

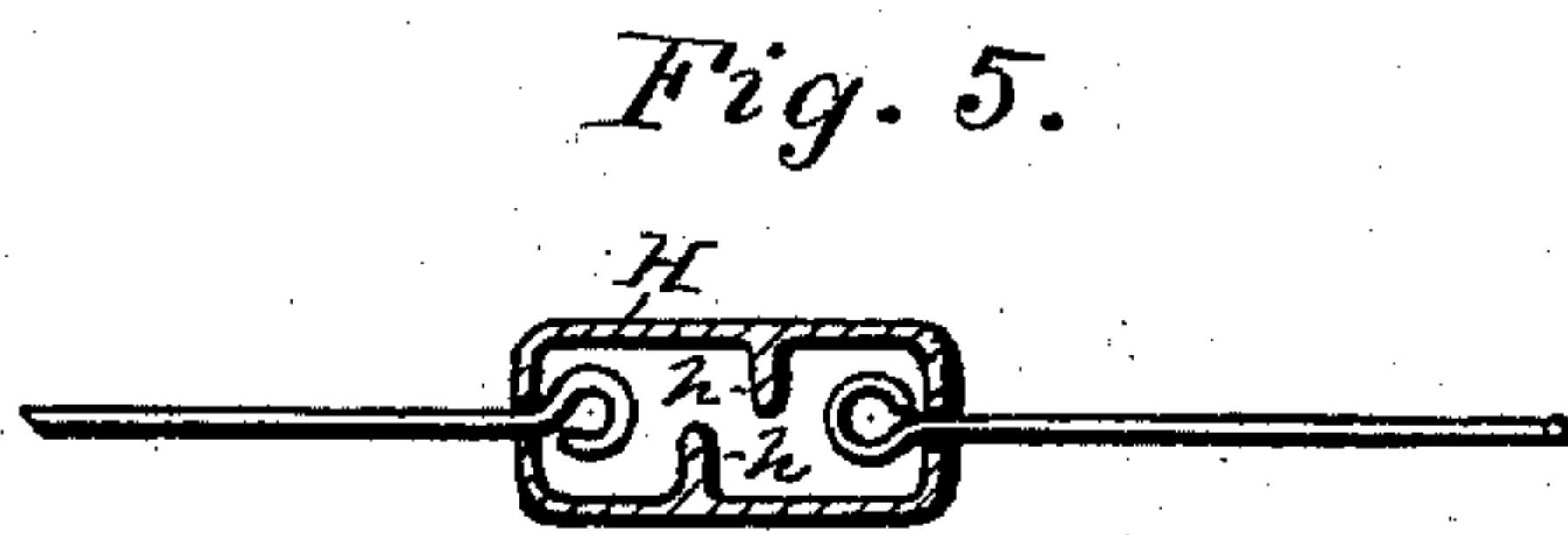
