

No. 779,485.

PATENTED JAN. 10, 1905.

W. E. MATTHEW.

TORPEDO.

APPLICATION FILED JULY 20, 1904.

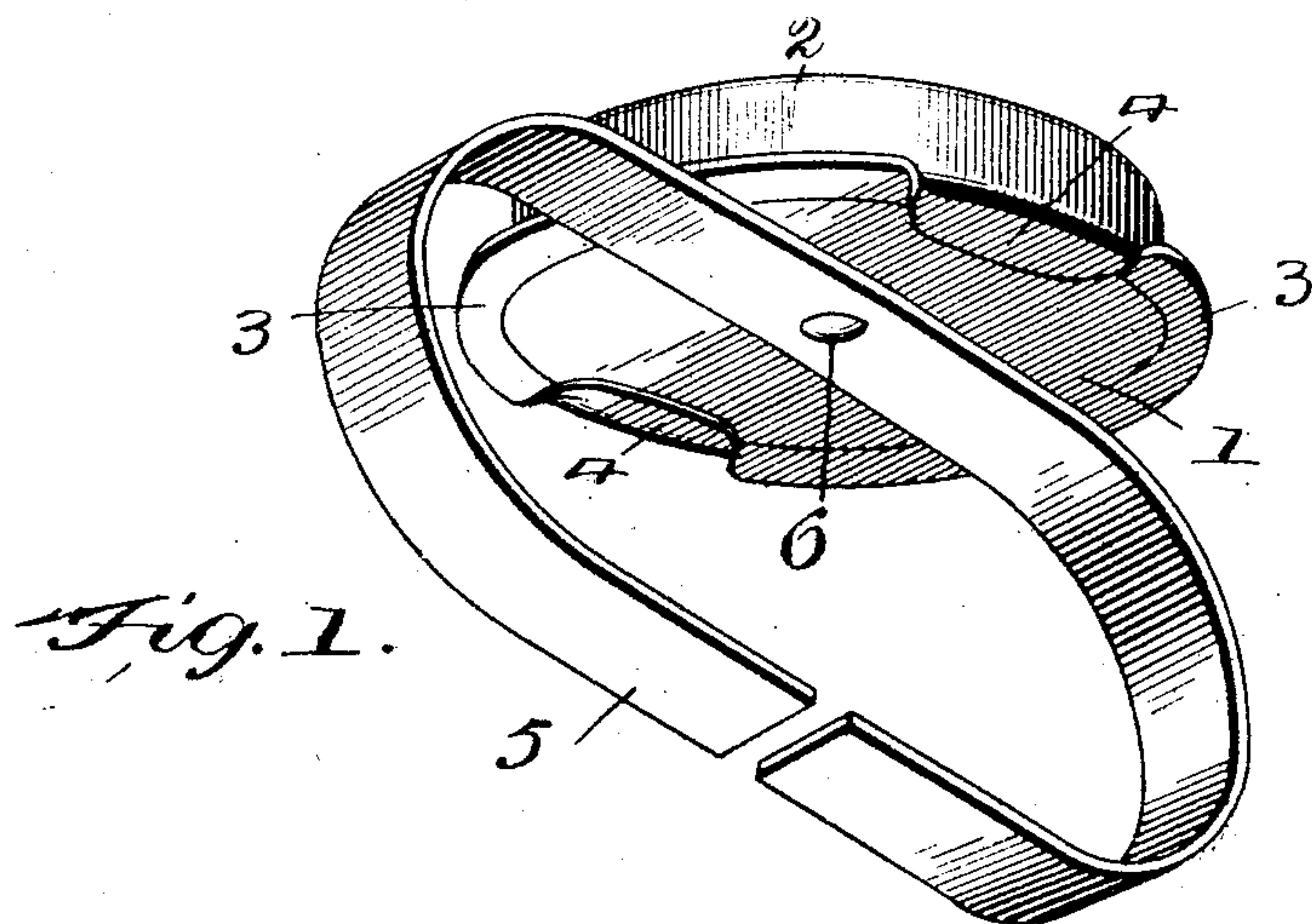


Fig. 1.

Fig. 2.

