

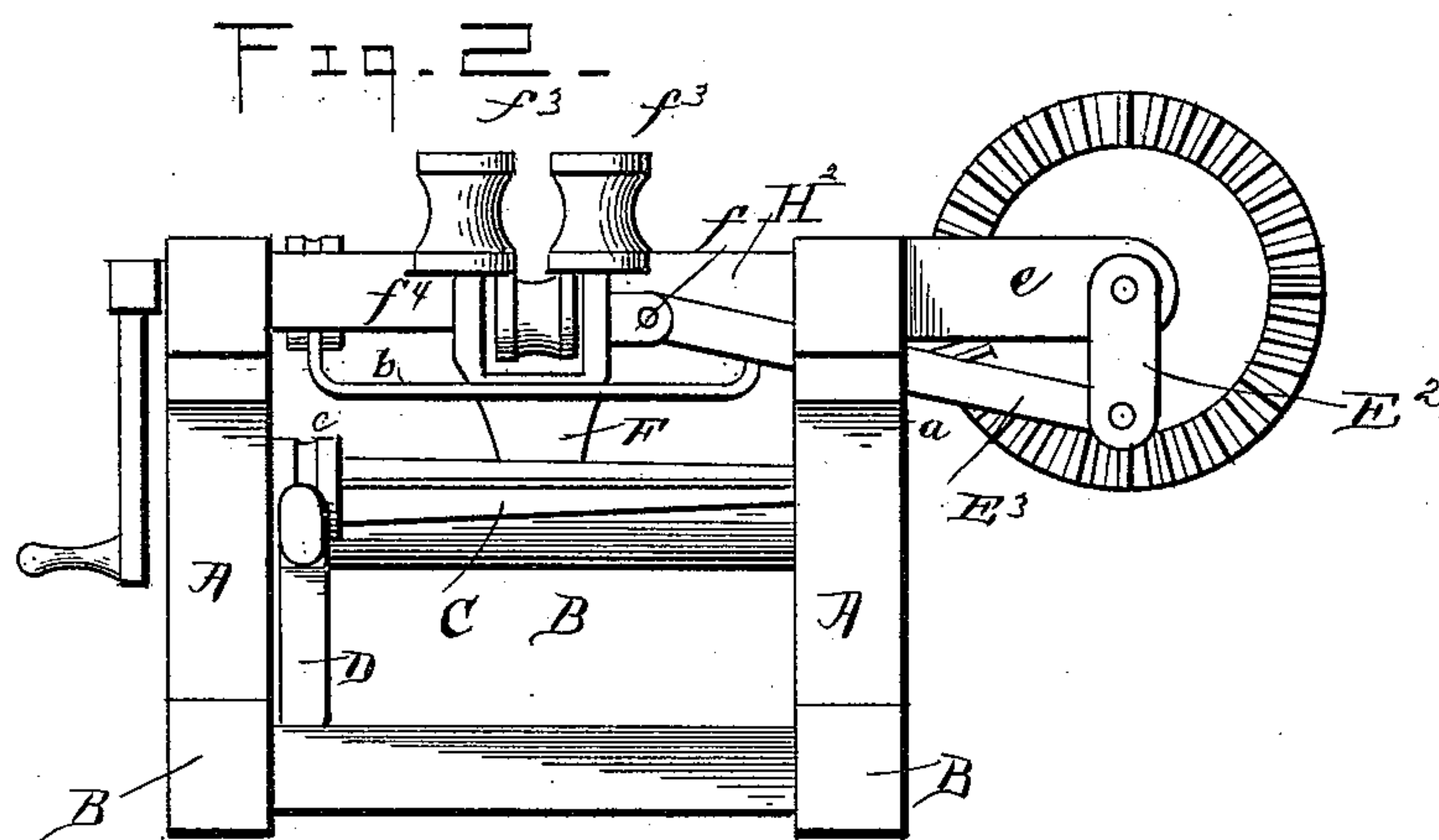
