

No. 654,443.

Patented July 24, 1900.

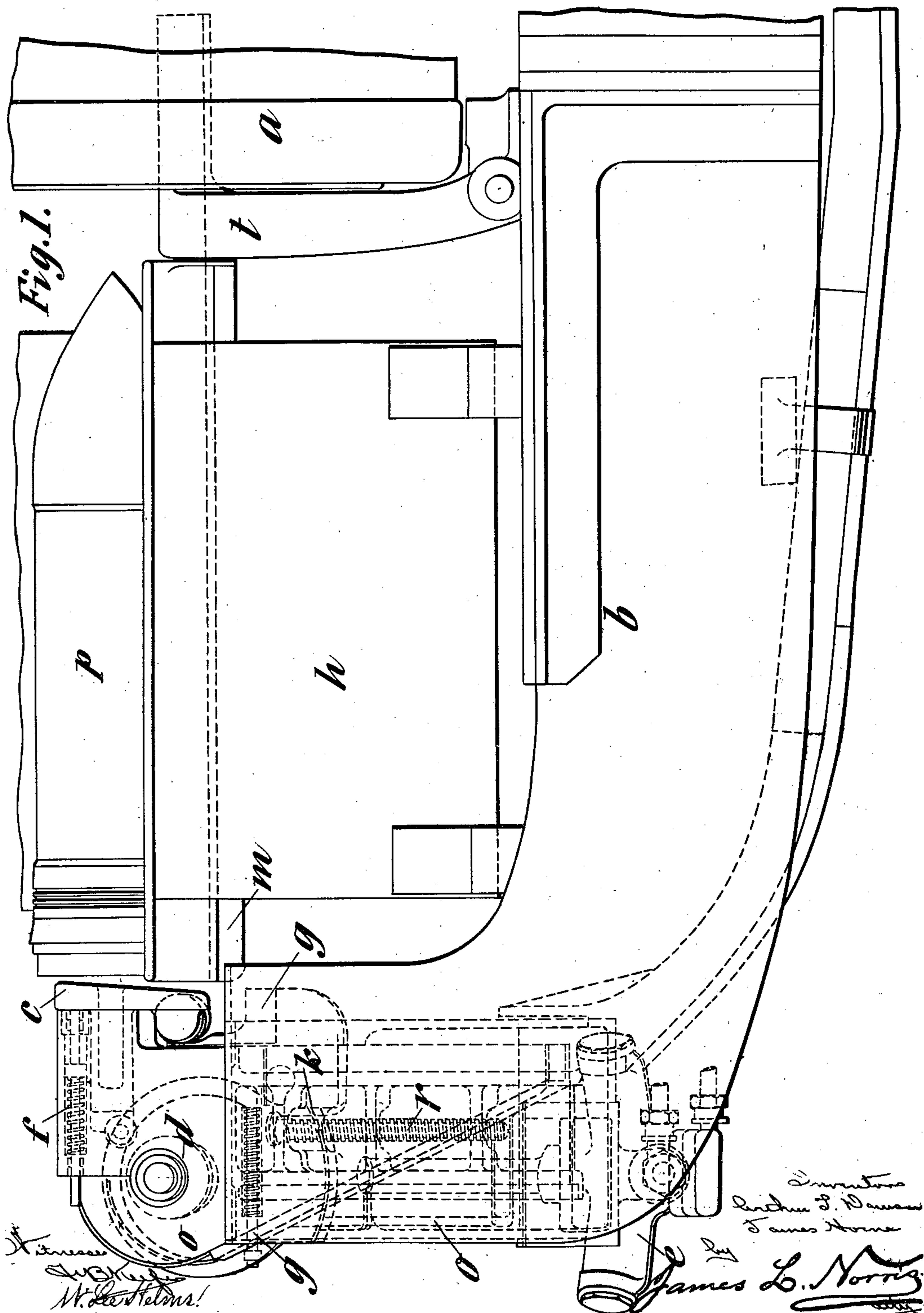
A. T. DAWSON & J. HORNE.

