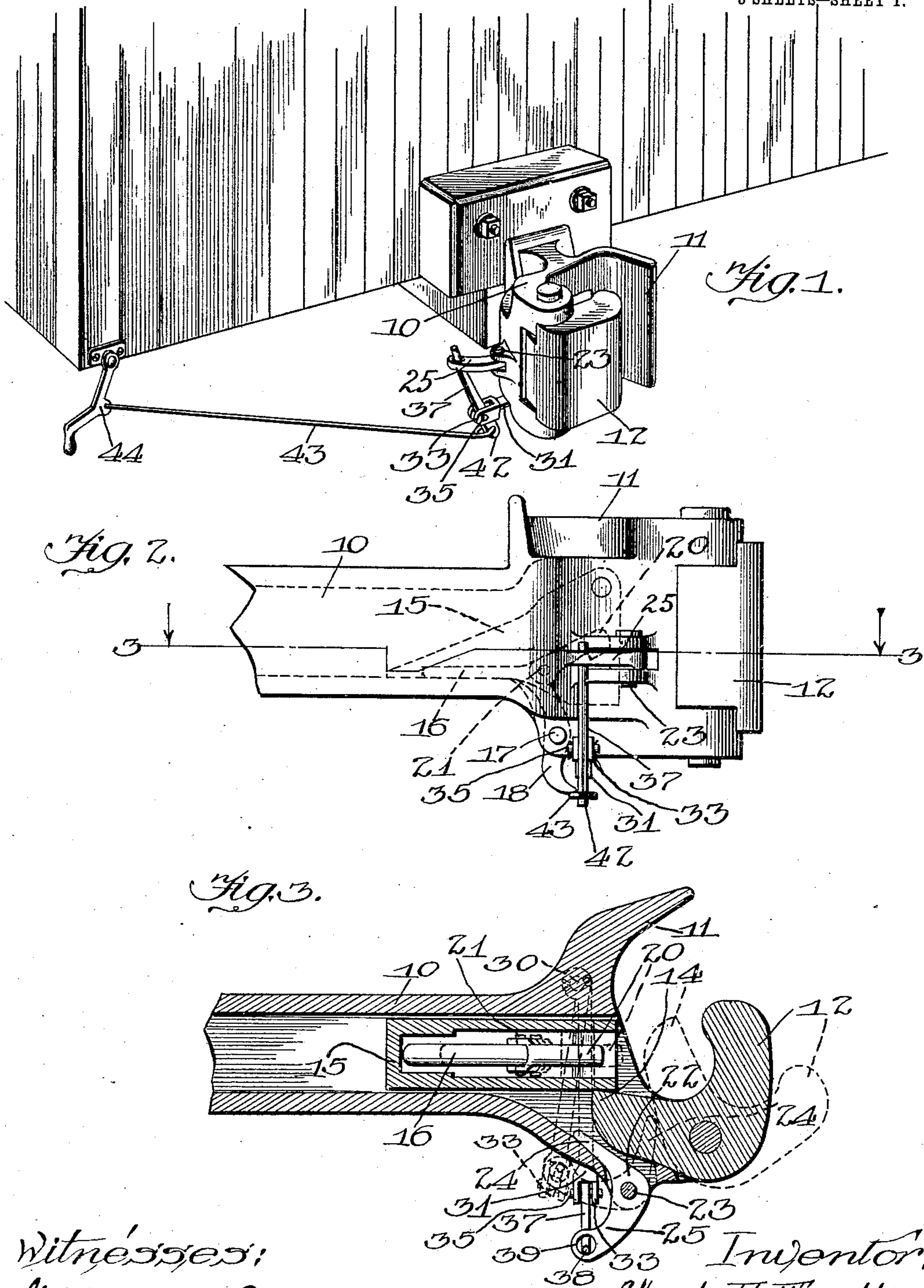


F. H. WENDT.
 KNUCKLE OPENER FOR CAR COUPLERS.
 APPLICATION FILED OCT. 4, 1907.

931,709.

Patented Aug. 17, 1909.

