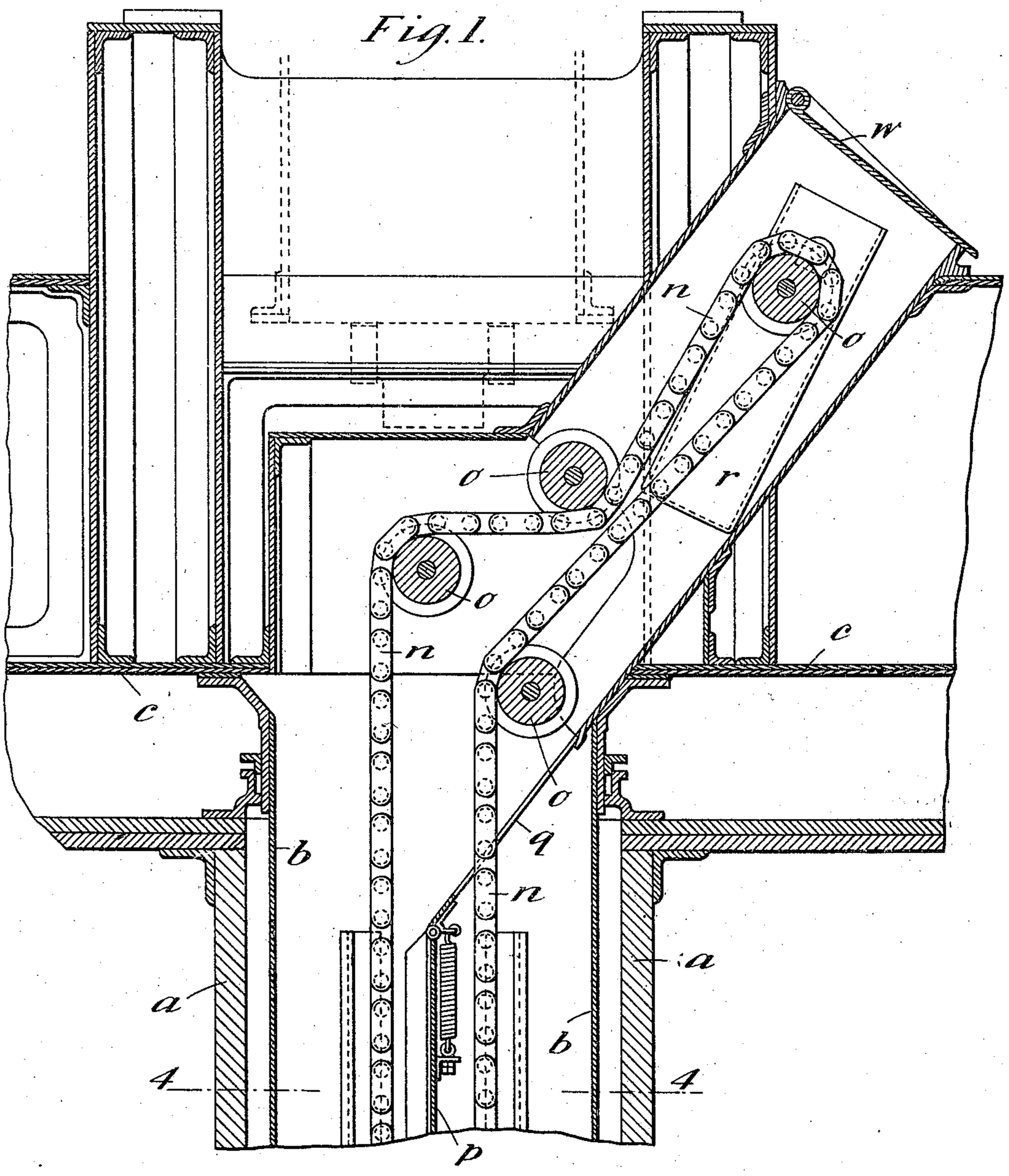
No. 654,444. Patented July 24, 1900.

A. T. DAWSON & J. HORNE.

APPARATUS FOR FOR SUPPLYING TURRET OR BARBETTE GUNS WITH EXPLOSIVE CHARGES.

(No Model.) (Application filed Apr. 2, 1900.) 2 Sheets—Sheet 1.

Fig. 1.



Witnesses
Thos. B. Keefer
Bruce A. Elliott

Inventors
Arthur T. Dawson
James Horne
by James L. Norris
Atty

No. 654,444. Patented July 24, 1900.

A. T. DAWSON & J. HORNE.

APPARATUS FOR FOR SUPPLYING TURRET OR BARBETTE GUNS WITH EXPLOSIVE CHARGES.

