

No. 750,825.

PATENTED FEB. 2, 1904.

C. F. DAVY.
AUTOMATIC TROLLEY LINE REEL.

APPLICATION FILED MAR. 19, 1903.

NO MODEL.

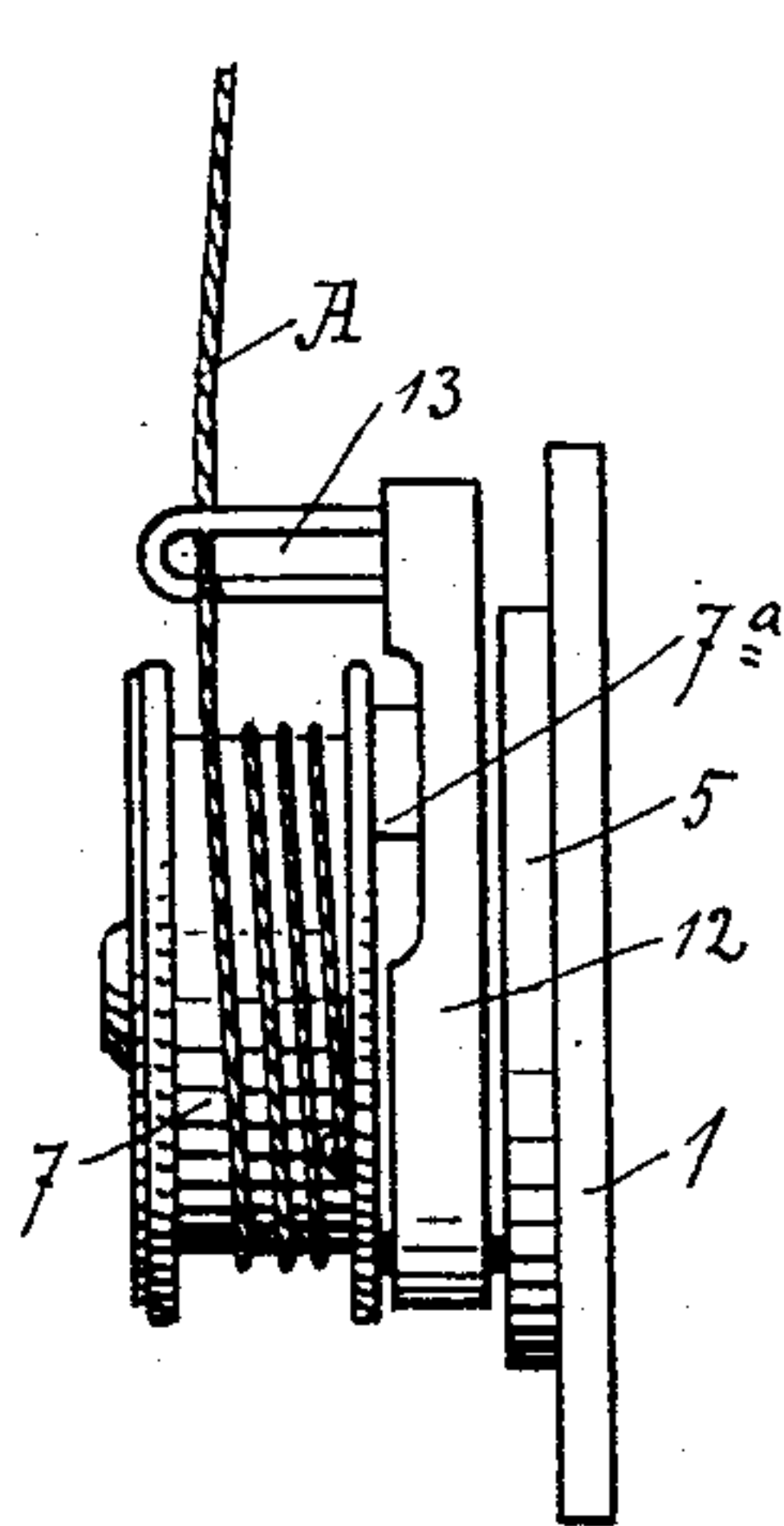


Fig. 2.