APPARATUS FOR RAMMING CHARGES OF TURRET OR BARBETTE GUNS.

(Application filed Mar. 26, 1900.)

(No Model.)

5 Sheets—Sheet 1.



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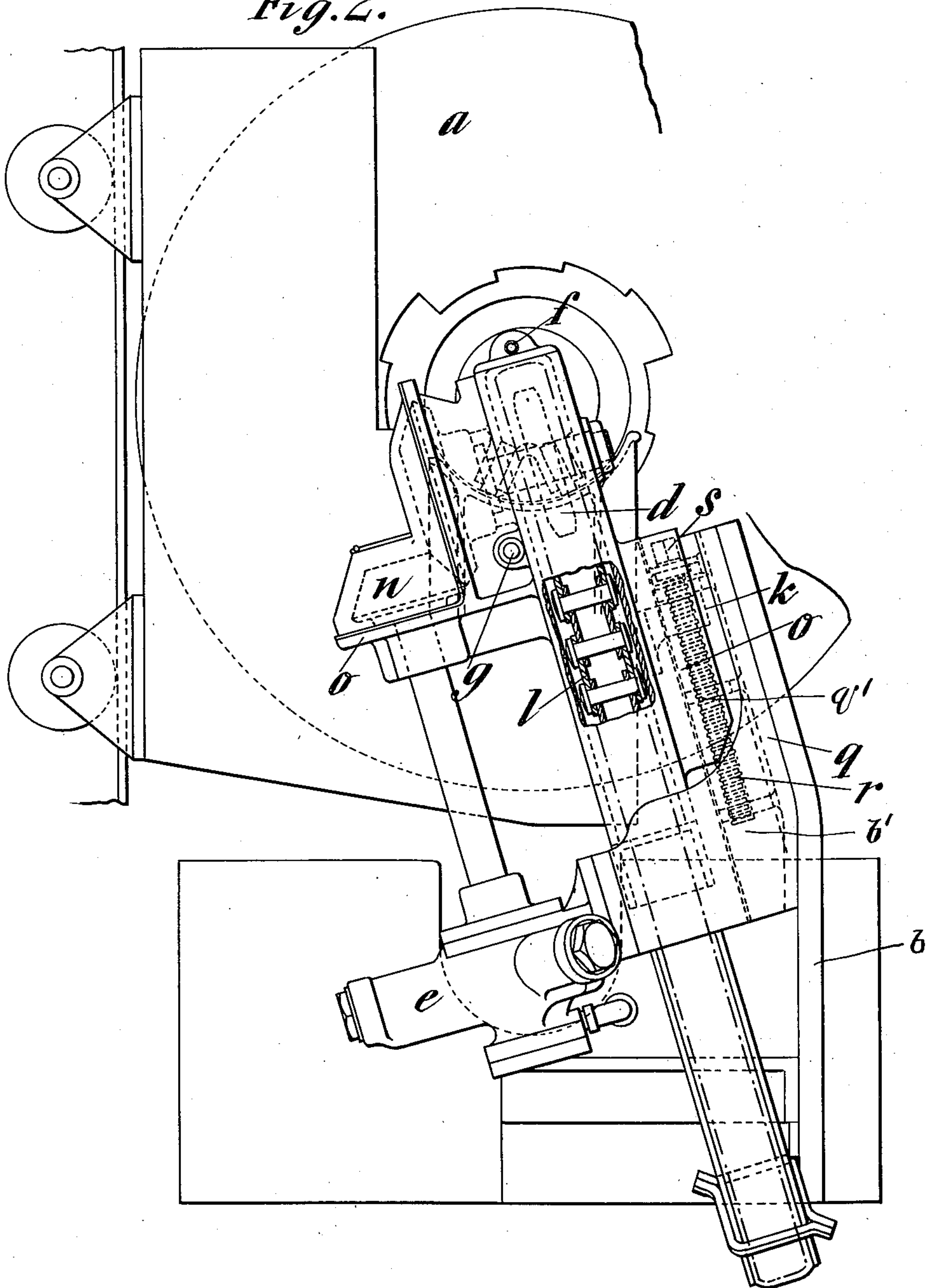
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5 Sheets—Sheet 2.

