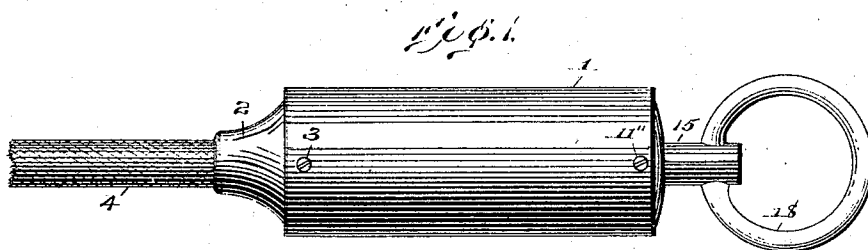
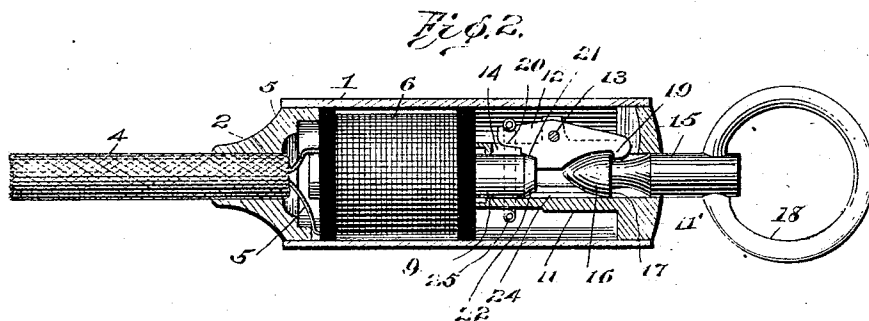
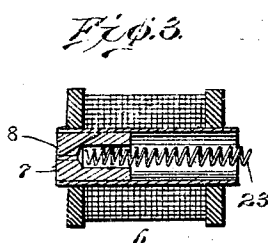
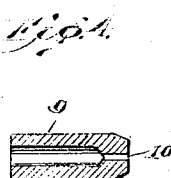
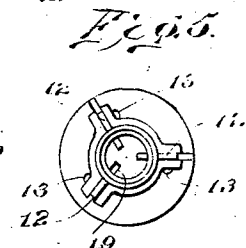
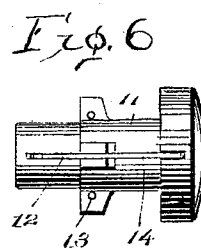
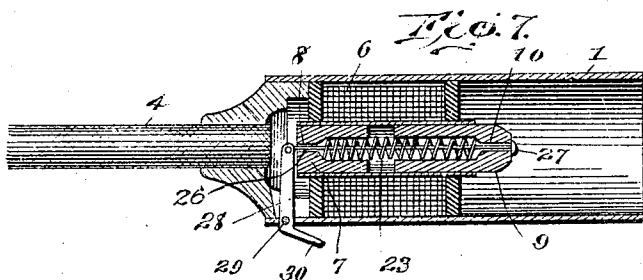


May 13, 1924.

1,493,479

E. DEATRICK
RELEASABLE CONNECTER
Filed March 9, 1922.



Witnesses
Edward Deatrick
By Robert Young, Atty.

Patented May 13, 1924.

1,493,479

UNITED STATES PATENT OFFICE.

EDWARD DEATRICK, OF LANCASTER, PENNSYLVANIA.

RELEASABLE CONNECTER.

Application filed March 9, 1922. Serial No. 542,498.

To all whom it may concern:

Be it known that I, EDWARD DEATRICK, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Releasable Connecters, of which the following is a specification.

This invention relates to releasable connectors, the object being to produce a simple means for detachably coupling together two members so that by pressing a button or closing an electric switch one of the connector members may be instantly released or uncoupled from the other member. The uncoupling operation may also be effected by mechanical means, as will appear.

A further object of the invention is to provide means whereby the coupling means may be locked or held in uncoupling position so that the connector members cannot be coupled together.

The device is useful for many purposes, as, for example releasing live stock in case of fire, in which case the device may be operated by hand, or by an electric circuit closer either manually operated or automatically closed by the melting of a fuse.

The invention consists in the novel structure herein fully described, illustrated and claimed.

In the accompanying drawings:

Fig. 1 is a side elevation of the device;

Fig. 2 is a longitudinal section of the same;

Fig. 3 is a diametrical section through the magnet;

Fig. 4 is a diametrical section through the plunger;

Fig. 5 is an end view of the latch carrier;

Fig. 6 is a side view of the same; and

Fig. 7 is a longitudinal section through the barrel and contents, illustrating the mechanical means for effecting the uncoupling operation.

In the embodiment of the invention illustrated in the drawings, the device comprises a barrel 1 forming a container or casing for the coupling and uncoupling means. As shown the barrel is closed at one end by a plug 2 fixed in place by any suitable means, screws 3 being shown for that purpose. Fastened to and passing centrally through the plug 2 is a flexible cable 4 containing electric conductors 5. The cable 4 is used to anchor the barrel 1 to any structure such as

a manger or wall in case the device, as a whole, is utilized to hold and release live stock.