(No Model.) (Application filed Apr. 2, 1900.) 2 Sheets—Sheet 2.

Fig. 4.

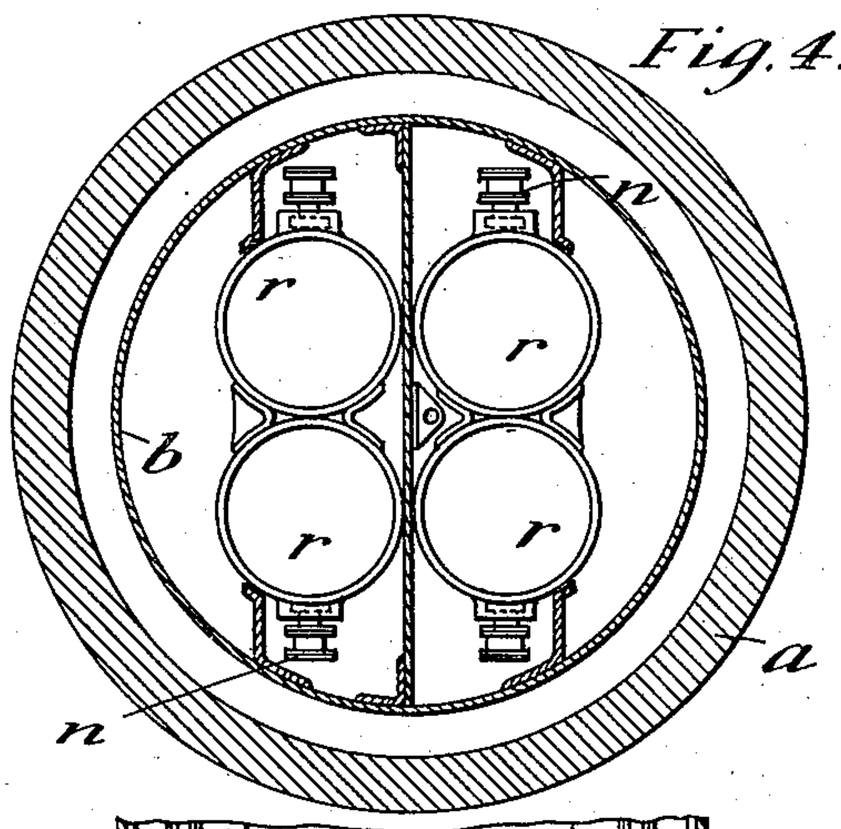


Fig. 3.

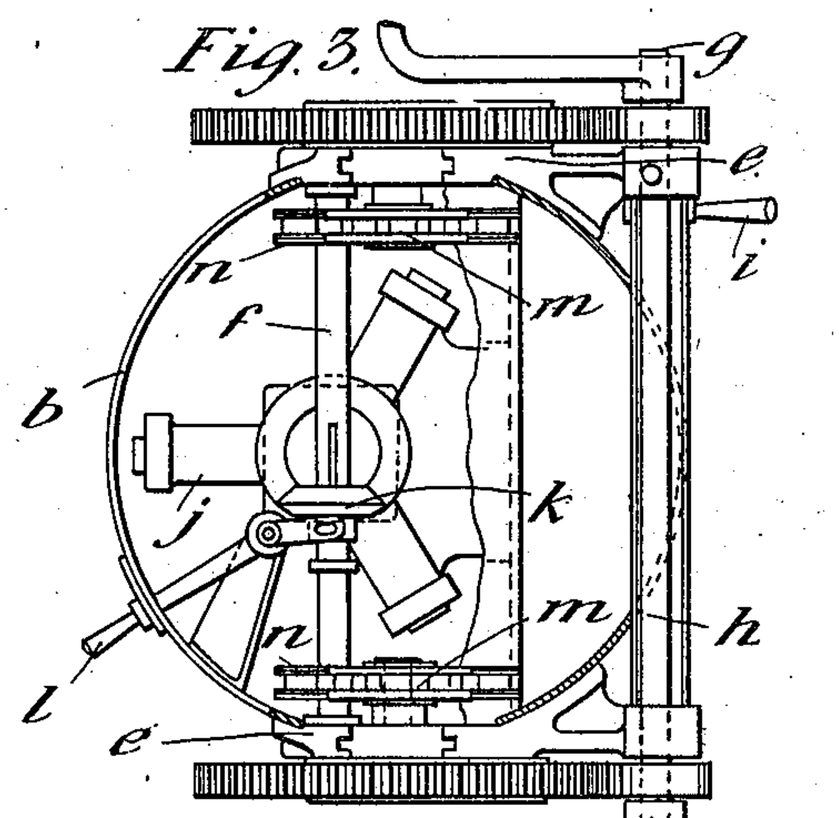


Fig. 2.