3 SHEETS—SHEET 1.



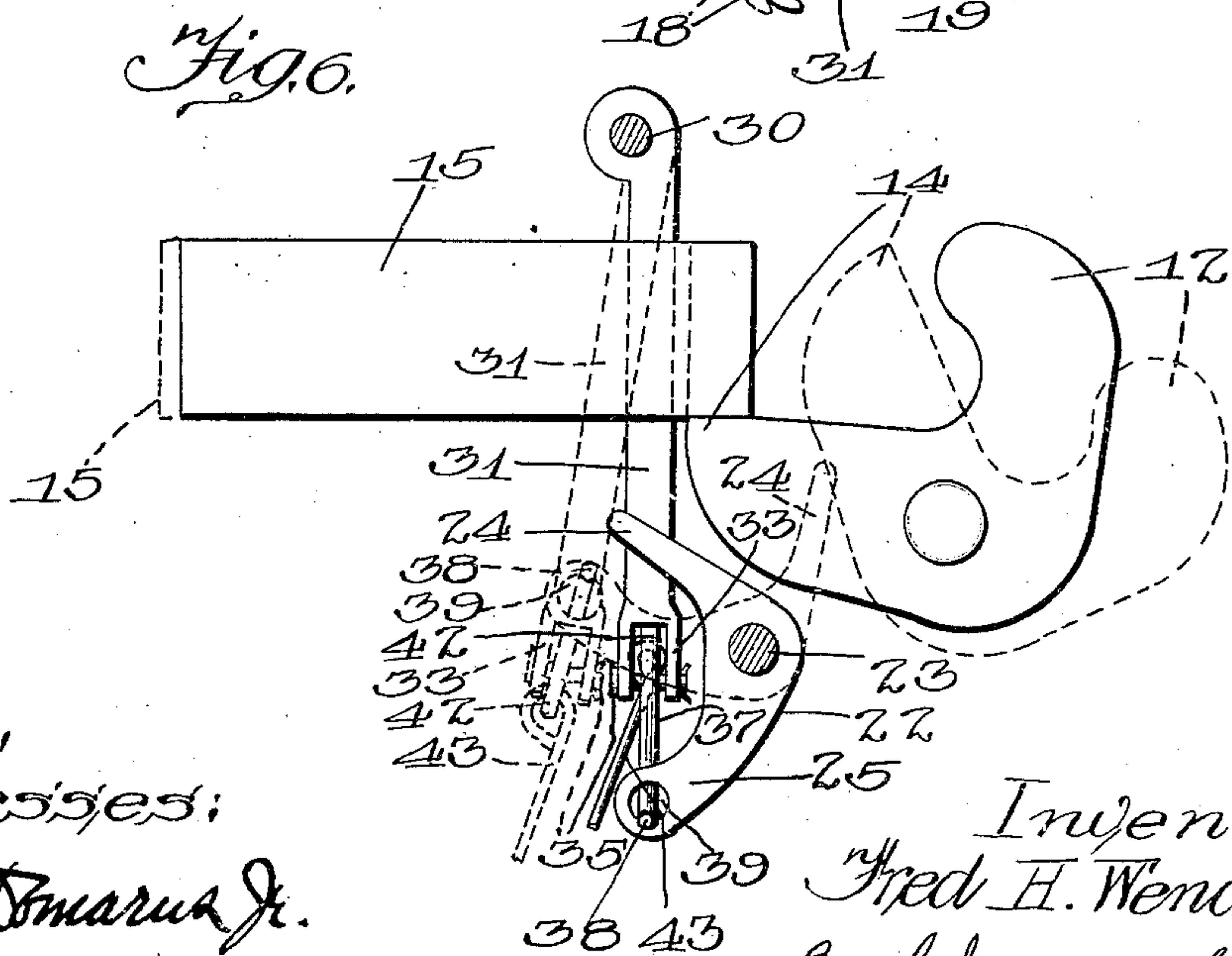
