F. DUTCHER.

TORPEDO CLIPPING MACHINE.

APPLICATION FILED APR. 28, 1909.

999,101.

Patented July 25, 1911.

3 SHEETS—SHEET 1.

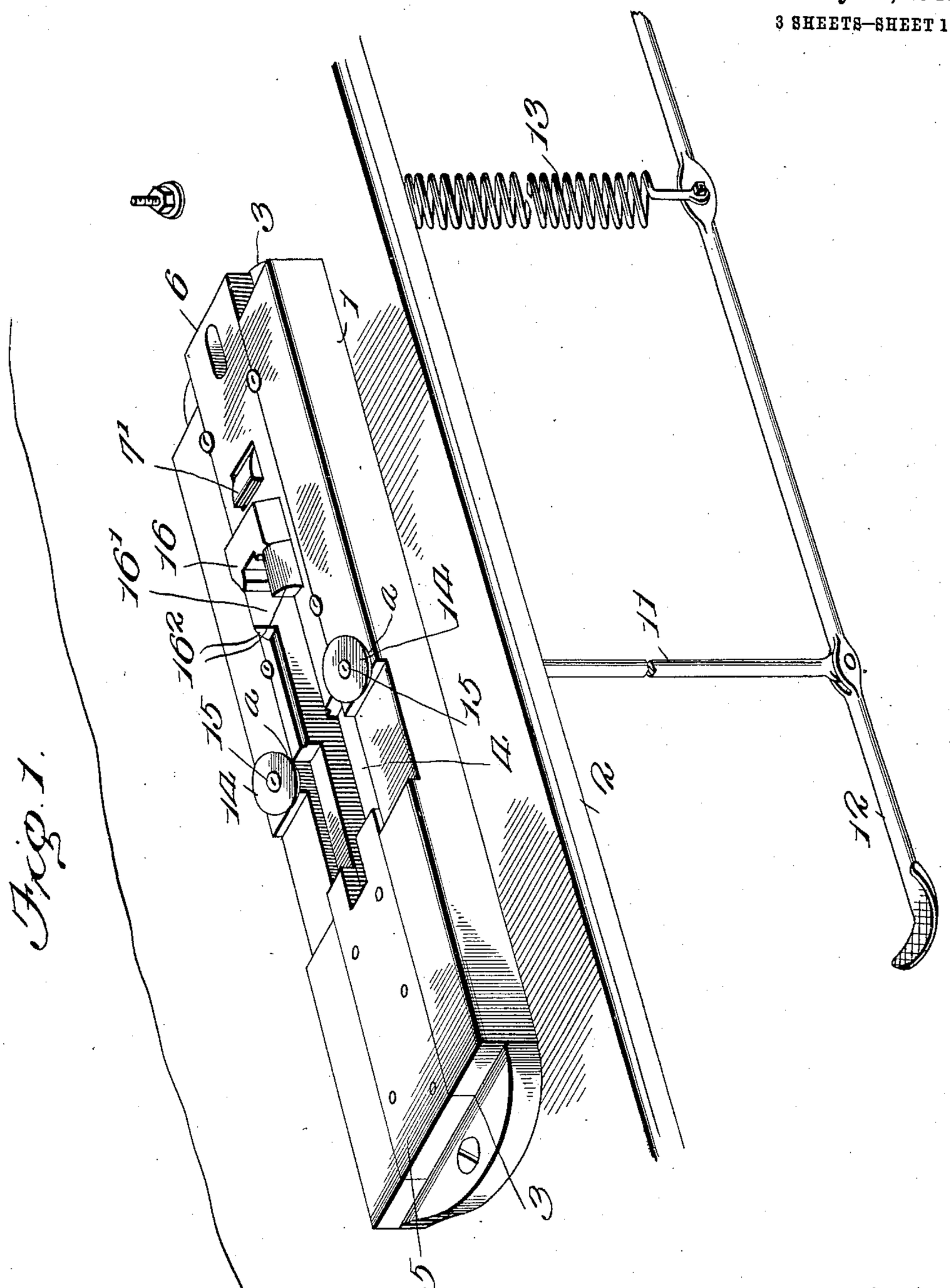

Fig. 1.