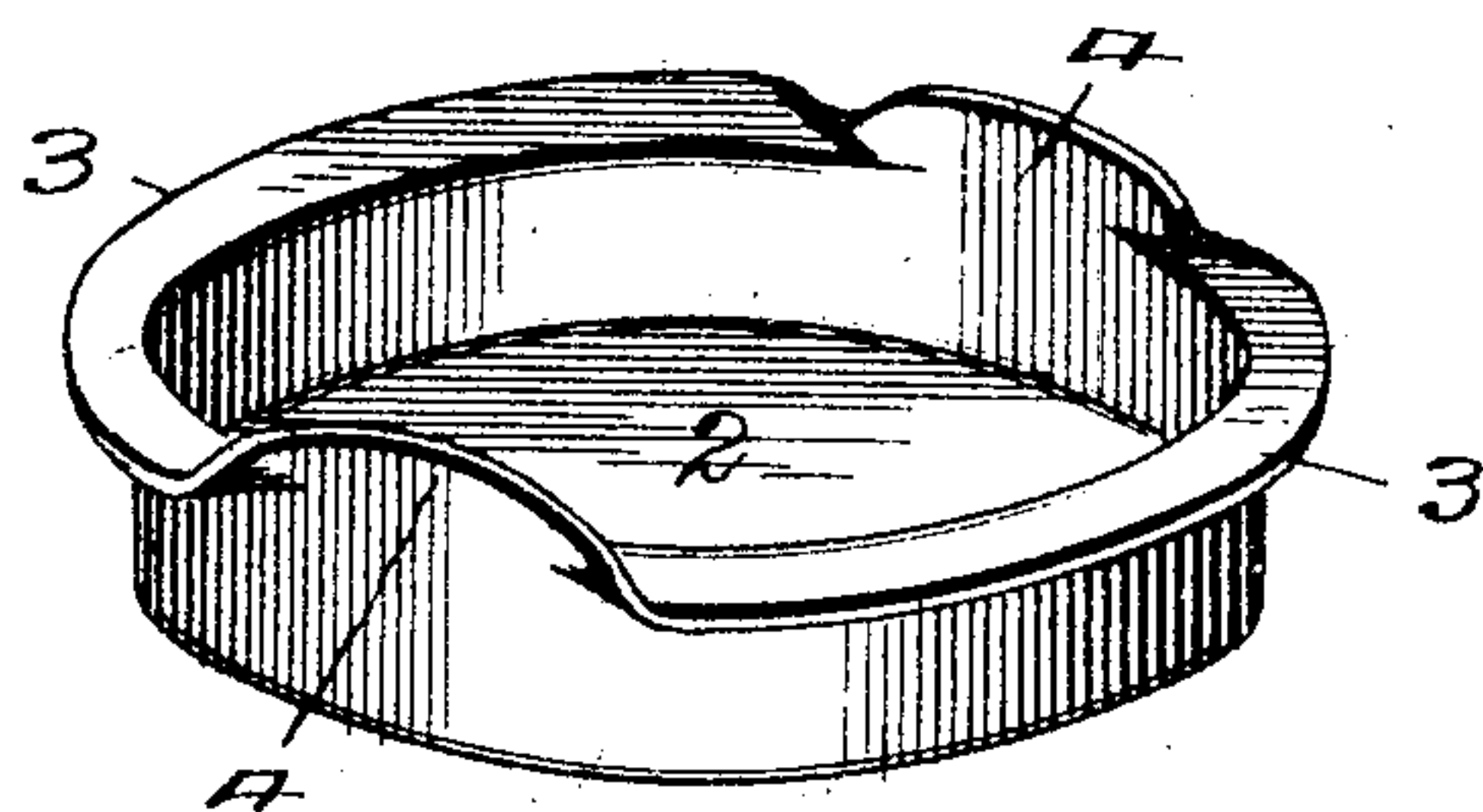


Fig. 3.

