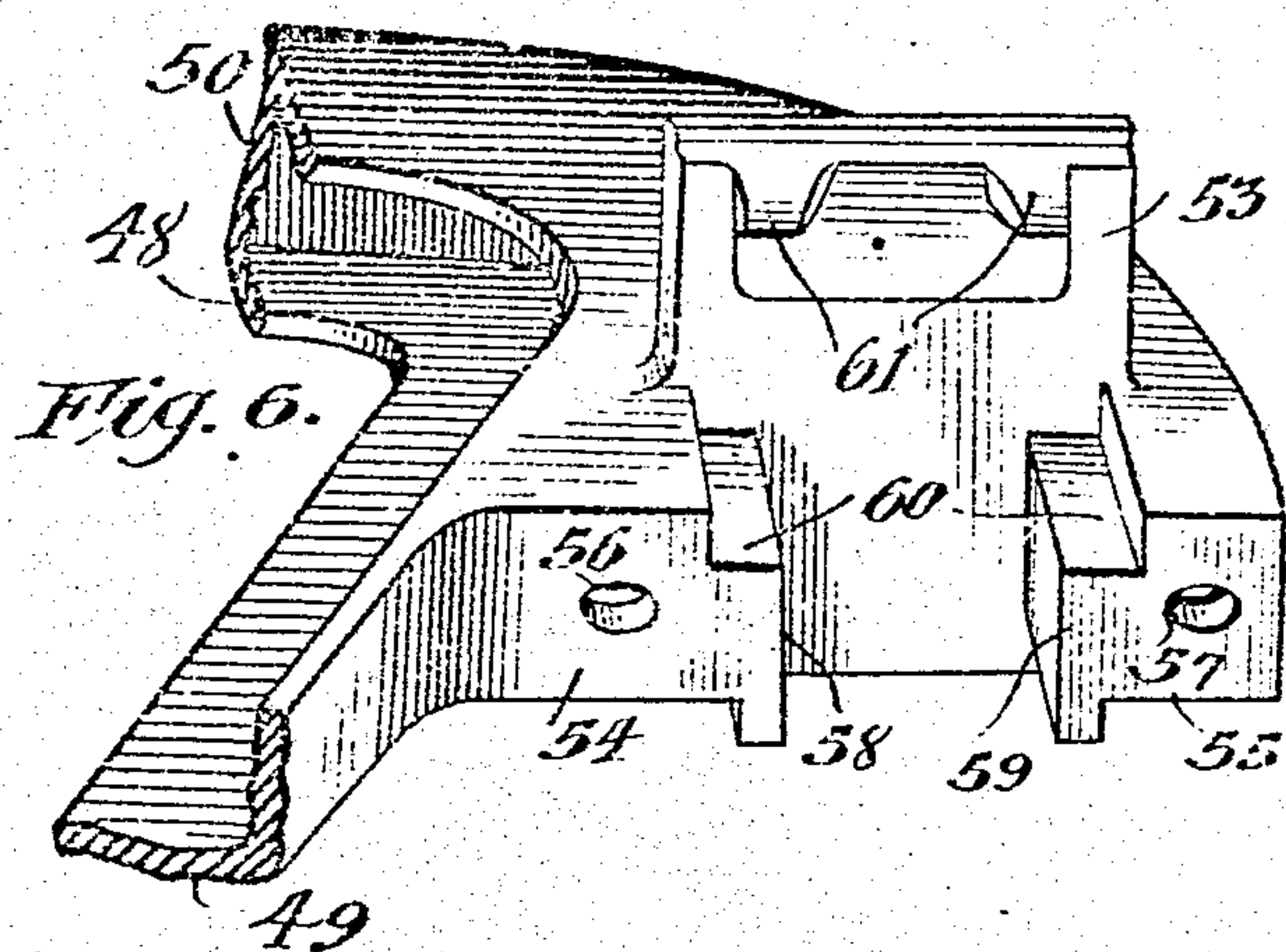
Inventor,
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3 SHEETS-SHEET 2.



