

(No Model.)

G. P. BOSWORTH.  
STOP MOTION FOR SPOOLERS.

No. 493,206.

Patented Mar. 7, 1893.

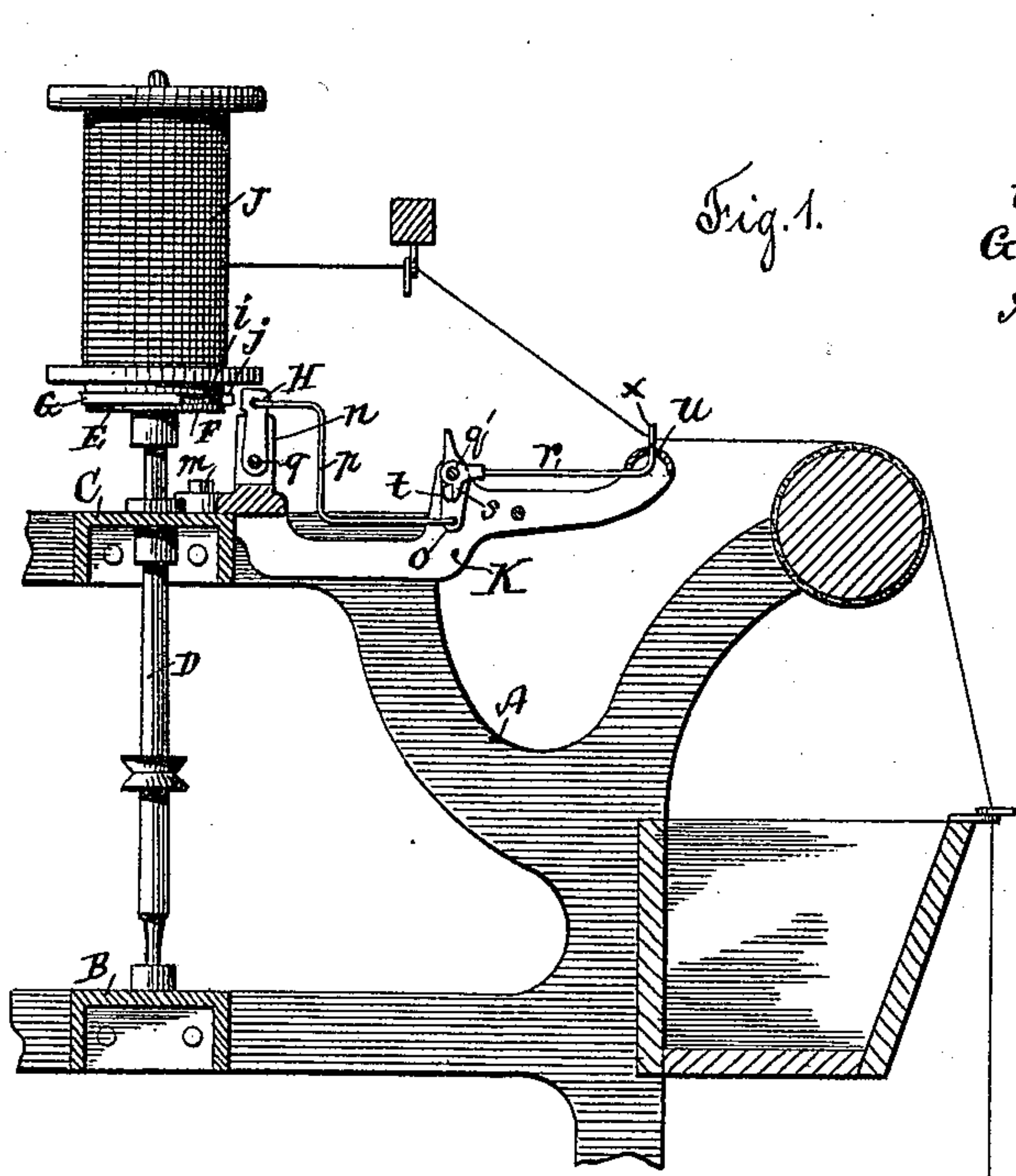


Fig. 1.