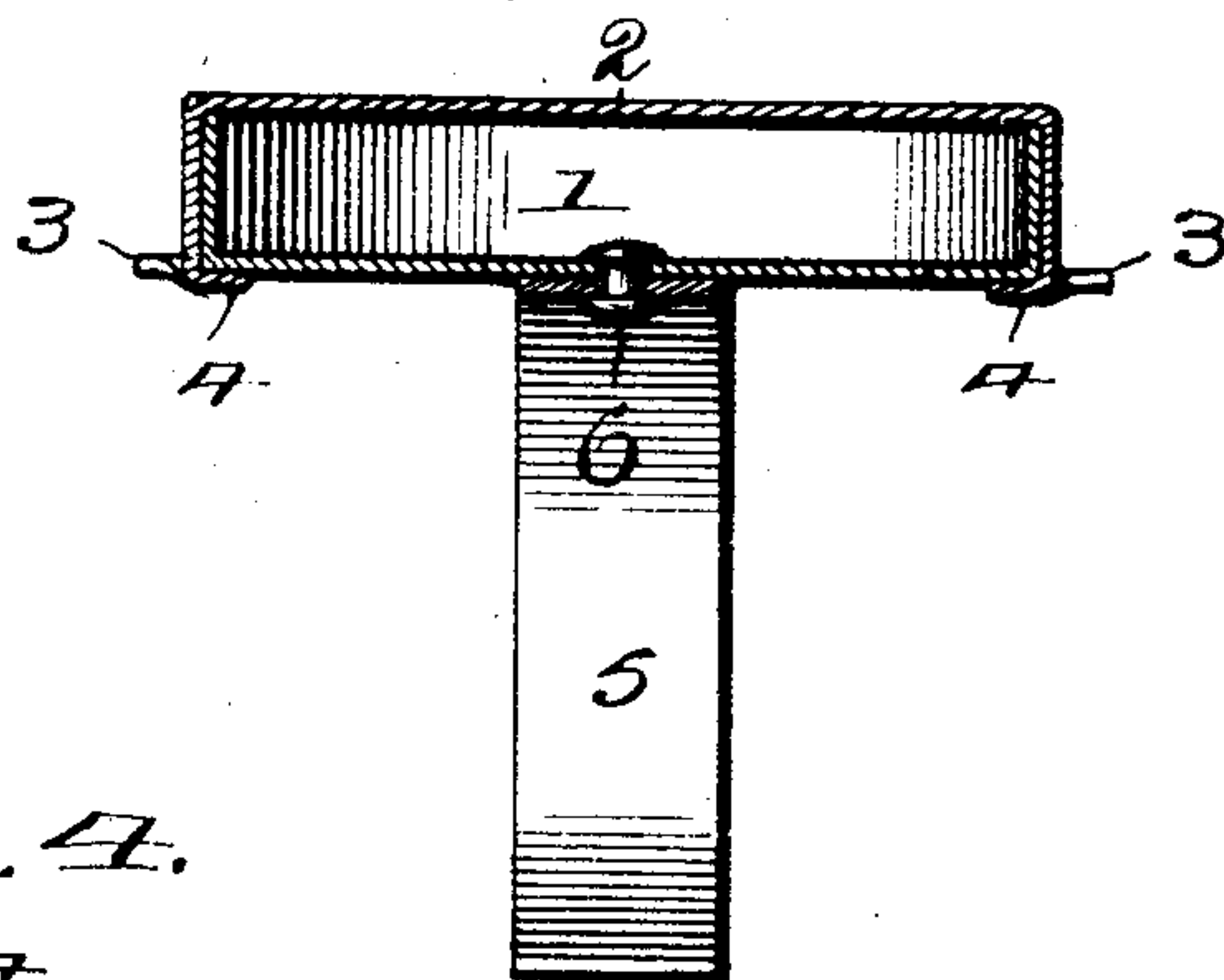
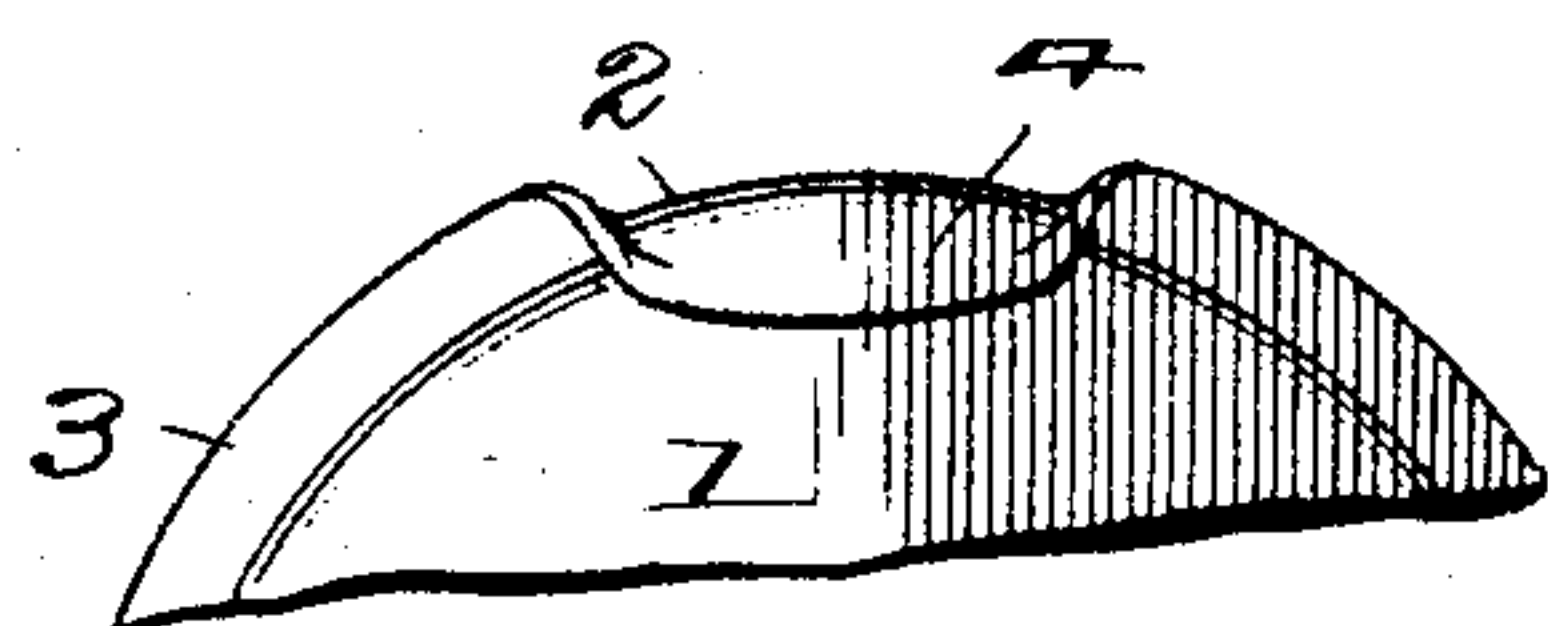