Witnesses,
S. J. Mann,
Walter M. Fuller

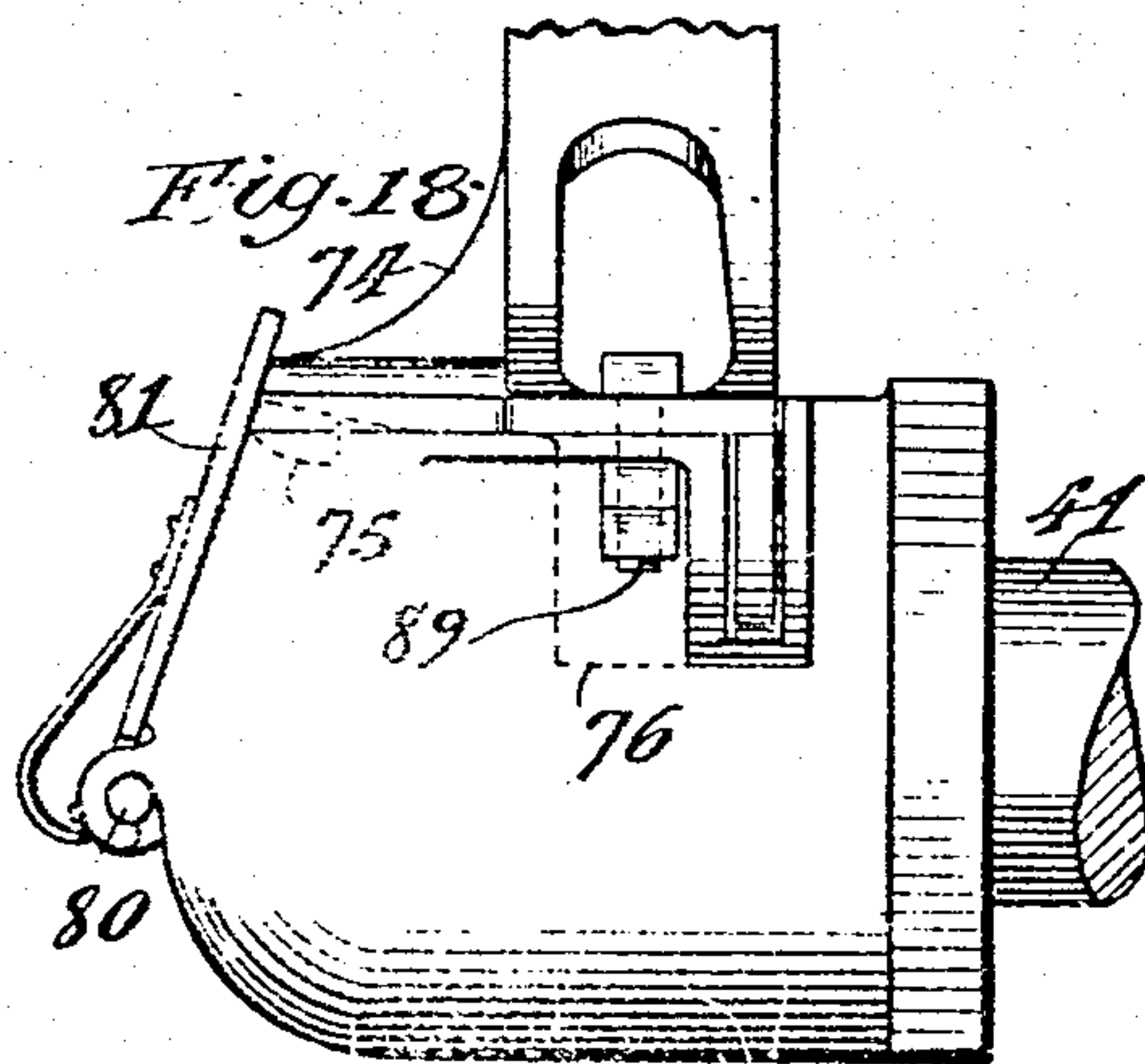
