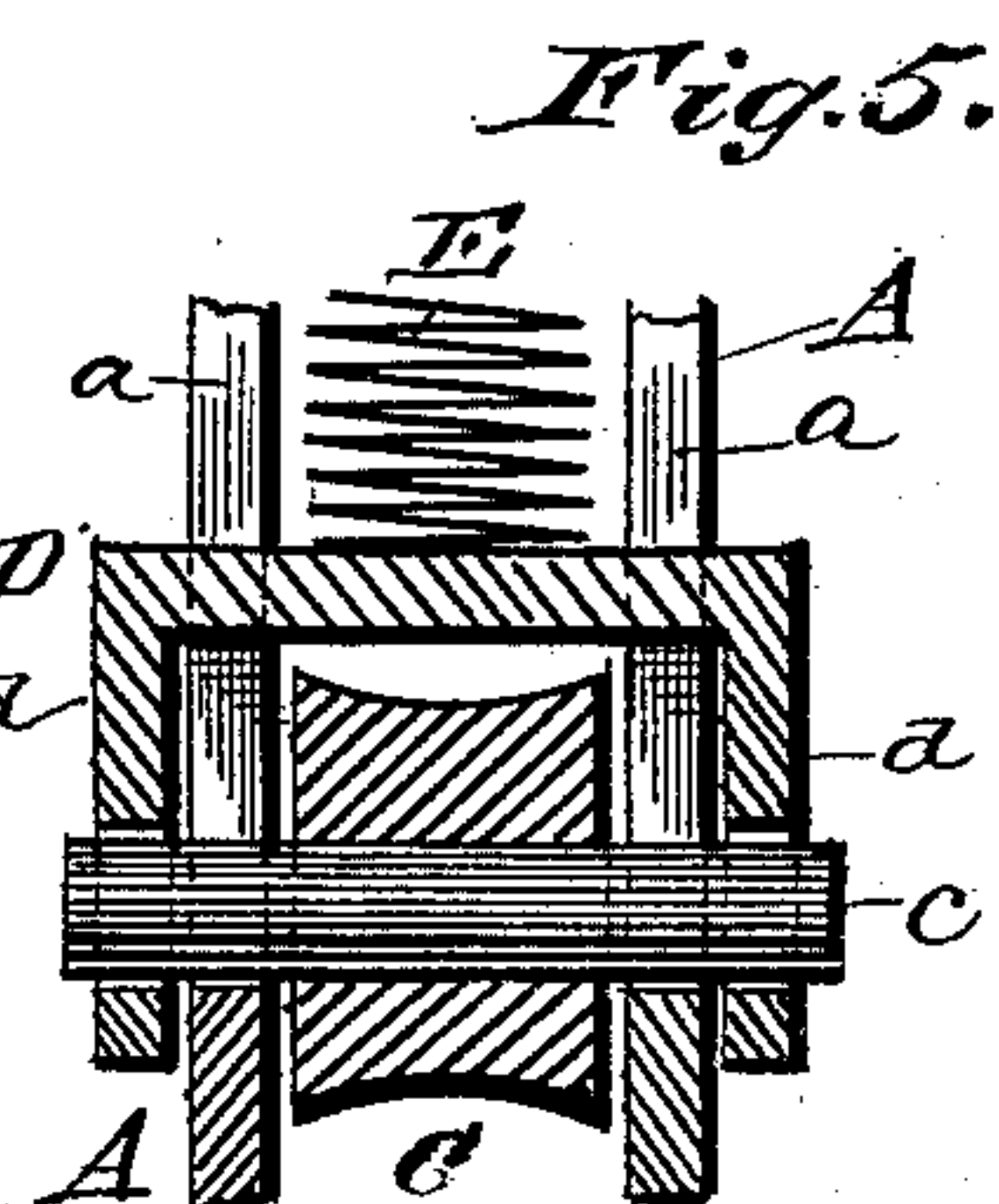
