

(No Model.)

E. E. RUNYON.

DEVICE FOR TWISTING WIRE CABLES OF SUSPENSION BRIDGES.

No. 404,934.

Patented June 11, 1889.

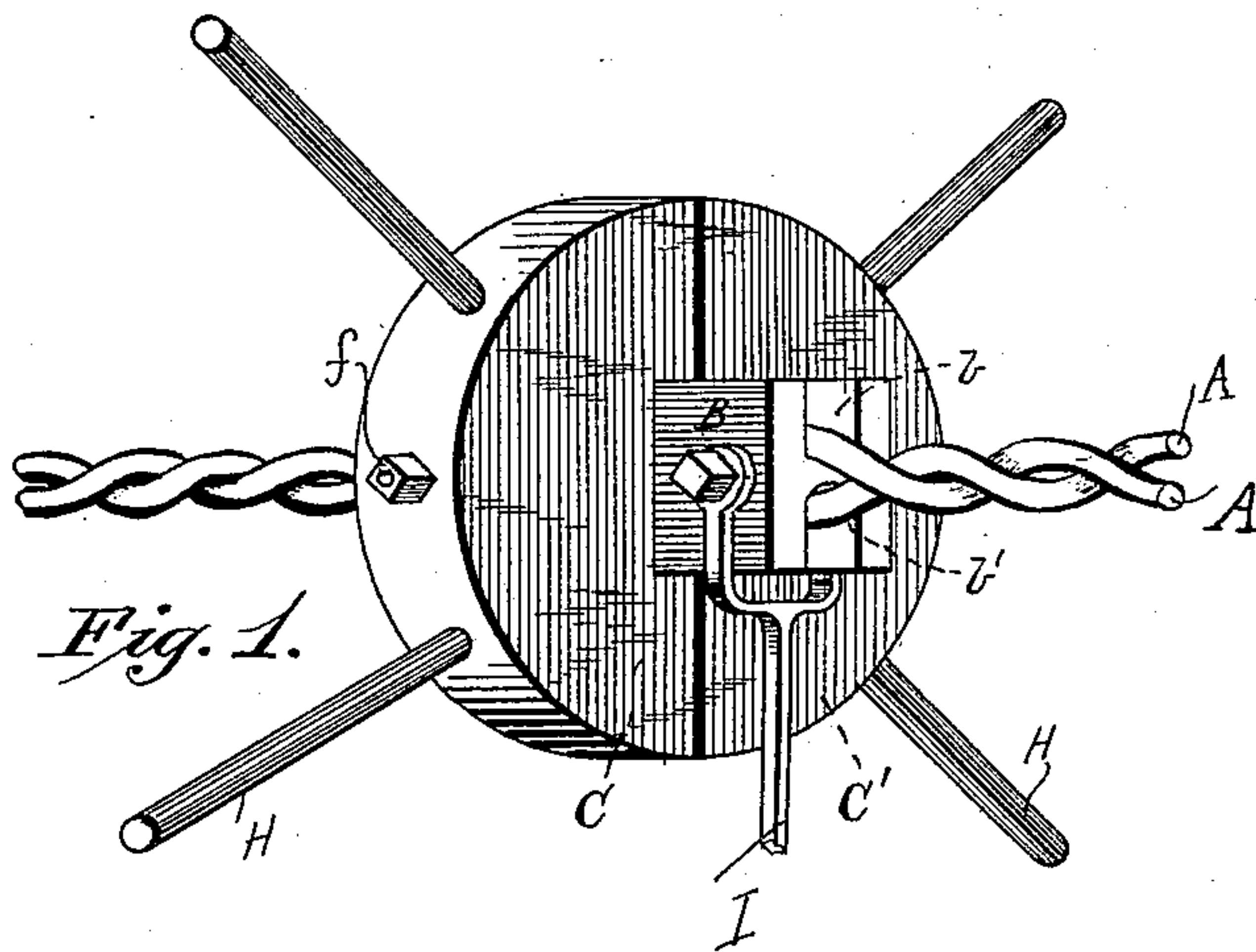


Fig. 2.