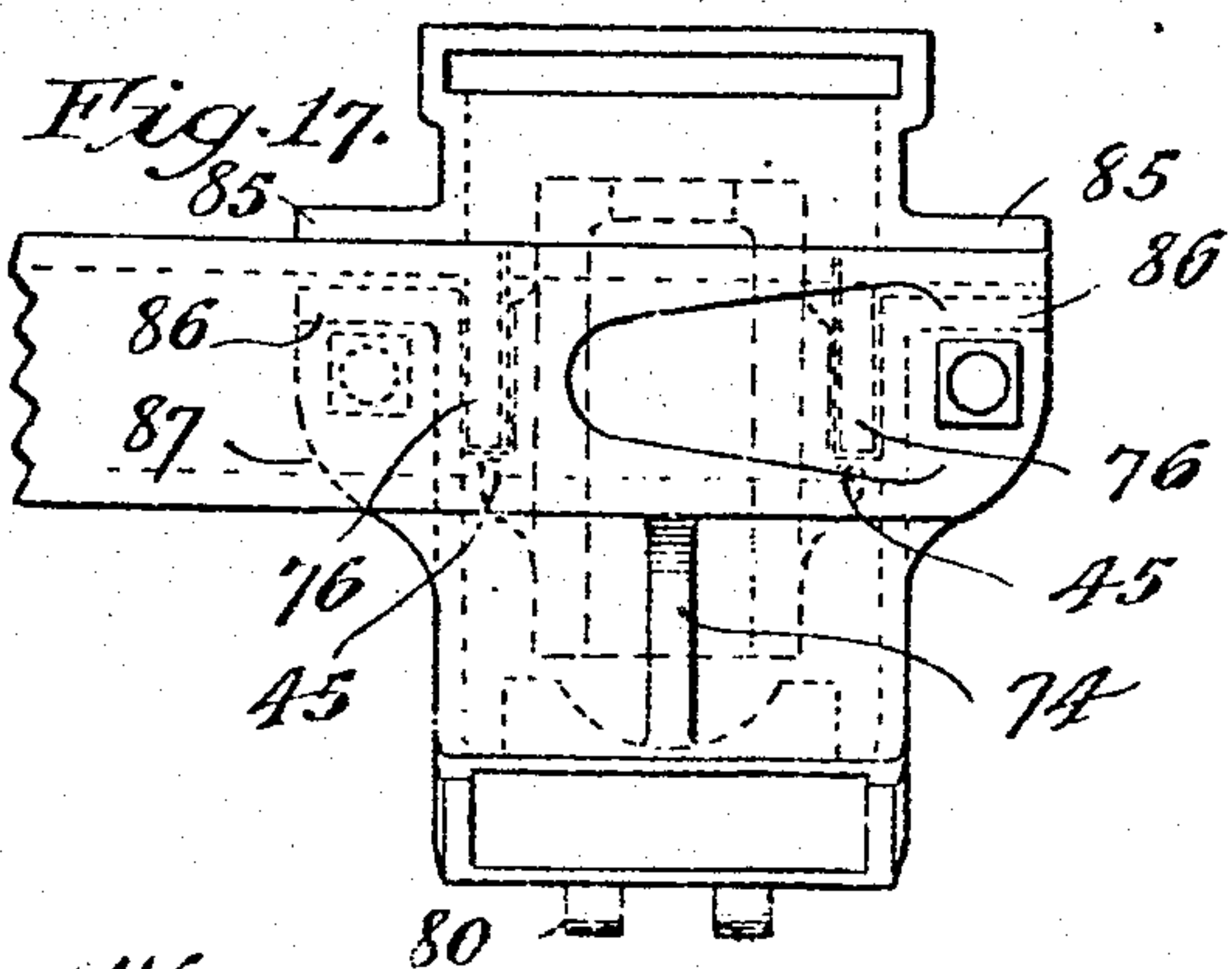
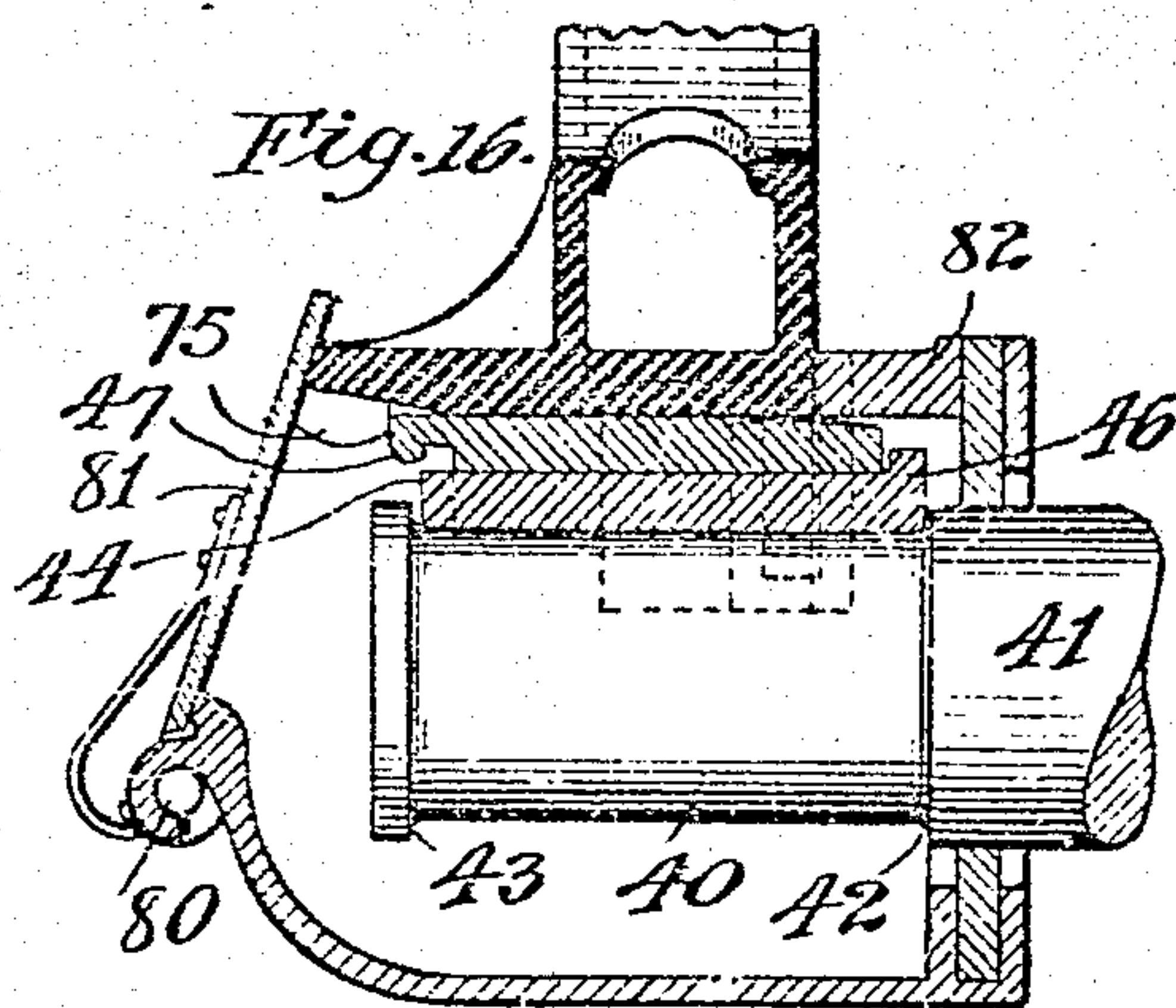
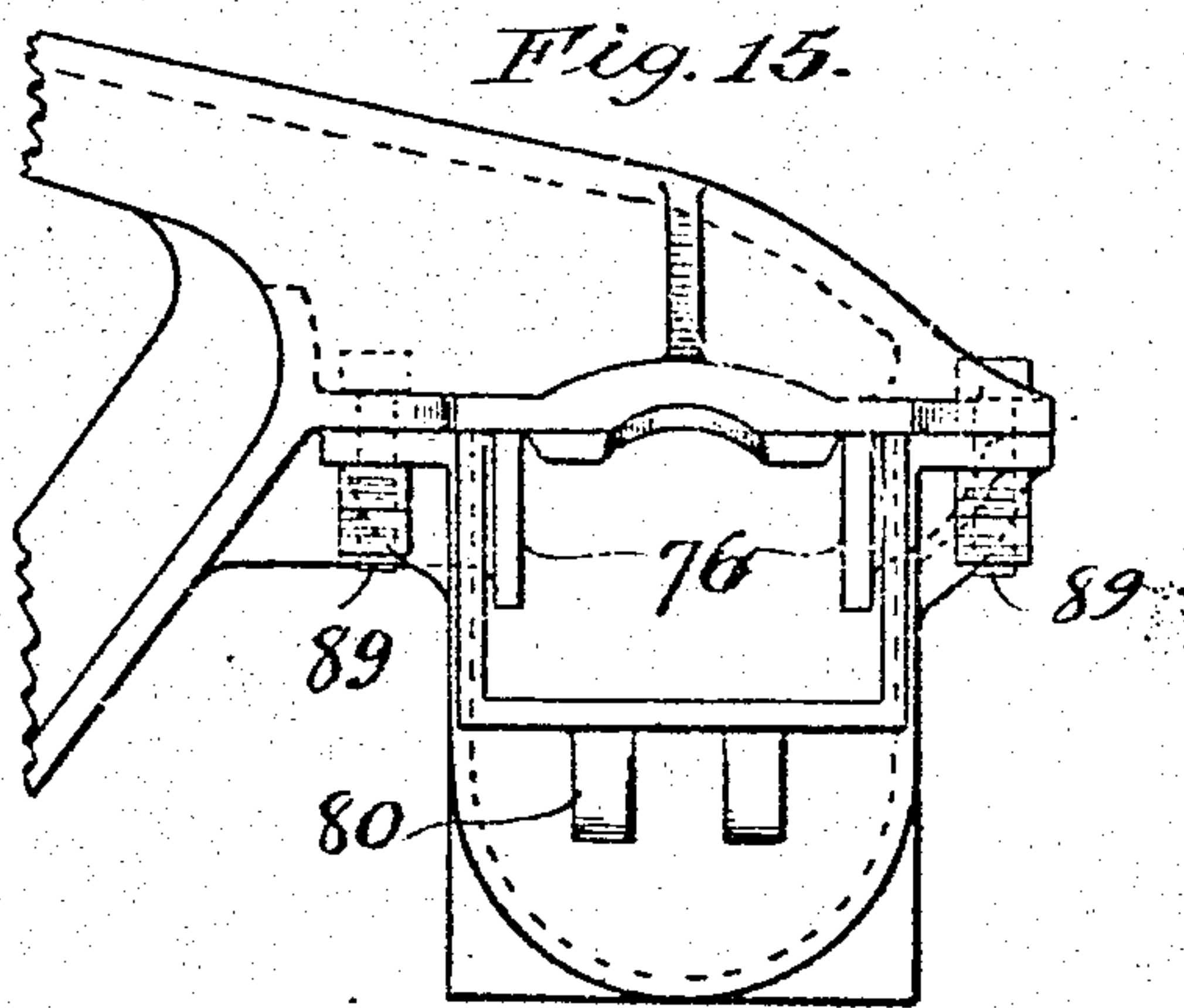
