

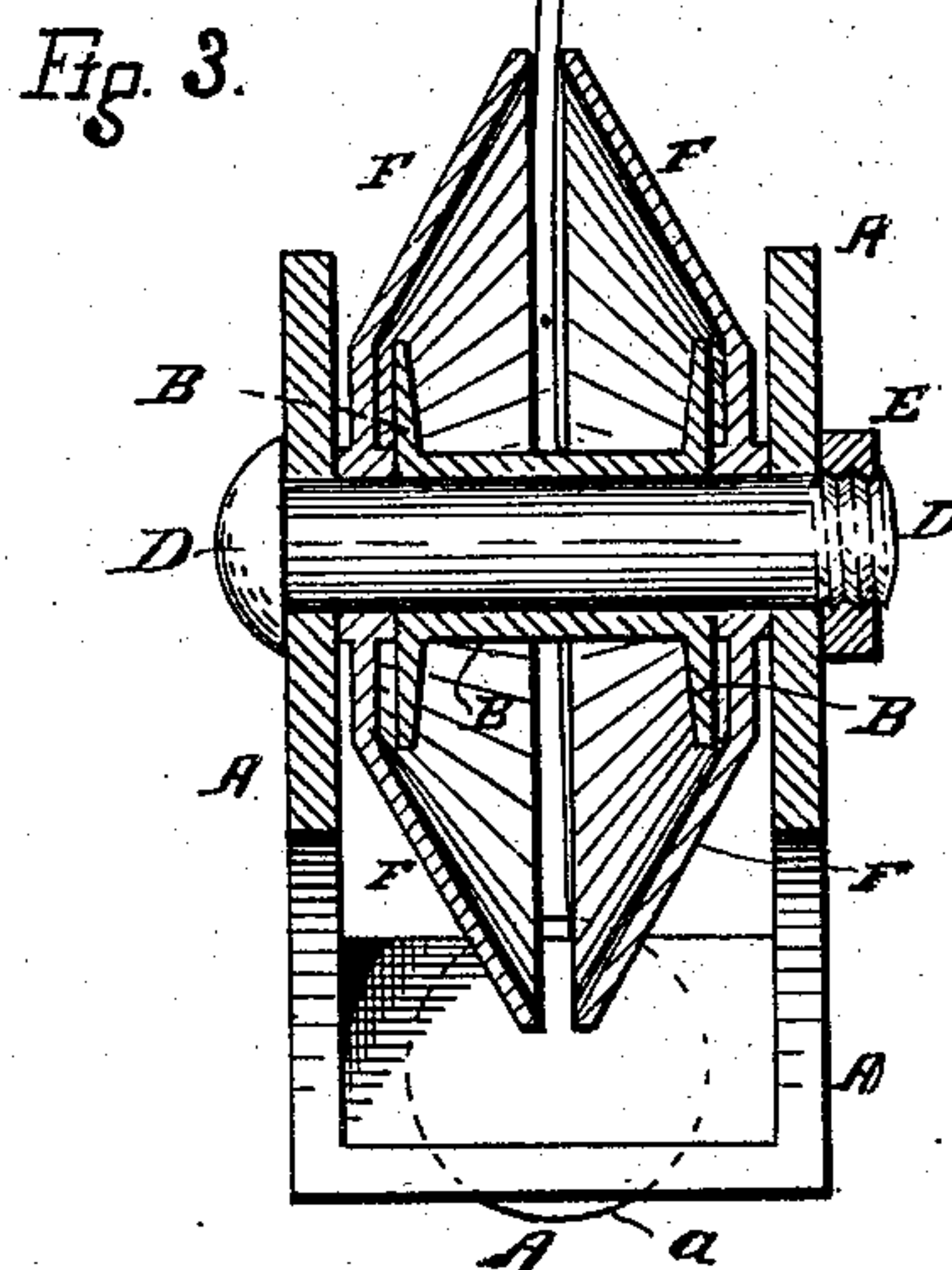
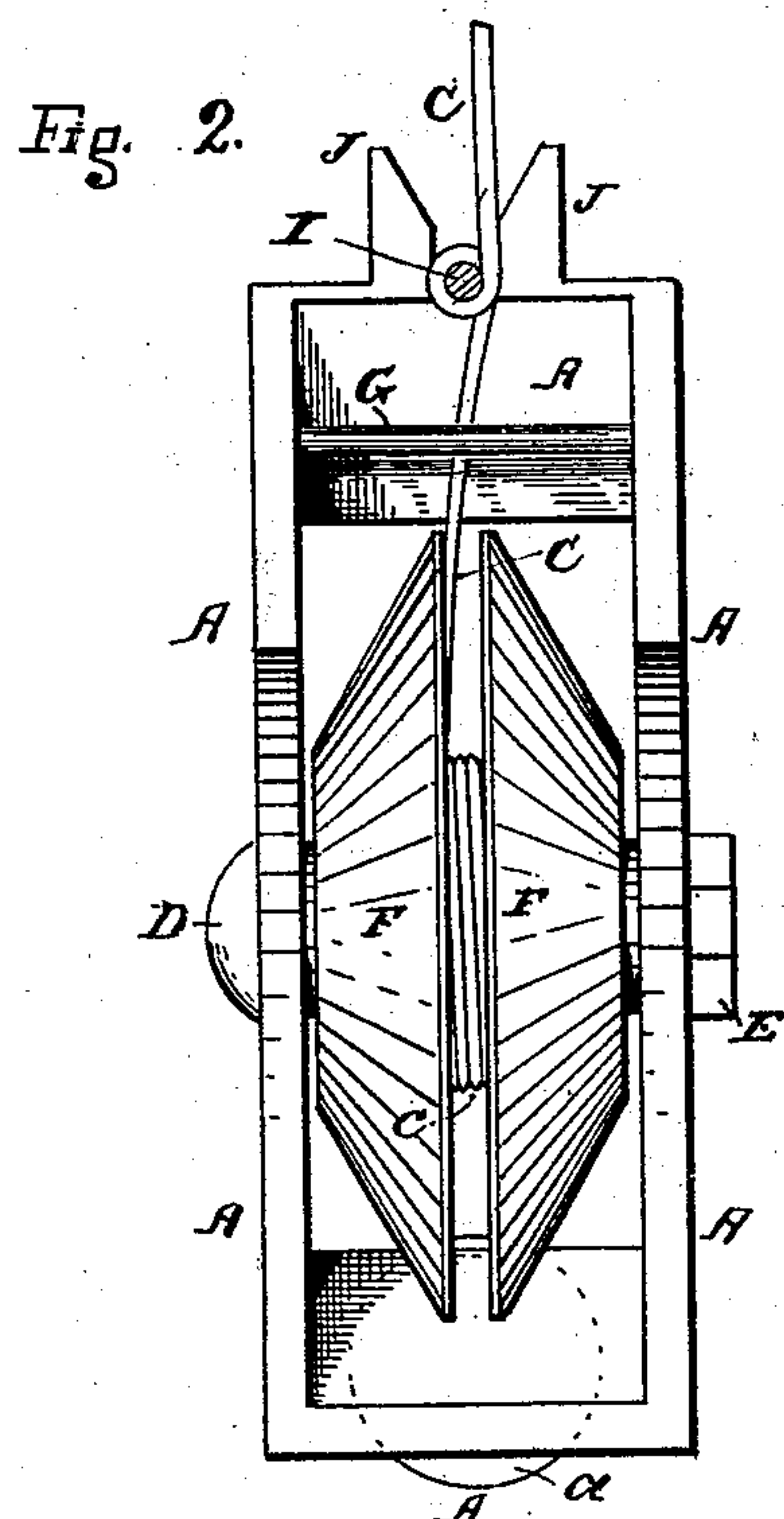