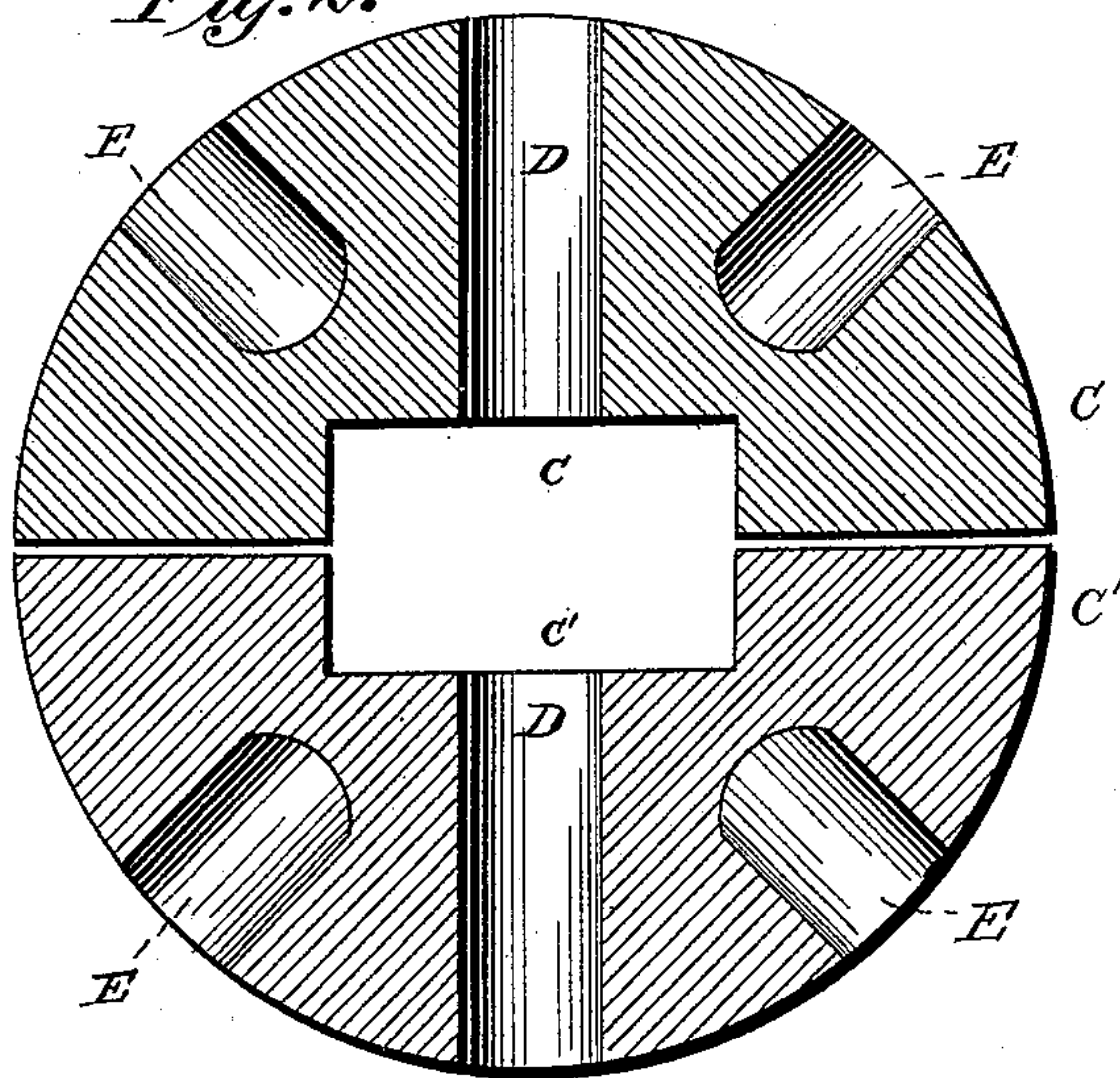
