Nov. 11, 1947. A. S. GOULD 2,430,636

ROCKET LAUNCHER

Filed Feb. 12, 1946

3 Sheets-Sheet 1

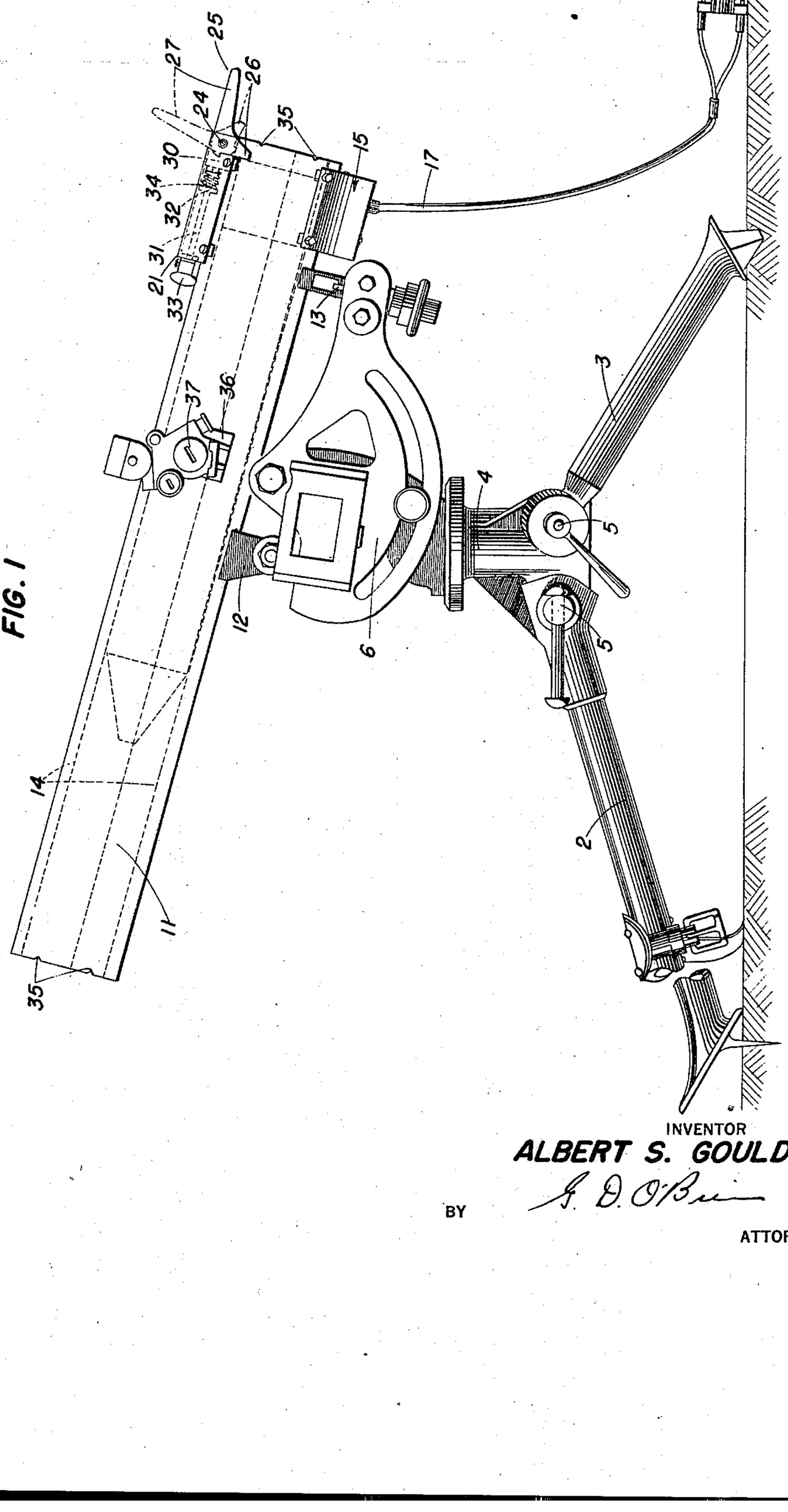