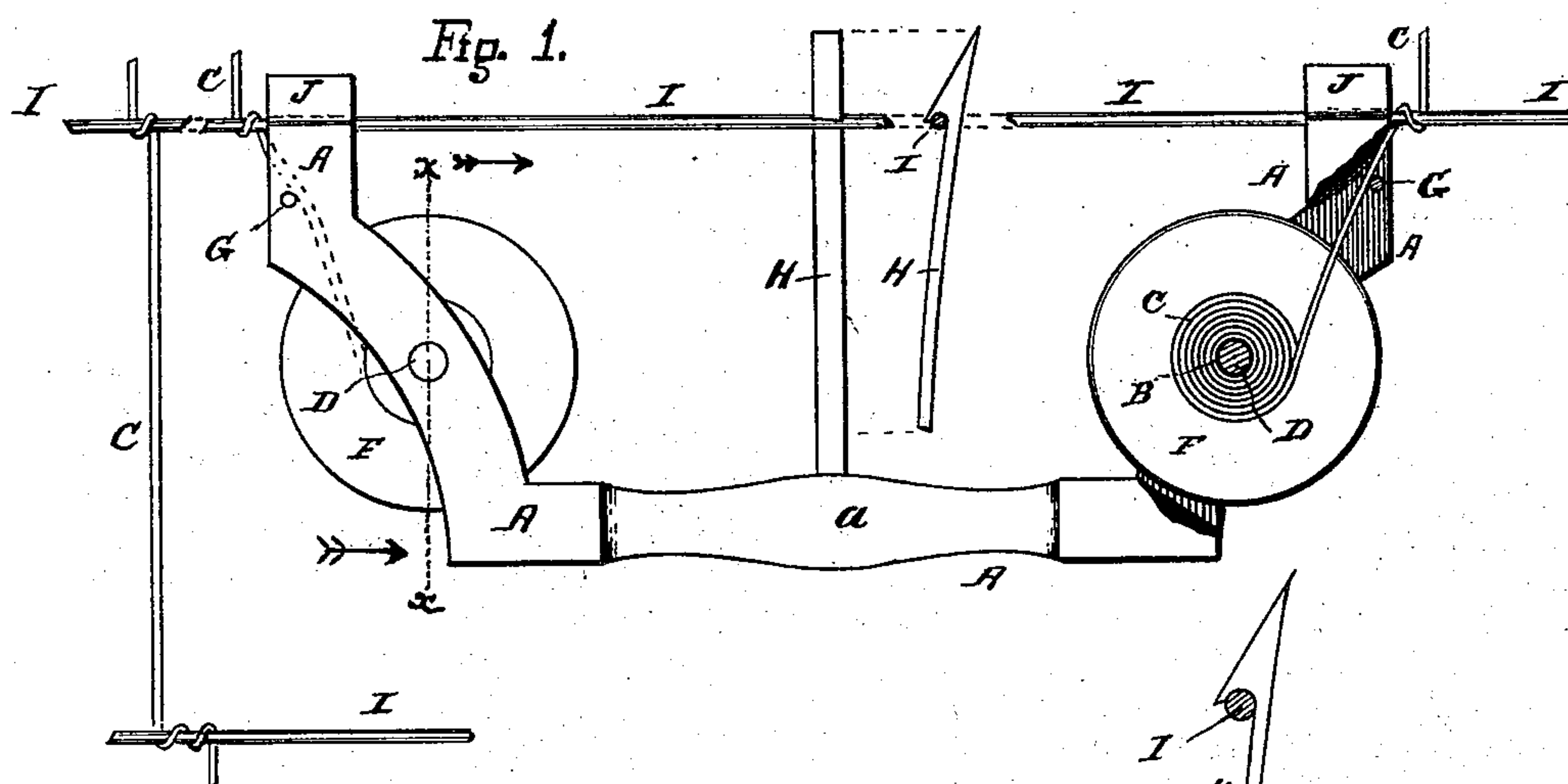
(No Model.)