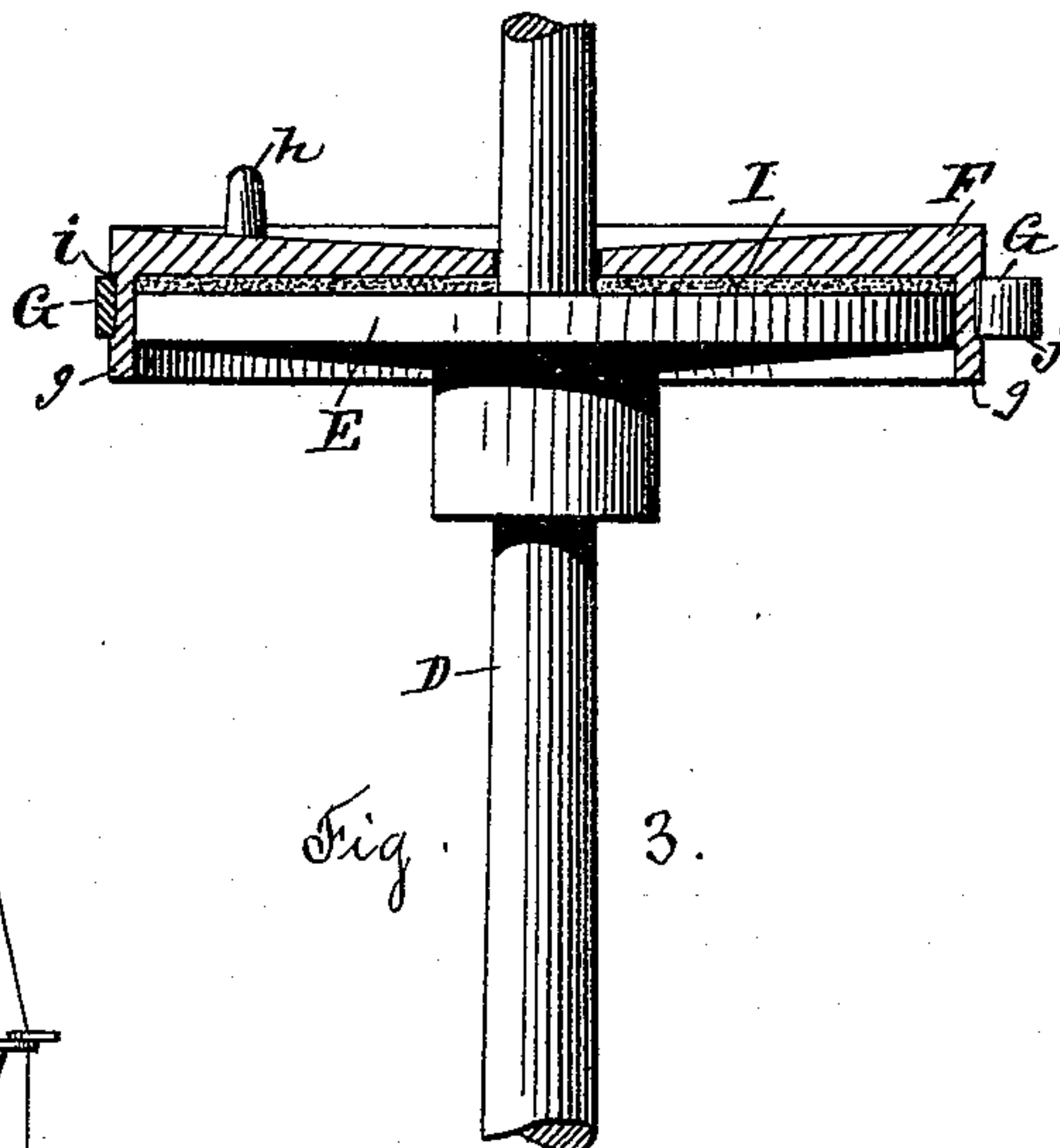


Fig. 3.