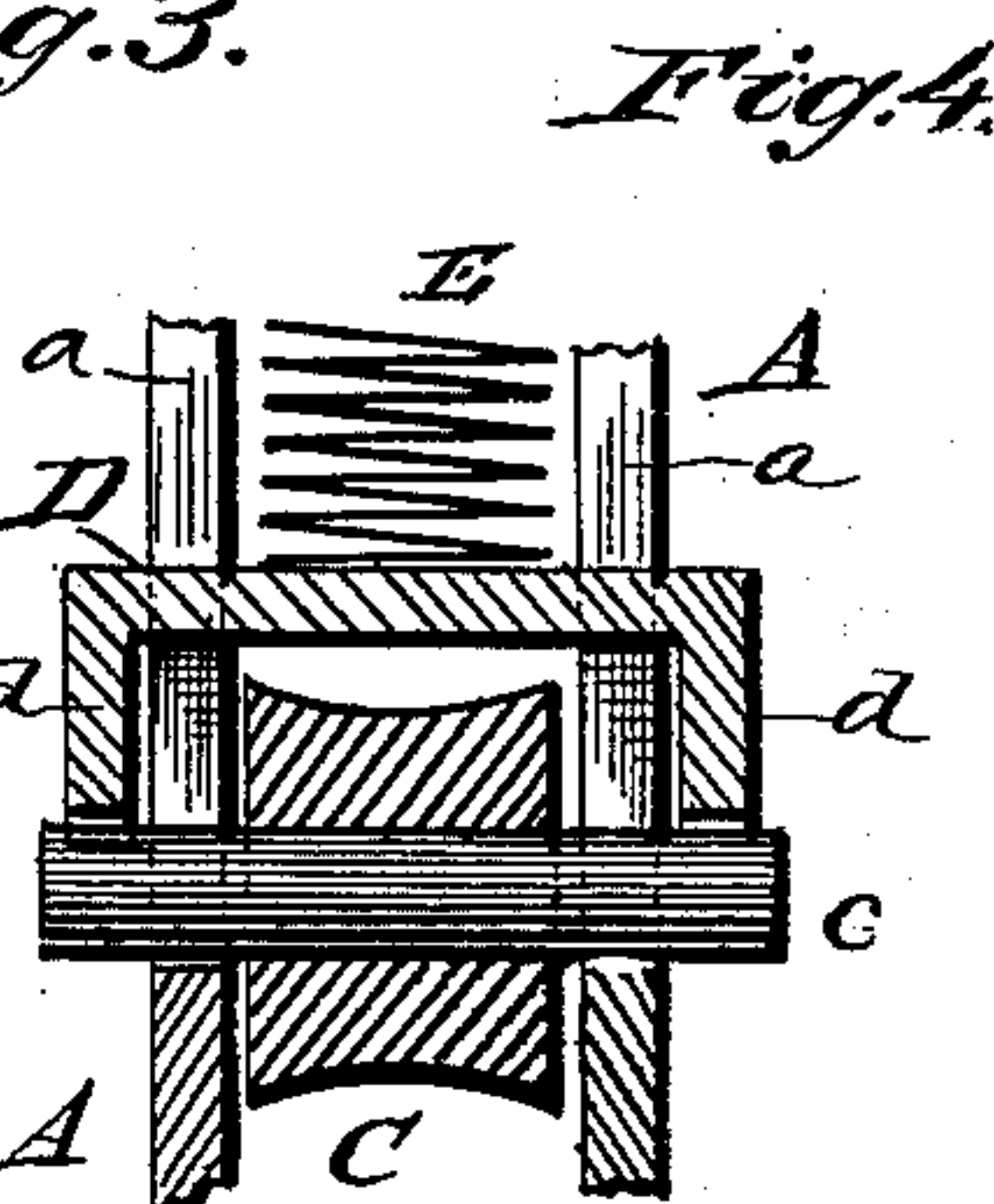
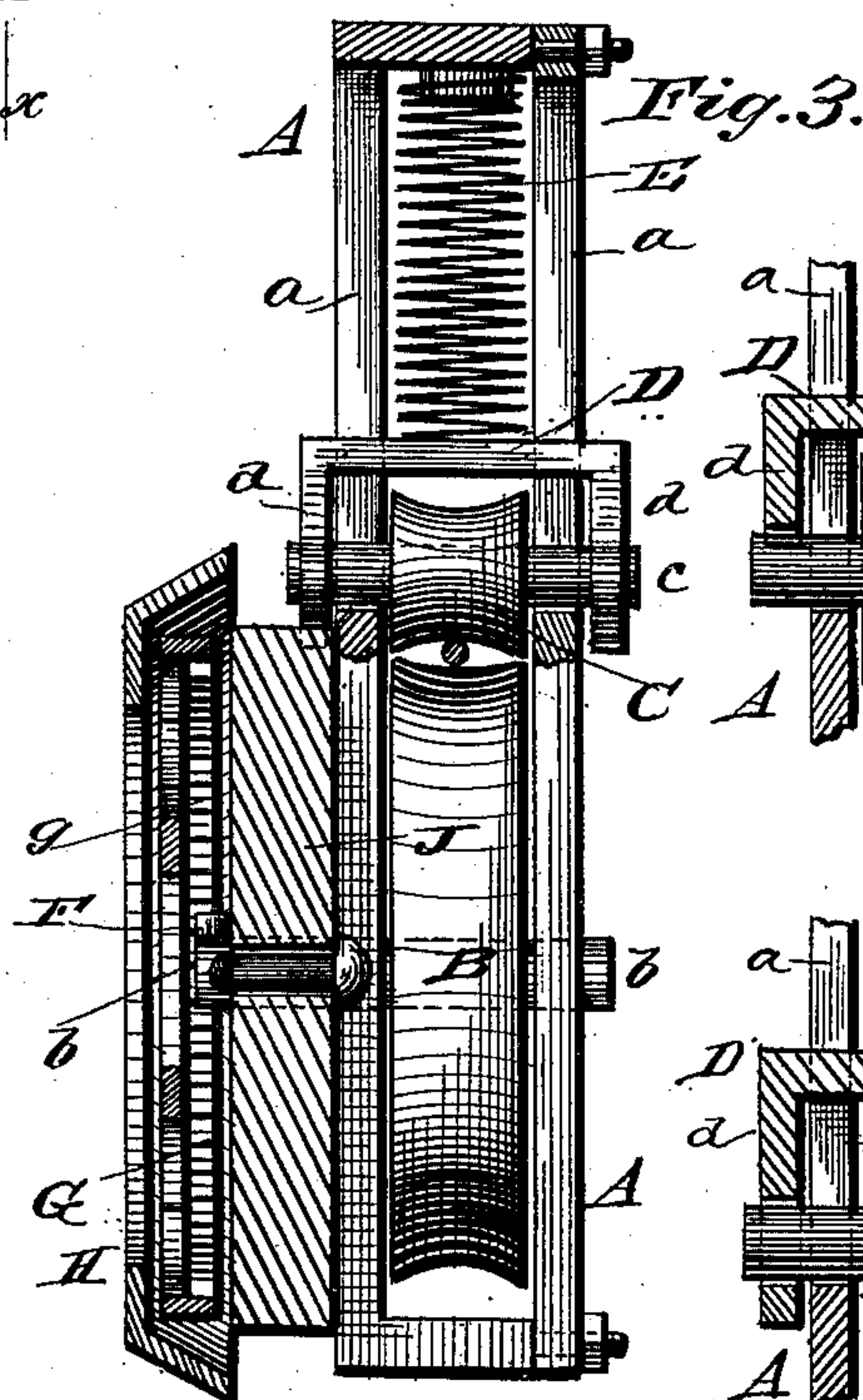