*Fig. 2.*



Witnesses  
J. B. K. K. K.  
W. B. K. K.

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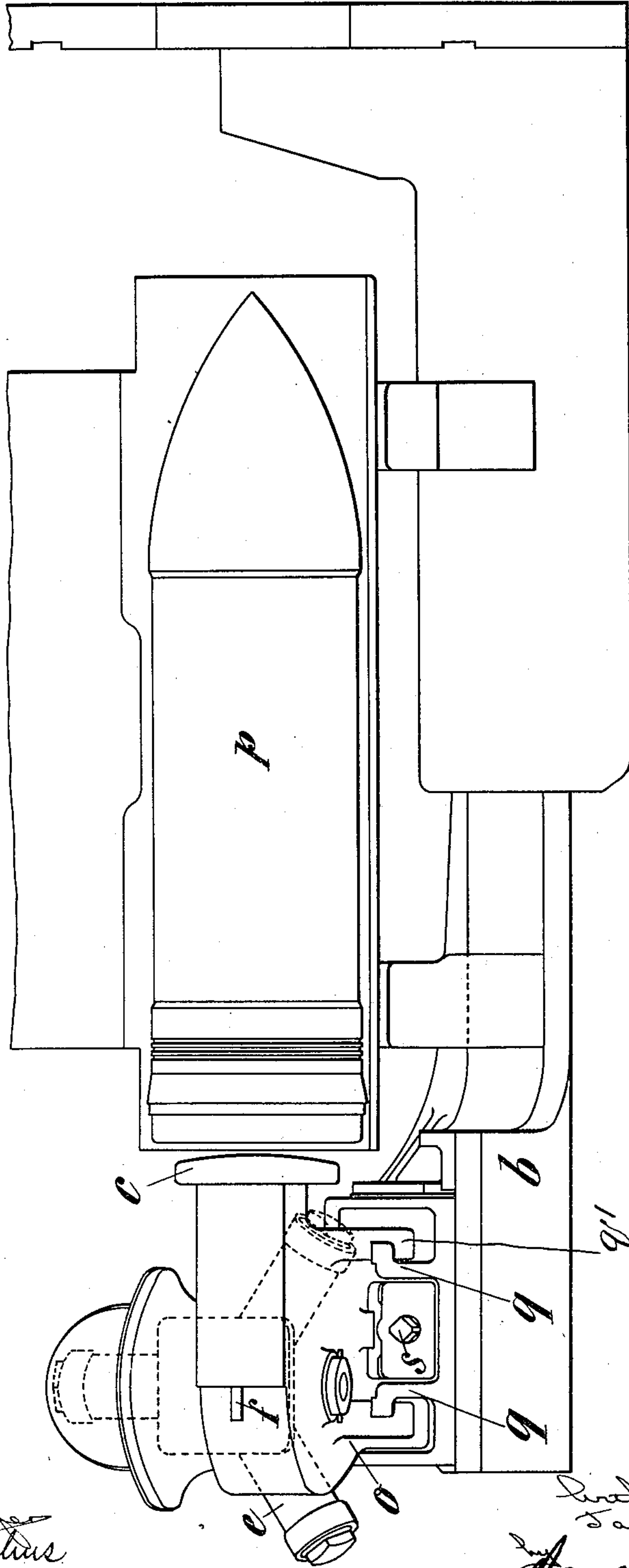
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5 Sheets—Sheet 3.

Fig. 3.