Witnesses

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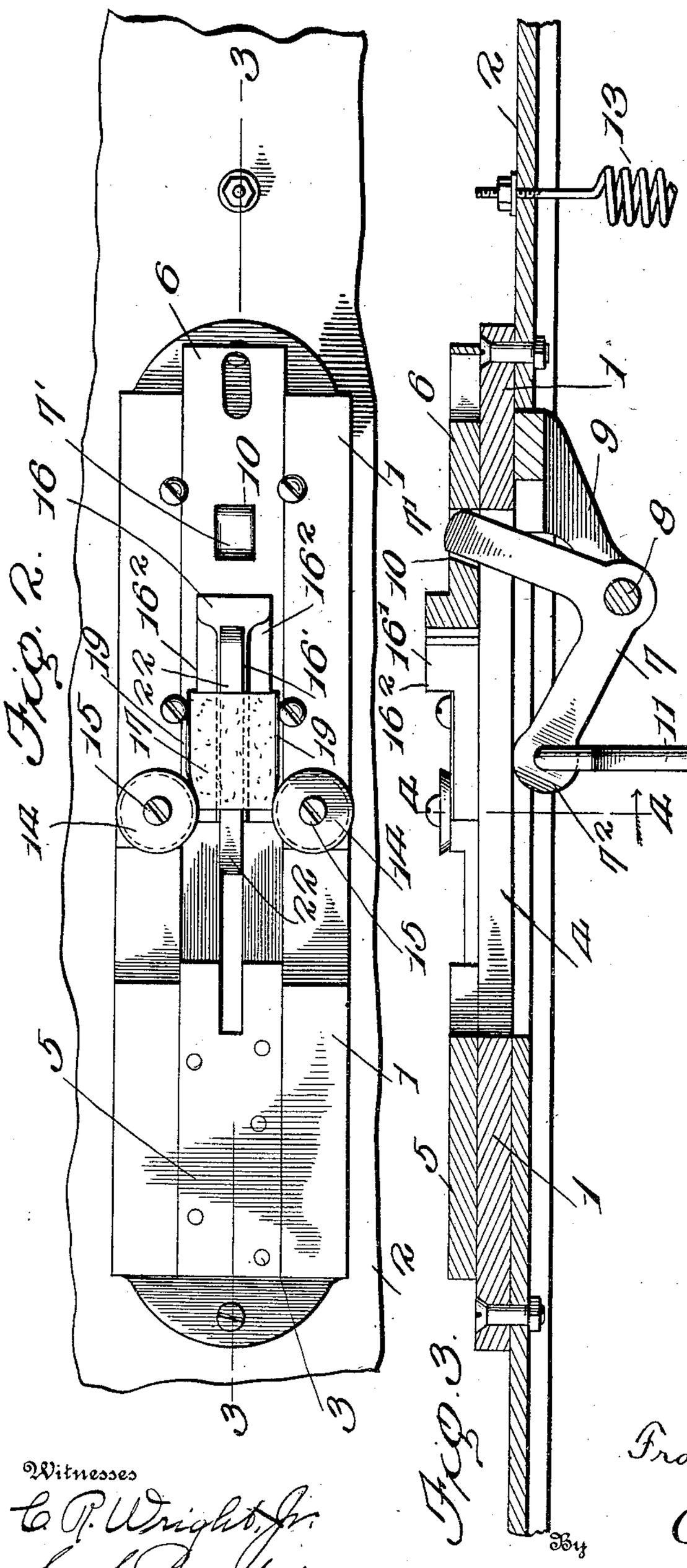

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3 SHEETS—SHEET 3.

Fig. 5.