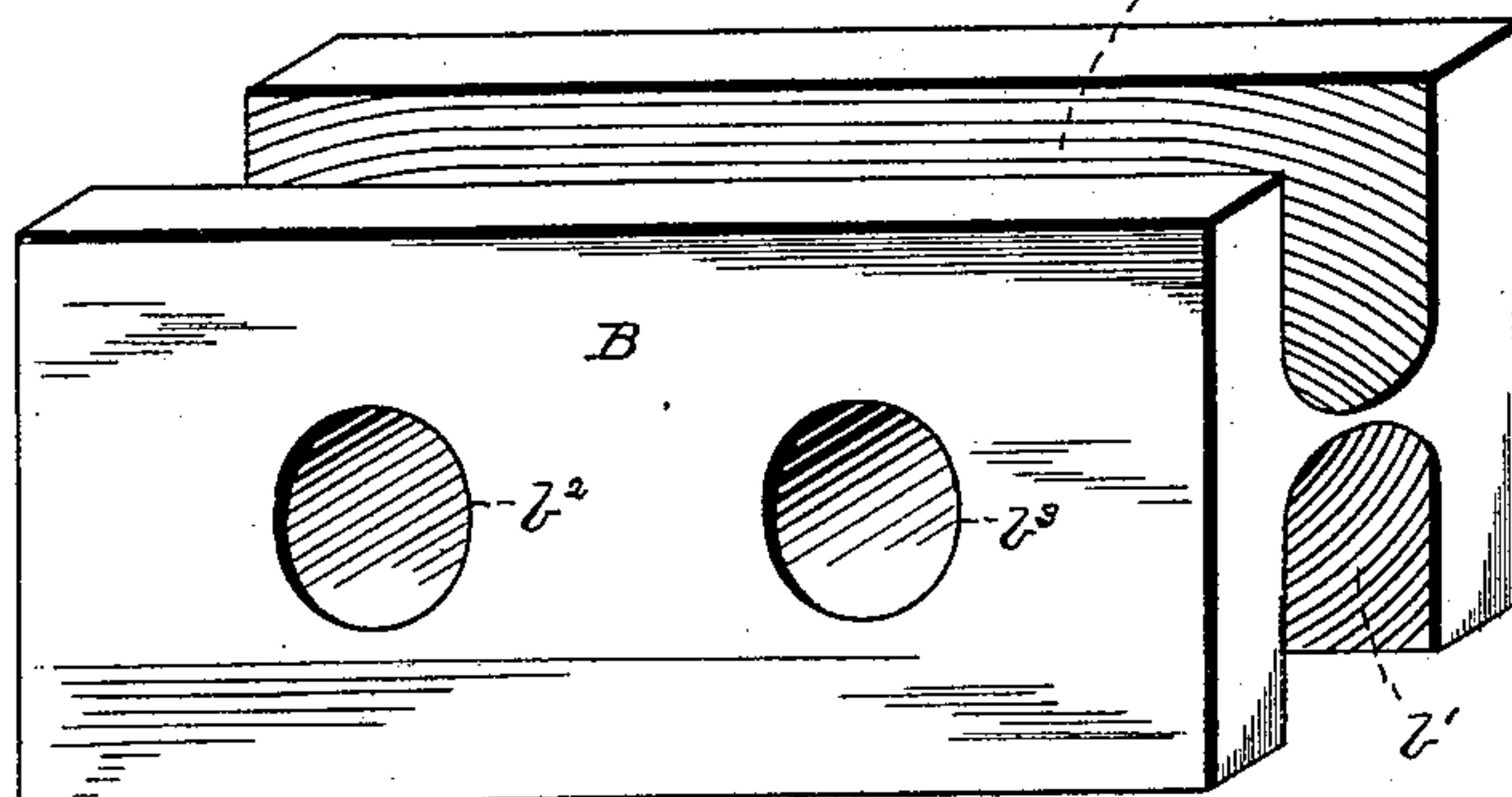