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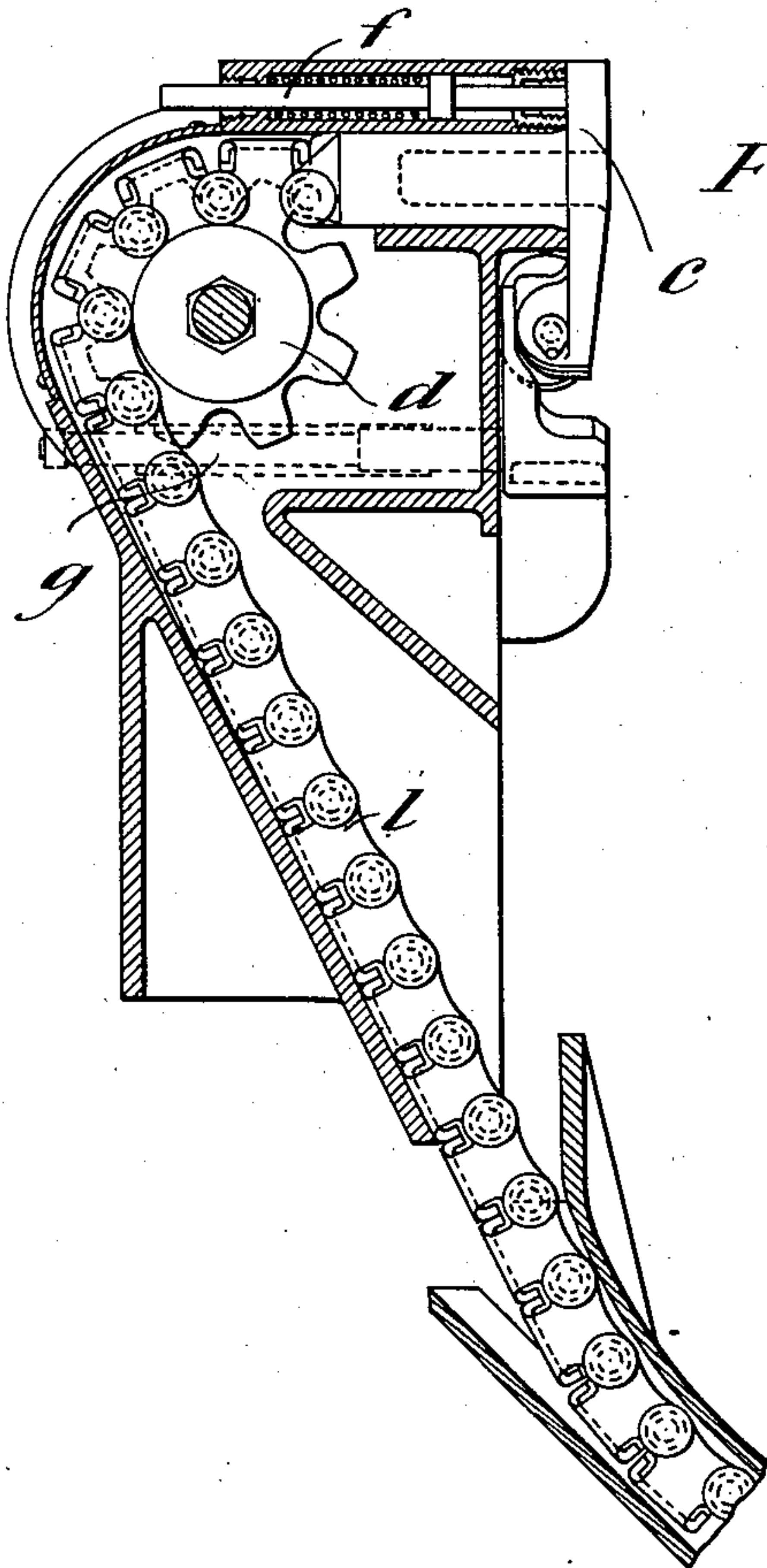


Fig. 4.