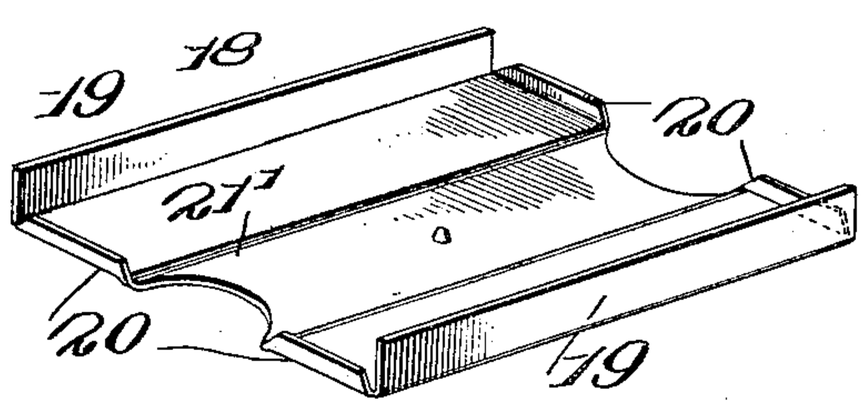


Fig. 6.

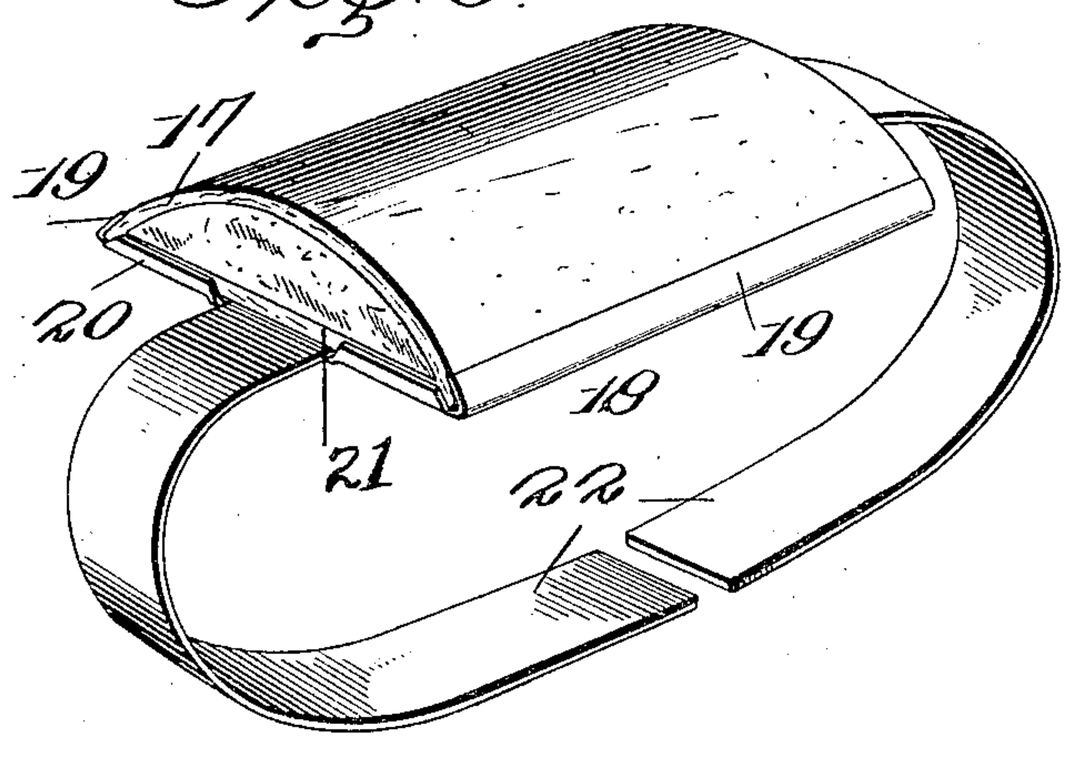
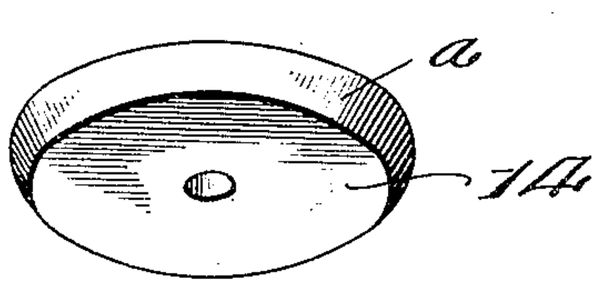