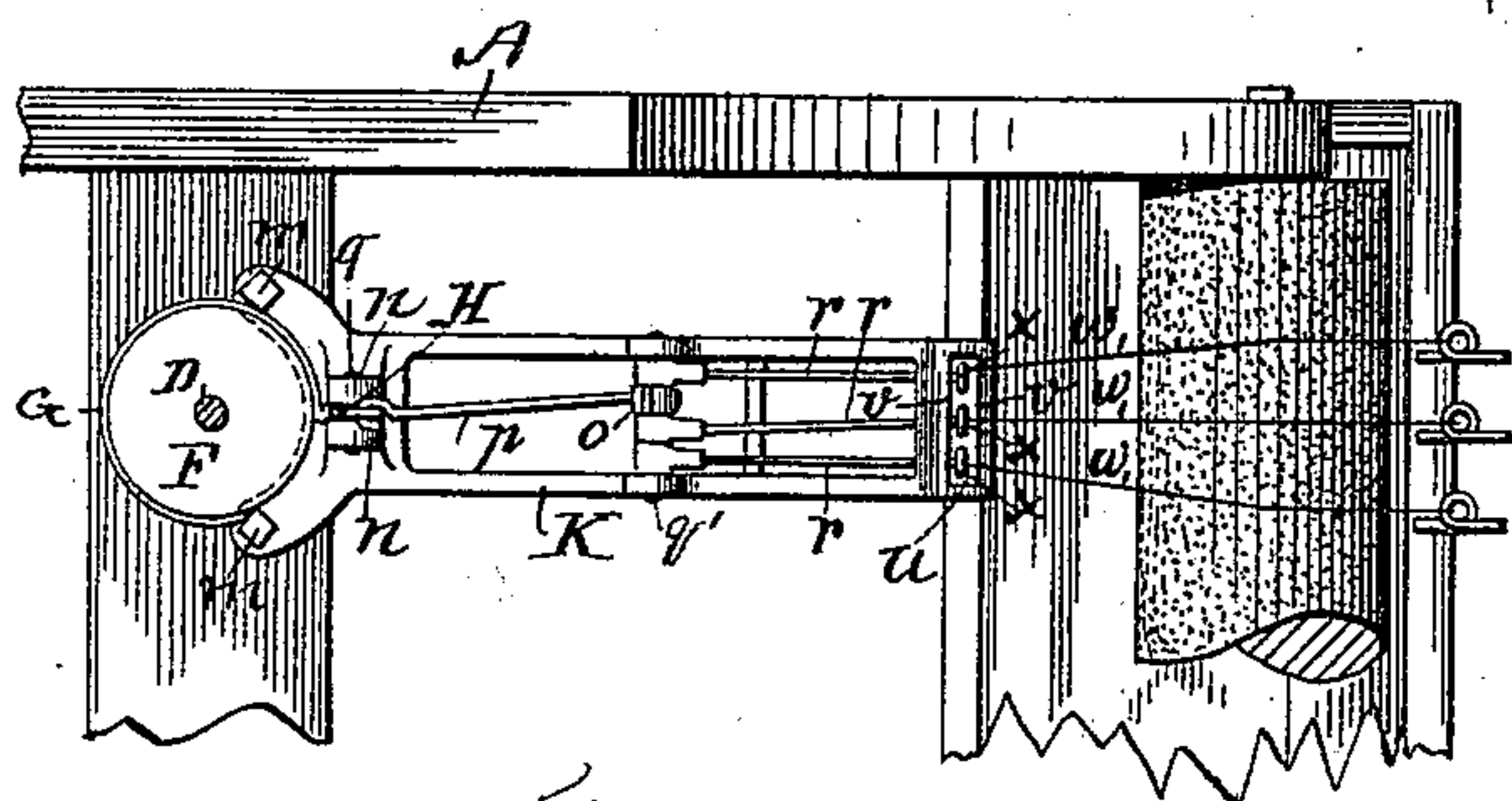


Fig. 2.

