

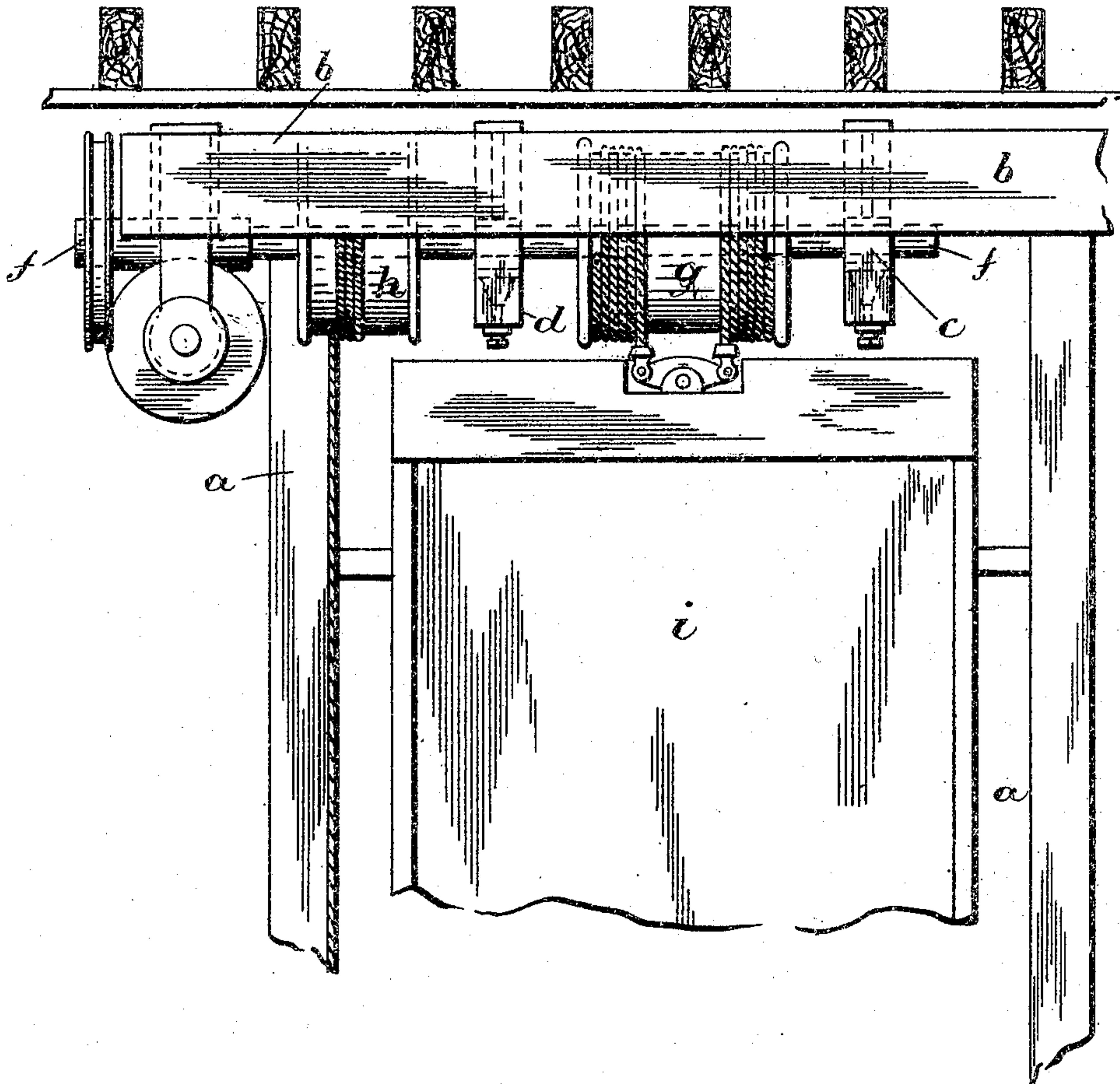
No. 794,264.

PATENTED JULY 11, 1905.

