

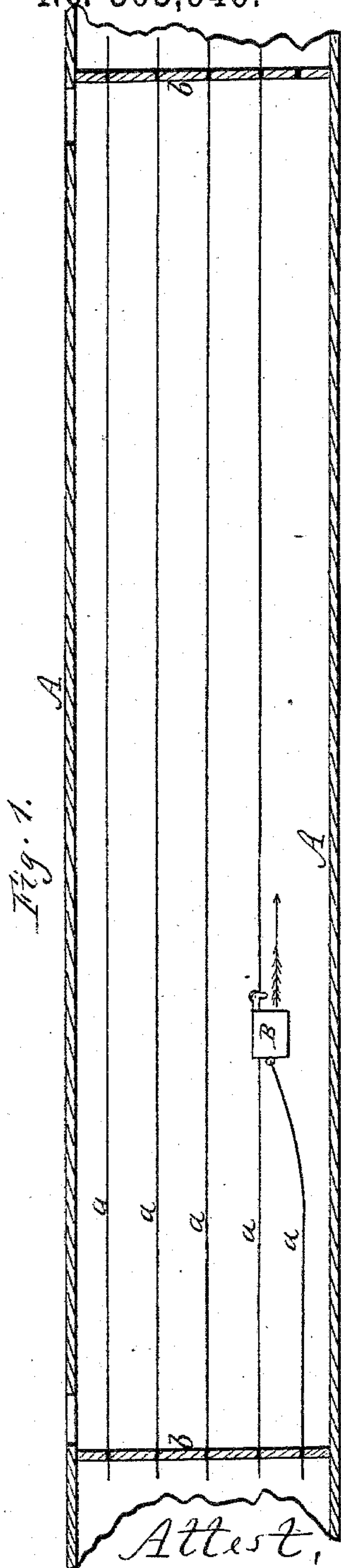
(No Model.)

