June 5, 1934. J. A. MARS 1,961,564

TORPEDO FIRING PISTOL

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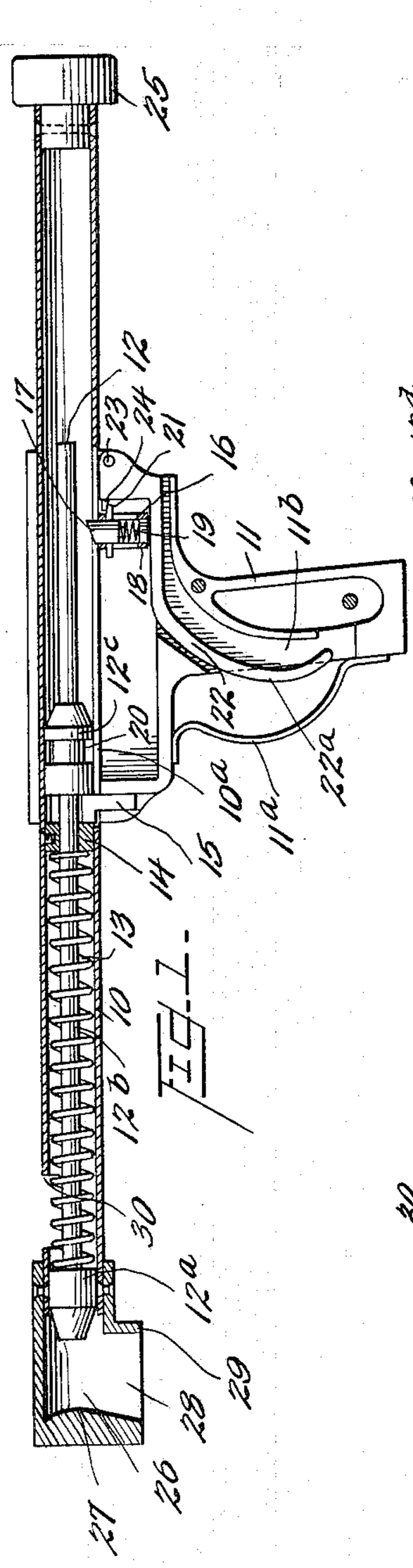

FIG. 1.

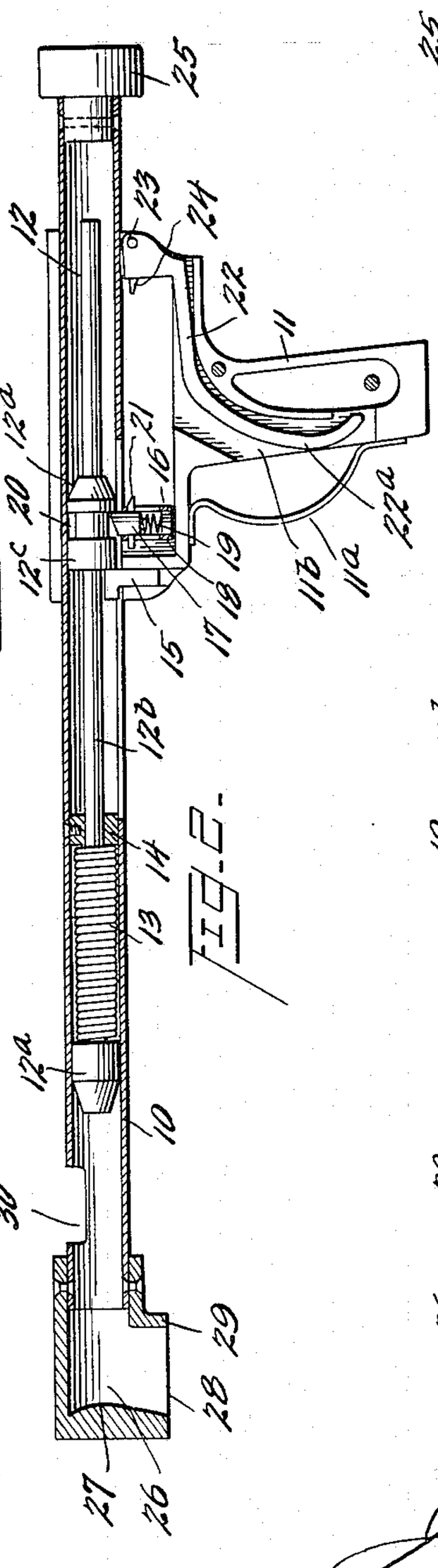

FIG. 2.