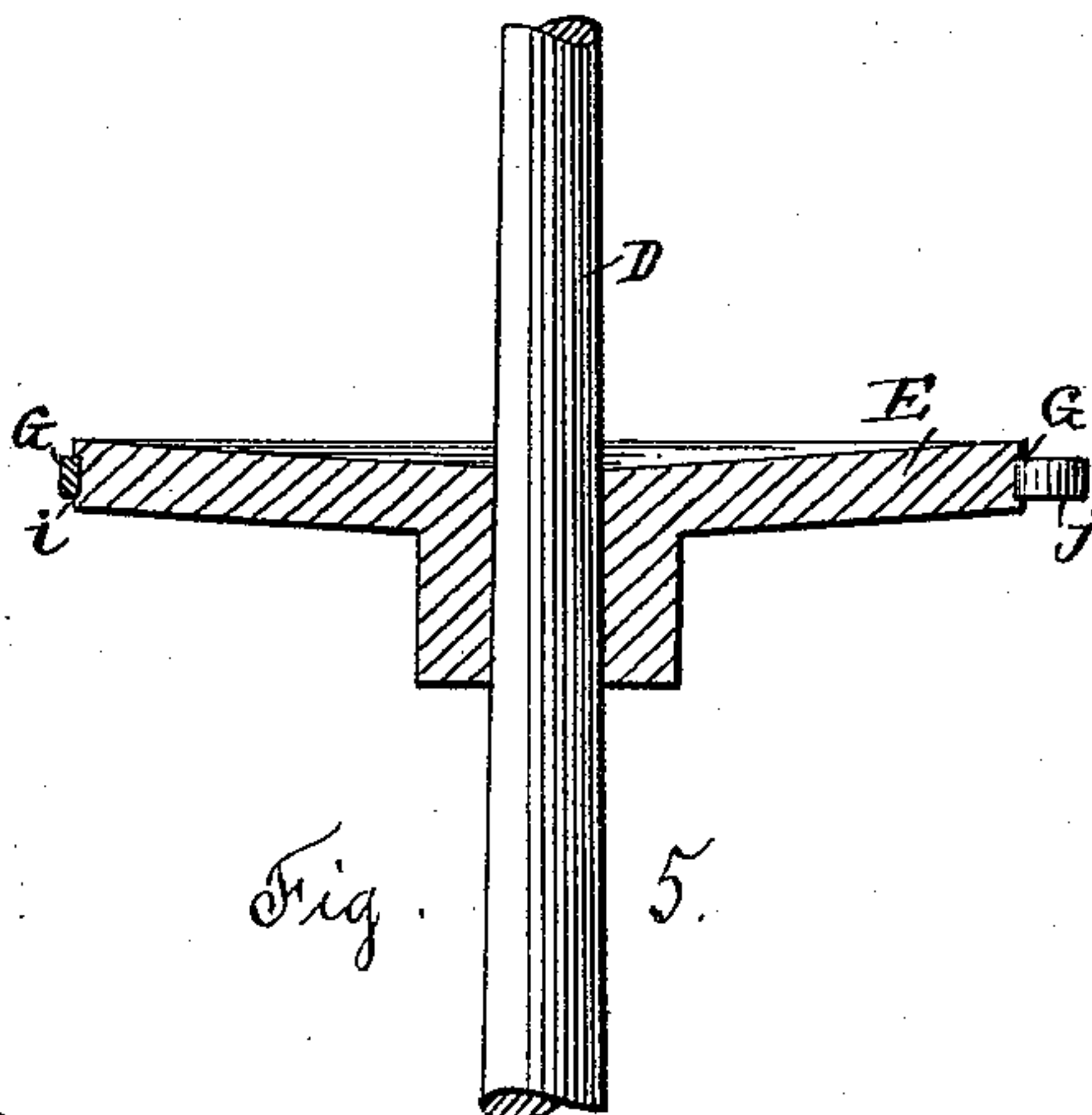


Fig. 5.