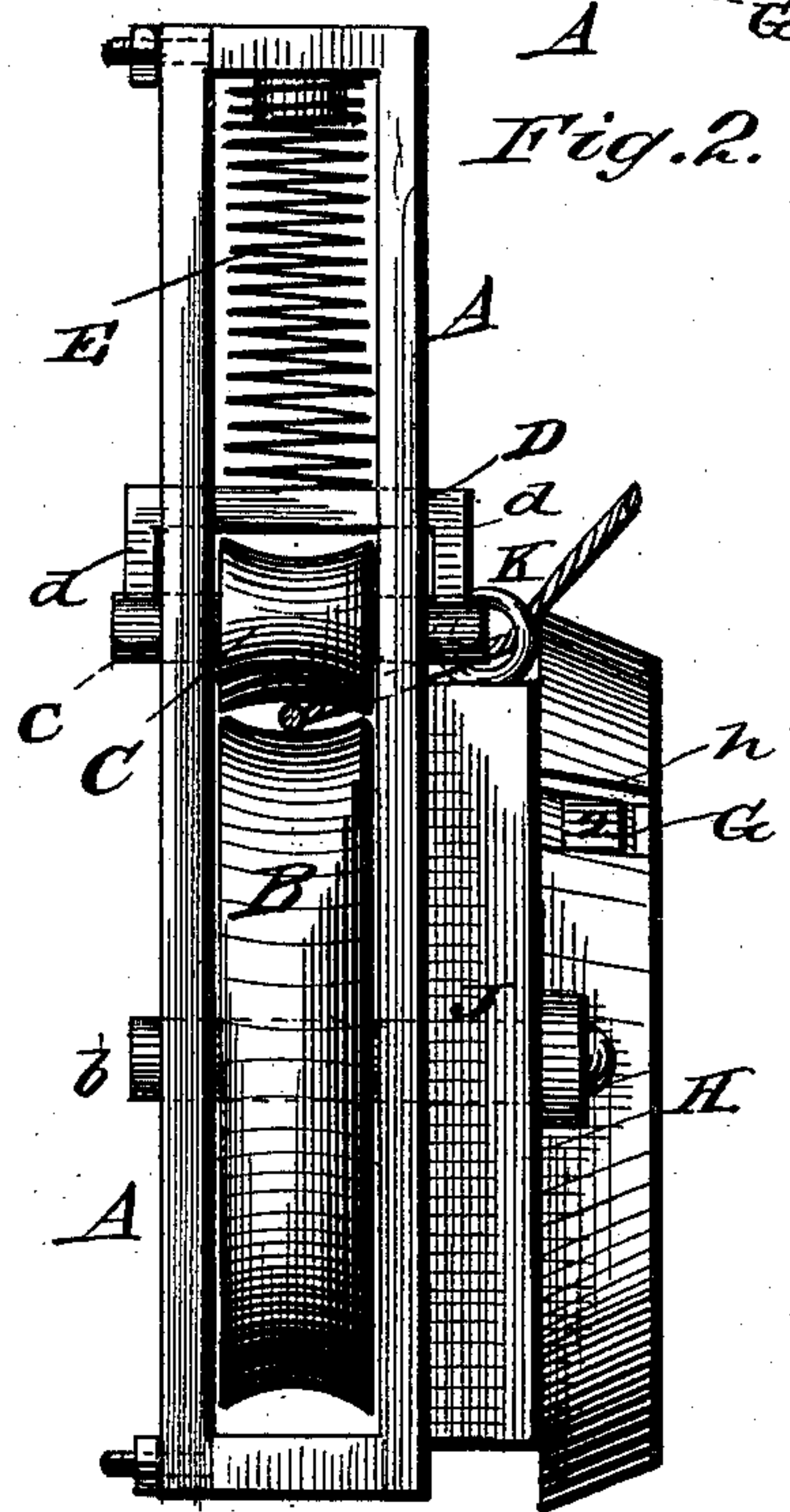