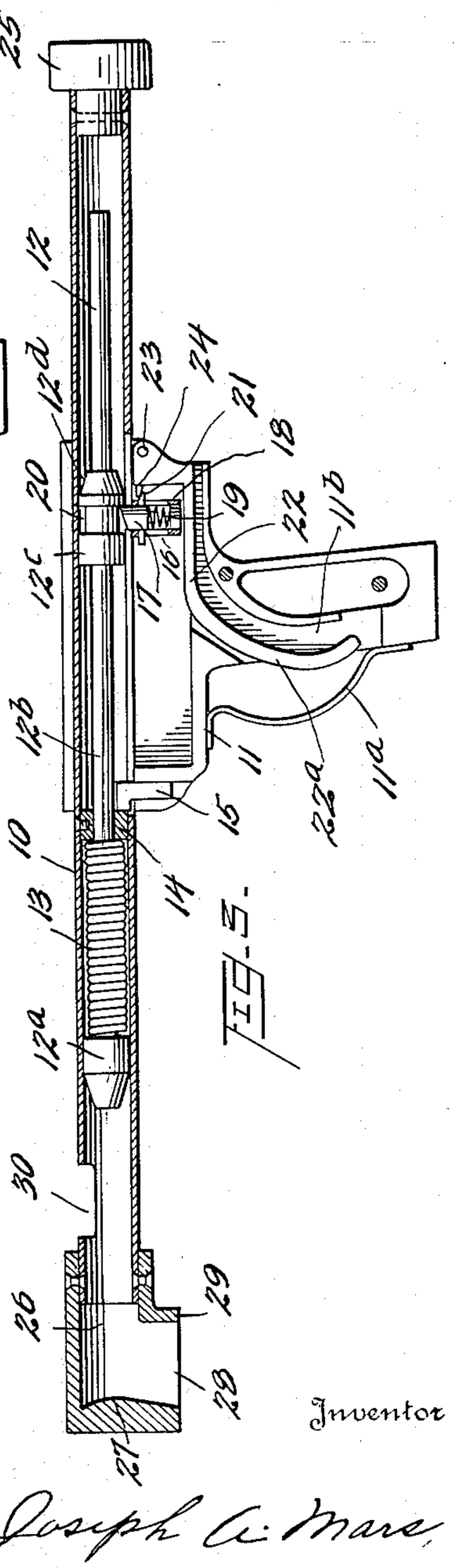

FIG. 3.

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TORPEDO FIRING PISTOL

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8 Claims. (Cl. 42—54)

This invention relates to a new and useful pyrotechnic device for exploding toy torpedoes and the like and has particular relation to a pistol type torpedo shooter which consists in the combinations, constructions and arrangements herein described and claimed.

The primary object of the invention is to provide a device of this kind which will insure a maximum of safety and at the same time provide a device which will be simple in operation and capable of being manufactured at low cost.

A further object is to provide a device of this kind in which a torpedo can be inserted without danger of having the device operate prematurely to explode the torpedo and thus injure the hands of the operator.

A still further object is the provision of a device which is well adapted to the testing of toy torpedoes at manufacturing plants and provides an arrangement by which such tests may be carried on without danger of injury.

Other objects and advantages of my invention will appear from the following specification taken in connection with the accompanying drawing in which:

Figure 1 is a longitudinal section of my device showing the parts in the position they occupy after a torpedo is fired;

Figure 2 is a similar longitudinal section with the plunger retracted but with the parts in a "safety position", that is, in such a position that the plunger cannot be released by the trigger; and

Figure 3 is a similar longitudinal section showing the parts in the position ready to be fired.