The conductors 5 lead to and from an electromagnet 6 held within the barrel 1. In one end of the bore of the magnet there is a fixed plug 7 formed with a small central bore 8, the purpose of which will appear. A reciprocatory armature 9 is slidable in the other end of the bore of the magnet and functions also as a plunger for operating the latching means to be described. The plunger 9 has a small central bore 10 in line with the small bore 8, the purpose of which will appear.

The latching means comprises a latch carrier 11 (Figs. 2, 5 and 6) and one or more latches 12, pivotally mounted thereon at 13. Three of such latches are shown arranged equidistantly around the center of the carrier 11 and movable within longitudinal slots 14 therein. The carrier 11 at one end is enlarged to form a plug 11' for the adjacent end of the barrel 1 and is held by fastening means such as screws 11''. The latches 12 are designed to engage and securely hold a connector member 15, shown in the form of a stout pin having a rounded or tapered inner end portion or head 16, and an annular shoulder 17. The member 15 carries at its outer end a pivotally attached ring 18, but any desired device may be used in place of said ring to which an animal, for example, may be secured.

The two connector members 1 and 15 are telescopically coupled together by means of the latches 12, each of which has a rounded or bevel nosed lip 19 to engage behind the shoulder 17, as seen in Fig. 2. Each latch 12 is also formed with steps 20 and 21 to cooperate with beveled extremity 22 of the plunger 9. Plunger 9 is pressed toward and against the latches 12 by an expansion spring 23 situated in counterbores of the plug 7 and plunger 9 (Figs. 3 and 7). The plunger 9 is slidable in a central bore 24 of the latch holder (Fig. 2) and when in engagement with the steps 21 of the latches the latter are securely held in coupling position as shown in Fig. 2. When the plunger is in engagement with the steps 20, the latches are held in uncoupling position, and in such position the members 1 and 15 cannot be coupled together.

To uncouple the members 1 and 15 the magnet 6 is energized by closing a switch in

an electric circuit including said magnet. This retracts the plunger 9 from the position shown in Fig. 2, whereupon the rear ends of the latches are drawn inwardly by a contractible spring 25 which encircles said ends of the latches. The lips 19 of the latches are thereby moved outwardly and release the member 15 from the member 1.

The beveled extremity 22 of the plunger is now engaging the steps 20 of the latches and they are thus prevented from moving into engagement with the shoulder 17 of the member 15 when thrust into the latch holder 11. To again couple the member 1 and 15 the member 15 is first inserted in the member 1 and the plunger then allowed to move forward until it engages the step 21 where it is held by the spring 23.

To mechanically retract the plunger to release the member 15, a wire like stem 26 is inserted through the small central bores 8 and 10 of the plug 7 and the plunger as in Fig. 7, said stem having a stop or head 27 bearing against the end of the plunger when the latter is thrust outwardly by the spring 23. Connected with the other end of the stem 26 is a small lever 28 pivoted at 29 to the member 1 and having an angle arm 30 for convenient manipulation. By pressing inwardly on arm 30 the plunger is retracted, thereby permitting the latching means to release the member 15.

What I claim is:

1. The combination of two telescopically coupled connector members, one of said members having a latch to engage and hold the other member, a plunger carried wholly within said members to hold said latch in coupling position, and means for shifting said plunger to permit the latch to move to releasing position.

2. A releasable connector comprising a latch-carrying member, a latch-restrained member telescopically coupled thereto, a latch carried by the first named member to hold and release the other member, a plunger carried wholly within said members normally holding the latch in locking engagement with the latch restrained member, and manually-controlled means for retracting said plunger.

3. A releasable connector comprising a latch-carrying member, a latch-restrained member, telescopically coupled thereto, a latch carried by the first named member to hold and release the other member, a plunger carried wholly within said members normally

holding the latch in locking engagement with the latch restrained member, and electrically controlled means for retracting said plunger.

4. A releasable connector, comprising a latch-carrying member, a latch-restrained member telescopically coupled thereto, a latch carried by the first named member to hold and release the other member, a plunger carried wholly within said members normally holding the latch in locking engagement with the latch restrained member, and electromagnetic means for retracting said plunger.

5. A releasable connector comprising a latch-carrying member, a latch-restrained member telescopically coupled thereto, a latch carried by the first named member to hold and release the other member, a spring pressed plunger normally holding the latch in locking engagement with the latch restrained member, and manually-controlled means for retracting said plunger.

6. A releasable connector comprising a latch-carrying member, a latch-restrained member telescopically coupled thereto, a latch carried by the first named member to hold and release the other member, a plunger normally holding the latch in locking engagement with the latch restrained member, electro-magnetic means for retracting said plunger, and subsidiary mechanical means for retracting the plunger.

7. A releasable connector comprising a holding member, a normally held member having a shouldered head, latching means carried by the first named member to couple the members together, and a retractible plunger normally holding the latching means in functioning position and adapted to permit the latching means to shift to uncoupling position.

8. A releasable connector comprising a holding member, a normally held member having a shouldered head, latching means carried by the first named member to couple the members together, and a retractible plunger normally holding the latching means in functioning position and adapted to permit the latching means to shift to uncoupling position, said plunger when in another position serving to hold the latching means in non-coupling position, thereby preventing the members from being coupled.

In testimony whereof I have affixed my signature.

EDWARD DEATRICK.