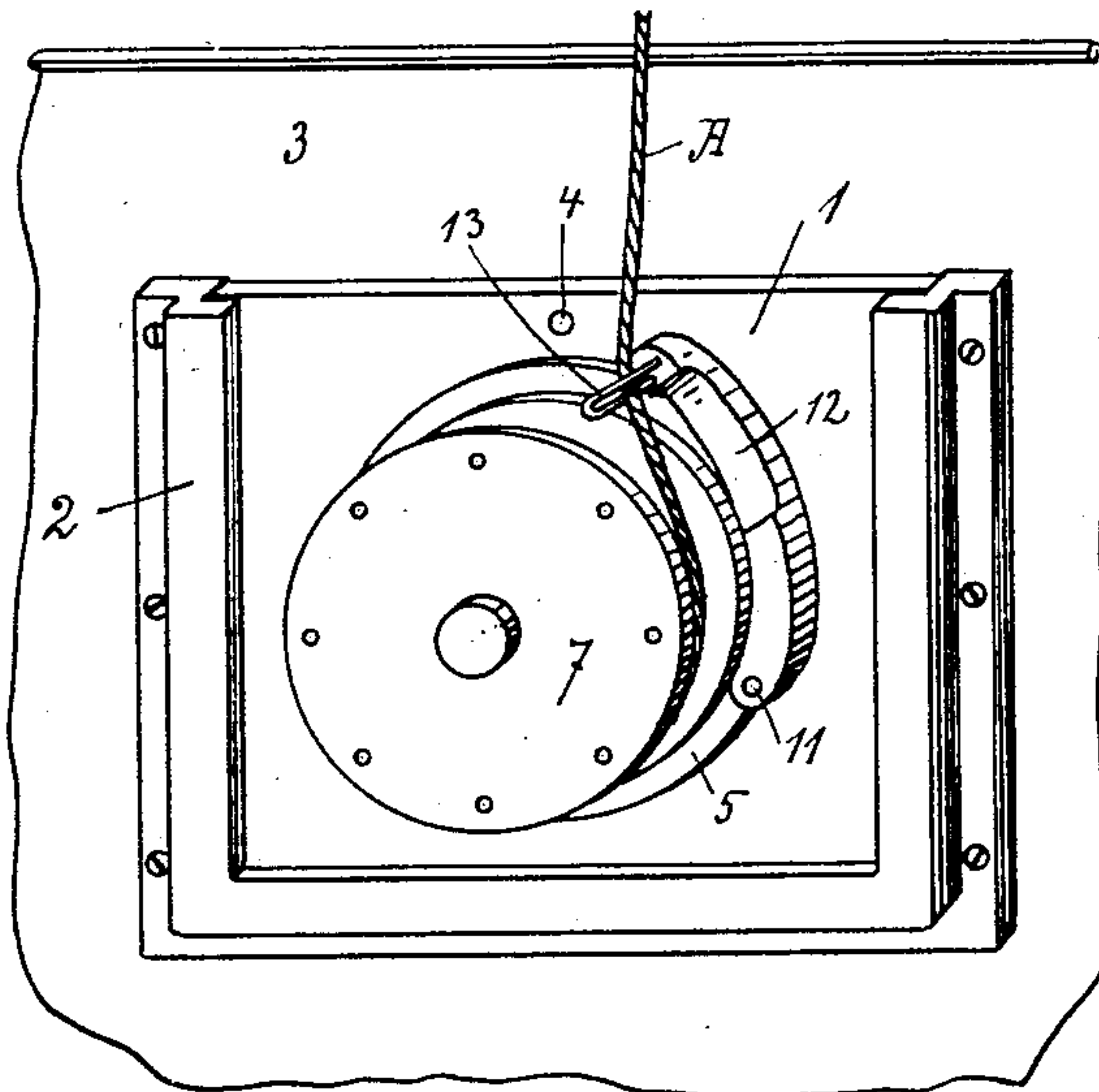


Fig. 4.