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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TORPEDO.

SPECIFICATION forming part of Letters Patent No. 779,485, dated January 10, 1905.

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To all whom it may concern:

Be it known that I, WILLIAM E. MATTHEW, a citizen of the United States, residing at Bucyrus, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Torpedoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in the construction of torpedoes, and more particularly to that class of torpedoes used as signals, as in connection with railway traffic, &c., whereby when the torpedo is placed upon the track-rail it will be crushed, and consequently detonated by the wheel of the engine or car.

The prime object of my invention, among others, is to produce a complete article of the character specified ready for use at the expense of the simplest and smallest number of mechanical operations, thereby reducing the cost to a minimum.

A further object of my invention is to produce a locking device for one part of the structure adapted to have a part thereof extend over and engage another part or member, whereby the member holding the detonating material and its closure or housing will be reliably united in permanent relationship.

Other objects and advantages will be clearly set forth in the following specification, which shall be considered in connection with the accompanying drawings, made a part thereof, in which—

Figure 1 is a perspective view of my improved torpedo ready for use. Fig. 2 is a perspective view of the exterior member or housing in a partly-finished condition. Fig. 3 is a sectional view of my torpedo in its complete state, taken on a line transversely to the plane of the anchoring-clasp. Fig. 4 shows the securing device in detail.