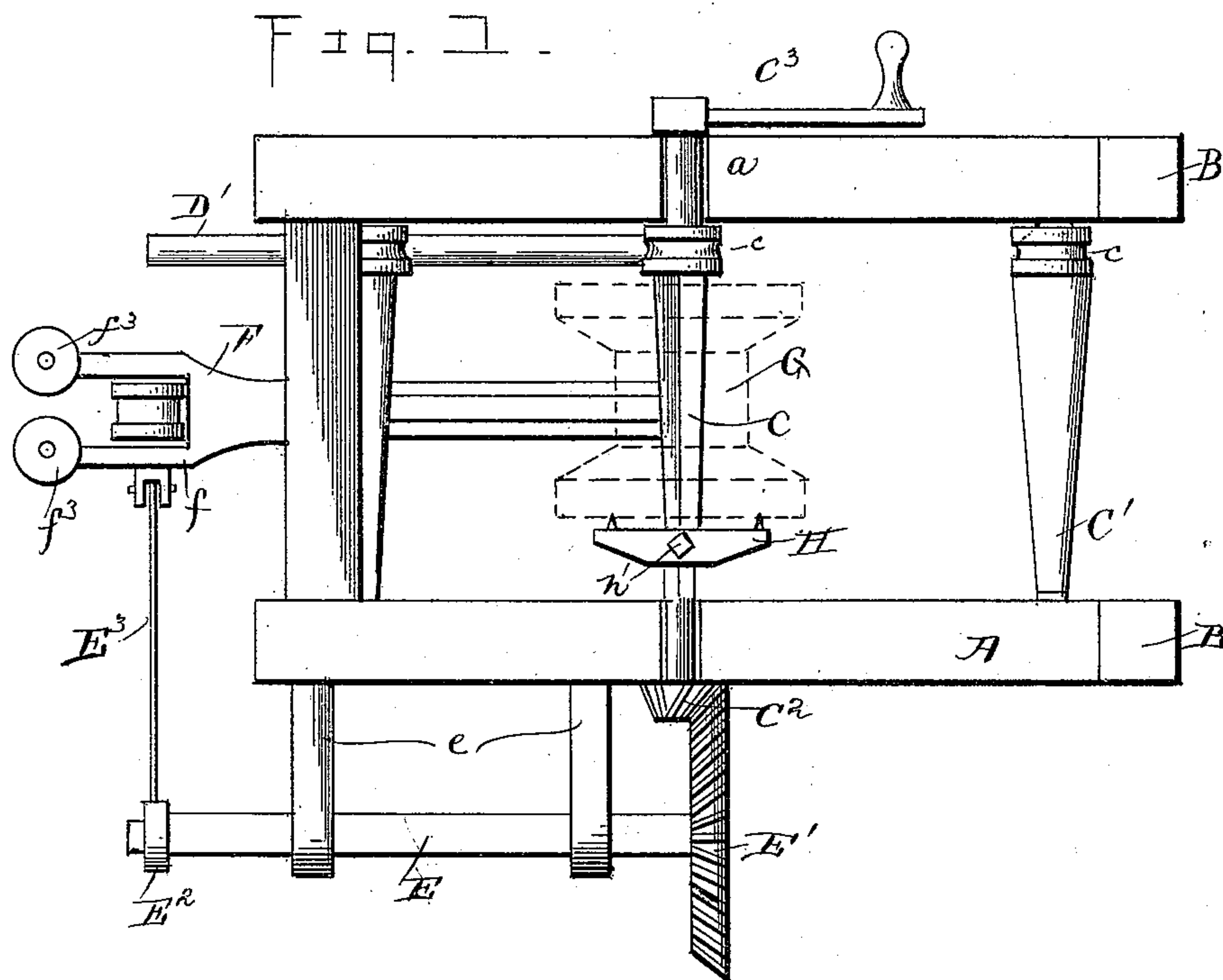
(No Model.)