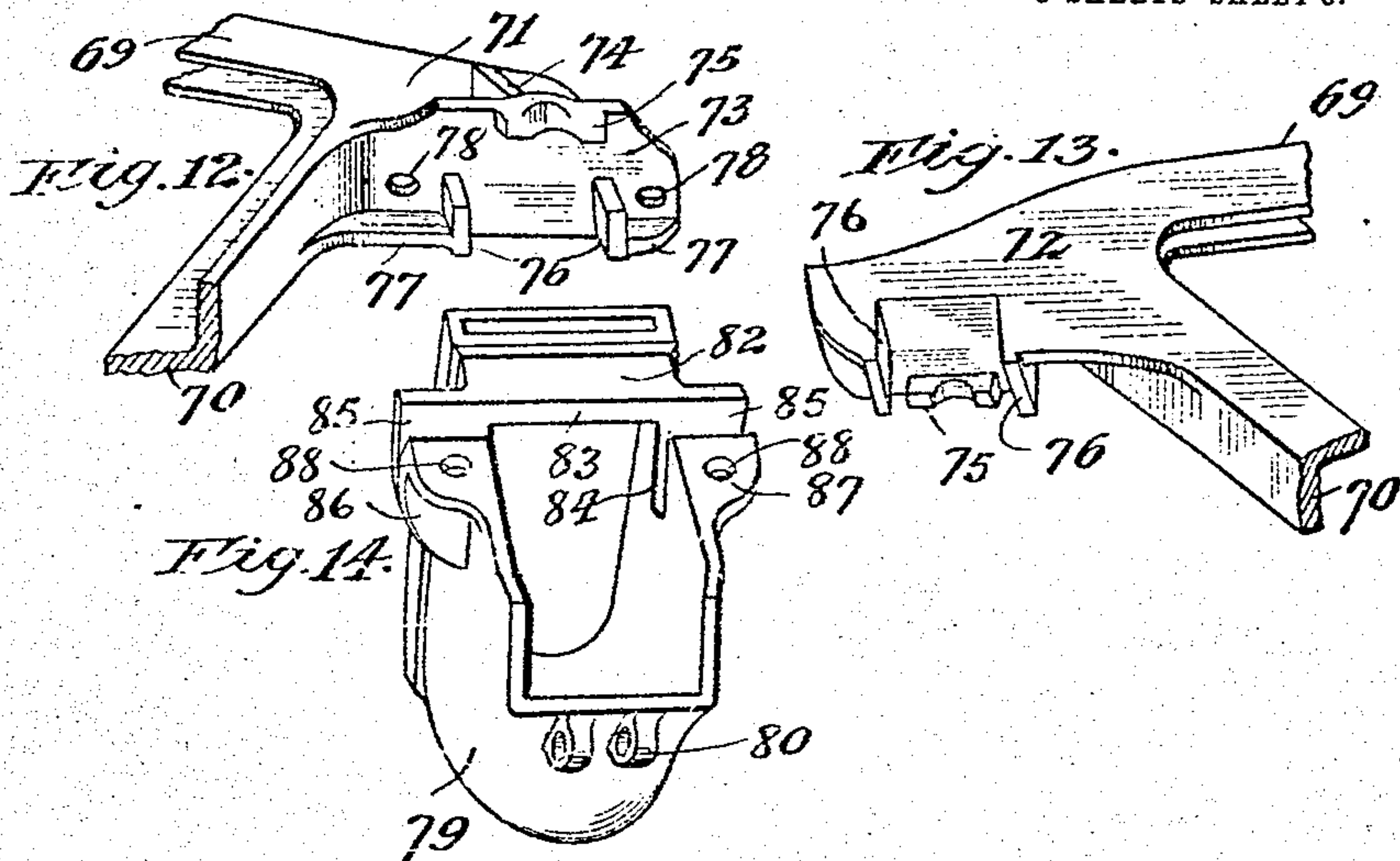
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G. G. FLOYD.
CAR TRUCK SIDE FRAME AND JOURNAL BOX.
APPLICATION FILED APR. 25, 1907.