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK DUTCHER, OF VERSAILLES, PENNSYLVANIA.

TORPEDO-CLIPPING MACHINE.

999,101. Specification of Letters Patent. Patented July 25, 1911.

Application filed April 28, 1909. Serial No. 492,731.

To all whom it may concern:

Be it known that I, FRANK DUTCHER, a citizen of the United States, residing at Versailles, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Torpedo-Clipping Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in torpedo clipping machines, and pertains to a mechanism for attaching the metal clip to a straight edged torpedo, and by which clip the torpedo rail-attaching strap is connected to the torpedo.

The object of the present invention is to provide a simple mechanism for quickly and effectively connecting the rail-attaching strap to the base of a straight edged torpedo, by bending the parallel edges of a clip to the base of the torpedo.

In the accompanying drawings: Figure 1 is a perspective view of my improved torpedo clip attaching machine. Fig. 2 is a top plan view of Fig. 1, showing the torpedo and its clip in the act of having the metal clip attached thereto. Fig. 3 is a longitudinal vertical central sectional view taken on the line 3—3 of Fig. 2, with the torpedo omitted. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 3. Fig. 5 is an enlarged detached perspective view of one of the crimping disks. Fig. 6 is a perspective view of a torpedo showing the metal clip crimped thereon. Fig. 7 is an enlarged detached perspective view of one of the crimping disks.

Referring now to the accompanying drawings, 1 is a base plate which is connected upon a table or other suitable support 2. This base plate is provided with a longitudinal slot 3, the central portion 4 of which passes entirely through the plate. Placed in this slot 3, at one end is a stationary head 5, and a reciprocating combined torpedo carrier and follower 6 is located in the opposite end of the slot 3 and adapted to be moved back and forth therein. A bell-crank lever 7 is intermediately pivoted at the point 8 to a depending bracket 9. The upper end 7′ of the bell-crank lever enters an opening 10 in the follower 6, and an operating rod 11 is connected with the opposite end 7^2 of the bell-crank lever. This rod 11 is suitably connected with a treadle 12, and the treadle 12 is normally held in its uppermost position by means of a suitable spring 13, which has one end connected with the table or support 2 and its opposite end connected with the treadle 12. When the treadle is in its uppermost position the bell-crank lever 7 is in the position shown in Fig. 3, which holds the follower 6 in its outward or retracted position.

Located at opposite sides of the upper edge of the central opening 4 made in the base plate 1, are the crimping or bending members 14. These members 14 preferably consist of circular disks with their edges tapered from the top inward or toward their axis, as shown at *a* in Figs. 1 and 7. The tapered edges of these disks 14 project over the opening 4, and are clamped against rotation by means of suitable screws 15. Extending from the top of the followers 6 is a projection 16, which abuts against one end of the torpedo 17, as shown in Fig. 2.

The metal clip 18 has its base portion provided with right angle flanges 19 at its edges and comparatively narrow right angle flanges 20 at its ends. The torpedo 17 has a flat base 21 which fits in between these flanges and the center of the base of the clip is provided with a depressed portion 21′ to receive the rail-attaching strap 22, and the top of the torpedo is curved as shown.