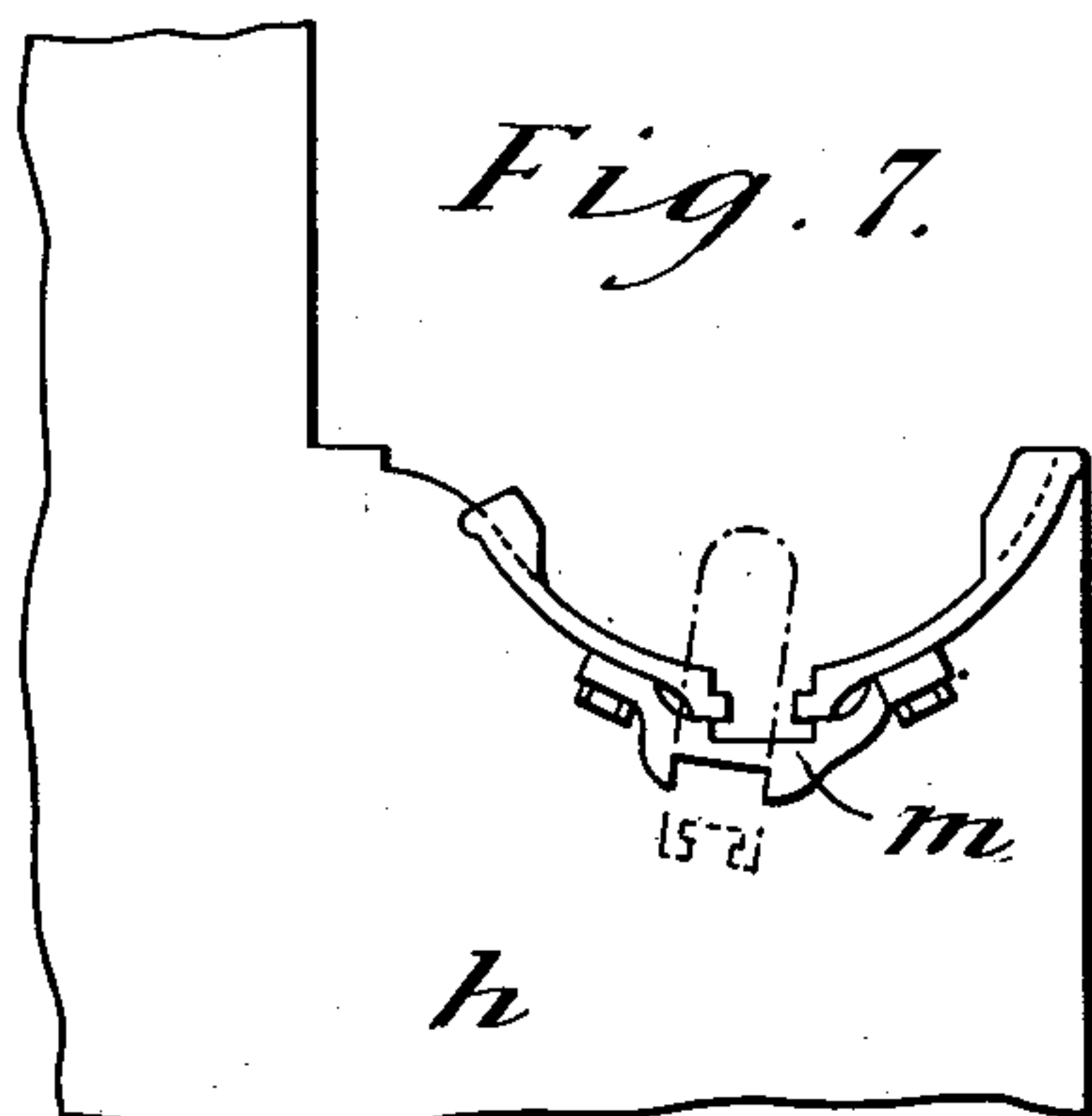


Fig. 7.