986,559.

Patented Mar. 14, 1911.

3 SHEETS-SHEET 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE G. FLOYD, OF GRANITE, ILLINOIS, ASSIGNOR TO AMERICAN STEEL FOUNDRIES,
OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

CAR-TRUCK SIDE FRAME AND JOURNAL-BOX.

986,559.

Specification of Letters Patent. Patented Mar. 14, 1911.

Application filed April 26, 1907. Serial No. 370,407.

To all whom it may concern:

Be it known that I, GEORGE G. FLOYD, a citizen of the United States, residing at Granite, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Car-Truck Side Frames and Journal-Boxes, of which the following is a specification.

My present invention concerns railway car-truck side-frames and journal boxes, and its object is to form on the frame and integral therewith projections or fingers to co-act with both the journal bearing and its wedge to prevent their displacement, whereby the thrusts on these parts by the axle are transmitted directly to the side-frame rather than to similar lugs or projections on the journal box itself which are much more likely to be broken off.

Preferably, though not necessarily, each journal box has an open top and the cast metal side-frame has a horizontal plate portion adapted to form a cover for the box when it is attached in place on the frame, the plate portion having extended downwardly from its under surface into the interior of the box one or more fingers or lugs adapted to coöperate with and prevent displacement of the bearing wedge and one or more projections adapted to prevent shifting of the journal bearing.

On the accompanying drawings forming a part of this specification I have illustrated several desirable embodiments of my invention.

Figure 1 is a perspective view of an end portion of a car-truck side-frame illustrating one embodiment of my invention; Fig. 2 is a perspective view of a journal box or casing which may be used in connection with the form of side-frame shown in Fig. 1; Fig. 3 is a partial side elevation and partial section of the side-frame and journal box shown in Figs. 1 and 2; Fig. 4 is a cross section transverse to the side-frame illustrating the coöperation between the various parts of the structure; Fig. 5 is a bottom plan view of the journal box and side-frame, the two being fastened together; Fig. 6 is a perspective view of a fragment of a modified form of side-frame embodying my invention; Fig. 7 is a perspective view of a journal box or casing adapted to be fastened to and coöperate with the side-frame shown

in Fig. 6; Fig. 8 is a side elevation of the end portion of the side-frame and illustrates the journal box in transverse section; Fig. 9 is a vertical section through the side-frame and journal box or casing transverse to the side-frame; Fig. 10 is a top plan of the united side-frame and journal box; Fig. 11 is an end elevation of the side-frame and journal box; Fig. 12 is a perspective view of a portion of a side-frame illustrating another modification of the structure; Fig. 13 is a similar view toward the inner side of the side-frame; Fig. 14 is a perspective view of a journal box or casing adapted to be used in connection with the side-frame shown in Figs. 12 and 13; Fig. 15 is a side elevation of the side-frame and journal box; Fig. 16 is a section similar to those of Figs. 4 and 9; Fig. 17 is a top plan view of the side-frame and journal box; and Fig. 18 is an end view of the same parts.

Referring to the form of side-frame shown in Figs. 1, 3, 4 and 5, it will be noted that the cast metal frame 20 has a top T-shaped compression member or chord 21 and a similarly shaped but inverted tension bar or member 22. Preferably the side-frame is cast in one piece, the compression and tension members being united and joined at the ends of the frame. At each end the frame has a flat horizontal plate portion 23 with apertures or holes 24 at its corners, and in addition at its outer edge it is equipped with a pair of downwardly-extending fingers or lugs 25. Extended downwardly from the under face of this plate 23 and transversely thereof are a pair of projections or stops 26, the inner edges of which are inclined or curved at 27 so as to form braces to assist in holding the projections in proper position. The outer edges of these projections 26 are substantially vertical and straight. In order to strengthen the parts a web 28 is provided to connect the outer face of the tension bar 22 with the inner face of the adjacent projection 26, while a bracket 29 integral with the frame is supplied and connects the outer face of the end projection 26 with the under surface of the plate 23, the edge of this bracket or brace 29 being curved, as is clearly shown in Figs. 1 and 3.

I have invented a form of journal box or casing illustrated in Fig. 2 to be used

in connection with the type of side-frame shown in Fig. 1, the box 30 having a rounded bottom wall 31 and an open top. At its front top end the box or casing has a horizontal wall 32, grooves 33 in the side walls beneath the partial cover 32 being provided to accommodate the front portion of plate 23 of the side-frame. Extended laterally from each side wall of the box I provide a pair of horizontal ears 34 each supplied with an aperture 35, these apertures when the box is in position on the side-frame being in alinement with the holes 24 of the frame. The inner end wall and the inner end portions of the side-walls arise somewhat above the top faces of ears 34, thereby providing the vertical shoulders 36 which when the box is attached to the frame lie against the inner edge of plate 23. A vertical slot 37 is provided in the inner side wall of the box and is adapted to accommodate and receive the web 28. The upper portion of the outer side wall of the box opposite slot 37 is bowed outwardly at 38 so as to house the brace or bracket 29 when the box is in position.

Bolts 39 passing through the apertures 35 of ears 34 and the holes 24 of the horizontal plate 23 are adapted to securely maintain the journal box or casing in position on the side-frame, and when in such position the front part of the plate 23 fits in the slots 33, the fingers or lugs 25 are located within the journal box, the projections or stops 26 lie adjacent to the inner surfaces of the side walls of the journal box and are disposed within its hollow interior, the shoulders 36 abut against or lie adjacent to the inner edge of plate 23, and the plate 23 forms the cover or top wall for the journal box. In order to exclude dust, dirt or other foreign substances a suitable packing may be used at the joints if desired. As is customary, the journal 40 of the car axle 41 is of somewhat less diameter than the axle, thereby providing the shoulders 42 and 43 at its opposite ends. Resting on this journal is the usual bearing 44 which has laterally-projecting or sidewise extended lugs 45 (see Fig. 5), which co-act with the outer faces or edges of projections 26 to prevent inward shifting of the bearing and axle. As is customary, the bearing at its inner end has an upstanding flange 46 overlapping the inner end of the journal wedge 47, the outer end of which abuts against the fingers or lugs 25 to prevent outward shifting or movement of the wedge, bearing and axle. If the axle 41 tends to shift inwardly the shoulder 43 strikes the outer end of bearing 44 and tends to thrust the latter in the same direction, but owing to the coöperation between the ears 45 and the projections 26 inward movement of both parts is prevented. On the other hand, if the axle tends to shift