J. R. & P. P. KELLY.

# MACHINE FOR TYING CROSS WIRES IN WIRE FENCES.

No. 506,638.

Patented Oct. 10, 1893.



**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

JAMES R. KELLY AND PETER P. KELLY, OF WATERLOO, NEW YORK.

## MACHINE FOR TYING CROSS-WIRES IN WIRE FENCES.

**SPECIFICATION** forming part of Letters Patent No. 506,638, dated October 10, 1893.

Application filed January 11, 1893. Serial No. 457,989. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES R. KELLY and PETER P. KELLY, citizens of the United States, and residents of Waterloo, in the county of Seneca and State of New York, have invented certain new and useful Improvements in Machines for Tying Cross-Wires in Wire Fences, of which the following is a specification.

Our invention relates to that class of machines or tools heretofore employed for tying cross-wires to the main or horizontal wires of wire fences.

The objects of our improvements are to simplify and improve the construction and operation of machines of this class; and we aim to attain these results by means of the features of construction hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a side view (shown partly in section, or broken away) of a machine embodying our improvements; Fig. 2 an end view of the same, and Fig. 3 a section in the plane of the line  $x x$ , of Fig. 1, viewed in the direction indicated by the arrows there shown, and enlarged.

Like letters of reference indicate like parts.

A represents the frame or stock of the machine.

B B are the bobbins or reels, and C C are the cross-wires wound thereon. D is a pin or bolt passing through portions of the frame. E is a nut on one end of the said bolt. The bobbins turn freely on the bolt D. F F are concavo-convex disks through which the said bolt also passes. The inner edges of these disks do not meet, as is clearly indicated in Figs. 2 and 3, space enough being there left to permit the cross-wire to pass out freely as it leaves the bobbin. These disks need not turn, and may be prevented from so doing, if deemed best, in any suitable way.