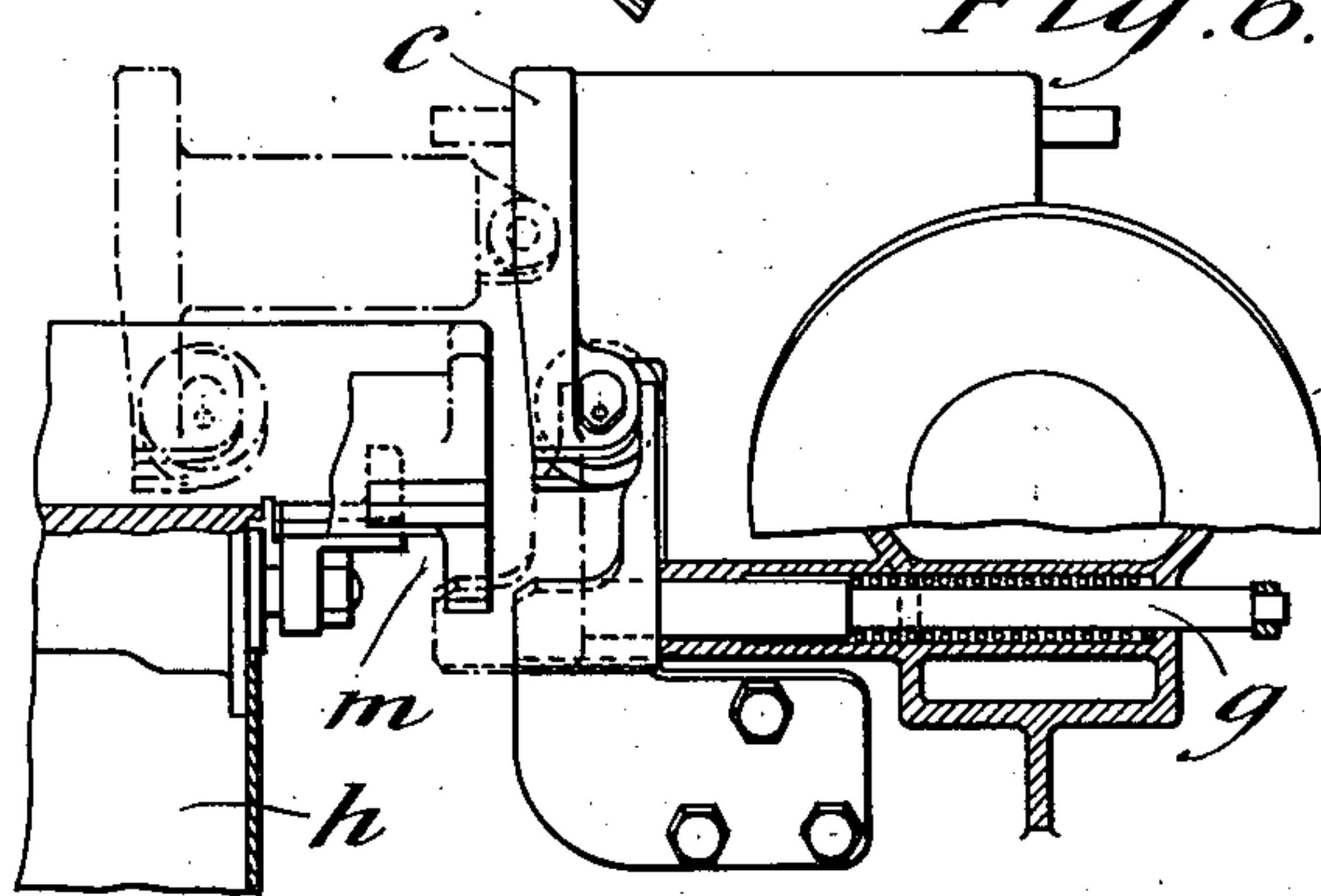


Fig. 6.