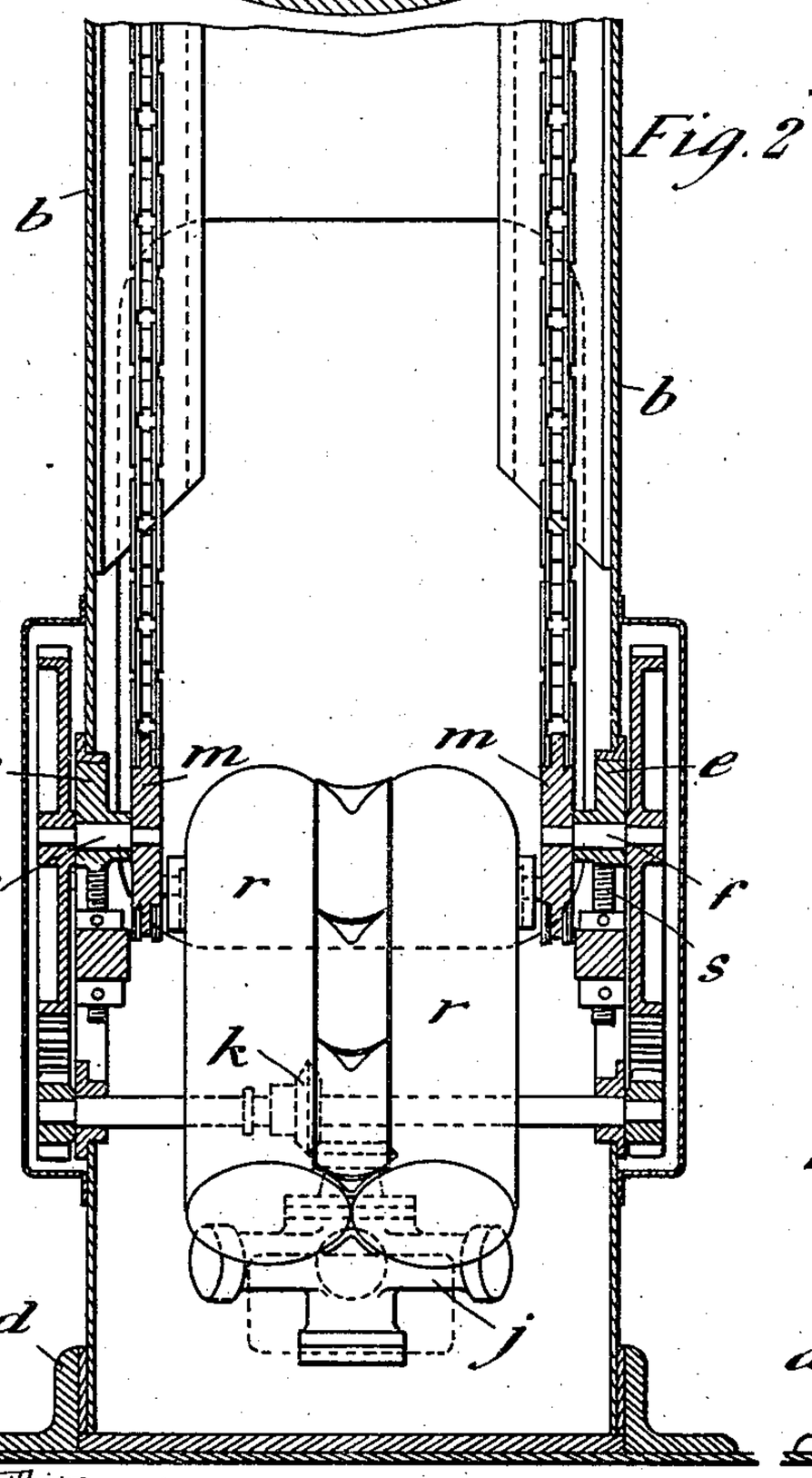
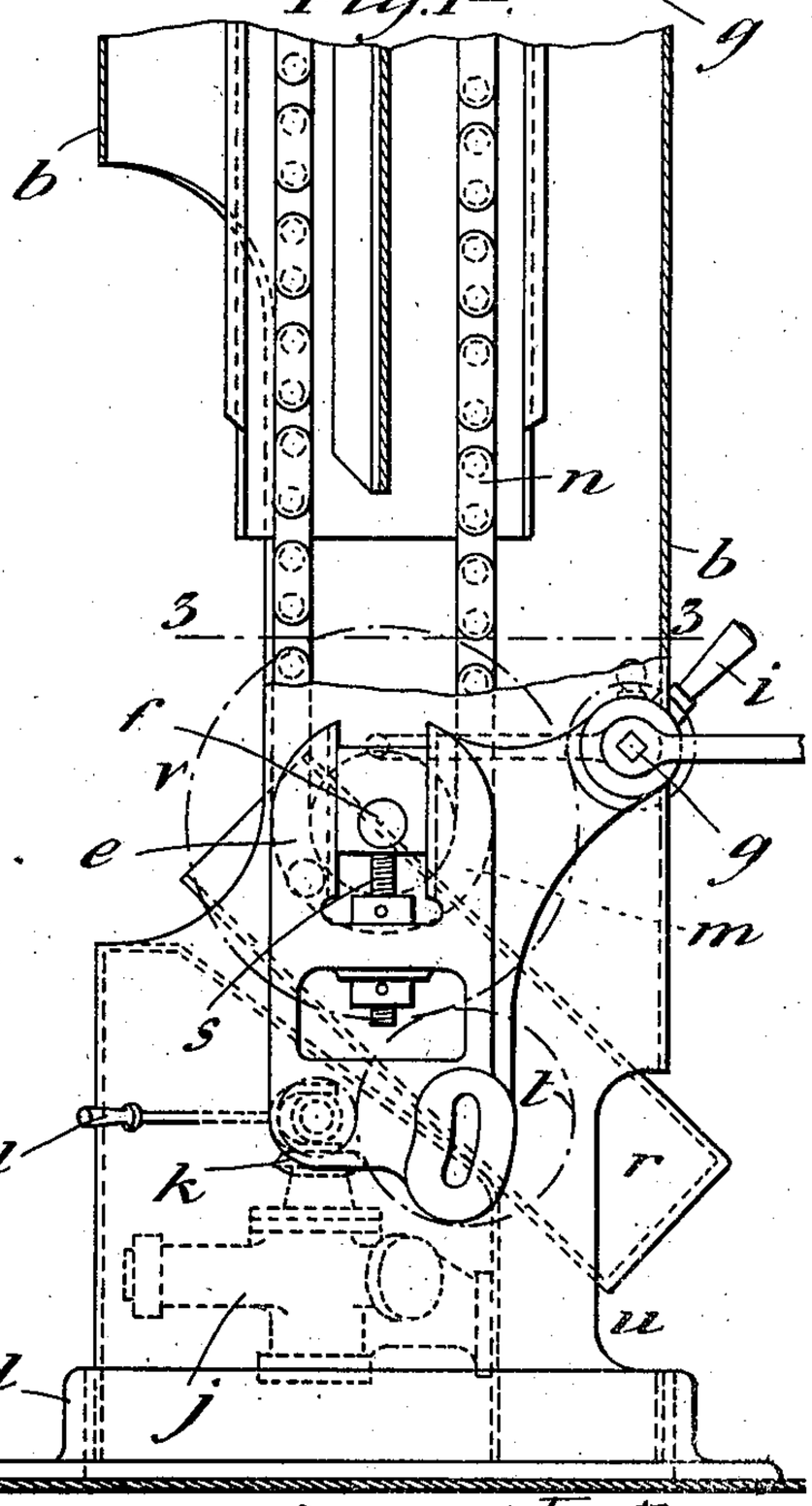