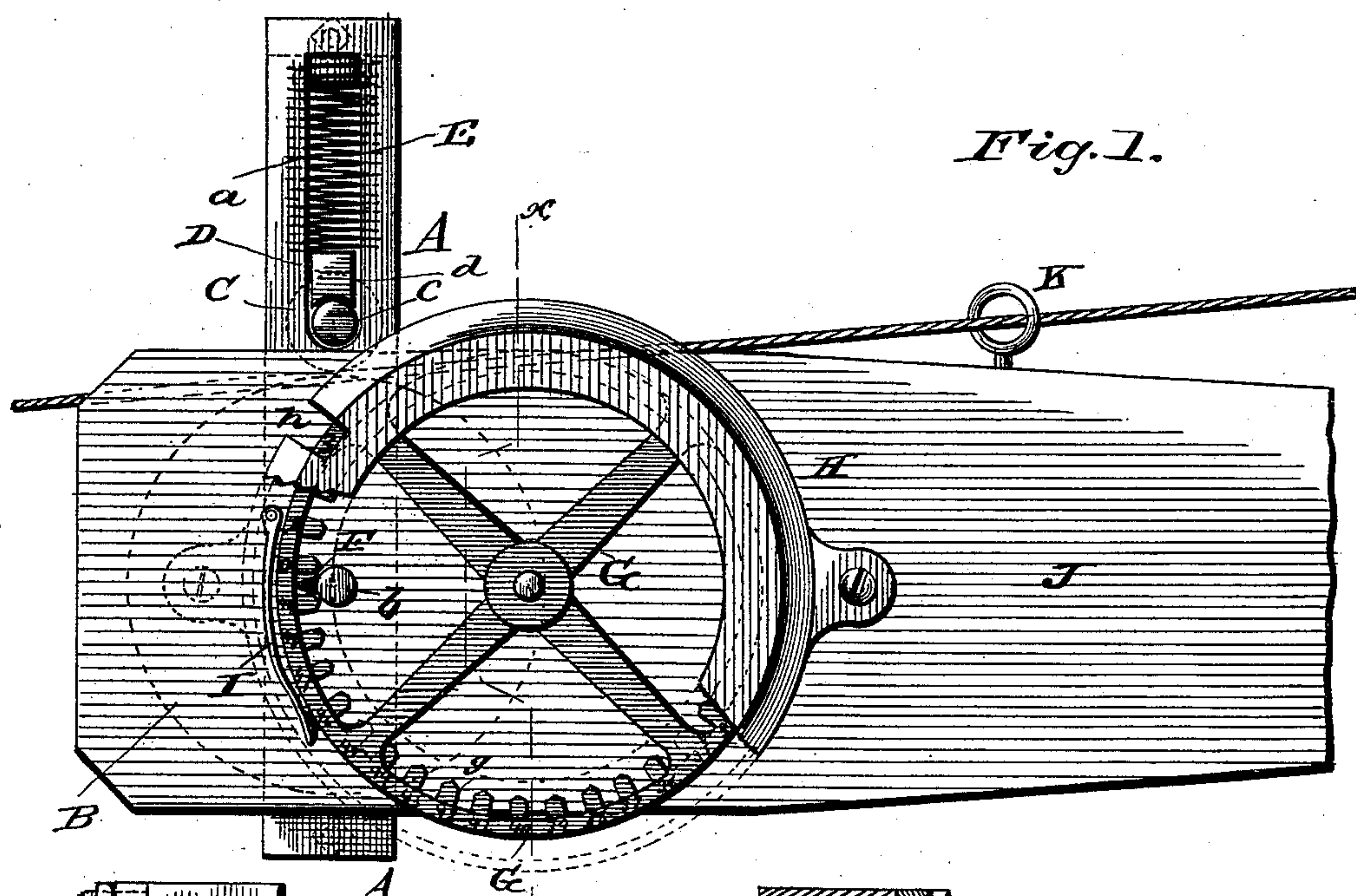