Witnesses:

*Wm. S. Wood*  
*and*  
*and*

Inventors  
*Arthur T. Dawson*  
*James Horne*

By *James L. Norris*  
Atty.



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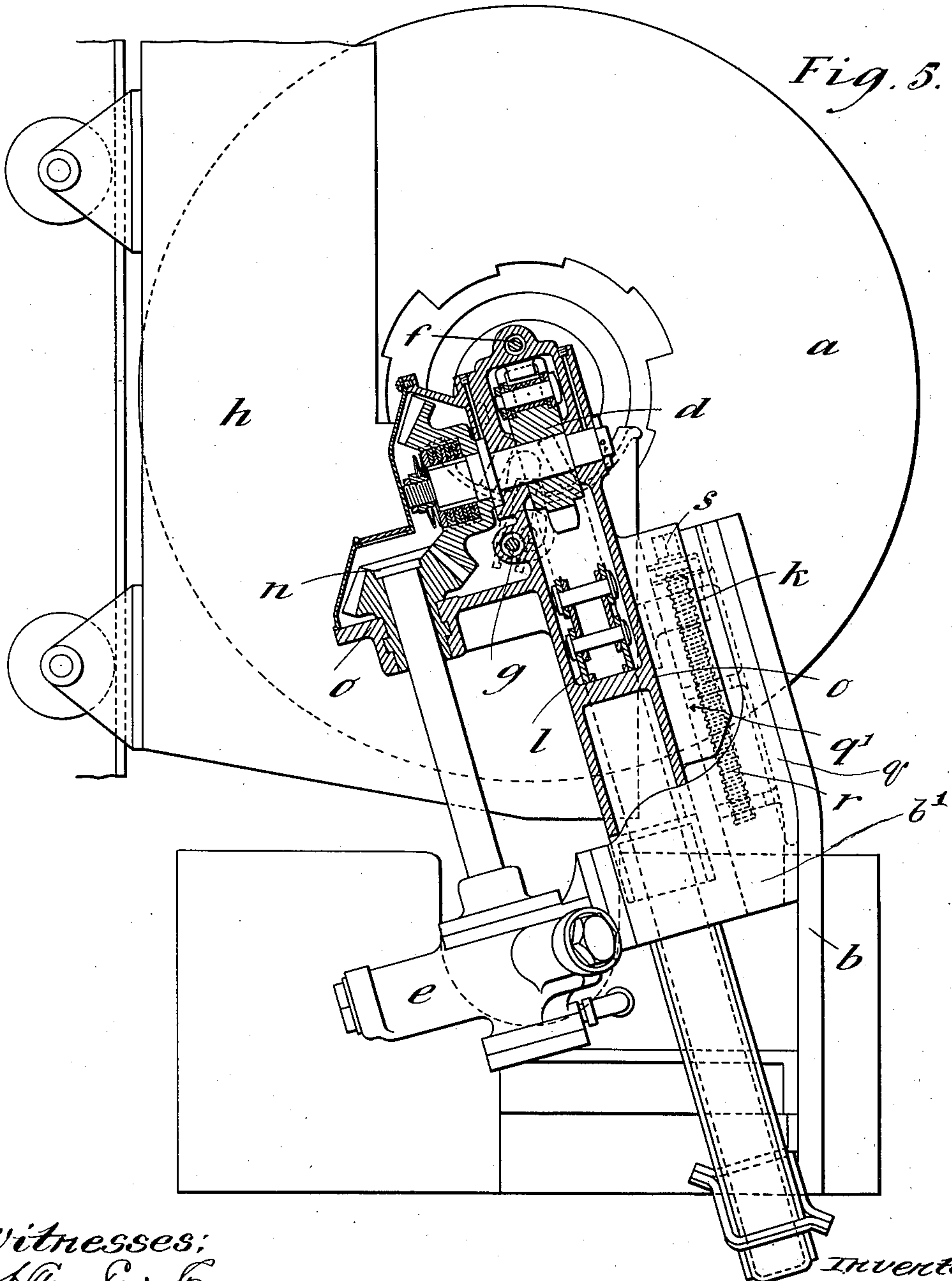
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(Application filed Mar. 26, 1900.)

