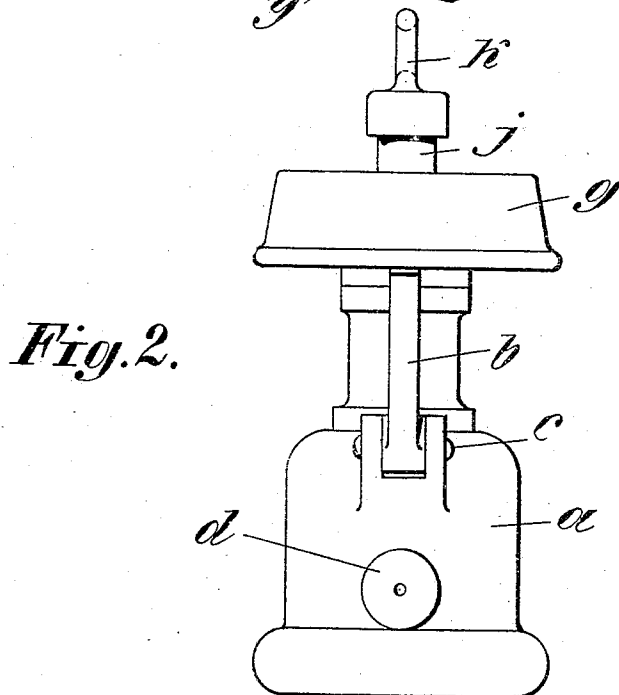
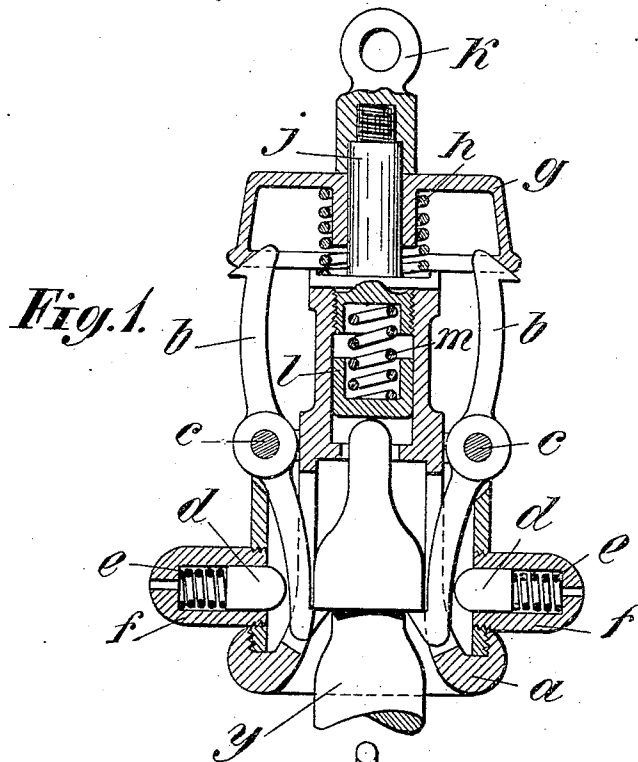


L. B. VAN BOVEN.
 INDICATOR COUPLING.
 APPLICATION FILED JAN. 15, 1909.

943,127.

Patented Dec. 14, 1909.



Witnesses:
 E. H. Bickerton
 C. M. Calford.

Inventor
 L. Benedict van Boven
 By Meyer, Kushman & Co.
 Attys.

UNITED STATES PATENT OFFICE.

LODEWYK BENEDIT VAN BOVEN, OF WATERGRAAFSMEER, NEAR AMSTERDAM,
NETHERLANDS.

INDICATOR-COUPLING.

943,127.

Specification of Letters Patent.

Patented Dec. 14, 1909.

Application filed January 15, 1909. Serial No. 472,502.

To all whom it may concern:

Be it known that I, LODEWYK BENEDIT VAN BOVEN, engineering officer in the Royal Dutch Navy, citizen of Holland, subject of the Queen of the Netherlands, residing at Watergraafsmeer, near Amsterdam, in the Kingdom of the Netherlands, have invented certain new and useful Improvements in Indicator-Couplings, of which the following is a full, clear, and exact description.

The present invention has reference to an apparatus for fastening the indicator cords to the rods of indicators on steam engines, explosion motors and the like, and for unfastening these cords.