S. McAULIFFE.

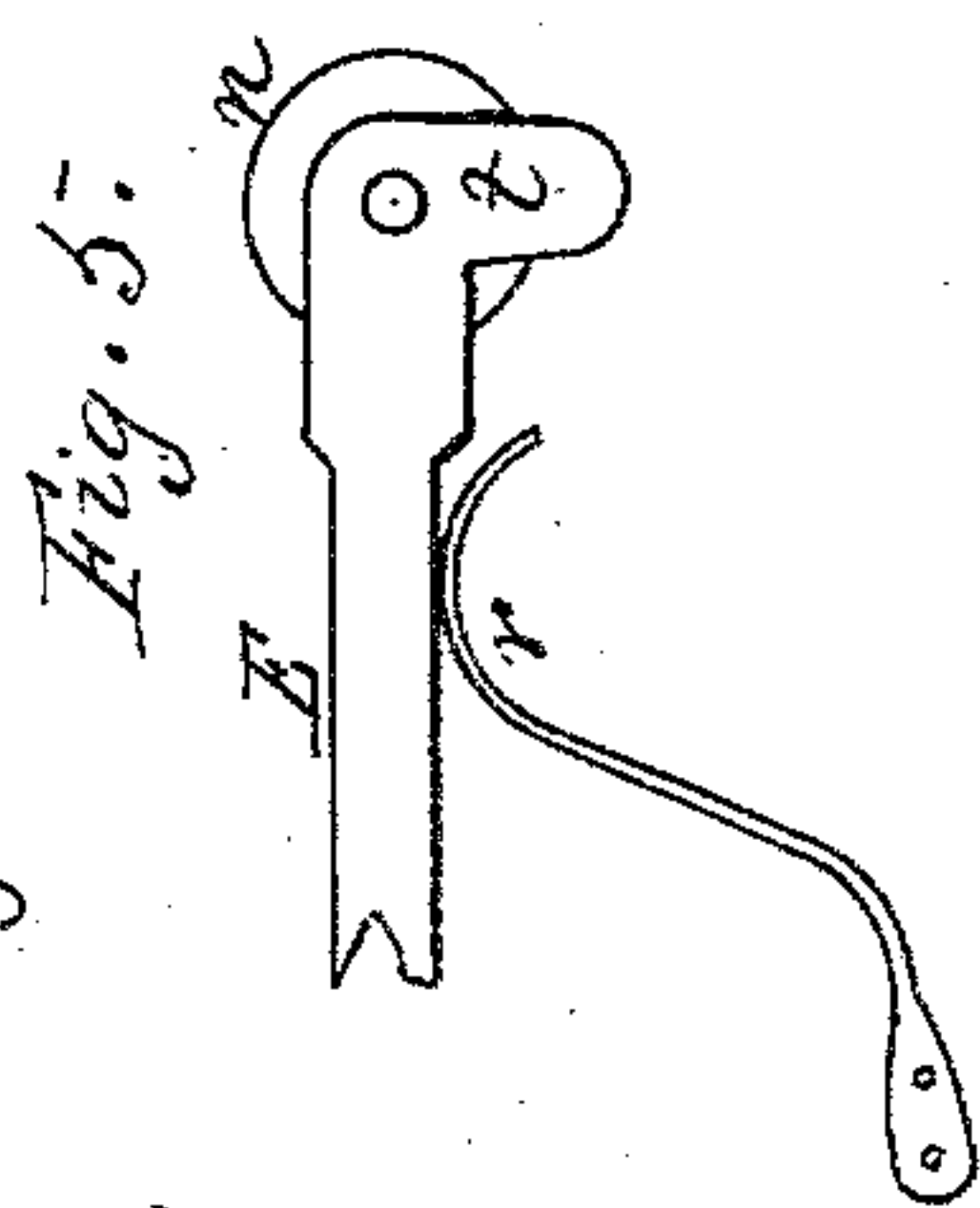