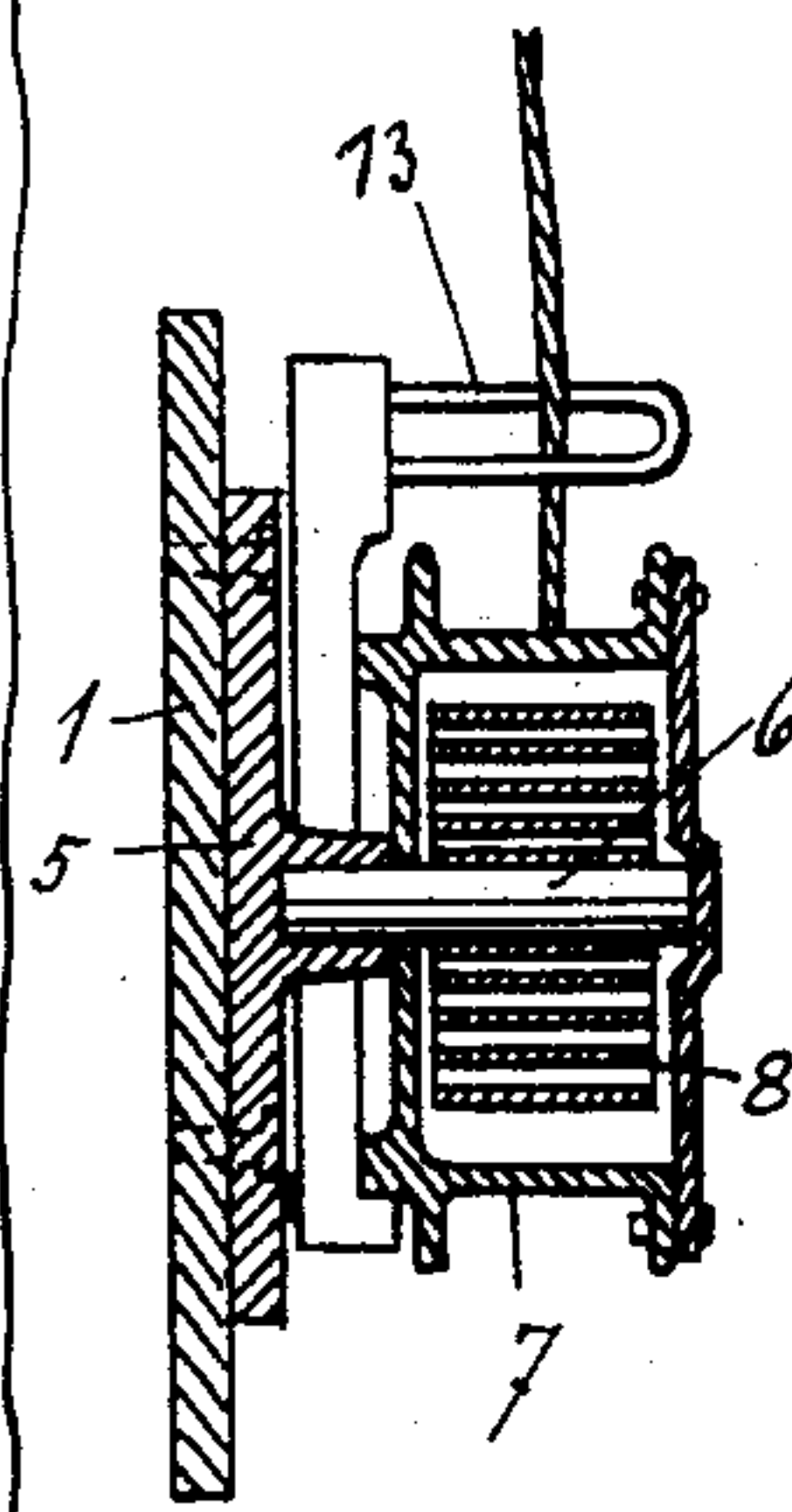


Fig. 3.