M. TURNBULL.  
WINDING MACHINE FOR ELEVATORS.  
APPLICATION FILED APR. 15, 1902.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

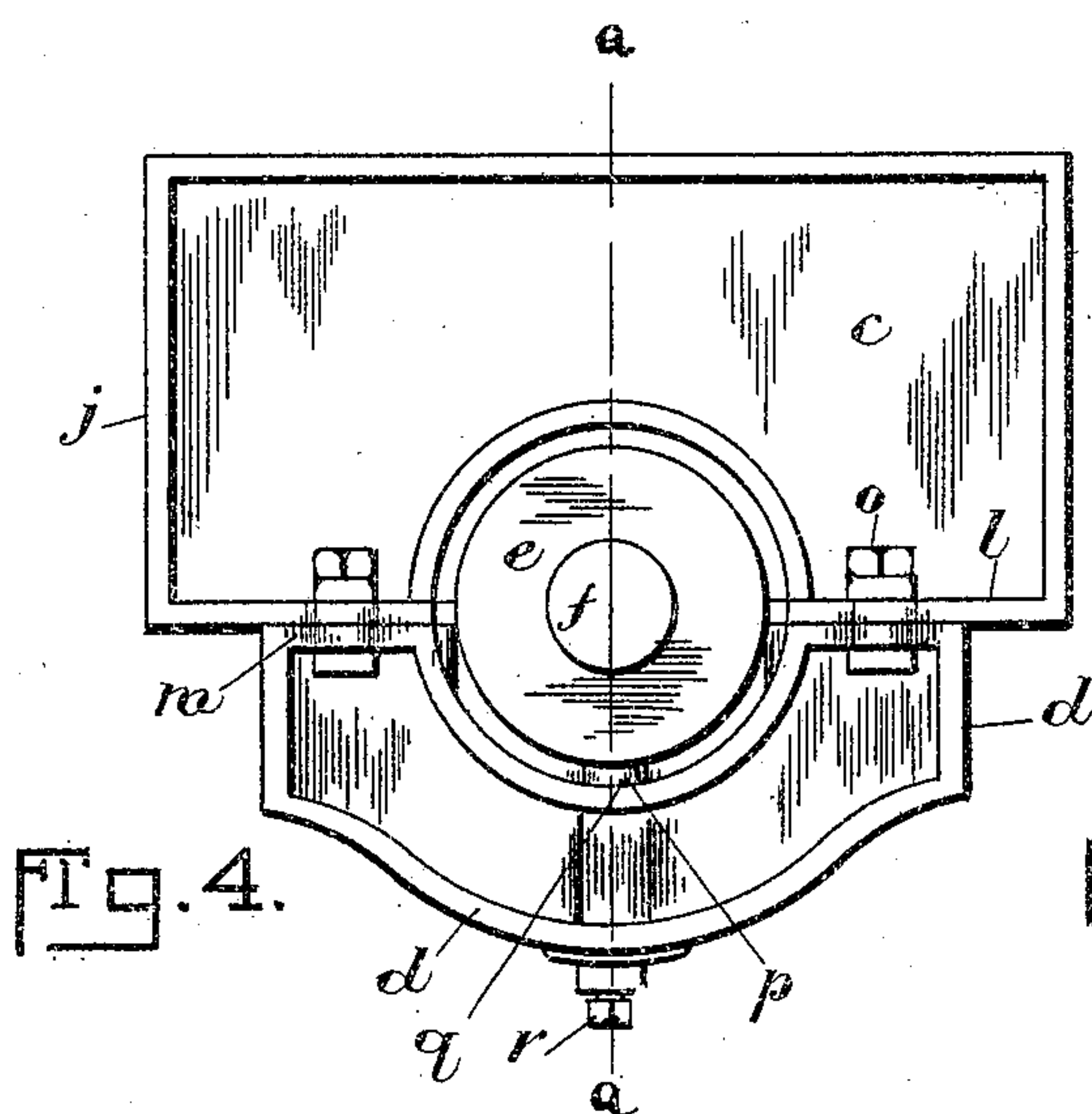
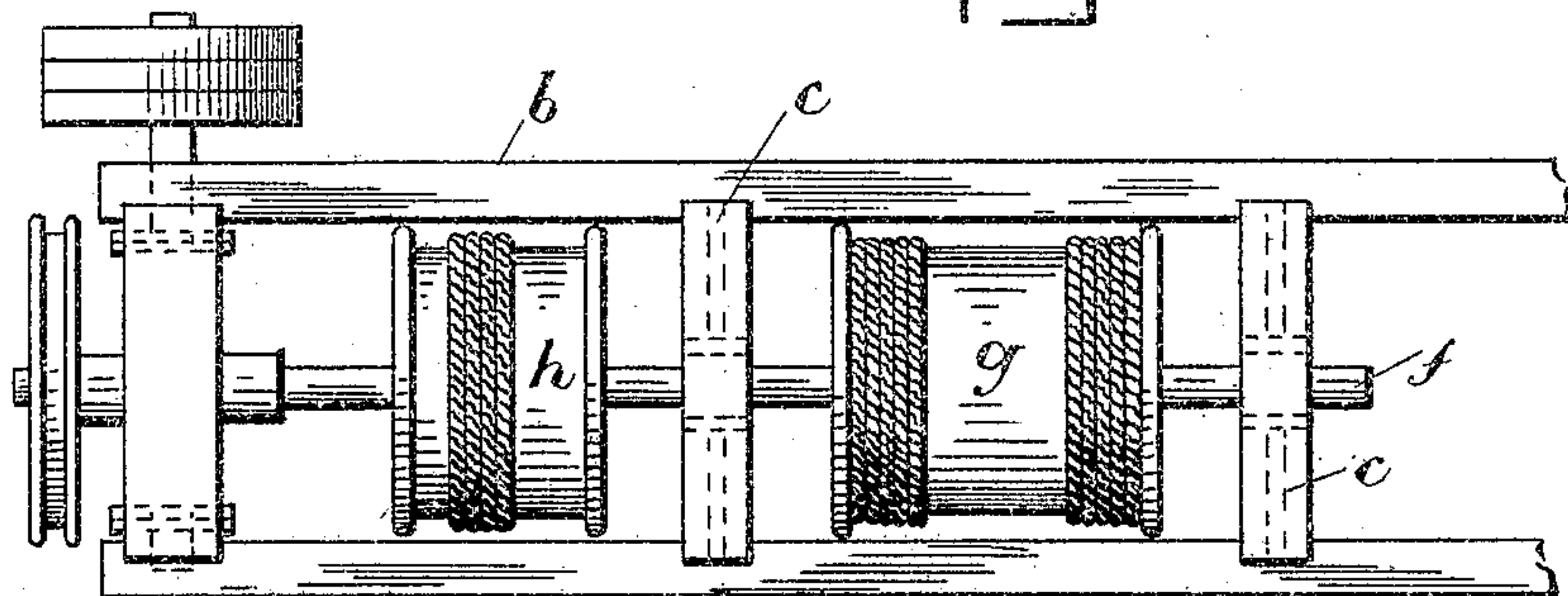