Referring in detail to the drawings, in which similar reference characters designate corresponding parts throughout the several views, 1 indicates the body portion proper or receptacle for the detonating material, which, as will be observed, is substantially cup-shaped

and may be made of any desired size to hold the requisite amount of detonating compound. I also provide a suitable housing 2, adapted to bodily receive and telescope with the member or receptacle 1, said housing also being substantially cup-shaped and of proper size to snugly receive said receptacle and is provided at its open end with a continuous circumferential flange designed for the dual purpose of imparting the requisite degree of strength and rigidity to the walls of the housing and also for the additional purpose of having a part thereof bent over to lock the receptacle in place—that is to say, after the body portion or receptacle 1 has been properly filled with the detonating compound it is entered into the housing 2 open end first, the depth and circumference of the housing being determined by the size of the receptacle to be entered therein. When the body portion or receptacle 1 has thus been securely seated in the housing, two comparatively small sections of the flange 3 are struck up from diametrically opposite sides and then bent over upon a contiguous part of the bottom of said receptacle, thereby securely locking it within the housing. By reference to Figs. 1 and 2 it will be observed that the sections thus struck up and bent over, as locking tongues or lips 4, are not severed from the remaining portion of the flange, but merely wrapped or folded in such a way as to leave said lips still united to said flange, thereby insuring a greater degree of strength and rigidity than would be possible if the section from which the lips are formed was first severed from the remainder of the flange. I consider this feature very important and valuable, inasmuch as a suitable die or forming instrument of proper character will lock the two members together by simply engaging and folding over a portion of the flange of the housing, thereby lending great strength and rigidity to the securing device thus fashioned.

It is my desire to construct and assemble the several parts of the torpedo with the least number of operations possible incident to the manufacture thereof, and it is for this reason that I use only a very small section of the flange 3 to fashion locking devices and hold

the members 1 and 2 together, it being found by actual test that said sections may be struck up and extended or folded down upon the bottom of the receptacle at a single operation, 5 where ordinarily several separate and distinct operations and an additional element or a number of additional elements are required to secure the receptacle and its closure together. I deem it also very essential that the 10 union of the two members 1 and 2 shall be reliable in character, inasmuch as the anchoring spring member 5, employed to hold the torpedo to the rail, is secured to or carried by the central portion of the receptacle 1, as 15 by the rivet 6, and it is found in practice that considerable strain is exerted upon the body portion, as when the torpedo is being placed upon the track-rail, and more especially when so disposed in its operative position, as from 20 a moving train. This strain upon the receptacle 1 is due to the fact that while the torpedo is being placed upon the track-rail it is usually held in a plane which is at an angle to the plane of the track-rail, the flange of the torpedo thus being brought into contact with 25 the rail at the time the spring member engages it, the strain or wrenching movement often causing the separation of the receptacle from the housing. The most important feature, however, of my invention is the reduction of the mechanical operations necessary in producing the complete torpedo ready for use, it being obvious that the first operation is to secure the anchoring-spring to the receptacle 1 and then to fill the same with detonating material and enter it into the open 35 mouth of the housing, and when the parts have been thus assembled the housing may be seated in a suitable die and the lips 4 struck up and folded over as the result of a single operation. 40

It will thus be seen that I have provided a torpedo which, while of simple construction or manufacture, will be found to be reliably 45 efficient to meet all requirements placed upon

such a device, and believing that the advantages and manner of forming my torpedo have thus been made clearly apparent further description is deemed unnecessary.

What I claim as new, and desire to secure 50 by Letters Patent, is—

1. A torpedo of the character specified, comprising a receptacle proper for detonating material and a housing to receive said receptacle, said housing having a continuous 55 flange a plurality of sections whereof are adapted to be bent over and folded down directly in engagement with a contiguous part of the bottom of the receptacle and suitable means to clamp it to the track-rail substantially as specified and for the purpose set 60 forth.

2. As an article of manufacture, a torpedo formed of two complementary members comprising a receptacle for the detonating material having an anchoring-spring secured thereto and a housing adapted to receive said receptacle, said housing having a radial flange, portions of which are adapted to be folded 65 directly inward and upon a contiguous part 70 of the receptacle as and for the purpose set forth.

3. In torpedoes, the herein-described method of locking the parts together, comprising a cup-shaped member or receptacle 1 75 and a housing, the entering of the receptacle in said housing and the bending of the extended edge of the housing being in such a way as to fold said edge without cutting, directly upon a contiguous part of the receptacle whereby the receptacle will be locked 80 within the housing as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two 85 scribing witnesses.

WILLIAM E. MATTHEW.

Witnesses:

C. H. MYERS,

C. B. SNYDER.