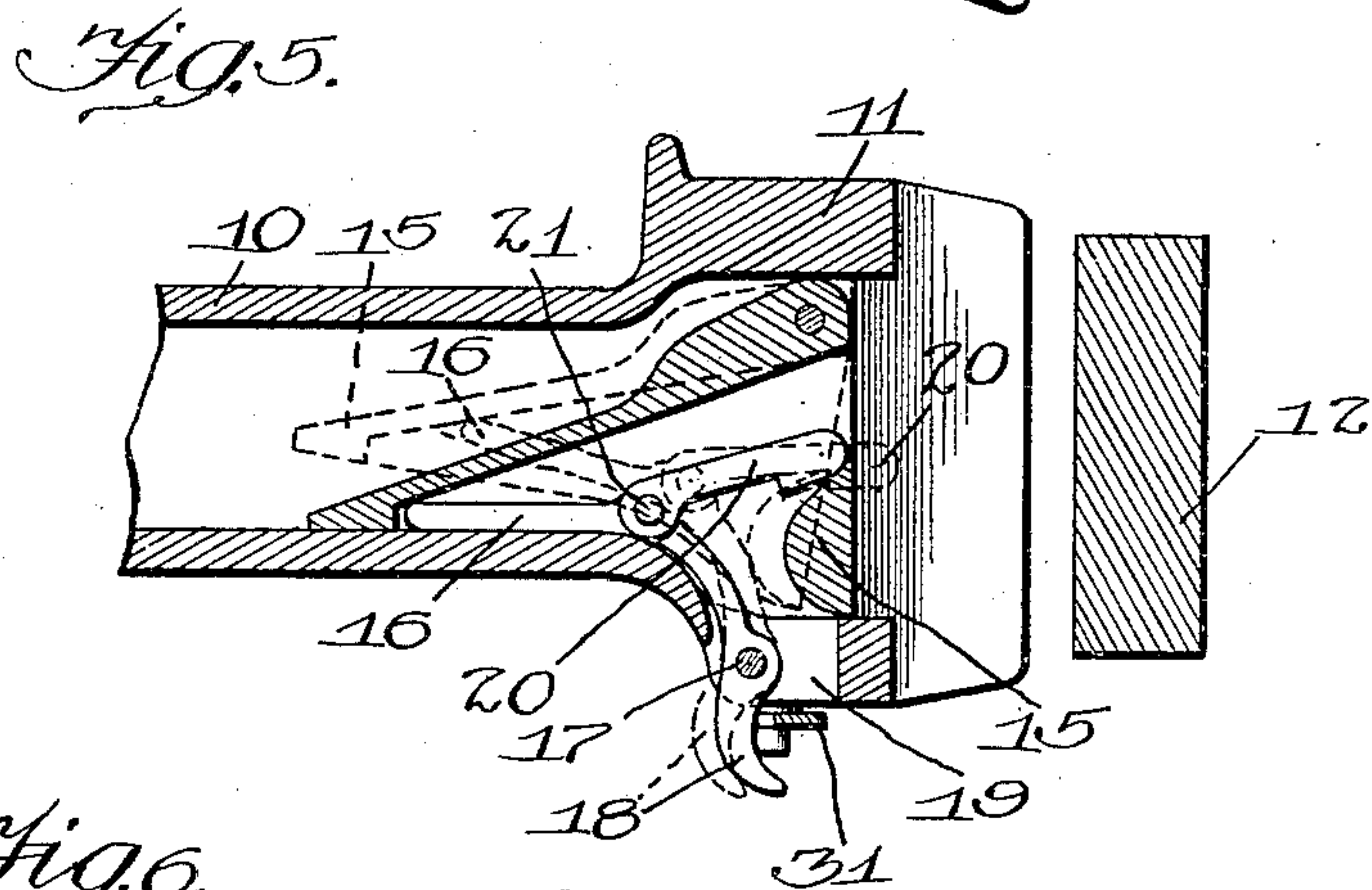
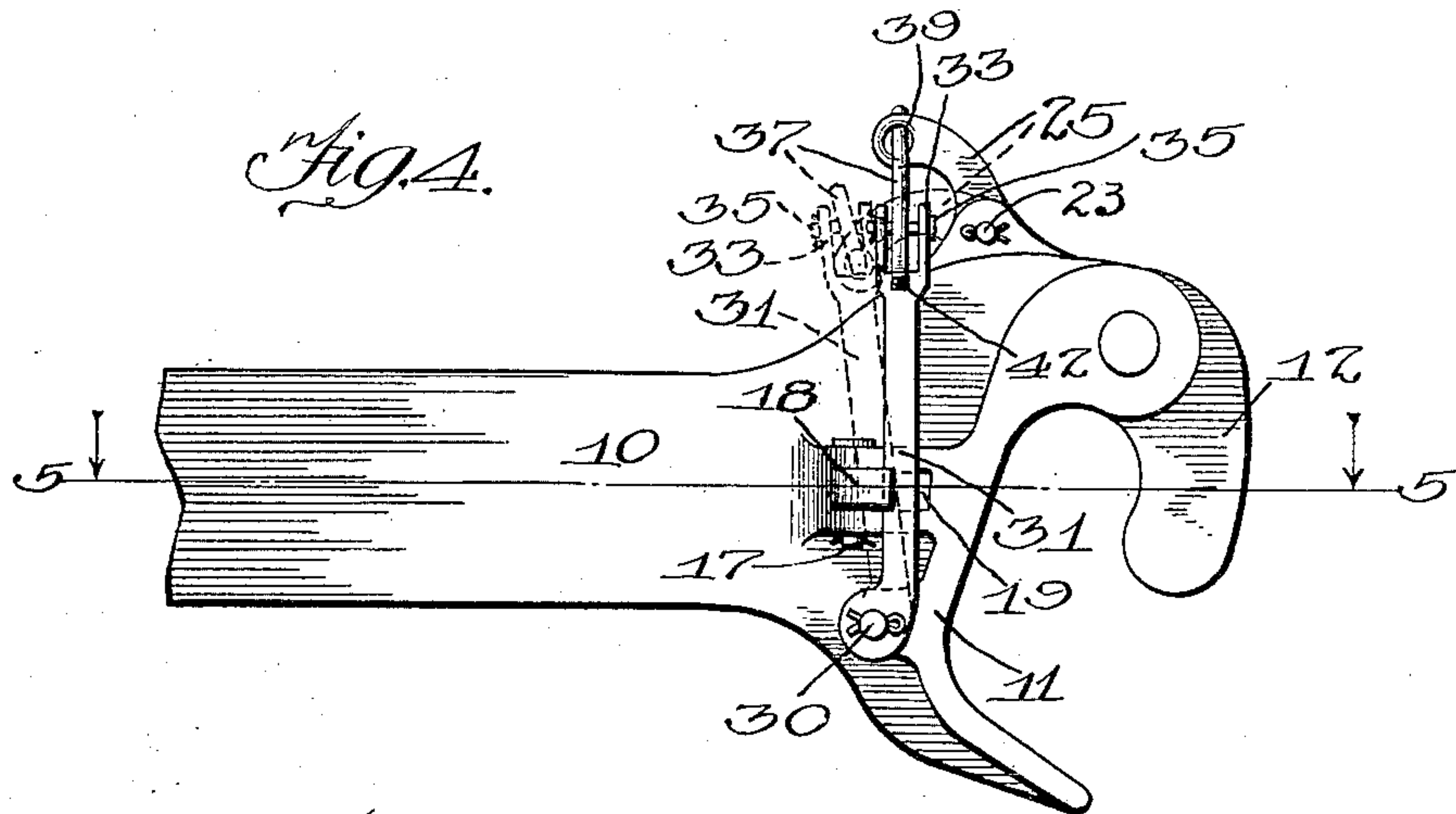
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Fig. 7