G is a guide-pin or stay extending across that part of the frame from which the cross-wire passes out.

H is a spring-catch attached at one end to the handle-bar or portion  $a$  of the frame, and I is one of the horizontal fence-wires; we have only shown one of these catches, but two may be used if deemed preferable, one arranged near each end of the handle  $a$ , instead of only one applied as shown.

J J are flaring extensions to receive the wire I which, when inserted therein, serves as a fulcrum or bearing to retain the frame in its proper position with relation thereto, removably, while the cross-wire is being wound upon the main wire, as will hereinafter more fully appear.

To use this device for the purpose for which it is intended, take it by the handle portion, in both hands, by preference, and hold it in such a manner that, when moved slightly toward the upper main wire of the fence the said wire will enter the extensions J J, as indicated in Figs. 1 and 2. This wire being thus in place we coil the ends of the cross-wires once, at least, about the main wire, and then turn the machine around the said wire until a sufficient number of coils are so made to connect the cross-wires firmly to the main wire. We then draw the machine downward to or a little way below the next lower main or horizontal fence-wire, insert that wire in the said extensions, and turn the machine about it until the cross-wires are also secured thereto, and we proceed in this manner until the lowest horizontal wire is connected to the cross-wires. This being done we clip the cross-wires and proceed as described to apply others in like manner along the main wires until the fence is finished.

In the example shown we have employed two bobbins on the same frame; and this we deem desirable as two cross-wires may thus be applied at the same time, but only one, or more than two, may be used on the same frame without a material departure from the scope of our invention.

When cross-bars, braces, posts or other parts of the fence obstruct the using of this device in the manner now described, we remove one of the bobbins and its pair of disks F F, and also their supporting bolt D, and these parts we arrange together again substantially as before but independent of or without connection with the frame A. We are thus enabled to apply the cross-wires to the main wires with facility under circumstances which would make it difficult if the frame were used.

The function of the disks F F is to cause the cross-wires, whether the frame is employed or not, to be drawn or fed out sub-



stantially the same as if delivered away from a point midway between the ends of the bobbin, thus tending to produce an evenness and regularity in the appearance of the work; 5 these disks also aid the operator in using the bobbins independently of the frame. The rods G G also aid in guiding the cross-wires as they are drawn out.

The hook or hooks H H serve to retain the 10 handle portion of the machine, and hence the whole machine, at an unvarying distance from the wire to which the cross-wires are being applied, and the main wires are thus retained properly within the jaws or extensions 15 J J, and the bobbins are thus prevented from being rotated excepting as the cross-wires are taken up by the coils on the main wires. The main wires, by reason of their contact with the bottoms of the jaws or extensions J J, prevent the cross-wires from becoming slack by 20 the accidental pushing of the machine toward the main wires. In practice the machine should be pulled in a direction away from the main wire to keep the hook in contact or engagement therewith; a slight tension will suffice for this purpose, and, as will be perceived, the hook may be easily detached from the 25 wire to permit the machine to be moved to the next lower wire. The cross-wires may also be applied by beginning at the lower 30 main wire and working upward.

It will be observed that the axles of the bobbins are arranged transversely and at right-angles with relation to the main wires, and 35 have bearings in arms extending laterally from the handle portion of the frame, thereby

permitting a comparatively easy delivery of the cross-wires, and furnishing sufficient leverage to allow the coils to be easily made. The cross-wires are sufficiently stiff to prevent slackage between the bobbins and the 40 main wires.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is— 45

1. The combination, in a tool or device for tying the cross-wires in wire-fences, of a frame or stock having one or more extensions notched or recessed in their outer ends to receive the horizontal wire; one or more bobbins having 50 bearings in said extensions, and a catch or hook extending from said stock in a direction to engage said horizontal wire, substantially as and for the purposes specified.

2. The combination of a bobbin B; the concavo convex disks F, F, arranged for inclosing the ends of the said bobbin and being slightly apart about the middle portion thereof; a bolt or pin supporting the said bobbin and disks; a frame or stock, and a hook or 60 catch extending from the stock forward beyond the said bobbin, substantially as and for the purposes specified.

Signed at Waterloo, in the county of Seneca and State of New York, this 4th day of January, A. D. 1893. 65

JAMES R. KELLY.  
PETER P. KELLY.

Witnesses:

GEORGE E. ZARTMAN,  
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