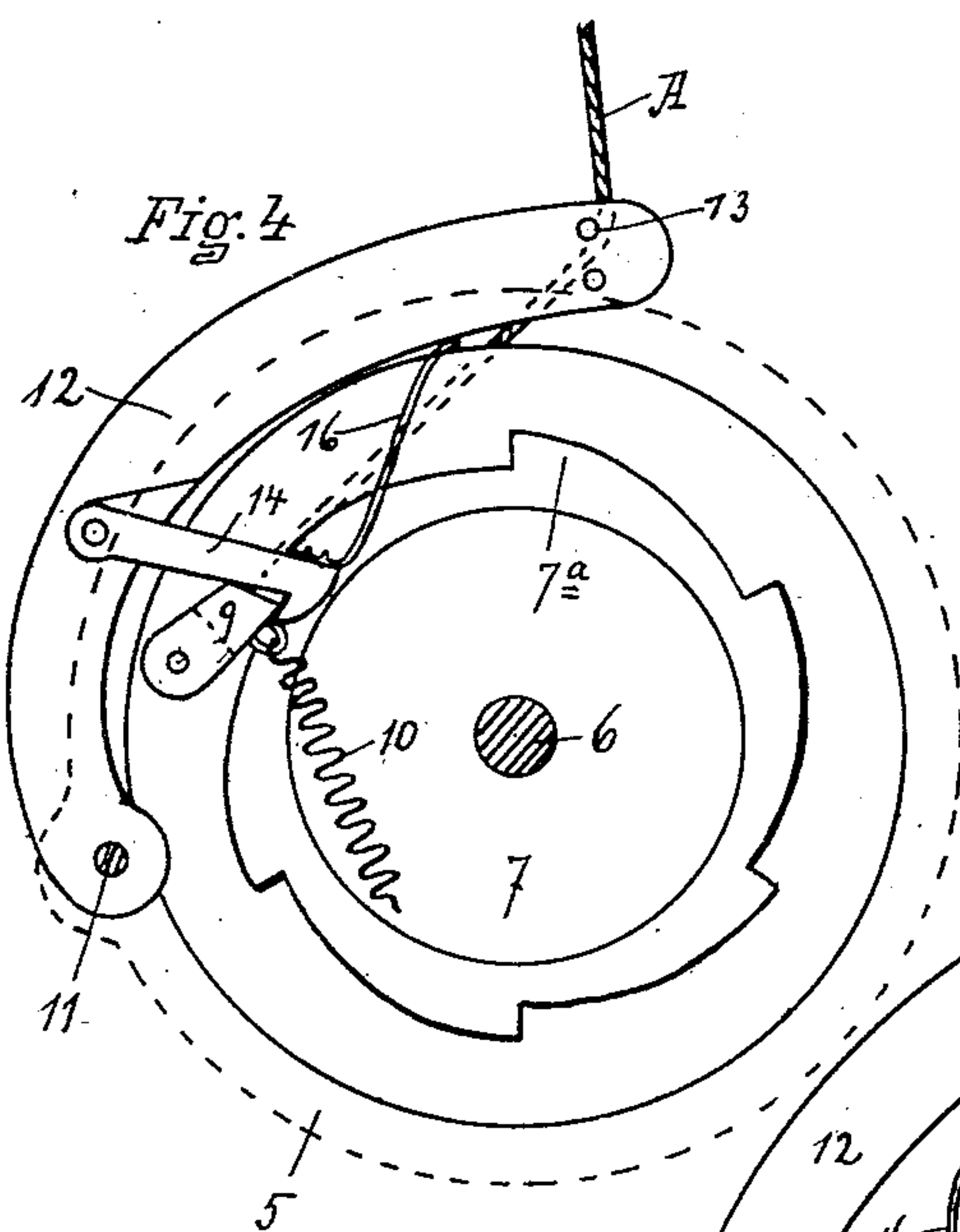


Fig. 4.