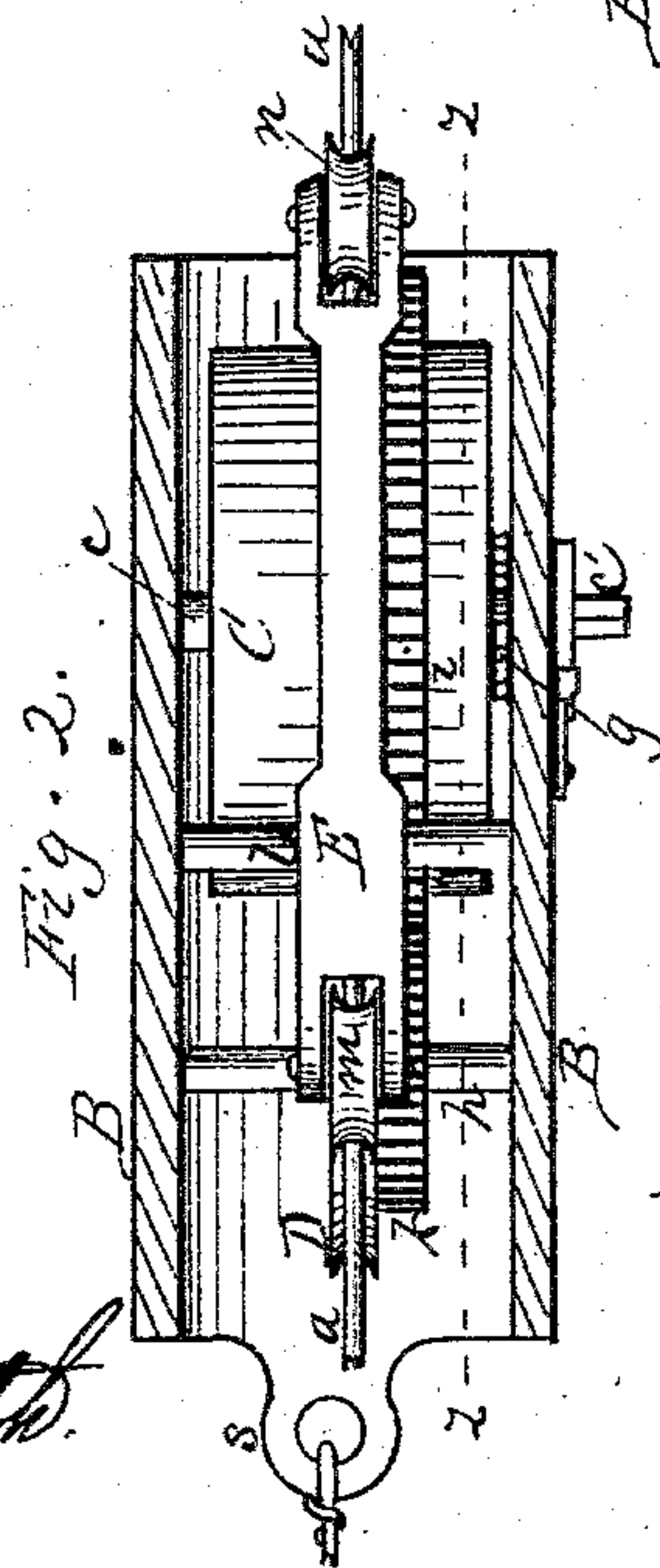
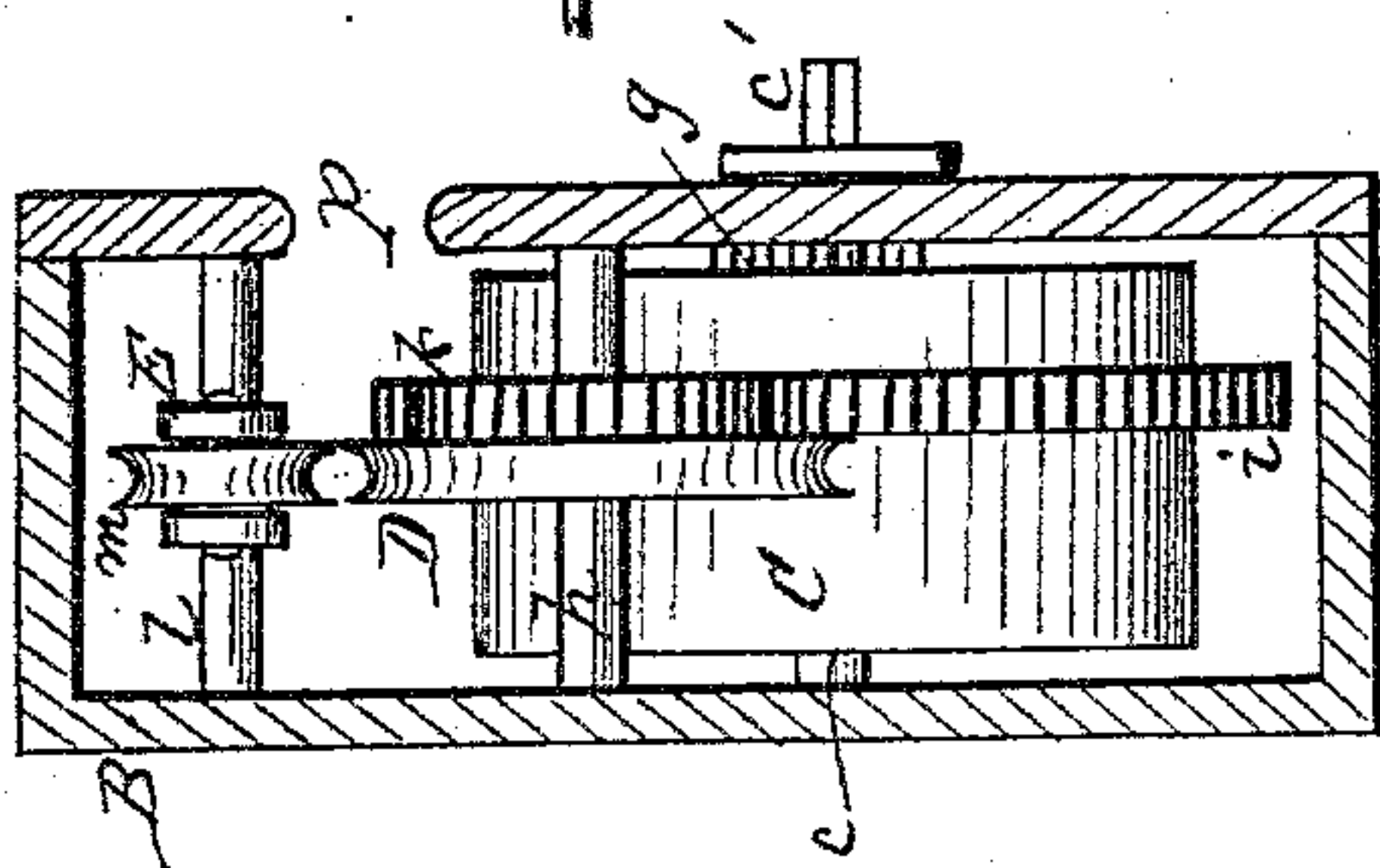