In the attaching operation the rail attaching strap is placed in the depressed portion of the base of the clip 18 and the base of the torpedo placed thereover. These are then placed with the base of the clip on the follower 6, with its outer end against the inner end of the projection 16. A depression on the treadle 12 operates the bell-crank lever 7, which moves the follower 6 endwise and carries the clip and torpedo between the crimping disks 14, which crimp or bend the longitudinal flanges 19 tightly against the sides of the torpedo and securely attaches the clip thereto, and the clip in turn holds the rail-attaching strap.

The projection 16, is provided with a slot 16′, which forms parallel arms 16^2 to enable the spring rail-attaching member (when that form of strap is used) to project between the arms 16^2, as shown in Fig. 2, and the opening 4 is made in the base plate 2 to permit the spring clip to project therethrough. When the more usual form of pliable lead or aluminum strap is used this opening 4 is not necessary, since the ends of

the strap can then be bent upward along the ends of the torpedo while being attached.

By making the crimping disks 14 circular, as shown, a double function is obtained; first, a contracting space is formed through which the flanges of the clip may enter and be gradually bent to their proper clamping positions as they pass between the disks, and secondly, as these crimping surfaces become worn and need to be renewed, the disks are turned sufficiently to bring a new unused tapered crimping surface into operative position until the complete periphery of the disks have become so worn that they are not fit for further service. It is found that it is essential to proper operation of these disks to be held against rotation while the clip is being bent to clamping position, as this effects a rubbing action which is found to be more effective than a rolling action for bringing the flanges to fixed clamping position.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A torpedo clipping machine comprising a torpedo carrying follower and crimping members between which the follower forces the clip and torpedo for bending the clip flanges inward against the torpedo.

2. A torpedo clipping machine, comprising a torpedo carrying follower, circular tapered crimping disks located at opposite sides of the path of the follower and between which the follower forces the torpedo and clip to cause the disk to bend the clip flanges inward against the torpedo.

3. A torpedo clipping machine, comprising a bed plate having a longitudinally extending follower-way, a torpedo carrying follower movable in said way, crimping members having tapered edges located at opposite sides and projecting over the follower-way, the follower movable between the said crimping members to force the torpedo and its clip between the crimping members for the purpose described.

4. A torpedo clipping machine, comprising a torpedo carrying follower, circular crimping disks having inwardly tapered peripheries which project over the path traveled by the clip and torpedo, and means for holding the disks stationary at adjusted points for the purpose described.

5. A torpedo clipping machine, comprising a bed plate having a longitudinally extending follower-way, a torpedo carrying follower in said way and having a longitudinal strap receiving slot and circular crimping members carrying the upper face of bed plate and extending over the follower-way and having tapered edges for the purpose set forth.

6. A torpedo clipping machine comprising a bed plate having a longitudinally extending follower-way, a torpedo carrying follower in said way and having a longitudinal strap receiving slot, circular crimping members secured to the upper face of the bed plate against rotation, and having tapering edges extending over the follower-way, and means extending through the bed plate for operating the follower.

7. A torpedo clipping machine comprising a bed plate having a longitudinally extending groove in its upper face, and having a reduced slot in the lower end extending through the bed plate, a torpedo carrying follower in said groove, circular crimping members secured to the upper face of the bed plate on opposite sides of the groove against rotation and having tapering edges extending over the grooves, a lever pivoted to the lower face of the bed plate and extending through the slot therein and passing into an opening in the follower and a treadle connected to said lever.

8. A torpedo clipping machine, comprising a bed-plate having a longitudinally extending groove in its upper face and having a reduced slot in the lower end extending through the bed-plate, a torpedo carrying follower in said groove and having a longitudinally extending slot registering with the slots in the bed-plate, stationary circular crimping members secured to the upper face of the bed-plate and having tapering edges extending over the slot, a lever pivoted to the lower face of the bed-plate and extending through the slot therein and passing into an opening in the follower, a treadle, a link connecting the treadle and lever, and a spring normally holding the treadle upwardly and holding the torpedo carrying follower in its outward position.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK DUTCHER.

Witnesses:
W. D. MANSFIELD,
CORA LENHART.