2 Sheets—Sheet 1.

S. W. HARMAN.
WIRE STRAIGHTENER.

No. 431,582.

Patented July 8, 1890.



WITNESSES:

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T. M. Dorsey

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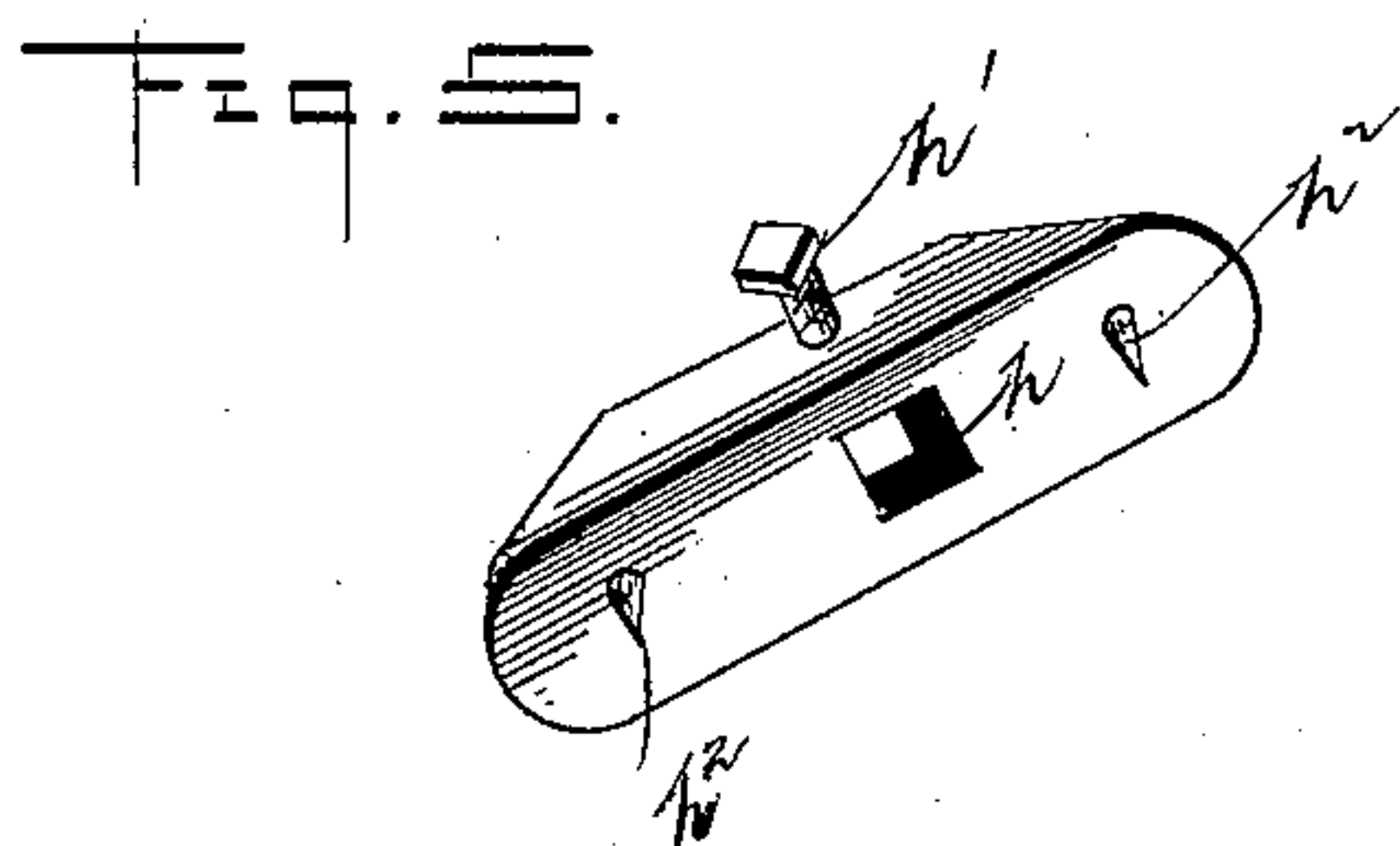
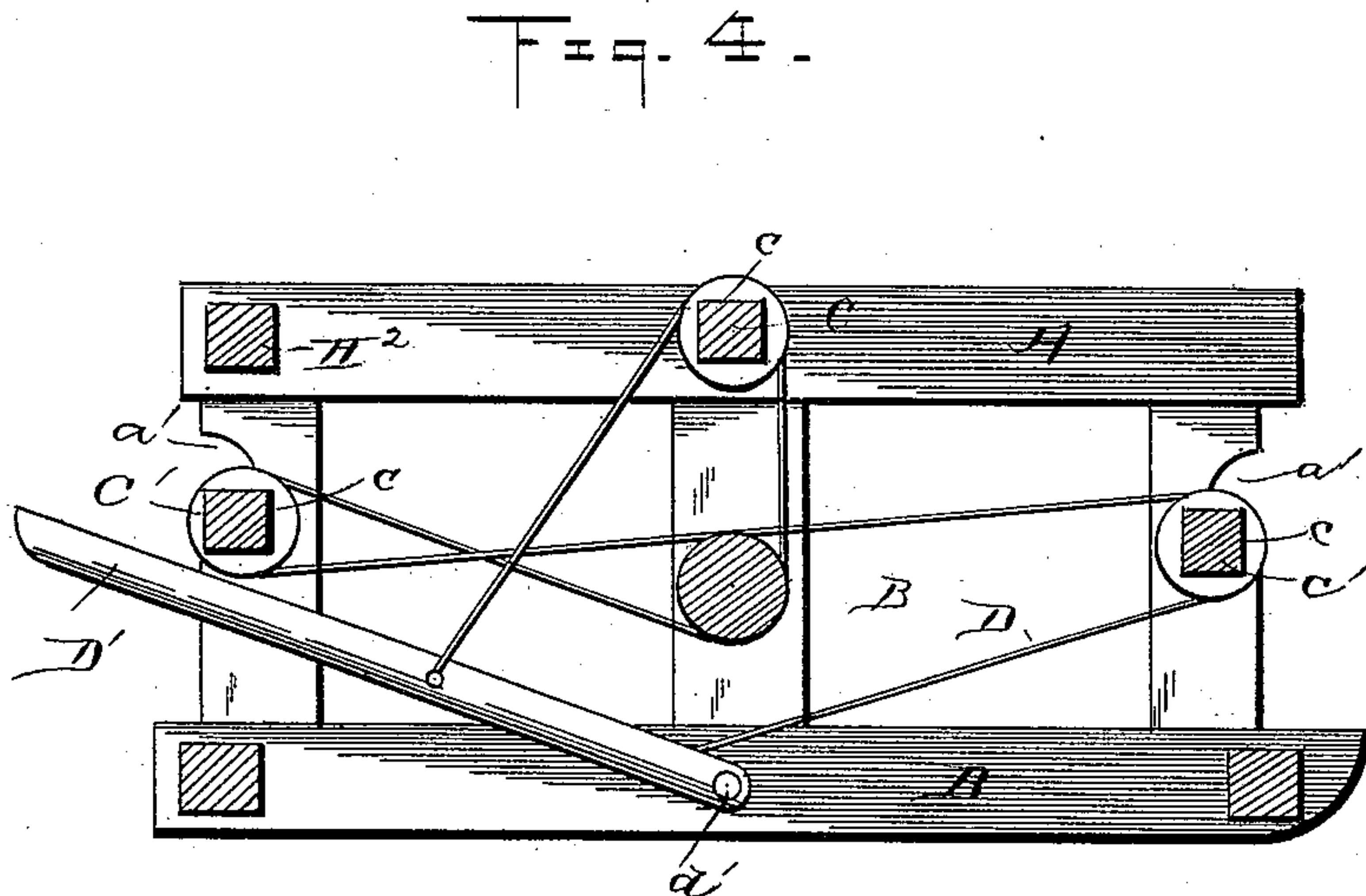
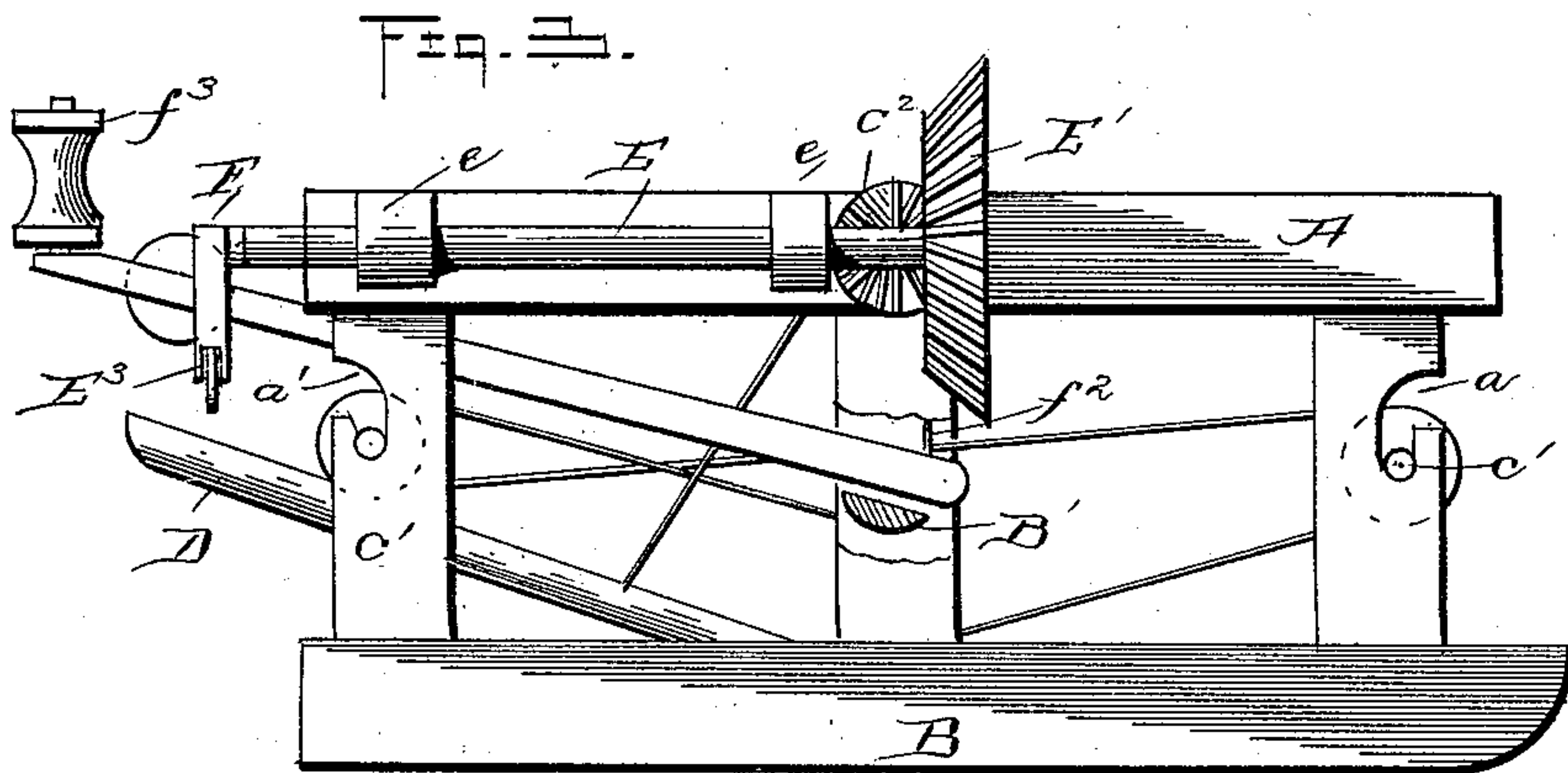
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2 Sheets—Sheet 2.