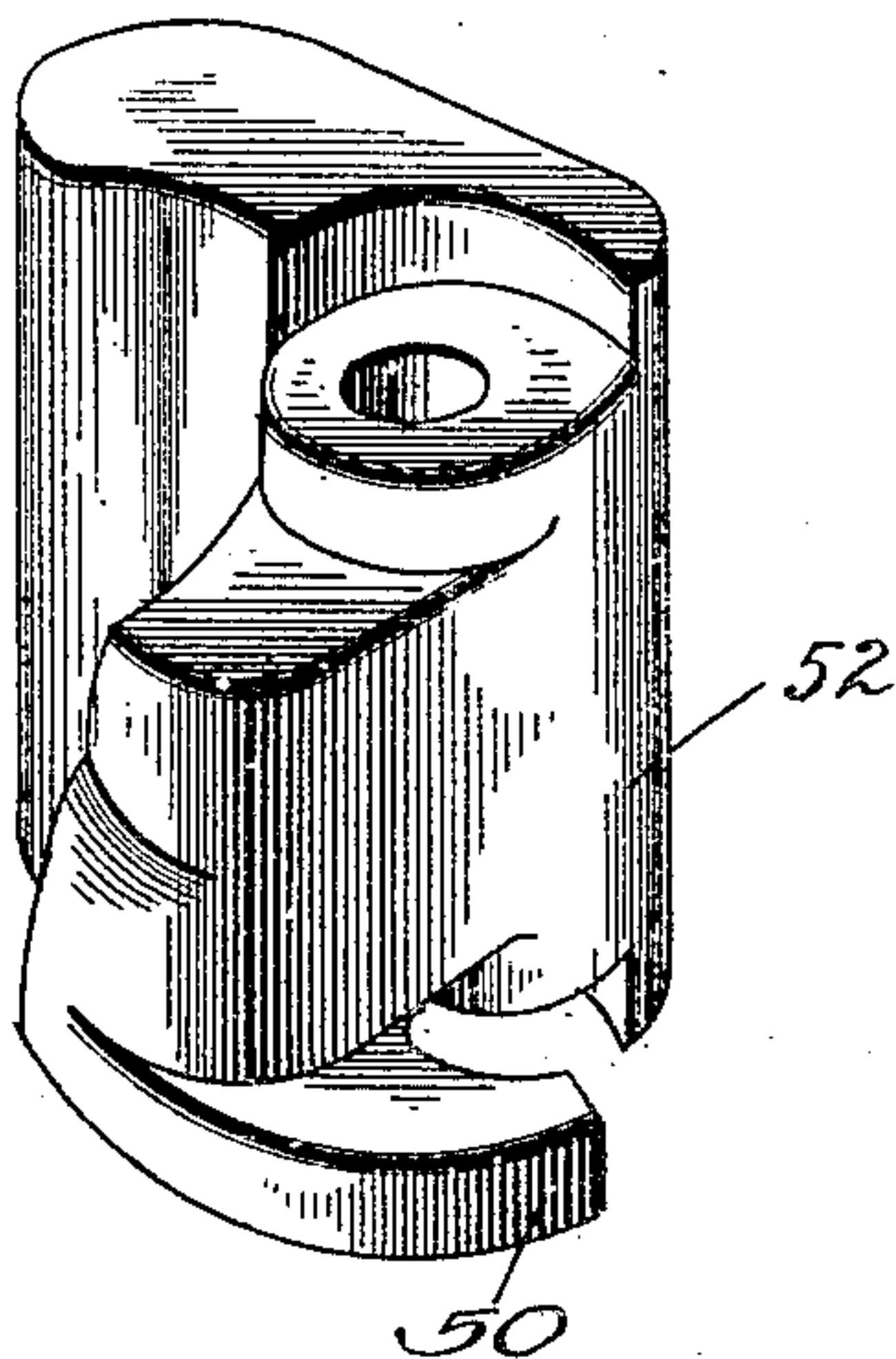


Fig. 8