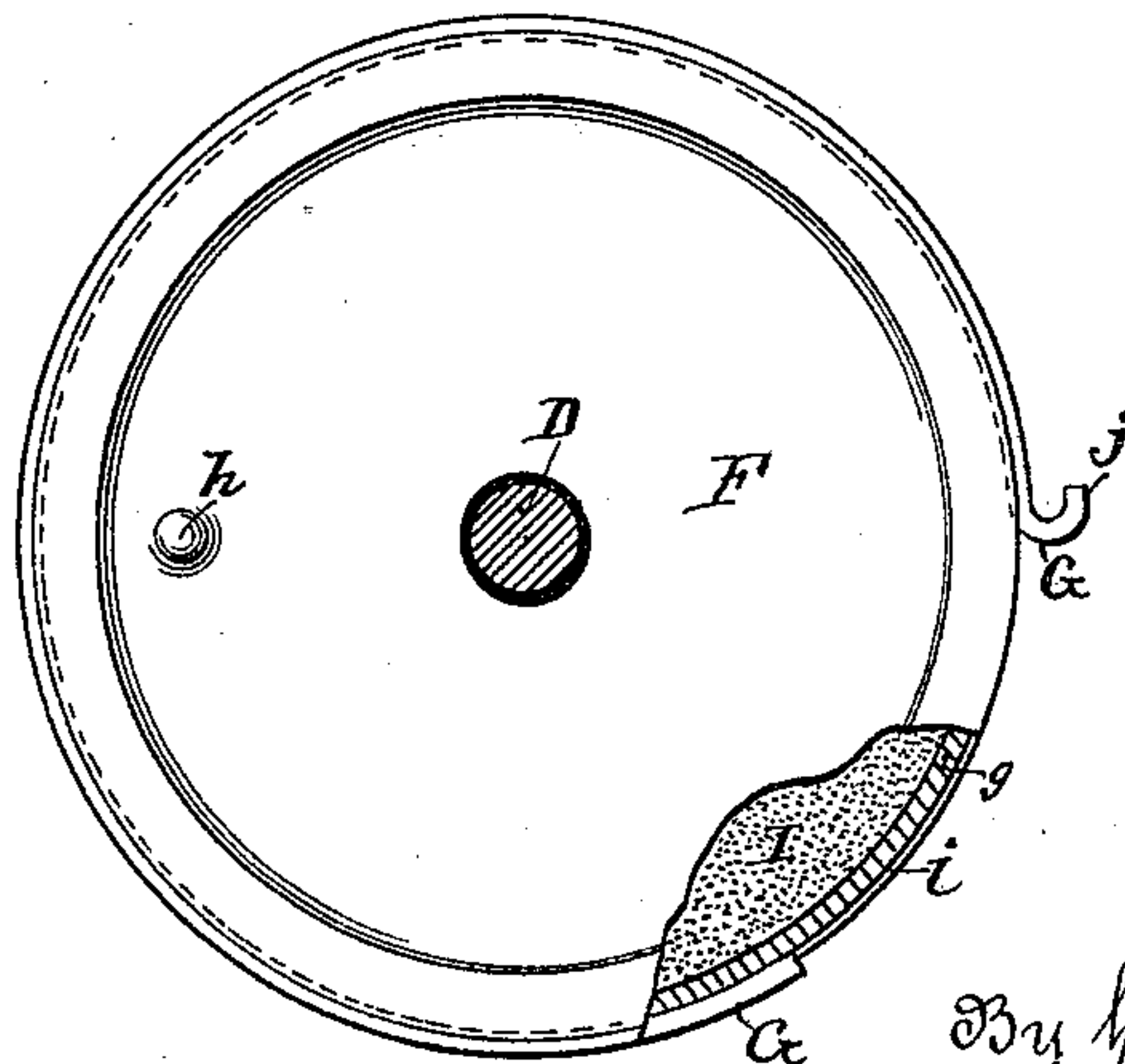


Fig. 4.

Witnesses

Frederick B. Abbott.

John D. Lynch

Inventor

George P. Bosworth

By his Attorney

S. Scholfield



# UNITED STATES PATENT OFFICE.

GEORGE P. BOSWORTH, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR TO  
EASTON & BURNHAM, OF SAME PLACE.