The difficulties which exist in the way of fastening and unfastening the indicator cords to the indicator rods while a steam engine or explosion motor is in motion are well known. This is particularly realized in connection with continually increasing speed of revolution (number of revolutions). Efforts have been made to reduce these difficulties, for example by means of different kinds of coupling apparatus of hook constructions. Such apparatus have however been found of so little use, that it has generally been preferred to fasten the cords to the rods of the indicators by hand and to remove them from the rods in the same manner, notwithstanding the trouble connected therewith and the risk of accident. These inconveniences are removed by the apparatus forming the subject of the present invention. With the aid of this contrivance, even an inexperienced person can quickly and safely connect the indicator cord with the indicator rod, and disconnect same whatever may be the rate of revolution of the steam engine, the explosion motor or the like.

In the accompanying drawing which is an illustration of my invention Figure 1 shows a longitudinal section; Fig. 2 is a side view.

The apparatus is composed of a double walled bell *a*, to which are linked two double armed levers *b* constructed to pivot at *c*. The arms of both levers are provided at their ends with hooks. The hooks of the lever arms directed downward are turned inward and grip nose-like behind the turned-in knob of the indicator rod *y*, as soon as the hook is pressed against the rod *y* by the spring *e* through the medium of the lugs *d*. The lugs *d* and the springs *e* are disposed in a special case *f*. The hooks on the upward di-

rected arms of the lever *b* are turned outward and grip behind the conically turned-in edges of the crown *g* as soon as by means of a light pressure in this crown, the upward resistance of a spring *h* which is centrally disposed to the crown *g*, is removed. The crown *g* is fitted with hubs and surrounds a bolt *j* which is connected with the eyelet *k*. On the underside of the bell *a* are screwed the cylinder shaped chambers *f*. In the cylinder shaped upper part of the bell *a* is arranged a movable box *l* in which is situated a spring *m* which is covered on the upper side by a screw-in box which is connected with the bolt *j*.

The spring *m* exercises a pressure on the indicator rod *y* so that the coupling apparatus can be pressed away from this rod as soon as the hooks on the downward directed lever arms cease to grip under the turned-in knob of the rod. The indicator cord is fastened to the eyelet *k*.

Without exceeding the limits of the present invention the constructional elements of the arrangement can be varied to produce a similar technical effect.

What I claim is:

1. An indicator coupling comprising a support, doubled arm levers pivoted to said support, said levers being provided on one of their arms with hooks to engage an indicator rod, yielding means arranged to press upon said arms of said levers to maintain the connection therewith with the indicator rod, and a movable element arranged to engage the other arms of said levers to release the connection with the indicator rod.

2. An indicator coupling, comprising a support, doubled arm levers pivoted to said support, one arm of said levers provided with means to engage an indicator rod, yielding means engaging said arms to maintain the connection thereof with said rod, and a movable element cooperating with the other arms of said levers and adapted to release the engagement with the indicator rod.

3. An indicator coupling, comprising a support, doubled arm levers pivoted to said support, one arm of said levers provided with means to engage an indicator rod, spring pressed means engaging said arms of said levers to maintain connection with the indicator rod, a movable element arranged to act upon the other arms of said levers to

release connection with the indicator rod, and means to project the indicator rod from the coupling when the lever arms are disengaged therefrom.

- 5 4. An indicator coupling comprising a support, doubled arm levers pivotally connected therewith and provided with hooked ends, spring pressure means acting upon one arm of said levers, a movable crown adapted
10 to engage the other arms of said levers and the hooks thereof, and a projector arranged to eject an indicator rod from the coupling when the engagement of the hooked ends of the lever arms is released.
- 15 5. In combination with an indicator rod provided with a knob or head having a shoulder, of a coupling comprising a support, doubled arm levers pivoted thereto and

having hooked ends to engage the shoulder of the indicator rod, spring pressure means 20 acting upon said arms of said levers, a movable crown adapted to engage the hooked ends of the other arms of said levers to release engagement with the indicator rod, and an ejector set by the indicator rod when the 25 latter is inserted between the hooked arms of the levers and adapted to project said indicator rod from the coupling when engagement of said arms therewith is released.

In witness whereof, I subscribe my signature, in presence of two witnesses. 30

LODEWYK BENEDIT VAN BOVEN

Witnesses:

W. A. MAURICE,
W. HAAS.