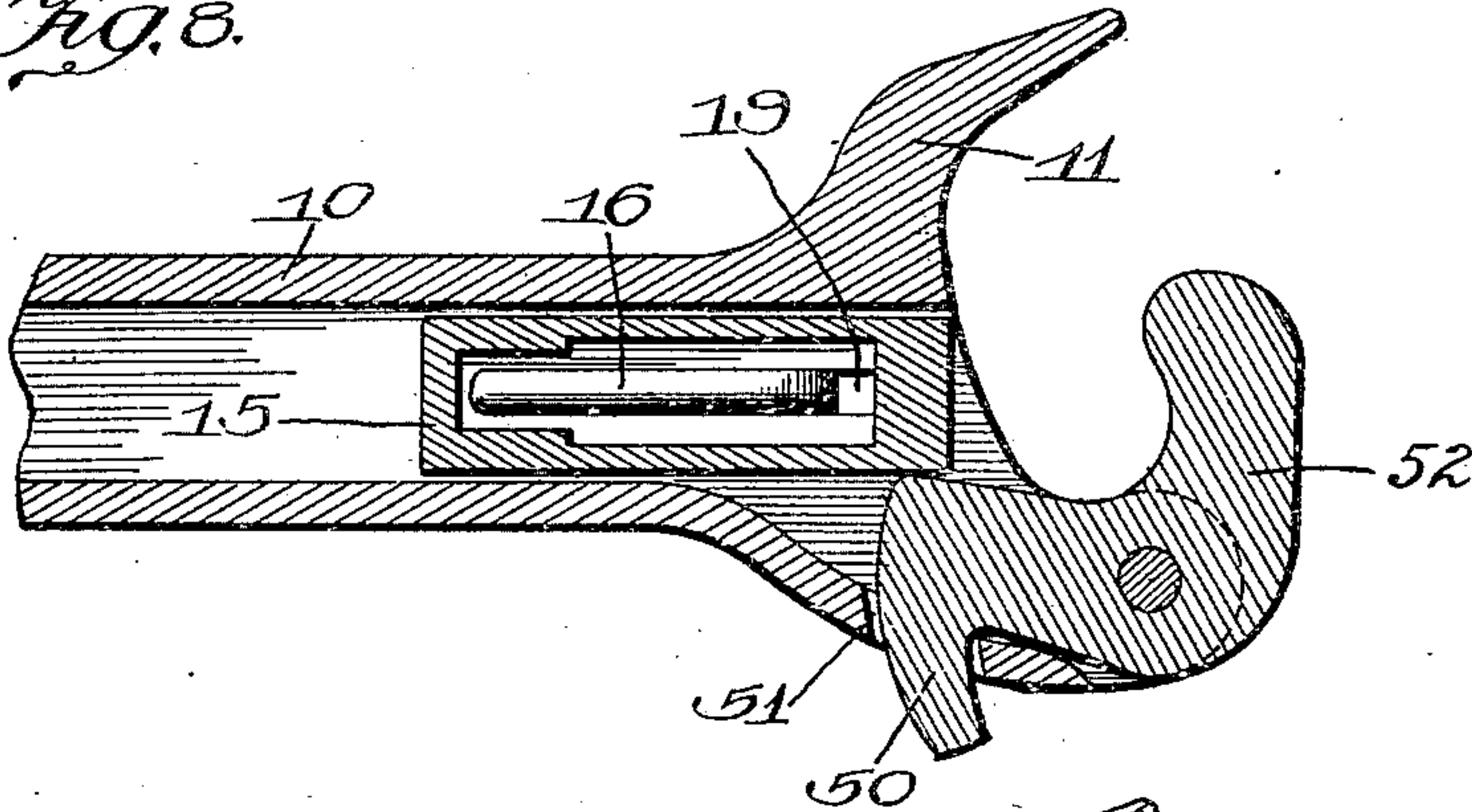
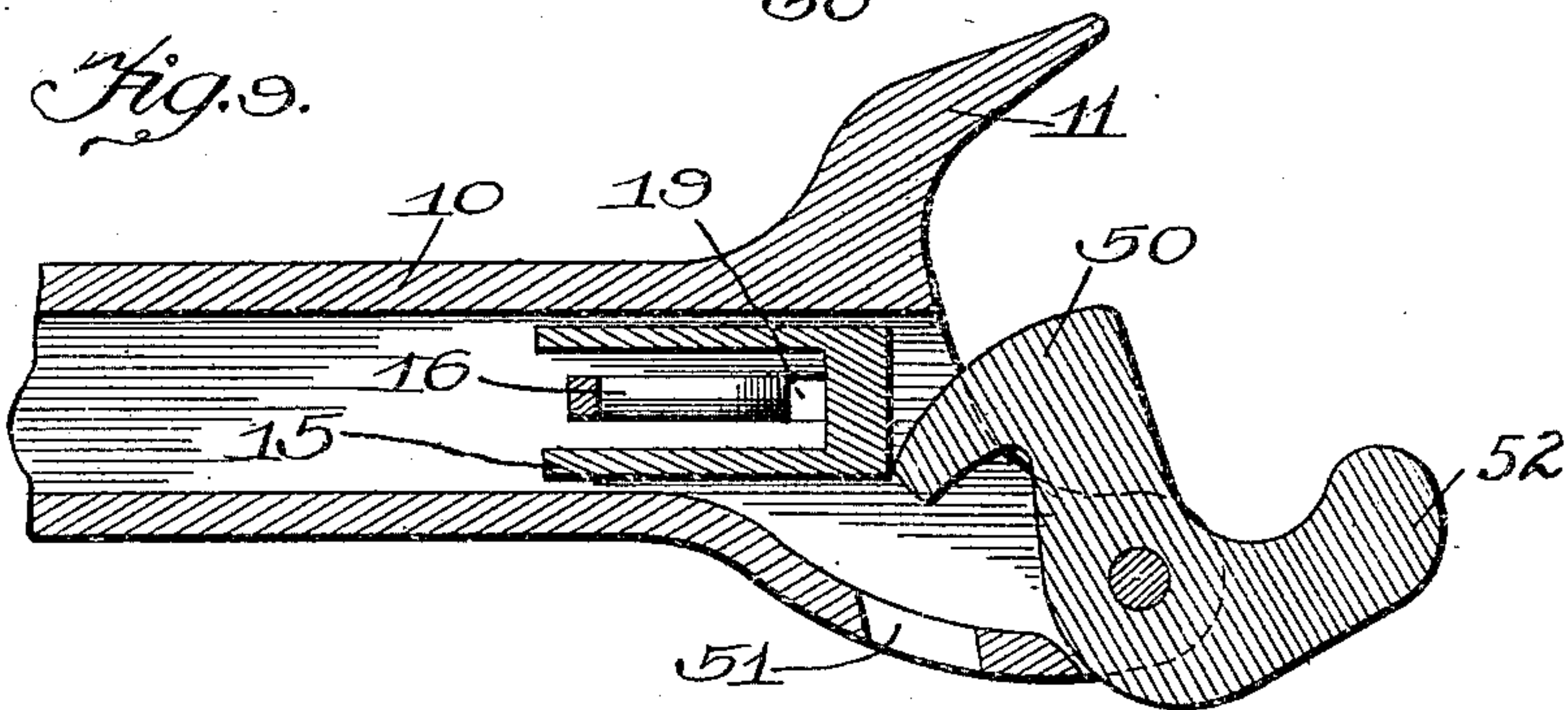