Fig. 5.

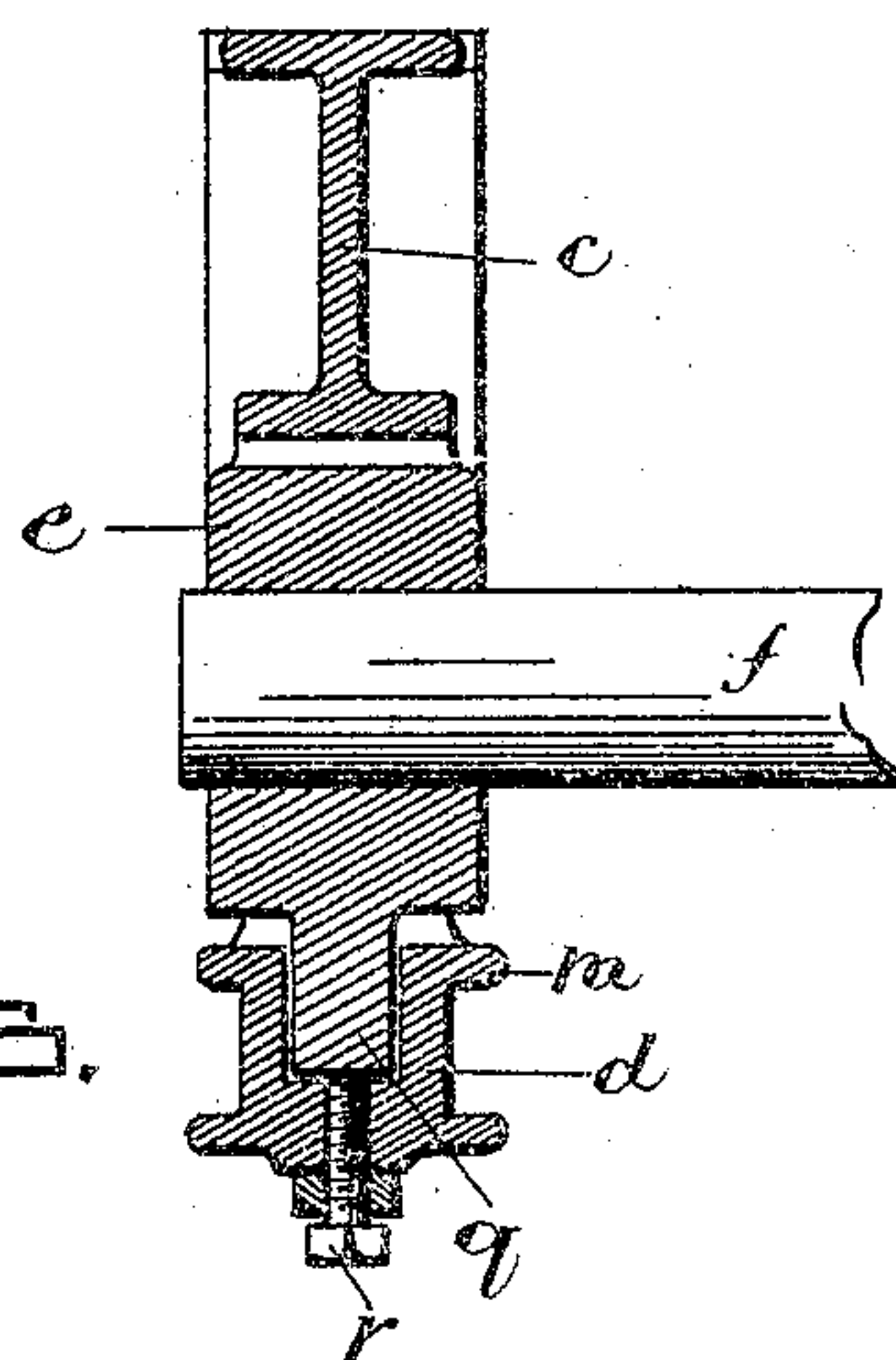