FIG. 1

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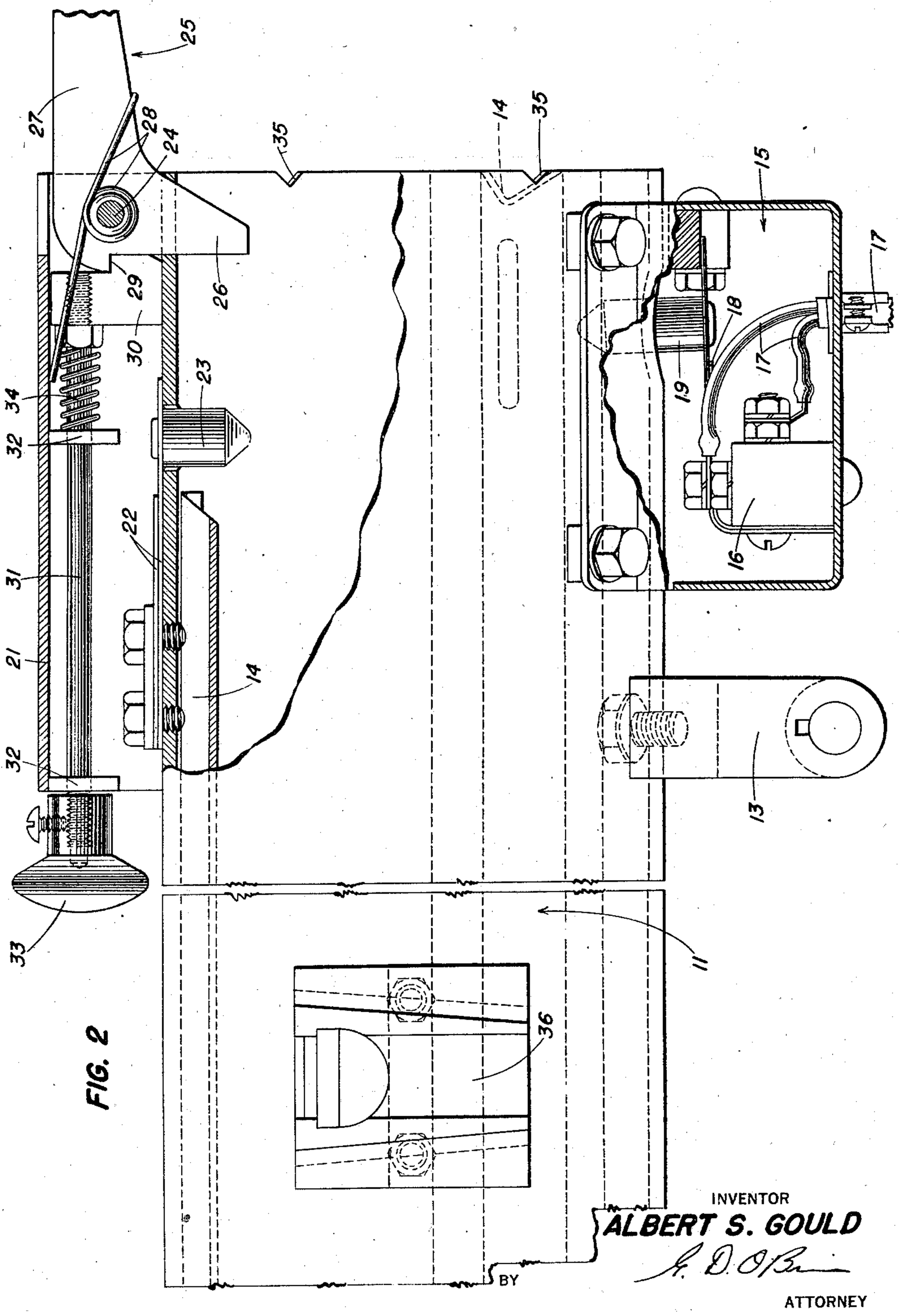