Fig. 9



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UNITED STATES PATENT OFFICE.

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KNUCKLE-OPENER FOR CAR-COUPPLERS.

No. 931,709.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed October 4, 1907. Serial No. 395,894.

To all whom it may concern:

Be it known that I, FRED H. WENDT, a citizen of the United States, residing at Marshfield, State of Wisconsin, have invented a certain new and useful Improvement in Knuckle-Openers for Car-Couplers, of which the following is a specification.

This invention relates to knuckle openers for car couplers, and its object is to provide an operating mechanism by means of which movement of an operating member such as a lever, chain or rod, in a single direction will first unlatch or unlock the knuckle and then force it open.

The invention consists in mechanism capable of accomplishing the foregoing object, which can be easily and cheaply built and installed; which consists of few parts, is efficient in operation and is not readily liable to get out of order.

More specifically the invention consists in the application of a rod and a compound lever mechanism applied to the knuckle and latch mechanism of my prior United States application, Serial No. 355,562, filed February 4, 1907, so that the initial pull from the side of the car releases the latch and a continued pull forces the knuckle open.

The invention also consists in such a mechanism capable of moving the latch mechanism in one direction and the knuckle in the opposite direction by a continuous movement, preferably a pull in one direction of the operating rod or member.

The invention also consists in a device applied to the heel of the knuckle so that when once moved out of unlatched position it holds the latch mechanism open until the knuckle is returned to position for locking.

The invention further consists in details of construction which will be hereafter more fully described and claimed as the specification proceeds.

Figure 1 of the drawings shows a perspective view of a coupler equipped with the device of this invention, the whole applied to the end of a car. Fig. 2 is a side view of the device. Fig. 3 is a plan view taken on the line 3—3 of Fig. 2. Fig. 4 is a bottom view of the coupler. Fig. 5 is a vertical sectional view on the line 5—5 Fig. 4. Fig. 6 is a plan detail view of certain parts removed from the draw bar or coupler head proper. Fig. 7 is a perspective and Figs. 8 and 9 are

plan views of the modified form of knuckle for holding the latch open.

The device of this invention is designed to be applied to any form of coupler but must manifestly for the purposes of illustration, be applied to some specific form. For want of a better example it is here illustrated as applied to the coupler, described in the previous application above referred to, the same comprising a draw bar 10 with a coupler head 11 of the ordinary type; a knuckle 12 having a heel 14 adapted to be locked in position by a latch member 15; a dog 16 pivoted at 17 having a tooth or projection 18 extending through a slot 19 outside of the bottom of the coupler proper 11; a latch 20 pivoted at 21 to the dog 16 and adapted, when the latch mechanism is swung to the dotted line position of Fig. 5, to engage the forward face of the latch 15 and hold it out of the way of the heel 14 of the coupler; a knuckle operating lever 22 pivoted at 23 having an end 24 engaging the heel 14 of the knuckle; and an oppositely disposed arm 25 adapted to be taken hold of or otherwise forcibly propelled so as to move the heel of the knuckle from full line to dotted line position of Fig. 6 to force the knuckle from locked to unlocked position.