(No Model.)

W. S. REAMER.
ROPE MEASURING DEVICE.

No. 364,856.

Patented June 14, 1887.



WITNESSES

Phil C. Dietrich,
A. E. Lowell

INVENTOR

Wm S. Reamer.
by.

W. Alexander
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM S. REAMER, OF OSWEGO, KANSAS.

ROPE-MEASURING DEVICE.

SPECIFICATION forming part of Letters Patent No. 364,856, dated June 14, 1887.

Application filed March 14, 1887. Serial No. 230,880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. REAMER, of Oswego, in the county of Labette and State of Kansas, have invented certain new and useful Improvements in Rope-Measuring Devices; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side view of my improved measuring device attached to a rope-reel in position for use. Fig. 2 is a front view of the same. Fig. 3 is a central vertical section through the measuring and indicating wheels, taken on line *x x*, Fig. 1. Figs. 4 and 5 are details.

This invention relates to improvements in measuring devices, and is especially adapted for automatically measuring rope, cord, and similar articles as they pass from a reel or coil, so that the length of rope desired can be unwound from the coil without further trouble than pulling the rope through the measuring device, which consists in the peculiar and novel construction and combination of parts hereinafter described, illustrated in the drawings, and particularly specified in the claims.

Referring by letter to the drawings, A designates the vertical rectangular frame of the device, which has properly journaled between its side bars, near its lower end, the measuring or large pulley B, the journals of whose shaft are fixed, and has at its upper bend the small pulley or roller C, the shaft *c* of which plays in vertical slots *a* in the side rails of frame A.

Roller C is kept pressed down in contact with pulley B by means of a bracket, D, and spring E. This bracket D extends across frame A between grooves *a a*, and has its ends *d* bent vertically and correspondingly downward in said grooves and bearing upon the ends of the shaft of roller C, as shown. The spring E, which is preferably a spiral, bears against the upper cross-bar of frame A and the top of bracket D, thereby keeping the roller and pulley in contact, as described.

The bracket D may have its ends *d* extended outside of slots *a* and made longer and wider,

so that the journals of roller C can be formed entirely therein, as shown in Figs. 3 and 5. The frame A is preferably made of metal, having one of its sides and its end pieces formed integral and its other side bolted to its end pieces, as shown. The said frame is properly secured to a board, J, or similar support, which stands at right angles to the frame, and by which the measuring device is adapted to be secured in position upon the leg of a rope-reel or in other suitable and convenient position.