Referring to the drawing in detail, my arrangement comprises a tube or tubular member 10 upon which is slidably mounted a handle 11. A plunger 12 is slidably mounted in the tube 10 and this plunger includes a hammer 12*a*, a rod 12*b* secured to the hammer and extending rearwardly through the tube 10, and a latch engaging member 12*c* rigidly secured to the rod 12*b*. In other words, the parts 12*a*, 12*b*, 12*c* taken together constitute in effect a plunger. Back of the hammer portion 12*a* of the plunger a coiled spring 13 is arranged in the tube 10 and the rear end of this spring bears against a disc 14 rigidly secured in the tube 10. On its under side the tube 10 is provided with a slot 10*a*, and a lug or projection 15 is mounted on the handle 11 and projects through the slot 10*a* into the interior of the tube 10. The lug 15 is arranged to engage the front face of the latch engaging member 12*c*. Rigidly secured to the tube 10 adjacent the slot 10*a* is a latch assemblage generally designated at 16. This arrangement includes a latch 17 mounted in a tubular casing 18 and backed up by a coiled spring 19. The spring 19 normally forces the latch 17 upwardly through the slot 10*a* so that it will engage in a depression or groove 20 formed in the latch engaging member 12*c*. The rear portion of the latch engaging member is formed with an inclined surface 12*d*. The latch 17 is provided with a rearwardly extending lug 21 which operates in a slot in the casing 18. A trigger 22 is pivotally supported at 23 on the handle 11 and this trigger carries a forwardly extending lug 24 which is adapted to engage the upper side of the lug 21 on the latch 17. The trigger 22 is provided with an operating portion 22*a* which extends forwardly and downwardly and which is positioned beneath a guard 11*a* on the handle. The handle 11 contains a groove 11*b* for receiving the portion 22*a* of the trigger. Secured on the rear end of the tube 10 is a knob or handle 25.

At its front end the tubular member 10 is provided with a firing chamber 26 having at its front end a firing plate 27. On its lower side the chamber 26 is provided with an opening 28 surrounded by a flange 29. Rearwardly of the firing chamber 26 the tubular member 10 is provided with an opening 30 which serves for the insertion of a torpedo or torpedoes into the tube 10.

Briefly describing the operation of my device, with the parts in the position shown in Figure 1, the handle 11 is grasped by the operator and drawn rearwardly on the tube 10, the knob 25 being placed against the chest of the operator or held in any other suitable position. In such operation the lug 15 engages the part 12*c* on the plunger and draws the plunger rearwardly in the tube 10 until the latch 17 slides over the surface 12*d* and engages the groove 20. This will lock the plunger in its rearward position with the coiled spring 13 under compression. When the handle 11 is drawn rearwardly as described, the trigger 22 is also moved rearwardly away from the latch 17 so that there is no danger of premature operation of the device by pressure on the trigger. In fact, when the handle is thus drawn rearwardly the forward portion 22*a* of the trigger drops by gravity into the groove 11*b* in the handle so that it is not accessible and cannot be operated. The torpedo can now be safely inserted in the opening 30 in the tubular member

10. After this is done, the handle is moved forwardly on the tube 10 until the lug 24 on the trigger engages over the lug 21 of the latch 17. This engagement serves to lift the forward end 22*a* of the trigger so that it can be operated by the finger. When the trigger is operated, the lug 24 is pulled down which in turn pulls down the lug 21 and withdraws the latch 17 from the groove 20. The plunger 12 is then free to move forwardly under the impulse of the coiled spring 13. In moving forwardly the hammer 12*a* of the plunger engages the torpedo which has been inserted in the opening 30 and carries the same forwardly into the firing chamber. The torpedo striking the firing plate 27 is subjected to the impact of the hammer with the result that it is exploded in the firing chamber, the gravel and other particles in the torpedo are driven downwardly out of the opening 29 and no danger arises from the same.

It will be apparent therefore that my device is safe to operate, it cannot be manipulated prematurely by pressing the trigger, and when a torpedo is exploded the flying particles are directed downwardly so that no harm is apt to result.

One important advantage of my construction is that a cheap form of toy torpedo may be used. It is well known that toy torpedoes consisting of a short section of paper tube with a disc in each end can be made very economically. The difficulty has been that such torpedoes do not give a good explosion because of the difficulty in firmly securing the disc in each end of the tube. With my device it is unnecessary to have the discs firmly secured in the ends of the torpedo tube because one end of the torpedo is engaged against the firing plate 27, and the other end is engaged by the conical end of the hammer 12*a*. The result is that the discs cannot be blown out of the end of the tube, but the tube itself must be fractured in the explosion thus giving a sharp and satisfactory explosion.