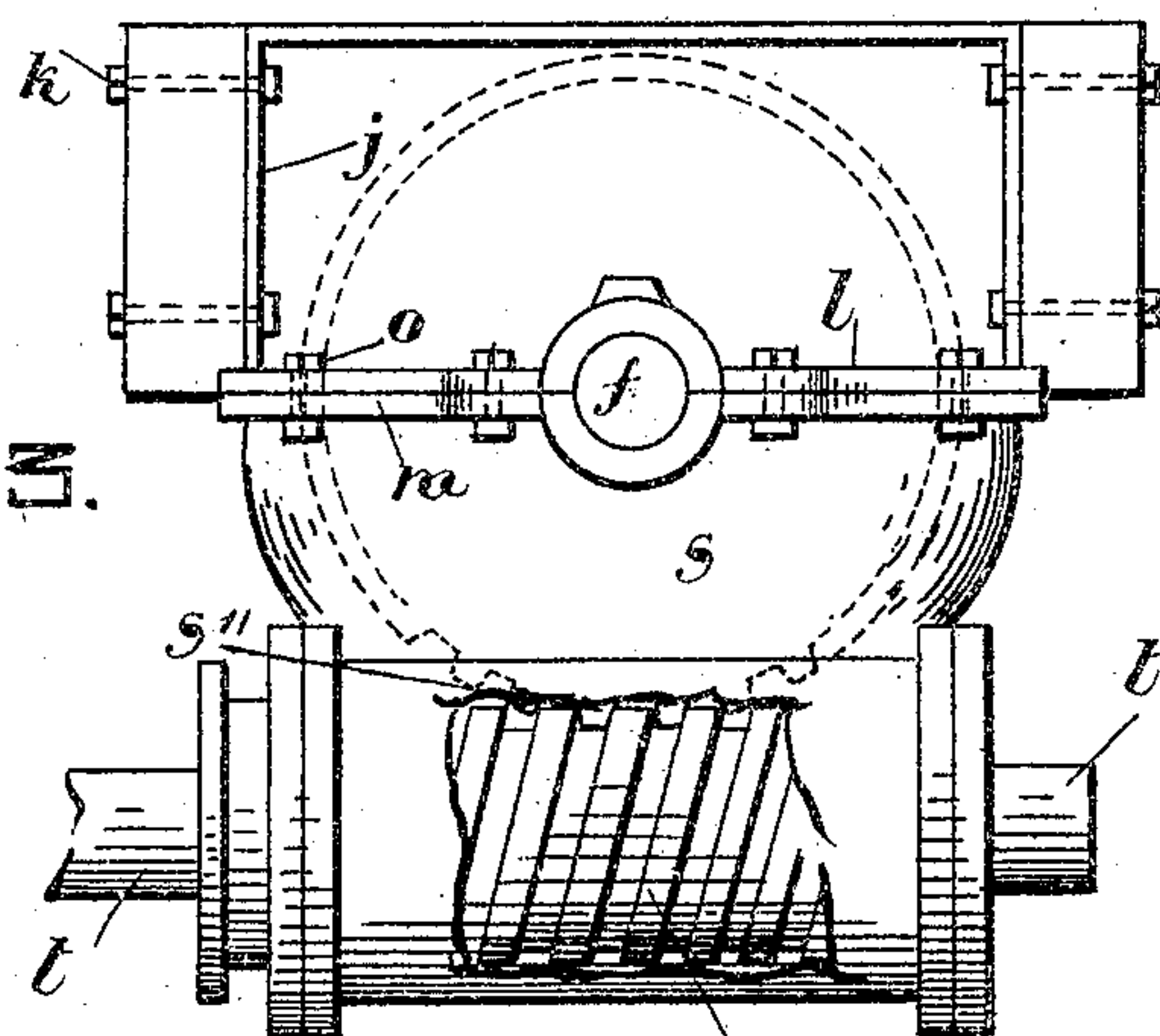