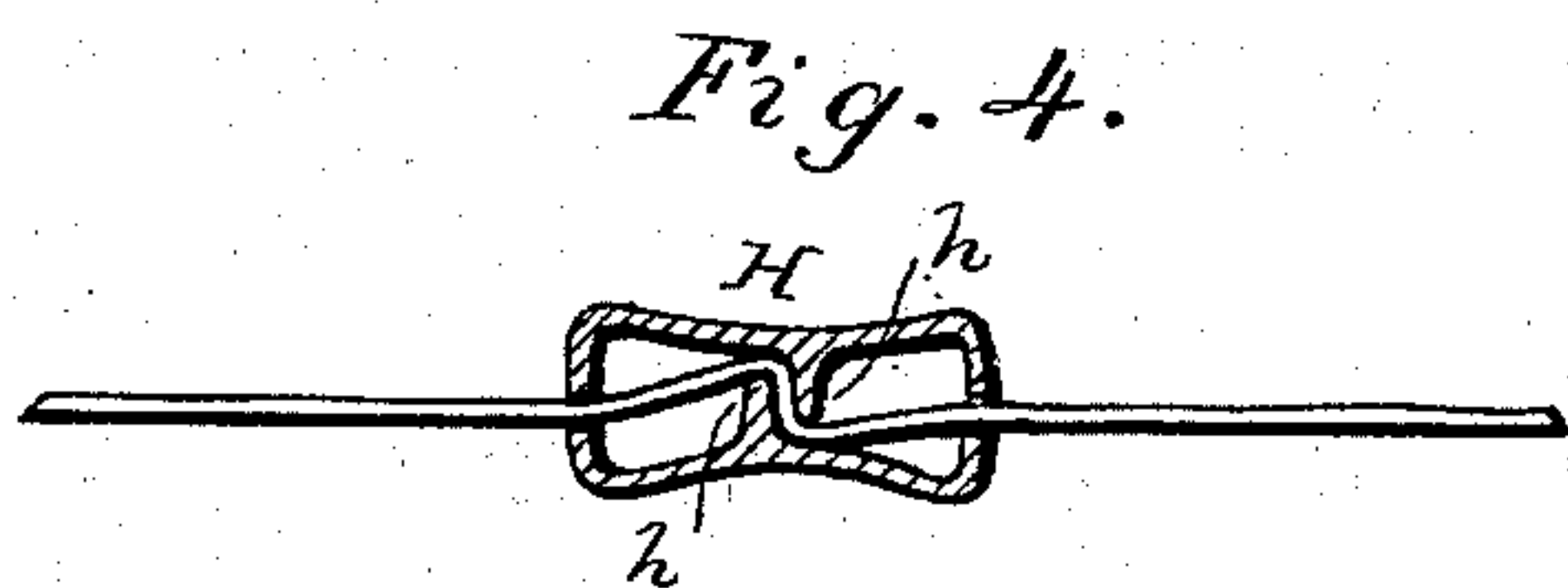
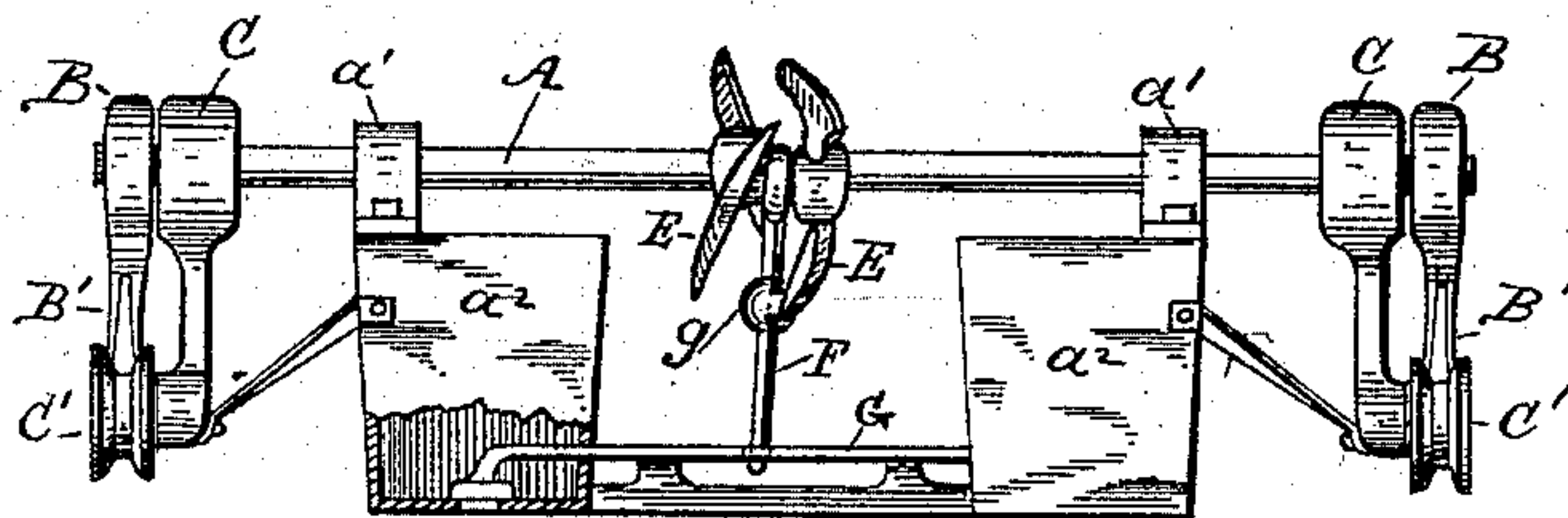