FIG. 2

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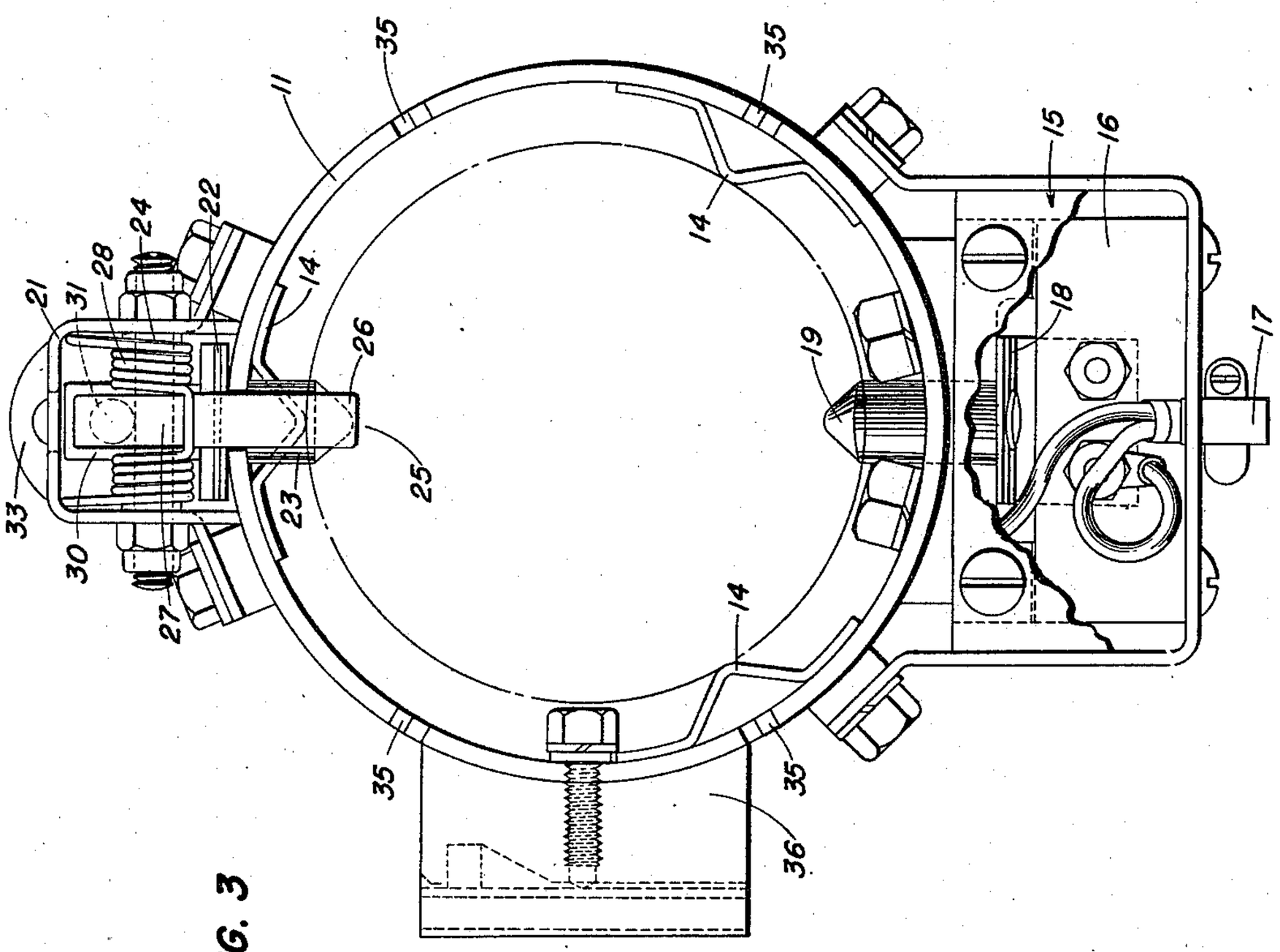


FIG. 3

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# UNITED STATES PATENT OFFICE

2,430,636

## ROCKET LAUNCHER

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Application February 12, 1946, Serial No. 647,156

1 Claim. (Cl. 89—1.7)

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This invention relates to a launcher for rockets and more particularly to a tubular launcher for spinner rockets.

A principal object of this invention is the provision of a rocket launcher that may be operated by one man.

Another object of this invention is the provision of a launcher that may be installed on a machine gun mount interchangeable with a machine gun.

Another object of the invention is the provision of a launcher so constructed that a rocket may be loaded into either the muzzle end or the breech end.

Another object of the invention is the provision of a launcher that is efficient, quickly sighted, and adapted to easy transportation.

Other objects will appear to those skilled in the art from a perusal of the following description.

In the accompanying drawings, forming part of this specification:

Fig. 1 is a side elevation of a machine gun mount with the launcher installed thereon in accordance with the principles of the invention.

Fig. 2 is an enlarged side elevation, partially in section, of a portion of the breech end of the launcher.

Fig. 3 is a rear elevation of the launcher.

With particular reference to the drawings, the rocket launcher that forms the basis of this invention may be used in conjunction with a machine gun mount comprising a forward leg 2 and a pair of rearward legs 3. The legs are pivotally connected to a post 4 by suitable clamping devices having one or more handles 5. A saddle 6 is journalled on the post 4 to permit movement of the saddle 6 in all directions about the post 4 as a pivot.