One end of shaft *b* of pulley B, which is rigid with said pulley, is extended through board J a short distance and has formed on or secured to it the outstanding tooth F, which engages with the teeth *g* of a wheel, G, which is pivoted or journaled upon board J at a proper point from engaging tooth F, as shown.

The wheel G is the index-wheel of the device and has its perimeter or face provided with a series of numbers, from one up to a number corresponding with the number of the teeth on said wheel. The teeth of wheel G may be formed on its perimeter at one side thereof, but are preferably formed on the inner circumference of said numbered periphery, as shown, and these teeth are so situated that the tooth F will only engage one tooth for one revolution of pulley B, and actuate wheel G but the distance between any two of its teeth, so as to present its numbers regularly and properly to the sight mark or line.

H designates an angular annular casing or cover for wheel G, placed over the latter, as shown, and provided at one point in its periphery with the sight-opening *h*, below which the numbers on wheel G appear in succession as the wheel is rotated.

Between the inner perimeter of casing H and the perimeter of wheel G, I place a brake-spring, I, which bears sufficiently upon wheel G to prevent it rotating of itself or by acquired momentum after tooth F has disengaged the teeth of the same.

K designates a ring secured in proper position upon the reel frame or board J in line with the top of pulley B, and adapted to aid in directing the rope to the measuring device and to take out any kinks in the rope before it enters the measurer.

The operation of the device is as follows:

The parts being in the proper positions described, the end of the rope is passed through ring K and between roller C and pulley B, the peripheries of said roller and pulley being properly dished or beveled, as shown. The spring E, while permitting bracket D and roller C to rise sufficiently to pass the rope, will press the roller down and bind the rope, so that it will positively rotate pulley B as it is drawn through the device. The pulley B being of predetermined circumference, and the numbers on wheel G being regular multiples of the circumference of said pulley, it is obvious that the device will accurately measure the rope, and the operator can always tell by simply looking at the perimeter of wheel G through notch *h* what length of rope has been unwound.

By placing the numbers on the periphery of wheel G the operator does not have to stand at one side of the device to ascertain the amount of rope unwound. It is obvious that by means of the slots *a* the roller C can adjust itself automatically to varying diameters of rope and always have sufficient downward pressure to prevent the same slipping over pulley B.

I am aware that grooved pulleys have been used in rope-measuring devices, one of which has a striking-arm on its shaft to rotate an index-plate; therefore I do not claim such, broadly; but,

Having described my invention, I claim—

1. In a rope-measuring device, the combination of a suitable frame having a fixed pulley journaled at its lower end, a vertically-movable roller above the pulley, having the ends of its shaft playing in slots in the sides of the frame, a bracket above said roller, having its ends bent and engaging with the shaft of the same, and a spring bearing against the bracket and the top of the frame to press the roller upon the pulley, with an index-wheel having the numbers on its periphery and adapted to be actuated by a tooth on the extended shaft of the fixed pulley, all constructed and adapted to operate substantially as and for the purpose described.

2. The combination of frame A, pulley B, and vertically-moving spring-controlled roller C, having bearings in vertical slots in frame A, with a toothed wheel, G, having index-numbers on its periphery and rotated by a tooth, F, on the extended shaft of pulley B, and a casing, H, provided with a sight-opening, *h*, inclosing wheel G and tooth F, all constructed substantially as and for the purpose specified.

3. The combination of the rectangular frame A, mounted on a support, J, and having a pulley, B, journaled at its lower end, and a roller, C, journaled in vertical slots at its upper end, the bracket D, guided in said slots and forming the journals of roller C, and a spring, E, engaging between the bracket D and top bar of frame A, with an index-wheel, G, having the numbers on its periphery and engaged by a tooth, F, on the extended end of the shaft of pulley B, and a spring, I, for preventing undue rotation of the wheel G, all constructed and adapted to operate substantially as and for the purpose described.

4. The combination of frame A, constructed substantially as described, the pulley B, journaled at the lower end of said frame, the roller C above pulley B, journaled in slots *a* in the sides of the frame and having its shaft engaged by the arms *d* of a bracket, D, and the spiral spring E, for causing the contact between the roller and pulley, with the wheel G, having the index-numbers on its periphery and rotated by a tooth, F, on the shaft of pulley B, and casing H, having sight-opening *h*, for protecting wheel G, and the brake-spring I, and the support J for the main frame and wheel G, and the directing-ring K, all constructed and adapted to operate substantially in the manner and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM S. REAMER.

Witnesses:

E. T. READ,
M. M. KINGSBURY.