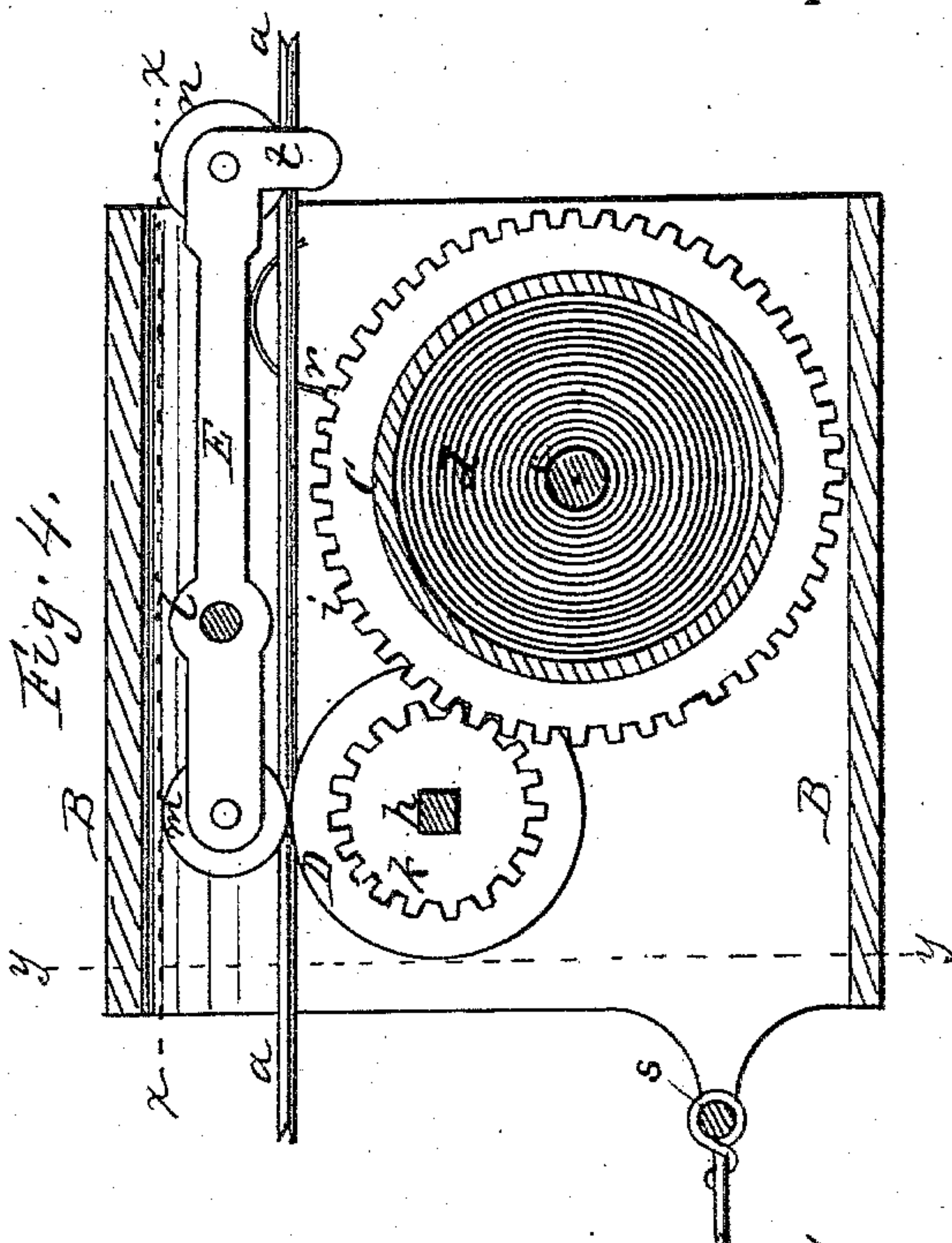
DEVICE FOR STRINGING WIRES, &c.