Fig. 14.



Witnesses
J. B. Taylor
Bruce D. Elliott

Inventors
Arthur T. Dawson
James Horne
by James L. Norris
Atty

UNITED STATES PATENT OFFICE.

ARTHUR TREVOR DAWSON, OF LONDON, AND JAMES HORNE, OF BARROW-IN-FURNESS, ENGLAND, ASSIGNORS TO THE VICKERS, SONS & MAXIM, LIMITED, OF SHEFFIELD, ENGLAND.

APPARATUS FOR SUPPLYING TURRET OR BARBETTE GUNS WITH EXPLOSIVE CHARGES.

SPECIFICATION forming part of Letters Patent No. 654,444, dated July 24, 1900.

Application filed April 2, 1900. Serial No. 11,194. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR TREVOR DAWSON, residing at 28 Victoria street, Westminster, London, and JAMES HORNE, residing at Barrow-in-Furness, in the county of Lancaster, England, citizens of England, have invented a certain new and useful Apparatus for Supplying Turret or Barbette Guns with Explosive Charges, (for which we have applied for a patent in Great Britain, dated May 4, 1899, No. 9,417,) of which the following is a specification.

Our invention relates to means for supplying a turret or barbette gun with explosive charges, as we shall describe, referring to the accompanying drawings.