(No Model.)

5 Sheets—Sheet 5.



Witnesses:  
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# 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 RAMMING CHARGES OF TURRET OR BARBETTE GUNS.

SPECIFICATION forming part of Letters Patent No. 654,443, dated July 24, 1900.

Application filed March 26, 1900. Serial No. 10,251. (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 Ramming the Charges of Heavy Turret or Barbette Guns, (for which we have applied for a patent in Great Britain, dated May 4, 1899, No. 9,415,) of which the following is a specification.

Our invention relates to apparatus for ramming the charges of large-caliber guns in barbettes or turrets, as we shall describe, referring to the accompanying drawings.

Figure 1 is a side view, Fig. 2 an end view, and Fig. 3 a plan, of ramming apparatus according to our invention and of the loading-cage with which it operates. Fig. 4 is a section of the casing of the rammer, showing the sprocket wheel and chain in elevation. Fig. 5 is a rear elevation having its upper part in section. Fig. 6 is a part elevation, partly sectional, of the side of the casing which is on the left in looking toward the gun. Fig. 7 is a rear elevation of part of the cage carrying the projectile.

$a$  is part of the gun-breech, having a loading-tray  $t$  introduced to guide the projectile  $p$  and the explosive charge clear of the screw-threads for the breech-plug.

On the loading-arm or rearward extension  $b$  of the gun-slide we mount a rammer apparatus comprising a rammer-head  $c$ , having attached to its stem a chain  $l$ , passing over a sprocket-wheel  $d$ , which is worked by a hydraulic motor  $e$ . To provide for rapid retraction of the rammer without shock, a hydraulic spring-buffer  $f$  receives the blow of the rammer-head  $c$  on its return. A spring-bolt  $g$ , which is held back by the rammer-head when retracted, on the rammer beginning to advance engages under a flange  $m$  of the cage  $h$ , which has brought up the projectile  $p$ , and prevents the cage from being lowered until the rammer is quite withdrawn, its head  $c$  retracting the bolt  $g$ .

The motor  $e$  for working the sprocket-wheel  $d$  is mounted on the arm  $b$  and connected, preferably,

through bevel-gear  $n$  to the sprocket-wheel  $d$ , as shown.

The gearing and connections are so arranged that should the motor or other part of the gear fail a clear space in line with the bore of the gun can be obtained to provide for loading the gun by hand. This is effected by fitting the rearward extension  $b$  with bracket  $b'$ , which carries the engine  $e$ , and providing guides  $q$  on said rearward extension and  $q'$  on the frame  $o$  and a screw  $r$ , working in ears on the guides  $q$ , with which screw a bracket-nut  $k$ , projecting from the frame  $o$ , engages. By manipulating the screw  $r$ , which can be turned by a key applied to its head  $s$ , the frame  $o$ , sprocket-wheel  $d$ , the rammer, and adjacent parts can be moved up and down in the guides  $q$ .

Although we have described the rammer as being worked by a hydraulic engine, obviously any other suitable motor might be employed.

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

Apparatus for ramming the charges of heavy turret or barbette guns, comprising a frame carrying a rammer-head having its stem connected to a chain, a sprocket-wheel engaging the chain and connected by bevel-gear to a hydraulic engine, a hydraulic spring-buffer for the rammer-head and a spring-bolt engaging the projectile-cage, said frame being adapted to be slid up and down by a screw worked by hand, substantially as and for the purpose set forth.

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:

HENRY KING,  
GEO. H. BRIDGES.

Witnesses to the signature of the above-named James Horne:

W. H. ATKINSON,  
HAROLD JAMES.