Various changes may of course be made in the details of the foregoing arrangement without departing from the invention as embraced in the accompanying claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A torpedo firing pistol comprising a tube having at its front end a chamber for receiving a toy torpedo, a plunger slidably mounted in said tube and having the front end thereof arranged to strike a torpedo in said chamber, a handle slidably mounted on said tube, means carried by the handle for engaging and retracting said plunger in the tube when the handle is moved rearwardly on the tube, a releasable latch carried by said tube and arranged to engage and hold said plunger when the latter has been retracted, and a trigger carried by the handle for releasing said latch, said trigger being movable into and out of operative relation with said latch when the plunger is held by said latch.

2. A torpedo firing pistol comprising a tube having at its front end a chamber for receiving a toy torpedo, a plunger slidably mounted in said tube, a spring for forcing said plunger forwardly in said tube, a handle slidably supported on said tube, means movable with the handle for engaging and retracting the plunger when the handle is moved rearwardly along the tube, a releasable latch carried by the tube and arranged to engage and hold said plunger after it has been retracted, and a trigger for releasing said latch, said trigger being movable into and out of operative relation with said latch when the plunger is held by said latch.

3. A torpedo firing pistol comprising a tube having at its front end a chamber for receiving a toy torpedo, a spring-pressed plunger slidably mounted in said tube, a handle slidably mounted on said tube, interengaging means carried by said plunger and handle, whereby said plunger is retracted in the tube when the handle is moved rearwardly on the tube, a latch carried by the tube and arranged to engage and hold said plunger when the same is retracted, and a trigger carried by said handle, said trigger being movable into or out of position to release said latch when said latch is in engagement with said plunger.

4. A torpedo firing pistol comprising a tube having at its front end a chamber for receiving a toy torpedo, a spring-pressed plunger slidably mounted in said tube, a handle slidably mounted on said tube, said handle having a lug thereon arranged to engage said plunger and move the same rearwardly in the tube when the handle is moved rearwardly relative to the tube, a latch on said tube arranged to engage and hold the plunger when the same is moved rearwardly, said handle being movable forwardly relative to the tube without movement of the tube after said latch engages said plunger, and a trigger mounted on the handle for operating said latch, said trigger being movable out of operative position relative to the latch when the handle is moved rearwardly on the tube, and being movable into operative position relative to the latch when the handle is moved forwardly on the tube.

5. A torpedo firing pistol comprising a tube having at its front end a chamber for receiving a toy torpedo, a spring-pressed plunger slidably mounted in said tube, a handle slidably mounted on said tube, a projection carried by said handle and arranged to engage said plunger for moving said plunger rearwardly in the tube when the handle is moved rearwardly relative to the tube, a latch mounted on and movable with said tube and arranged to engage and hold said plunger when the latter is moved rearwardly in the tube, and a trigger carried by said handle for releasing said latch to permit said plunger to move forwardly in the tube, said trigger being movable into or out of operative relation to said latch when said plunger is held in rearward position by said latch.

6. A torpedo firing pistol comprising a tube, a spring-operated plunger slidable in the tube, a latch on the tube arranged to engage and hold the plunger in retracted position, a handle slidable relative to the tube, and a trigger carried by said handle, said trigger being movable out of and into operative relation to said latch when said plunger is held by said latch.

7. A torpedo firing pistol comprising a tube having at its front end a chamber for receiving a toy torpedo, a plunger slidably mounted in said tube and having the front end thereof arranged to strike a torpedo in said chamber, a handle slidably mounted on said tube, a projection on said handle adjacent the front end thereof and arranged to engage and retract said plunger when the handle is moved rearwardly on the tube, a releasable latch carried by and movable with said tube, said latch being arranged to engage and hold said plunger when the

latter is retracted in said tube, and a trigger mounted on said handle adjacent the rear end thereof, said trigger being movable into and out of operative engagement with said latch when the plunger is held by said latch.

8. A torpedo firing pistol comprising a tube having at its front end a chamber for receiving a toy torpedo, a handle slidably supported on said tube, a coil spring mounted in said tube in front of said handle and arranged to force said plunger forwardly in the tube, said plunger having a portion extending into the rear portion of said tube adjacent said handle, a projection on said handle arranged to engage said plunger and draw the same rearwardly and compress said spring when the handle is moved rearwardly on the tube, a latch mounted on and movable with the tube and arranged to engage and hold said plunger after the same is moved rearwardly in the tube, and a trigger carried by said handle for releasing said latch.

JOSEPH A. MARS.