Figures 1 and 1ª are vertical sections of the upper and lower parts of the hoist and its trunk or shaft, these sections being taken on a plane at right angles to the axis of the gun. Fig. 2 is a vertical section of the lower part of the hoist and its shaft, taken on a plane parallel to the axis of the gun. Figs. 3 and 4 are sectional plans on the lines 3 3 and 4 4 of Figs. 1ª and 1, respectively.

Within a stationary tubular shield *a*, which extends some distance down in the vessel, we provide a trunk or shaft *b*, which is attached to and suspended from the turn-table *c*, on which the gun is mounted so as to revolve with it. This trunk *b* extends down to the magazine, its lower end being guided in a ring *d*, fixed on the floor of the magazine. On the lower part of the trunk is fixed the framing *e* of a winch, in which are bearings for a horizontal shaft *f*, worked by reducing-gear from a spindle *g*, carrying at each end a winch-handle. This spindle *g* is mounted eccentrically within a sleeve *h*, which has its bearings in the winch-frame and can be turned by a handle *i*, so as to throw the pinions on the spindle *g* out of or into gear with the wheels on the shaft *f*.

In the lower part of the trunk *b* is fixed a motor-engine, which may be a three-cylinder hydraulic engine *j*, as shown, or may be an electric or other suitable motor, the shaft of which is connected through bevel and reducing gear to the shaft *f*, the bevel-pinion *k* being fitted to slide on a counter-shaft and provided with a handle *l*, so that it can be slid into or out of gear with the bevel-wheel on the shaft of the motor. Thus the shaft *f* can be worked either by the motor or by the winch-handles. On the shaft *f* are fixed a pair of sprocket-wheels *m*, working a pair of chains *n*, which pass up the trunk *b* and over guide-pulleys *o*, mounted in the upper part of the trunk, in which there is a partition *p* and an inclined flap *q*, closed by a spring. In two of the links of each chain are bearings for trunnions projecting from near the mouths of two pairs of cylindrical vessels *r*, those of each pair being fixed together. The chains *n* are tightened when necessary by drawing the shaft *f* down by a screw *s* and lowering the axle of an intermediate wheel *t* in a slotted bearing provided in the winch-frame. Through the side of the lower part of the trunk there is an opening *u*, through which the bottoms of the vessels *r* project when they are in their lowest position, and on the opposite side of the trunk there is a larger opening *v*, giving access to the mouths of the vessels *r*. The upper part of the trunk *b* is sloped in line with the flap *q* to a mouth, which is closed by a hinged cover *w*.

The apparatus operates as follows: When one pair of the vessels *r* are in their lowest position, as shown in Fig. 1ª, while the other pair are in their highest position, as shown in Fig. 1, then men in the magazine charge the vessels each with half an explosive charge, while men in the turret at one side of the gun opening the flap *w* can take from the vessels *r* the half charges which they have brought up. This being done, the shaft *f* and sprocket-wheels are caused to revolve either by the hand-gear or by the motor, and then the chains traveling up one side of the trunk *b* and down the other, as indicated by the arrows, raise the charged vessels *r* up through the flap *q* to the top of the trunk, the flap closing after they pass, and lower the empty vessels to be charged again.

Obviously instead of having only two pairs of vessels *r* pivoted on the chains there may be several intermediate pairs successively

charged, raised, emptied, and lowered to be charged again.

Having thus described the nature of this invention and the best means we know of carrying the same into practical effect, we claim—

In apparatus for supplying a barbette or turret gun with explosive charges, the combination with the turn-table on which the gun is mounted, of a hoist-trunk secured to said turn-table, extending down to the floor of the magazine and having an inclined extension at its upper end, a longitudinal partition in said trunk adjacent to said extension, the said partition providing in said trunk two passages, a normally-closed spring-actuated flap pivoted to said partition and extending over to and in line with the bottom wall of said extension for cutting off communication in one direction between said extension and one of said passages, rotary shafts mounted in the lower part of said trunk and means for operating the same, a pair of sprocket-wheels mounted on said shafts on opposite sides of said trunk, a pair of chains meshing with said sprocket-wheels, pulleys in the upper part of said trunk and in said extension around which said chains pass, and vessels for holding the explosive charges pivoted to said chains.

In testimony whereof we have hereunto set our hands in presence of the subscribing witnesses.

ARTHUR TREVOR DAWSON.
JAMES HORNE.

Witnesses to the signature of the above-named Arthur Trevor Dawson:
GEO. H. BRIDGES,
HENRY KING.

Witnesses to the signature of the above-named James Horne:
W. H. ATKINSON,
HAROLD JAMES.