In applying the present invention to the foregoing structure, the following parts are added; pivotally attached to the bottom of the coupler at some convenient point as 30, is a lever 31 of sufficient length to engage the hook portion 18 of the dog 16. This lever 31 is horizontal and runs approximately crosswise of the coupler and crosswise of the track on which the car bearing the coupler stands. On some portion of this lever 31 preferably at its end and at a point on the opposite side of the dog 16 from the pivotal point 30 is a forked member 33 having its opposite arms connected by a pin 35 on which is journaled an upwardly extending lever 37 having its upper end 38 entering a hole 39 in the end 25 of the lever 22. This hole 39 is of such a size and the lever 37 is of such a length that as the lever 37 is rocked backward and forward about its pivotal axis 35 the lever 37 may move the lever 22 between the full line and dotted line positions of Fig. 6. At the lower end 42 of the lever 37 is fastened a rod 43 having one end 44 suitably mount-

ed at the side of the car. This rod 43 should be so located as shown in Fig. 1 that it makes an oblique angle with the normal position of the lever 31 when the coupler is in locked or in full line position of Fig. 6. When now the operator desires to uncouple the device or release the knuckle, he takes hold of the lever 44 or some other suitable mechanism attached to the end of the member 43 and gives it a steady pull toward the side of the car in the direction of the length of the member 43. This pulling force is transmitted to the end 42 of the lever 37 and is transmitted by said lever to the levers 22 and 31 but as the device is locked, lever 22 cannot move the knuckle and therefore the lever 31 is the only member affected. Lever 31 therefore swings under this pulling action from full line to dotted line position of Fig. 6. As soon as this position is reached the latch member 15 is moved from full line to dotted line position of Fig. 5 and the knuckle is unlocked. If the coupler is in use in a train which is at rest and another coupler is in engagement with the coupler here shown so that the knuckle cannot be readily opened the pulling action upon the member 43 may be here stopped. If there is no other car and coupler adjacent, the pulling action may be continued, with the result that the member 18 having reached the limit of its stroke all of said pulling action is transmitted through the lever 37 to the lever 22 with the result that the knuckle of the coupler is forcibly opened from the full line to dotted line position of Fig. 6.

When the device has been opened in the manner described the knuckle may be closed or moved from dotted to full line position of Fig. 6 either by hand or the bumping action of an adjacent coupler in the ordinary manner, said closing motion of the heel 14 releasing the catch 20 which holds the latch 15 in unlocked position so that when the knuckle reaches the full line position it is

again locked as at the beginning of the operation.

Referring now to the modified structure of Figs. 7, 8 and 9 the numeral 50 indicates a projecting finger secured to the knuckle proper 52 adapted to pass through the slot 51 when the knuckle is closed or locked and adapted to engage the latch 15 in all positions of the knuckle when it is unlocked as clearly appears from Fig. 9.

The claims are:

1. In a car coupler, the combination of an unlocking mechanism, a knuckle opening device, a pivotally mounted lever adapted to engage the unlocking mechanism, another lever pivotally mounted upon said last mentioned lever engaging the knuckle opening device and an operating member connected to said last mentioned lever extending toward the side of the car, the whole so arranged that a pull upon said operating member moves said mechanism to first operate the unlocking mechanism and then operate the knuckle opening device.

2. In a car coupler, the combination of a coupler body proper, a knuckle, means for locking the knuckle, an unlocking mechanism, a knuckle opening mechanism for forcibly opening the knuckle and two levers pivotally connected together, mounted upon the coupler, one engaging the knuckle opening device, the other engaging the unlocking mechanism, and means connecting said lever to the side of the car, adapted to be moved in a single direction to operate all of said mechanism in such a manner that the unlocking mechanism is first operated and then the knuckle opening mechanism is operated for the purposes described.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

FRED H. WENDT.

Witnesses:

DWIGHT B. CHEEVER,
C. J. CHRISTOFFEL.