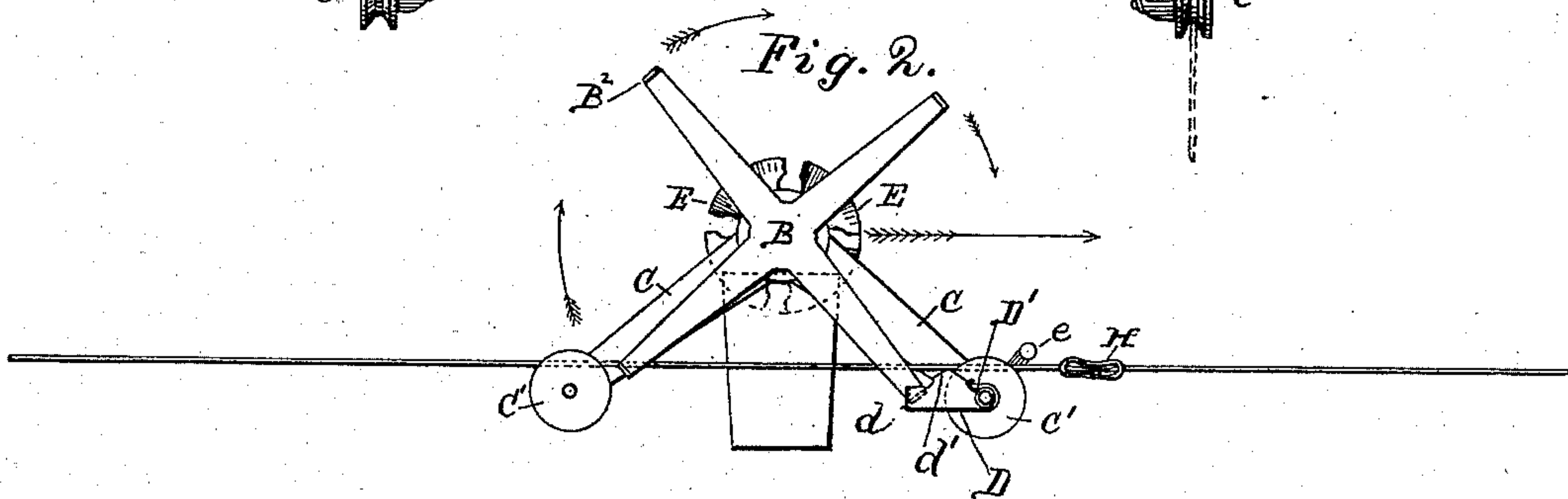