No. 305,946.

Patented Sept. 30, 1884.



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# UNITED STATES PATENT OFFICE.

SAMUEL McAULIFFE, OF ROCHESTER, NEW YORK.

## DEVICE FOR STRINGING WIRES, &c.

SPECIFICATION forming part of Letters Patent No. 305,946, dated September 30, 1884.

Application filed September 4, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL McAULIFFE, of Rochester, Monroe county, New York, have invented a certain new and useful Improvement in Devices for Stringing Telegraph-Wires Above and Below Ground; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a diagram showing a longitudinal section of an underground conduit for containing telegraph-wires, and showing the device in the act of stringing one of the wires. Fig. 2 is a horizontal section of the stringing device in the line *xx* of Fig. 4. Fig. 3 is a vertical cross-section of the same in line *yy* of Fig. 4. Fig. 4 is a longitudinal vertical section in line *zz* of Fig. 2. Fig. 5 is a detail view showing an elevation of the spring for producing clamping action on a wire.

My improvement relates to devices for stringing telegraph-wires and for similar uses where the loose end of the wire is to be carried to a given point for connection. It can be used either above or below ground, but is of especial service in the latter case. Where telegraph-wires are used below ground they are inclosed in a conduit consisting of a large tube, the wires extending longitudinally and connecting with disks or heads reached by man-holes through the sides of the conduit. In case of the breakage of a wire or the necessity of inserting a new wire, much difficulty occurs in extending the wire from one head to the other.

My invention consists in an automatic carrier, to which the broken wire is attached, the carrier running on one of the uninjured wires, and being propelled by spring-power, as hereinafter described.

In the drawings, Fig. 1 shows a longitudinal section of an underground conduit, *A*, in which are strung a series of telegraph-wires, *a a a*, extending from head to head *b b*, the bottom wire being broken and in the act of being conveyed by the carrier from one end to the other between the heads.

*B* is the frame of the carrier, which may be of any desired form. Preferably, however, it

has a clear opening, *p*, on one side, through which the wire may be inserted on which the carrier runs.

*C* is a mainspring-barrel resting on a shaft, *c*, in the frame, and provided with a mainspring, *d*, inside in a manner similar to that in clock-work. On the outside of the frame is a stem, *c'*, of the shaft, by which the mainspring is wound, and also a ratchet, *g*, the same as in clock-work.

*D* is a grooved friction-wheel in the rear of and above the barrel, resting on a shaft, *h*.

*i* is a spur-gear on the barrel, and *k* is a spur-pinion on the shaft of the friction-wheel, by which means the power of the spring is transferred to the friction-wheel.

*E* is a double-armed lever, pivoted at *l* upon a shaft, which extends from one side to the other of the frame. At one end it has a small grooved friction-wheel, *m*, which rests directly above the main friction-wheel *D*, and at the other end it has a similar small grooved friction-wheel, *n*, which stands in the same line for running on the wire. The end of the lever at this point is turned down, and is slotted, forming a fork, *t*, which embraces the wire and forms a guide to prevent disengagement from the wire as the device runs along.

*r* is a spring of any suitable form attached to the side of the frame, and resting under the long end of the lever, forcing it up, so that the wheel *m* will be made to bear firmly down on the wheel *D*.

*s* is an eye or any suitable device at the rear of the frame for the attachment of the broken wire.

The operation is as follows: The end of the broken wire is attached to the carrier. The mainspring is wound up. During the winding the friction-wheel *D* is held by any suitable device to retain the tension of the spring. The carrier is then inserted upon one of the suspended wires. This is done by passing the wire through the opening *p* in the side of the frame and inserting it between the grooved friction-wheels *D m*, the other wheel, *n*, also fitting on the wire, and the fork *t* embracing it. The carrier is then released, and the power of the spring will cause the carrier to run along the stretched wire as a track, carrying



the broken wire with it to the point of destination. At this point a rubber or other block may be used as a bumper to receive the shock and break the force of the concussion. By  
5 this means wires can be strung in underground conduits very easily, obviating the great difficulties of stringing them by hand, and saving much time and expense.

The device is equally applicable in string-  
10 ing above-ground wires, as a wire can be carried to any height or position above streets and over houses wherever there is another wire to run upon.

The device, with proper spring-power and  
15 clamping action, will ascend steep grades.

The device is also applicable to other uses, and may be used for stringing wires, cords, &c.

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

1. In a device for stringing wires, cords, &c., the combination, with the carrier, of a mainspring-barrel, a friction-wheel connected with the barrel by gearing, a clamping-wheel  
25 resting over the friction-wheel, the two adapted to fit and run on a wire, and an eye or other device on the carrier for the attachment of the wire to be strung, as set forth.

2. In a device for stringing wires, the combination, with the carrier, of the mainspring-  
30 barrel, a friction-wheel connected with the barrel by gearing, and a double-armed lever provided with friction-wheels at opposite ends, one resting over the main friction-wheel, the other projecting forward and forming a guide  
35 resting on the supporting-wire, as herein set forth.

3. In a device for stringing wires, the frame  
B, constructed with an opening, *p*, on one side, extending through the side of the frame, in  
40 combination with the grooved friction driving-wheel D and the small grooved friction-wheels *m n*, attached to the pivoted lever E, the opening coming in line with and opposite  
45 to the bearing contact of said friction-wheels, whereby the wire can be inserted bodily through the side of the frame and placed between said wheels, as herein shown and described.

In witness whereof I have hereunto signed  
50 my name in the presence of two subscribing witnesses.

SAML. MCAULIFFE.

Witnesses:

R. F. OSGOOD,

WM. J. MCPHERSON.