Fig. 3.



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# UNITED STATES PATENT OFFICE.

MICHAEL TURNBULL, OF TORONTO, CANADA.

## WINDING-MACHINE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 794,264, dated July 11, 1905.

Application filed April 15, 1902. Serial No. 103,049.

*To all whom it may concern:*

Be it known that I, MICHAEL TURNBULL, a citizen of the Dominion of Canada, residing at Toronto, in the county of York, in the Province of Ontario, Canada, have invented new and useful Improvements in Winding-Machines for Elevators, (for which I have obtained a patent in Canada, No. 73,584, bearing date October 29, 1901,) of which the following is a specification.

My invention relates to improvements in winding-machines for elevators in which the winding-drums are driven by a worm-gearing; and the objects of my improvement are, first, to so arrange the supporting-frame that the winding-machine can be placed in the elevator-wellway immediately below its top surface, so as to take up as little head-room as possible; second, to have the winding-machine so arranged that all the cables from the winding-drums can pass down inside the wellway and directly to the cage and counterweight; third, to provide for the ready and accurate adjustment of the bearing supporting the drum-shaft. I attain these objects by the construction shown in the accompanying drawings, in which—

Figure 1 is a side elevation of the top end of the elevator-wellway, the winding mechanism, and the upper part of the car of the elevator-cage. Fig. 2 is a plan view of the winding mechanism. Fig. 3 is an end elevation of the worm-chamber and supporting means. Fig. 4 is an end elevation of the shaft-hangers looking at them from the opposite end to the worm-gear. Fig. 5 is a vertical section through the same on the line *a a* of Fig. 4.