The launcher proper comprises a tube 11 having a forward fitting 12 and a rearward fitting 13, both of the said fittings being adapted to be secured to the saddle 6. Within the tube 11 are secured at least three longitudinal rails 14, each of the rails being V-shaped in cross section. Their apices are designed to form the bearing surfaces for the rocket intended to be fired from the launcher, and they define a circle approximating the diameter of the rocket. The rails are shown as being equally spaced but it is obvious that variations may be made in their relative positioning.

Fixed to the exterior of the under side of launcher tube 11 at its rear or breech end is a contact box 15. Within the contact box 15 is a terminal

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block 16 to which is attached a firing cable 17 leading to a battery or other source of electrical energy. A leaf spring 18 extends rearwardly from the block 16 and is provided with a live contact element 19 in the form of a pointed pin that projects upwardly through a clearance hole provided in the tube 11. The spring 18 is under sufficient stress to force the pin 19 against the rocket for the purpose of forming good electrical contact therewith. One conductor of the cable 17 is connected to the leaf spring 18.

Secured to the outside of the tube 11 adjacent to the upper breech end is a latch housing 21 of sheet metal. Within the latch housing 21 is a leaf spring 22 that is secured to the tube 11 and that carries a grounding contact element 23 in the form of a pointed pin that projects downwardly into the tube 11 forwardly of the contact pin 19. The second conductor of the firing cable 17 is electrically connected to the leaf spring 22 through the contact box 15 and tube 11.

At its rear end the latch housing 21 is provided with a transverse horizontal pin 24. Pivotally mounted on the pin 24 is an L-shaped latch lever 25, which includes a normally depending latch arm 26 and a normally rearwardly projecting lever arm 27. A coil spring 28 positioned about the pin 24 tends to rotate the latch lever 25 from its normal position to a rocket clearing position, the latter position being indicated by dotted lines in Fig. 1. The forward edge of the latch lever 25 is provided with a cam shoulder 29, which is adapted to be engaged by a retainer pawl 30 in the form of a slidable block guided within the latch housing 21. The retainer pawl 30 is secured on a longitudinal stem 31 which extends between and is supported by a plurality of guides 32 provided in the latch housing 21 and fixed to the latter. The forward end of the stem 31 projects through the latch housing 21 and is provided with a knob 33. A coil spring 34 is loosely mounted about the stem 31 between the pawl 30 and the rearmost guide 32 for the purpose of urging the pawl 30 into latch engagement with the cam shoulder 29.

The muzzle extremity and the breech extremity of the tube 11 are each provided with two pairs of angularly disposed notches 35 that may receive cross wires for the purpose of boresighting the launcher tube 11. Furthermore, if desired, one side of the tube 11 may be provided with a mounting block 36 having a vertical dovetailed channel adapted to receive a suitable sighting device 37.

The operation of the device is as follows: Ordi-

narily the latch lever **25** is arranged as shown in the full lines in Fig. 1. In this position the cam shoulder **29** is retained by the sliding pawl **30** so that the latch arm **26** forms a stop for a missile within the launcher tube **11**. When the latch lever is in this position, the tube **11** may receive a rocket only through the muzzle end. When it is desired to load from the breech end, the operator manually pulls forwardly on the knob **33**. This will pull the stem **31** forward and thereby release the sliding pawl **30**. The spring **28** will consequently rotate the latch lever **25** to the position shown in dotted lines in Fig. 1. The lever arm **27** will not now project into the interior of the tube **11**, and the rocket may consequently be inserted into the tube **11** from the breech end. When the rocket has been so loaded, the operator manually depresses the latch arm **26** until the cam shoulder **29** is again caught on the sliding pawl **30**. With the rocket in position, the contacts **19** and **23** will be in electrical conducting relationship with the metal portion of the rocket. Closing of the external circuit through the cable **17** will fire the rocket. Utilization of the machine gun mount will permit better aiming and more efficient firing.

It will be seen therefore, that this invention provides a rocket launcher that is designed for either muzzle loading or breech loading and that is simple, safe, and efficient to operate and easy to transport.



I claim:

A rocket launcher comprising a tube, and latching means at the breech end of the said tube, the said latching means including a latch lever having a handle arm and a depending rocket positioning arm, means mounting the said latch lever for rotation in one direction to move the said depending arm clear of the bore of said tube whereby a rocket may be inserted into the breech end of the said tube, and mounting said latch lever for rotation in another direction to cause the said depending arm to engage and move the rocket to its firing position, and manually releasable locking means for locking the said latch lever in its rocket engaging position.

ALBERT S. GOULD.


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