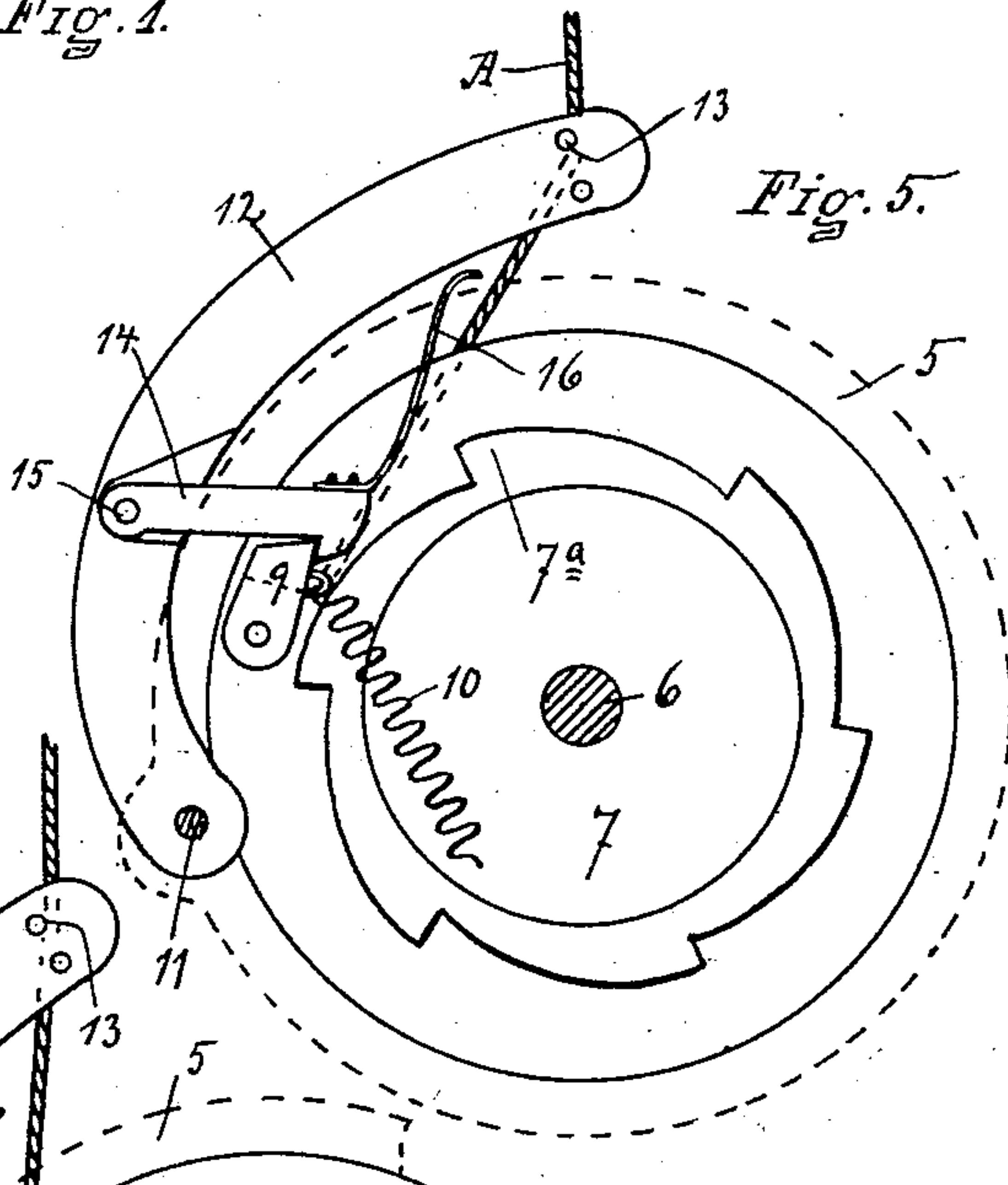