outwardly the shoulder 42 strikes the inner end of the bearing 44, and the flange 46, because of its engagement with the corresponding end of wedge 47, transmits the thrust through the wedge to the lugs or fingers 25 integral with the side-frame which prevent movement in an outward direction of all the parts.

Since the fingers 25 and the projections 26 are integral and unitary with the cast metal side-frame all the strains and thrusts of the axle are transmitted directly to the side-frame and not indirectly to the frame through the journal box as is the case when the box is separate from the side-frame and has the corresponding lugs and projections on its inner surfaces and integral therewith. It will be observed also that the journal box or casing 30 may be readily removed from the side frame by removing the nuts from the bolts 39. It has been proposed heretofore to make the entire journal box integral with the side-frame, and theoretically this is a good construction but practically it is almost impossible to produce castings of this character which are not defective. By my improved construction of side frame and journal box I am enabled to secure the advantages of the unitary side-frame and box and yet have a structure the parts of which may be cast without difficulty.

In Figs. 6 to 11 inclusive I have illustrated another form of side-frame and journal box in which the top compression member 48 of the side-frame is of channel shape in cross-section, while the lower tension member 49 of the frame is of angle cross-section. As is usual, these members are united at the ends of the frame, and the web 50 of the compression member does not extend to the extreme end of the frame but is provided with curved tapered outwardly-extended parallel flanges 51 and 52 which connect the outer face of the web with the extreme end of the frame. These flanges 51 and 52, in connection with the vertical side plate portions of the terminal portions of the side-frame of which they form extensions, comprise side walls which are recessed at their lower parts and provided at the top of the recess with a flat horizontal plate 53 which extends both inwardly and outwardly from the side walls of the frame. These walls at their lower ends are connected by the horizontal webs 54 and 55, each of which has an aperture 56 and 57 respectively. Connecting the adjacent ends of the parts 54 and 55, and extended inwardly beyond the inner side wall of the frame, are two transverse webs or projections 58 and 59, the outer edges of these walls or projections being somewhat set inwardly from the outer wall of the frame to provide the recesses 60. Extended downwardly from or

near the outer edge of plate 53 are a pair of depending fingers or lugs 61.

The box 62 which is adapted to be used in connection with the side-frame shown in Fig. 6 is illustrated in Fig. 7 and has a curved lower wall 63 and an open top, the shoulders 64 and 65 at the ends of the top opening being adapted to overlap the inner and outer edges of plate 53 when the box is in position. Each side wall of the box has a vertical slot 66 extended therethrough, and at its base has a sidewise-extended apertured ear or shelf 67, the holes through which are spaced apart the same distance between the apertures 56 and 57 of the side-frame.

The box or casing is securely fastened to the side-frame by means of bolts 68 passed through the holes 56 and 57 and the apertures of the ears 67, as is clearly illustrated in Fig. 8, the ears lying against the under faces of the webs or walls 54 and 55 as is clearly illustrated. When the box is in this position the projections 58 and 59 are located inside of the side walls of the journal box or casing, as is shown in Fig. 10, the slots accommodating the portions of the frame between the recess 60 and the inner face of the side-frame. Fingers 61 are also located within the journal box, the plate 53 forming the cover for the box, as is illustrated in Fig. 9. The cooperation between the axle, journal bearing, wedge, fingers 61, and projections 58 and 59 is the same as that of the structure shown in Figs. 1 to 5 inclusive.

In Figs. 12 to 18 inclusive I have illustrated still another modification in which the side-frame has a channel compression member 69, an angle tension member 70, and has at its terminal portion end walls 71 and 72 which are really extensions of the flanges of the channel member 69. At each end this side-frame has a flat plate 73 cast integral therewith and projecting some distance outwardly from the wall 71, a brace 74 being provided above the plate 73. As in the previous instances, this plate has a pair of downwardly-extended fingers or lugs 75 and a pair of depending transverse projections 76 adjacent to the inner edge of plate 73 and connected to the side-frame by means of webs or brackets 77 which join their outer faces with the plate 73, the inner web 77 also connecting with one flange of the tension member 70. Plate 73 has a pair of holes 78 therethrough for the accommodation of fastening bolts, as will be readily understood. The journal casing 79 has a portion of its top and outer end wall open, as is shown in Fig. 14, hinges being provided at 80 for the door or cover plate 81. The inner top part of the box is covered by an integral wall at 82, the wall being spaced slightly above the top edges of the side walls