Like characters of reference indicate like parts throughout the specification and drawings.

Extending across the top of the elevator-wellway *a* are two supporting-beams *b*, located immediately below and contiguous to the top surface thereof, and connected to the supporting-beams *b* are a series of transversely-disposed hangers *c* of a depth greater than or corresponding to the depth of the supporting-beams *b*. Bolted or otherwise fastened to the lower faces of the hangers *c* are

metal straps *d*, and contained in the lower part of the hangers and upper part of the straps are the bearings *e* for the winding-shaft *f*. The shaft *f* is located midway between the supporting-beams *b* and extends beyond the hangers *c*, and rigidly mounted upon the winding-shaft *f* are the winding-drums *g* and *h* for the elevator-cage *i* and counterweight, respectively. (Counterweight not shown.)

By reference to Fig. 1 of the drawings it will be noticed that the winding-drums *g* and *h* do not project above the top surface of the supporting-beams or hangers and that the winding-shaft and its bearings are located in approximately the same plane as the lower surface thereof.

By reference to Fig. 3 it will be noticed that the supporting-beams *b* are placed at the ends of the hangers *c* and that these hangers are provided with vertically-disposed flanges *j*, having bolt-apertures alining with corresponding bolt-apertures in the supporting-beams *b*, through which pass the fastening-bolts *k* to rigidly fasten the hangers to the supporting-beams.

By reference to Fig. 4 it will be noticed that the lower edges of the hangers *c* have horizontal flanges *l* and that the straps *d* are similarly provided with flanges *m*, fastened together by means of bolts *o*, by means of which the straps may be detachably connected to the hangers. In the center of the straps *d* are vertically-disposed sockets *p*, and depending from the bearing *e* is a pin *q* to enter the socket and prevent the displacement of the bearing from its seat within the hanger and strap. By means of the socket and pin the bearing is free to aline itself on the shaft *f* and at the same time may be adjusted vertically by means of the adjusting-screw *r* to effect its proper alinement with the bearings of the other hangers.

By constructing and arranging the supporting-beams and shaft-hangers in the manner above outlined the winding-drums will not project above the top of either the hangers or supporting-beams, and consequently no more head-room in the elevator-wellway will be occupied than the actual height of the top surface of the supporting beams and hangers

from the bottom of the wellway, and at the same time ample space will be provided for the cables to pass down directly inside the wellway to the cage and to the counterweight  
5 should one be used.

Upon the winding-shaft  $f$  is a worm-gear  $s''$ , meshing with the worm  $s'$  upon the worm-shaft  $t$ , driven by any suitable means.

Having thus fully described my invention,  
10 what I claim as new, and desire to secure by Letters Patent, is—

1. In the herein-described construction, the combination of an elevator-wellway, supporting-beams located below and contiguous to  
15 the top surface thereof, transversely-disposed hangers connected to the supporting-beams, bearings carried by the transversely-disposed hangers, winding-drums revoluble between the supporting-beams and below the top sur-

face of the elevator-wellway, and a shaft for  
20 the winding-drums journaled in the hangers.

2. In the herein-described construction, the combination of an elevator-wellway, supporting-beams located below and contiguous to  
25 the top surface thereof, transversely-disposed hangers connected to the supporting-beams, bearings carried by the transversely-disposed hangers, winding-drums revoluble below the top surface of the elevator-wellway, and between the supporting-beams, a shaft for the  
30 winding-drums journaled in the hangers, a worm-shaft journaled below the winding-shaft, and worm-gearing for transmitting motion from the worm-shaft to the winding-shaft.

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Witnesses:

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