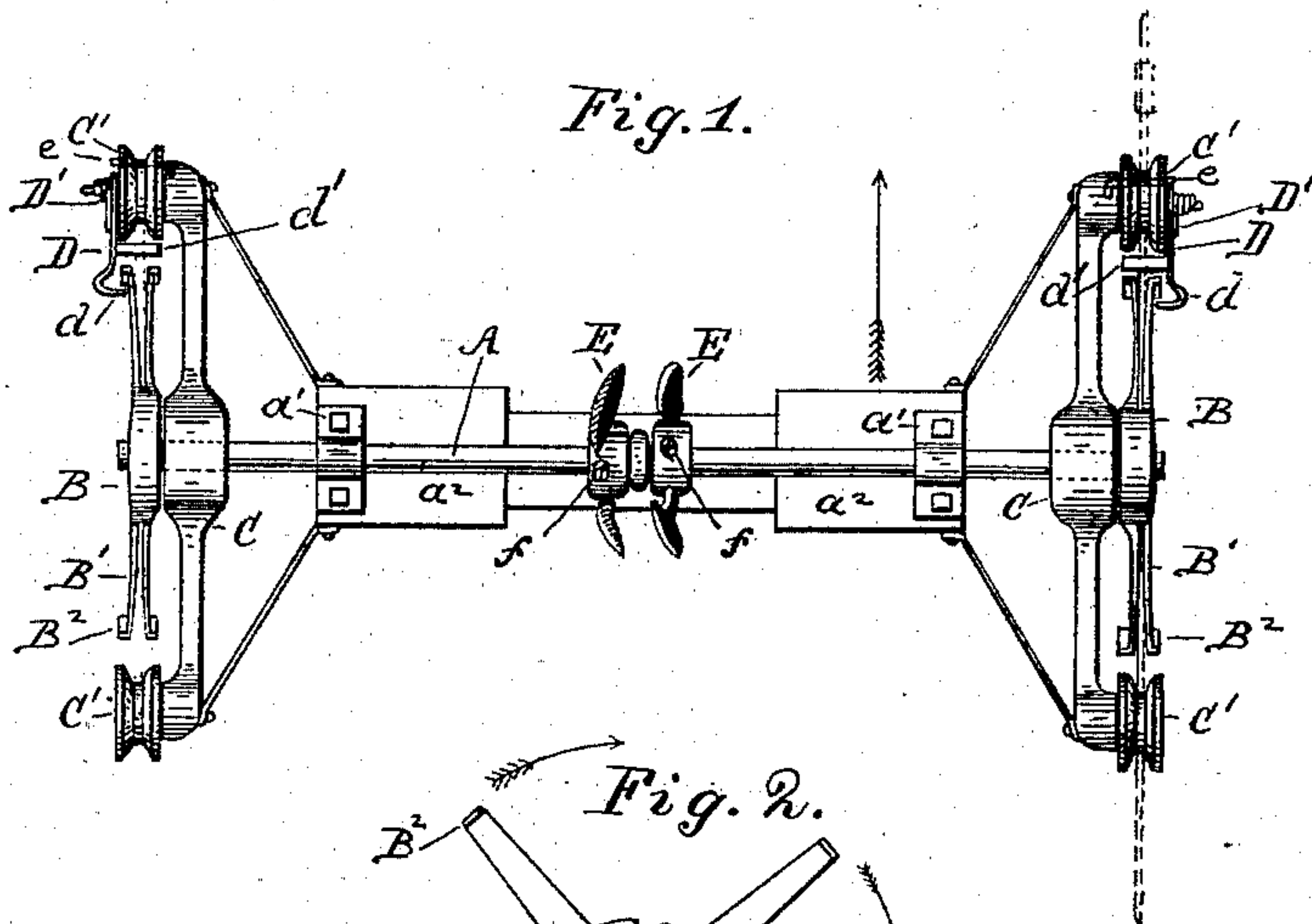
(No Model.)