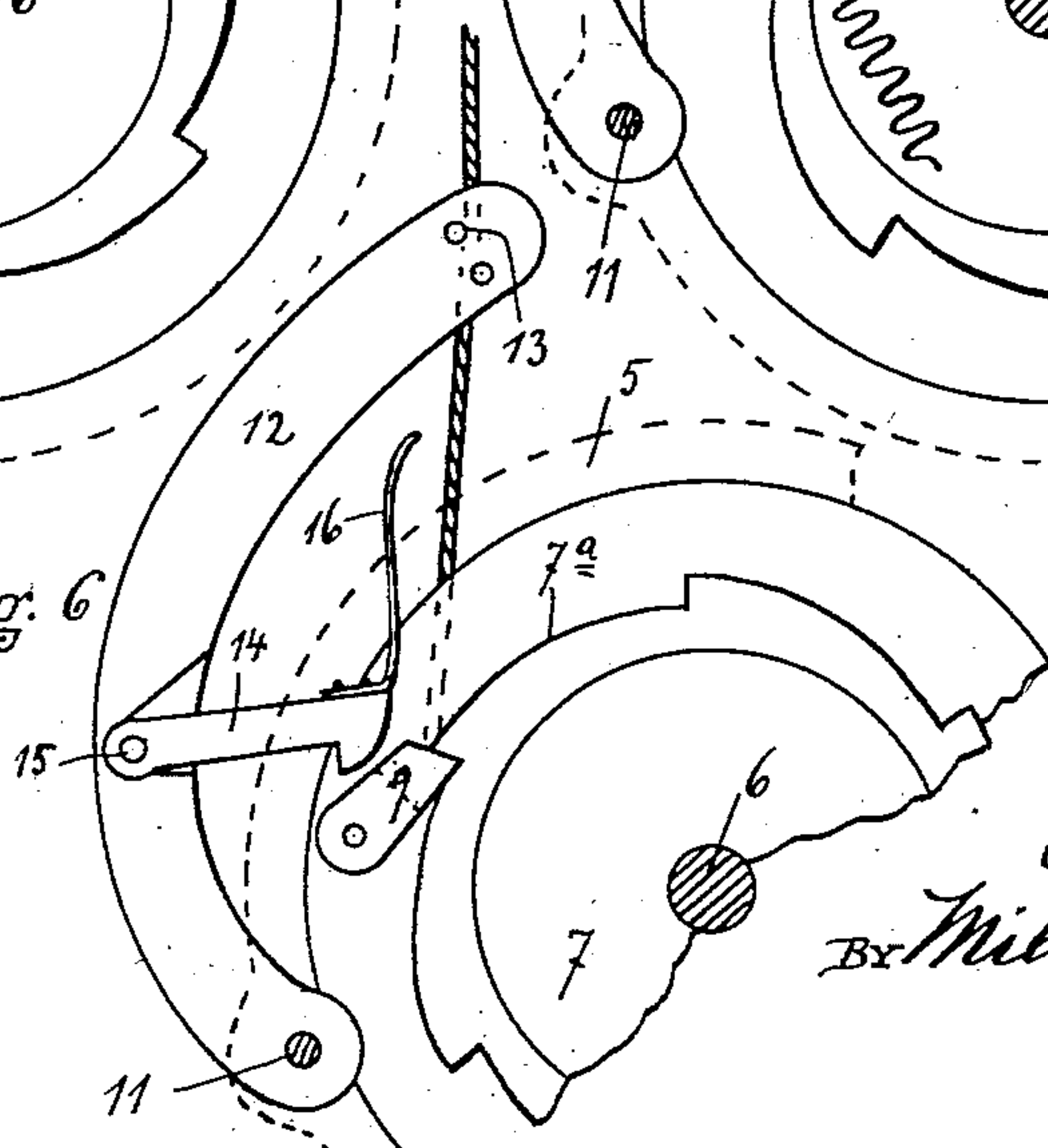