## STOP-MOTION FOR SPOOLERS.

SPECIFICATION forming part of Letters Patent No. 493,206, dated March 7, 1893.

Application filed October 10, 1891. Serial No. 408,385. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE P. BOSWORTH, a citizen of the United States, residing at Pawtucket, in the State of Rhode Island, have invented a new and useful Improvement in Stop-Motions for Spoolers, of which the following is a specification.

My invention consists in the employment of a friction spring to check the momentum of the spool, and in the improved construction of the stop motion mechanism, as hereinafter fully set forth.

Figure 1, represents a partial vertical section of a spooling machine provided with my improvement. Fig. 2, represents a detail top view of the same. Fig. 3, represents a vertical section of the spool supporting friction plate provided with my improvement. Fig. 4, represents a top view of the same. Fig. 5, represents a vertical section of the ordinary spool supporting plate, provided with my improvement.

In the accompanying drawings, A represents the frame of the spooling machine, B the step rail, and C the bolster rail, which supports the spindle D, the said spindle being provided with the attached spool supporting plate E, and over the said spindle D and plate E, is placed the loose friction plate F, provided with the downwardly extending flange g, and with the pin h which is adapted to enter a corresponding hole in the bottom of the spool so as to impart motion thereto, and the periphery of the plate F is provided with the groove i, which is adapted to receive the circularly bent friction spring G, provided with an outwardly bent end j, the said end j being adapted for engagement with the latch H of the stop mechanism, the friction spring G, serving to break the blow of engagement, by the resulting slight frictional movement of the spring G, in the groove i. Between the plates E and F, is placed the friction packing disk I, by means of which the rotary motion of the plate E will be transmitted to the plate F and spool J, until the motion of the plate F is stopped by the engagement of the projecting end j of the spring G, with the latch H, leaving the spindle D to revolve as before.

The application of the spring G direct to

the plate E, is shown in Fig. 5, in which the plate E is provided with the groove i, in which the spring G is placed; the frictional resistance of the said spring when engaged with the latch H, being made sufficient to cause the slipping of the band which drives the spindle, the friction between the said spring and the plate serving to break the blow caused by the sudden engagement with the latch.

To the bolster rail C is attached the frame K, by means of the screws m, the said frame being provided with the upright ears n, n, between which is pivoted at g the engaging latch H, and the outer end of the latch H is operatively connected to the pendent lever o, by means of the offset connecting rod p. The lever o is pivoted at its upper end to the pin q' and is operated to force the latch H forward into the path of the end j of the friction spring G, by means of the drop wires r, r, r, the heel s of which engages with the cross bar t of the lever o, so that upon the dropping of any one of the drop wires r, the latch H will be carried forward to engagement with the end j of the friction spring G.

The frame K is provided at its outer end with the slot u, adapted to receive the ends of the drop wires r, the sides v, v, of the said slot, serving to support the threads w which pass through the eyes of the drop wires, so that while the said threads are continuous and unbroken the said drop wires will be prevented from operative engagement with the cross bar t of the lever o; but upon the breaking of any one of the threads w, the eye x will be released from the tension necessary to hold the drop wire in its normal position of disengagement, and the falling of the drop wire will cause the required movement of the lever o, to carry the latch H into the path of the end j of the friction spring G to stop the spool.

I claim as my invention—

1. The combination with the spindle and the grooved spool supporting plate of the friction spring partly surrounding the supporting plate in its groove, the engaging latch and means for actuating the latch when the thread breaks, substantially as described.

2. The combination with the spindle, the grooved spool supporting plate, and the fric-

tion spring partly surrounding the support-  
ing plate in its groove, of the attached frame  
provided with the slot adapted to receive the  
hook eyes of the drop wires, the engaging  
5 latch, the latch operating lever, and the drop  
wires adapted for engagement with the latch  
operating lever, and provided with hook-eyes

adapted to pass through the said slot of the  
frame, substantially as described.

GEORGE P. BOSWORTH.

Witnesses:

S. SCHOLFIELD,

J. J. SCHOLFIELD.