A. W. CASH.

CHECK ROWER FOR CORN PLANTERS.

No. 271,788.

Patented Feb. 6, 1883.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

ARTHUR W. CASH, OF DECATUR, ASSIGNOR OF ONE-HALF TO OSCAR L. CASH, OF MACON, ILLINOIS.

## CHECK-ROWER FOR CORN-PLANTERS.

SPECIFICATION forming part of Letters Patent No. 271,788, dated February 6, 1883.

Application filed July 1, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR W. CASH, of Decatur, in the county of Macon and State of Illinois, have invented a new and useful Improvement in Check-Rowers for Corn-Planters; 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, forming a part of this specification.

This invention relates to improvements in check-rowers for corn-planters, and has for its object to render it applicable to machines of this class differing as regards the location of the reel and the check-row-line pulleys and the length of stroke of the seed-slide, as dependent upon the intervals between the knots of the check-row line or wire; secondly, to obtain a positive and direct action from the reel-shaft to the seed-slide; thirdly, to reduce the number of parts and simplify construction, lessening liability to get out of order; fourthly, to reduce friction and avoid tendency to twisting the seed-slide by the action of the cams of the reel-shaft upon the seed-slide; fifthly, to hold the reel-arms against movement only when acted upon by the knots of the check-row line or wire; and, further, in providing for the parting of the sections of the check-row line, to prevent its breaking when subjected to undue strain or meeting an obstruction, and in the ready application of the knots to the said line or wire.

To these ends the nature of my invention consists, first, in combining with the reel-shaft and the seed-slide-operating lever, having a frictional roll or ball and connected to said shaft, cams arranged to act alternately on said ball or roll of the lever, and consisting each of two blades with oppositely-inclined faces, said blades being secured upon opposite sides of a sleeve located on the reel-shaft and having adjusting-screws; secondly, in combining with the reel, with its arms provided with right-angled projections, a spring-lock or retaining device fitted loosely upon an arm of the line-pulley bracket, and provided with an arm having a right-angled projection, and with a second arm arranged contiguously to the line-pulley to adapt it to be struck by the knots of the line; and, thirdly, of a rectangu-

lar malleable-metal line-knot having apertures in its ends and projections or ribs on its opposite inner side, said projections or ribs being disposed out of line with each other and adapted to clamp the wire between them, the sides of the knot being bent in, substantially as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a plan view of my improved check-rower for corn-planters. Fig. 2 is a side view, and Fig. 3 is a front view, of the same. Figs. 4 and 5 are detailed views of my coupling, showing it as applied to a continuous check-row wire or line and to such in sections.

In carrying out my invention, I employ, as usual, a shaft, A, having bearings in boxes  $a'$ , fastened to the seed or corn boxes  $a^2$  of a corn-planter. This shaft carries the reel B, having slotted or bifurcated arms  $B'$ , provided with lateral projections or flanges  $B^2$  at their outer ends, and the cams for operating the seed-slide lever, which will be more fully referred to presently.

C is a triangular bracket or support, which is sleeved loosely upon the shaft A, contiguously to the reel B, to prevent its partaking of the motion of the said shaft. It may be braced in position in any suitable manner, the wire or line balancing it when not braced.

Upon short axes or studs at the lower ends of the arms of the bracket C are hung pulleys or grooved rolls  $C'$ , the forward pulley being adapted to occupy a higher plane than the rear pulley. The latter are arranged a short distance from the plane of rotation of the reel and a little above a horizontal plane touching the lower side of said plane of rotation. The purpose of this arrangement is to cause the line or wire, which is passed as usual over said pulleys, to pass in a line intercepting the reel-arms to allow its knots to strike and operate said reel-arms. The line or wire passes through the slots or bifurcations of the reel-arms to enable its knots to act upon said arms.

To the forward arm of the bracket C and the pulley-axis on that arm is applied a lock or retaining device for the reel-arms. It consists of a plate or bar, D, loosely placed on the aforesaid axis and held in position by a spring,  $D'$ , said plate or bar having two arms,  $d$   $d'$ ,



one arranged close to the periphery of the pulley and the other in the plane of the rotation of the reel-arms. The line or wire passes above and in contact with the arm  $d'$ , with its knots striking said arm, it being assumed that the machine is in motion, whereby the arm  $d$  will be pressed downward and forward, whence it will be disengaged from the reel-arms, previously intercepted by it, and allow the said arm to be moved by the coincident knot of the line or wire to transmit ultimately movement to the seed-slide. After the disengagement of the arm  $d$  from the reel-arm the lock is returned, by the action of its spring, to its former position, to cause the intercepting and holding of the approaching or succeeding reel-arm until the next knot of the line has in like manner operated the lock. A stop,  $e$ , fixed to the pulley-bracket C, holds the lock in position as against the action of its spring when not in use, or when the machine is being operated with its opposite side presented to the line or cord. The stop  $e$  also prevents the wire or line from being thrown off the pulley.