Fig. 5.

Fig. 6



WITNESSES
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AUTOMATIC TROLLEY-LINE REEL.

SPECIFICATION forming part of Letters Patent No. 750,825, dated February 2, 1904.

Application filed March 19, 1903. Serial No. 148,507. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. DAVY, of Mohawk, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Automatic Trolley-Line Reels; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

The object of my invention is to provide an automatic take-up reel more particularly intended for use with the lines of trolley-poles.

In the drawings, Figure 1 shows a perspective view of my device. Fig. 2 shows a side elevation of the same. Fig. 3 shows a vertical section. Fig. 4 shows a view of the operative parts from the inner or supported side. Fig. 5 shows the same with the operative parts in a different position—that is to say, with the pawl thrown out, allowing the reel to operate. Fig. 6 shows a portion of the same parts shown in Figs. 4 and 5 with the parts in still a different position.

Referring to the reference letters and figures in a more particular description, 1 indicates a removable board or plate which is adapted to be supported in a frame 2 on the end 3 of the car. A frame similar to 2 can be provided on each end of the car and one reeling device provided, which can be transferred from one end to the other and secured in position in either frame by a pin placed in the opening 4. The reel device consists of a base-plate 5, secured on the board 1 and supporting a pin or shaft 6. Mounted on the shaft 6 is the reel 7, consisting, as shown, of a grooved-faced hollow pulley. A spring 8 is provided, one end of which is secured to the shaft 6 and the other end to the reel 7. The spring 8 is similar to a clock-spring. On the back side of the reel 7 the same is provided with a circle of ratchet-teeth 7^a. These teeth are adapted to be engaged by a pawl or dog 9, pivoted on the base-plate 5, and thrown into engagement with the ratchet-teeth by means of a spring

10, attached at one end to the dog 9 and at the other to the base-plate 5. Pivoted at 11 on the base-plate 5 is also the tripping-lever 12. This lever may be curved, as shown, so that it will support the line-eye 13 in a position overhanging the upper portion of the reel. The tripping-lever 12 also carries a hook or catch 14, pivoted on the tripping-lever at 15 and carrying at its free end a shoulder adapted to engage with one part of the dog or pawl 9. A spring 16 is provided adapted to throw the catch 14 into engagement with the pawl 9.

The trolley-pole line or cord A, which of course comes down from the end of the trolley-pole in a substantially vertical direction, is passed through the eye 13 on the end of the tripping-lever and thence coiled around the drum of the reel and the end secured to the drum. In passing around the reel the cord is passed to that side first after passing through the eye 13 on which the tripping-arm is located. The spring 8 may be placed under tension by winding the cord a considerable number of times around the drum of the reel and then withdrawing it. When the cord has been withdrawn sufficiently, the drum is secured against rotation by the spring 8 by the dog 9 engaging with the ratchet-teeth 7^a. In winding up the spring, as just described, or in other manipulations of the reel other than its automatic action, as hereinafter mentioned, the tripping-lever 12 will be thrown into the out-of-operative position. (Shown in Fig. 6 preferably.) In this case the dog 9 is free from all interference and will better operate to secure the drum of the reel against the spring. When a sufficient quantity of line has been paid out by the operator drawing on the line to allow the trolley on the trolley-pole to run in contact with the overhead trolley-wire with some surplus to accommodate variations in elevation of the trolley-wire, the reel is then caught by the pawl 9. The tripping-lever 8 is thrown over, as before stated, so that the eye 13 is carried over the drum of the reel, and the catch 14 is brought into position, so as to engage with the pawl 9. In case the trolley jumps the trolley-wire the trolley-pole of course flies into a substantially vertical

position, more or less, and jerks on the trolley-line. This operating in a tangential direction on the tripping-arm 12 serves to move the same from the position shown in Fig. 4 to that shown in Fig. 5, more or less, and in so doing the pawl 9 is thrown out of engagement. Immediately the spring comes into action and rotates the drum to wind up the line, and the strength of the spring is sufficient to draw the trolley-pole down. This operation takes place almost instantly upon the trolley jumping the trolley-wire, and the pawl is pulled in before any damage can be done to the overhead construction. The device is placed in operation again simply by the operator forcibly drawing out enough of line from the reel to allow the trolley to reach the trolley-wire with also a small surplus, as before stated. When a sufficient quantity has been drawn out, the pawl 9 again secures the reel and the tripping-lever is thrown into position to again operate when occasion requires.

It is evident that the entire mechanism could be inclosed in a casing, if preferred, and that numerous changes and variations in

and from the construction shown and described may be made without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

The combination in an automatic trolley-catcher of a casing, a spring-actuated, reel mounted in the casing, having a ratchet-wheel portion, a spring-actuated dog pivoted to the casing, and adapted to engage the ratchet-wheel and hold the reel against operation by its actuating-spring, a tripping-lever pivoted to the casing and adapted to overhang the reel, having a line-eye for the trolley-cord, and having a catch adapted to engage with said dog to release the same and become automatically disengaged therefrom, substantially as set forth.

In witness whereof I have affixed my signature, in presence of two witnesses, this 17th day of March, 1903.

CHARLES F. DAVY.

Witnesses:

E. WILLARD JONES,
S. A. BROWN.