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WITNESSES:

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UNITED STATES PATENT OFFICE.

SAMUEL W. HARMAN, OF BENTONVILLE, ARKANSAS.

WIRE-STRAIGHTENER.

SPECIFICATION forming part of Letters Patent No. 431,582, dated July 8, 1890.

Application filed March 28, 1890. Serial No. 345,788. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL W. HARMAN, a citizen of the United States, residing at Bentonville, in the county of Benton and State of Arkansas, have invented certain new and useful Improvements in Wire-Straighteners; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 of reference marked thereon, which form a part of this specification.

My invention consists in a wire-straightener especially adapted for use in connection with a wire-stretcher for fences, (such as that described in Letters Patent of the United States No. 349,041, granted September 14, 1886,) as in repairing fences it is often desired to remove the wire therefrom and straighten it, and for use it may be mounted upon the same frame as is the stretcher, although this invention is obviously adapted for straightening wire in other situations than that above mentioned.

My invention more particularly consists in a wire-straightener consisting of a suitable frame having a transverse and a longitudinal shaft mounted thereon, the said shafts gearing with each other, and rollers, between which the wire passes, mounted upon the free end of a pivoted bar, the same end of the said bar being connected to the longitudinal shaft by means of a link, whereby the wire, having been straightened between the rollers, will be fed evenly to a spool mounted upon the transverse shaft upon the rotation thereof, as the said rollers will be given an oscillating motion in front of the said spool by means of the motion imparted thereto by the longitudinal shaft and link; and it also consists of the combination and construction of the several parts of which it is composed, as will be hereinafter more fully described and claimed.

In the accompanying drawings, in which similar parts are designated by similar letters, Figure 1 is a plan view of my invention. Fig. 2 is an end view thereof. Fig. 3 is a side view thereof. Fig. 4 is a section on line $x x$ of Fig.