E E are the cams which operate the seed-slide lever. They are adjustably connected or sleeved upon the shaft A by set or adjusting screws  $f$ . This permits their relative adjustment with the intervals the knots are placed apart on the line or wire, to cause them to correspondingly affect the lever operating the seed-slide. These cams are each provided with two spiral propeller-shaped blades, with their faces arranged in a relatively parallel plane and facing in opposite directions, to permit one to strike and pass the roll or friction-roller of the seed-slide lever on one side and the other to strike and pass the said roll of said lever on the opposite side. This action of the cams imparts a reciprocating motion to the lever F, connected to the shaft A between the cams, which in turn, bearing in the seed-slide G, transmits a similar movement to the latter to cause the dropping of the seed or corn. The roll or globe  $g$  of the lever F is capable of turning as it is struck by the cams, to lessen friction.

H is the coupling, which also constitutes the knot, a series of which is applied at the required intervals throughout the check-row line or wire, one purpose of which is to operate the reel, as above stated. These couplings or knots, as indicated by their names, also effect the coupling together of the wire or line sections where it is made in sections. The knot or coupling H is made of malleable iron or other suitable metal, and has apertured heads or ends, which are connected together by parallel side pieces, upon which are formed, on their insides, offsets or plates  $h h$ . These plates or offsets are not arranged in the same plane, and are adapted to lap one upon the other by striking with a hammer and bending in the sides of the couplings, as seen in Fig. 4. With the wire or line passed through the apertures in the heads of the knots and placed between the

offsets, and by treating the coupling in the manner just described, the coupling or knot is secured at the desired point upon the line or wire. It will be also seen that where the wire or line is made in sections the links or sections are held in the couplings by eyes formed on the ends of said sections. This arrangement allows the wire or line, when constructed in sections, to turn in the apertured ends of the coupling or knot, as a swivel. The eyes hold the sections or links as against pulling apart when subjected to only the usual strain; but the section will be permitted to straighten out and withdraw from the coupling when subjected to unusual strain or upon coming in contact with an obstruction, thus preventing the breaking of the wire or line, which may be again inserted in couplings or knot, the eye or eyes being restored, as before.

It will be further observed that this device is composed of few parts, and therefore not liable to easily get out of working order. It avoids any tendency to twisting at the point of contact between the reel-shaft cams and the seed-slide-operating lever. It is applicable to machines of this class regardless of the location of the reel and line or wire pulleys or the length of stroke of the seed-slide-operating lever. A direct and positive action is obtained between the reel-shaft and the seed-slide.

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

1. In a check-rower for corn-planters, the combination, with the reel-shaft A and the seed-slide-operating lever F, having the frictional roll or ball  $g$ , and connected to said shaft, of the cams E, arranged to act alternately on the said roll or ball of the lever F, and consisting each of two blades with oppositely-inclined faces, said blades being secured upon opposite sides of a sleeve located on the reel-shaft, and having adjusting-screws  $f$ , substantially as and for the purpose set forth.

2. In a check-rower for corn-planters, the combination, with the reel B, with its arms  $B'$ , provided with right-angled projections  $B^2$ , of the spring-lock or retaining device D, fitted loosely upon an arm of the bracket C, and provided with an arm,  $d$ , having a right-angled projection, and with an arm,  $d'$ , arranged contiguous to the line-pulley to adapt it to be struck by the knots thereof, substantially as and for the purpose set forth.

3. The check-rower-line knot H, made rectangular and of malleable metal, with apertures in its ends and projections or ribs  $h$  on its opposite inner sides, said projections or ribs being disposed out of line with each other and adapted to clamp the wire between them, the sides of the knot being bent in, substantially as and for the purpose set forth.

ARTHUR W. CASH.

Witnesses:

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