of the box, which provides a shoulder 83 adapted to overlap and lie against the inner wall of the side-frame. Vertical slots 84 are provided in the side walls of the box, and outwardly-extended from the outer face of each wall at the edges of this slot 84 are a pair of parallel vertical ears 85 and 86, and the top edges of the brackets or ears 86 are connected to the top edges of the side walls by flat plates or sleeves 87 each apertured at 88. When the box is applied to the frame, bolts 89 are passed through the holes 78 and 88 to maintain it in position. The slots 84 accommodate the webs or braces 77, and the ears 85 and 86 are located on opposite sides of these members 77, as is clearly shown in Figs. 15 and 17. The projections 76 are within the box as are also the fingers 75, plate 73 forming a cover for the top opening through the journal box. The cooperation of the internal parts is substantially the same as that in the other forms of the device so that a further description is not necessary.

To those skilled in this art it will be obvious and apparent that many changes in the structural features of the parts shown and described may be made without departing from the substance and heart of my invention.

I claim:

1. A railway car-truck side frame having integral therewith one or more lugs or fingers adapted to cooperate with the wedge of a journal bearing to prevent displacement of the same, substantially as described.

2. A railway car-truck side-frame having integral therewith one or more fingers or lugs adapted to prevent displacement of a journal wedge, and also having one or more projections or shoulders integral therewith to prevent shifting of a journal bearing, substantially as described.

3. A railway car-truck side-frame having integral therewith a flat plate portion, and one or more projections integral with said plate portion and extending downwardly therefrom, substantially as described.

4. A railway car-truck side-frame having integral therewith a portion adapted to form a closure for an open-topped journal box, one or more projections integral with said portion adapted to prevent displacement of a journal bearing, and one or more lugs or fingers integral with said portion adapted to prevent shifting of a journal wedge, substantially as described.

5. The combination of a railway car-truck side-frame having integral therewith a plate portion and projections, and an open-topped journal box fastened to said side-frame, said projections being disposed within said journal box and said plate portion forming a cover for the open top of said box, substantially as described.

6. The combination of a railway car-truck side-frame having fingers integral therewith, a journal box, and a journal wedge located within said box and cooperating with said fingers whereby displacement of the wedge is prevented by said fingers, substantially as described.

7. The combination of a railway car-truck side-frame having one or more fingers and one or more projections integral therewith, a journal box, a wedge cooperating with said fingers, and a journal bearing cooperating with said projections whereby displacement of the wedge and bearing is prevented by the fingers and projections, substantially as described.

8. The combination of a railway car-truck side-frame having integral therewith a plate portion, one or more fingers or lugs integral with said plate portion, one or more projections integral with said plate portion, a journal box, a journal wedge cooperating with said lugs or fingers, and a journal bearing co-acting with said projections whereby displacement of the wedge and bearing is prevented, substantially as described.

9. The combination of a railway car-truck side-frame having one or more lugs or fingers integral therewith, one or more projections integral therewith, a journal box, a journal bearing resting upon said journal between said shoulders, said journal bearing having lugs or shoulders co-acting with said projections to prevent displacement of the bearing, and a journal wedge cooperating with said fingers or lugs to prevent displacement of the wedge, said bearing overlapping one end of said wedge, substantially as described.

10. In a railway car truck, the combination of a metal side frame having a bolster opening therein and journal box saddles at opposite ends of the side frame and removable oil cellars attached to the journal box saddle by adjustable bolts, substantially as described.

11. In a railway car truck, the combination of a side frame having journal box saddles at opposite ends of the side frame and removable oil cellars attached to the jour-

nal box saddles by adjustable bolts, substantially as described.

12. In a railway car truck, the combination of a side frame having a bolster opening therein and journal box saddles at opposite ends of the side frame and cast integral with said frame and removable oil cellars attached to journal box saddles by adjustable bolts, substantially as described.

13. In a railway car truck, the combination of a metal side frame having journal box saddles at opposite ends of the side frame and cast integral with said frame, and removable oil cellars attached to the journal box saddles by adjustable bolts, substantially as described.

14. In a railway car truck, the combination of journal box saddles with removable oil cellars attached thereto by adjustable bolts, and said journal box saddles permanently secured to the side frame, substantially as described.

15. In a railway car truck, the combination of a metal side frame having a bolster opening therein and journal box saddles at opposite ends of the side frame, and removable oil cellars attached to the side frame by bolts, said bolts being adjustable and so located that the tightening of the adjustable bolts will close the journal box saddles and oil cellars together to exclude the dust from entering the joints between the journal box saddles and oil cellars, substantially as described.

16. In a railway car truck, the combination of a side frame having journal box saddles at opposite ends of the side frame, and removable oil cellars attached to the side frame by bolts, said bolts being adjustable and so located that the tightening of the adjustable bolts will close the journal box saddles and oil cellars together to exclude the dust from entering the joints between the journal box saddles and oil cellars, substantially as described.

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Witnesses:

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E. B. SHELZER.