1, showing the course of the brake-cord; and Fig. 5 is a detail of the clamp.

A suitable frame A rises from the runners B, which permit the straightener to be readily drawn from place to place, the frame carrying in bearings a in its upper piece A and in bearings a' in the outer sides of its supports shafts C and C', respectively. These bearings $a a'$ are open at the top to permit the ready removal of the shafts contained therein, which run transversely and horizontally across the frame, and which are square, being slightly tapered toward one end, as shown, carrying upon their thicker ends pulleys $c c c$, around which the brake-cord D, having one end fastened to the framing, as at d , passes, the other end of the cord being attached to the inner end of the lever D', which is also pivoted to the frame, as at d' , the outer end of the lever forming a handle by which the cord may be tightened upon the pulleys, regulating their rotation. To one end of the upper central shaft C is attached the crank C³, by which it may be rotated, while a beveled cog-wheel C² is attached to the opposite end thereof. A shaft E is carried in brackets e longitudinally along one side of the framing, and has upon its inner end a beveled cog-wheel E', gearing with the corresponding cog-wheel C² upon the shaft C, although by preference wheel E' is much the larger of the two, while to the outer end of the shaft E is attached a crank E², connected by a link E³ with the projections f upon the side of the oscillating bar F. The rear end of this bar F is pivoted to a cross-piece B' near the center of the frame A, as at f^2 , while the forward end of the bar is supported by the strap b , pendently attached to the cross-piece H² of the frame beneath which the bar F slides. The bar carries upon its extreme forward end two vertical rollers $f^3 f^3$, between which the wire to be straightened passes, and a horizontal roller f^4 , over which the wire passes on its way to the spool G, which is mounted on the upper and central shaft C, and which is prevented from rotating thereon by the clamp H. This clamp consists of a block h , having a squared perforation therein, through which the shaft passes, it being secured at any point upon the shaft by means of the clamping-

screw h' , while pins h^2 project from its sides in order to seize the end of the spool. As it is desirable that the spools be capable of removal from the shaft C, the cog-wheel C^2 on the smaller end thereof is made removable, it being simply slipped on the square end of the shaft.

From the above description of my invention its operation is clearly seen and need not be stated here further than that the wire is passed between the rollers f^3 f^3 and over roller f^4 and secured to the spool G upon the shaft C and the latter rotated by the crank C^3 . This shaft imparts, through the gearing C^2 and E' , a slower motion to the longitudinal shaft E, which, by its rotation and through the crank E^2 and link E^3 , will impart a slow oscillating or reciprocating motion to the forward end of the bar F, causing the wire to be evenly laid upon the spool as the rollers f^3 f^3 and f^4 move in front thereof. When a spool is filled, it may be taken off the shaft C and placed upon one of the side shafts C' C' for convenience in carrying.

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

1. In a wire-straightener, the combination of a frame, a transverse shaft mounted thereon, a longitudinal shaft also mounted on the said frame, a gearing between the said shafts, a bar pivoted at one end to the frame, rollers mounted on the free end of the bar, and a link connecting the said free end of the bar with the longitudinal shaft, as described.

2. In a wire-straightener, the combination

of a supporting-frame, a transverse shaft mounted thereon, having a crank at one end, a clamp having pins on its sides mounted on the said shaft, a longitudinal shaft having a crank on its forward end, gearing between the said shafts, a pivoted bar having two vertical rollers and one horizontal roller on its forward end, and a link connecting said pivoted bar with the crank of the longitudinal shaft, as described.

3. In a wire-straightener, the combination of a supporting-frame having open bearings in its top, a tapered rectangular shaft mounted in the said bearings, having a pulley thereon, a crank connected with the said shaft, and a clamp mounted thereon, consisting of a block having a squared aperture through which the shaft passes and having a clamping-screw and pins upon its sides, a cord passing over the said pulley and having its one end attached to the frame, a lever pivoted to the frame and attached to the opposite end of the cord, a longitudinal shaft having a crank on the end thereof, a gearing between the two said shafts, a pivoted bar having two upright rollers and one horizontal roller thereon, and a link connecting the crank upon the end of the longitudinal shaft with the pivoted bar, as described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL W. HARMAN.

Witnesses:

MANSON STROUD,
JOHN B. POLK.