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWIN ELIJAH RUNYON, OF MOUNTAIN SPRING, TEXAS.

DEVICE FOR TWISTING WIRE CABLES OF SUSPENSION-BRIDGES.

SPECIFICATION forming part of Letters Patent No. 404,934, dated June 11, 1889.

Application filed April 1, 1889. Serial No. 305,588. (No model.)

To all whom it may concern:

Be it known that I, EDWIN ELIJAH RUNYON, a citizen of the United States, residing at Mountain Spring, in the county of Cooke and State of Texas, have invented certain new and useful Improvements in Devices for Twisting Wire Cables for Suspension-Bridges; 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 and figures of reference marked thereon, which form a part of this specification.

My invention relates to an improved device for twisting the wire cables of suspension-bridges similar to the bridge shown in my patent, No. 394,940, whereby the required tension of the same is secured in an easy and rapid manner; and it consists in the construction and arrangement of the parts hereinafter described, and definitely pointed out in the claims.

In the accompanying drawings, forming part of this specification, like letters of reference indicate corresponding parts in the several views.

Figure 1 is a perspective view of my device, showing the casting or wire-separator in place. Fig. 2 is a longitudinal vertical section of the twisting device with the casting removed. Fig. 3 is a detail view in perspective of the casting or separator.

In the drawings, A represents the several wires forming a cable of a suspension-bridge. As these wires are first placed, they are more or less slack and need tightening. To tighten these wires and thus give the required tension to the several cables, so that they will receive the strain of the weight equally, I place between the strands a metallic casting, as B, constructed rectangular in shape, and having grooves $b\ b'$ formed in its upper and lower edges, in which the wire rests. The ends of these grooves are gradually deepened until they are brought nearly together, as shown, their sides being rounded to form a smooth rest for the wires. Two openings $b^2\ b^3$ are made in the casting B at points respectively

midway, its longitudinal center extending entirely through the same.

C and C' represent two semicircular disks of hard metal, having rectangular grooves $c\ c'$ formed laterally in their straight faces at the center thereof. Openings D are formed in the disks, which extend from their peripheries into the grooves D and in alignment with each other when the disks are placed together. On each side of the openings D in the respective disks are formed pockets or holes E, which extend into the metal for a short distance. When the disks are placed together to form a complete circle or wheel, the space formed by the grooves is occupied by the casting B, which exactly fits therein, one of the openings b^2 being in direct alignment with the openings D. When the parts are in this position, a binding-bolt F is passed through the openings D and b^2 and a nut f fitted on its end, thereby securing the parts firmly together.

H represents radial arms or levers secured in the pockets E and extending out from the disks to serve as means for twisting the device.

I is a metallic tie-rod, which is secured in the opening b^3 of the casting and extends down to and is adapted to be connected with the tower-cables or needle-beams of the bridge.

The operation is as follows: When the casting B is placed between the wires, the disks are placed over it at a point to cover the opening b^2 . The bolt is then passed through the several parts and secured. The levers H are then grasped and the device with the cables is turned until the cables have been twisted sufficient to give them the required tension. The tie-rod I is then inserted through the outer hole in the casting and secured therein and extended down and made fast to the bridge or cable below, thus preventing the cable from untwisting. The disks can then be removed and used on other cables.

Having thus described my invention, what I claim is—

1. The cable-twister consisting of the casting B, the two disks C C', the bolt F, and the arms H, substantially as described.

2. The combination, with the casting B, having grooves $b\ b'$ and openings $b^2\ b^3$ therein, of the semicircular disks C and C', having grooves $c\ c'$ therein and openings D, extending through the same, the bolt F, for binding the several parts together, and the arms H, extending out from the disks, substantially as described.

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

EDWIN ELIJAH RUNYON.

Witnesses:

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W. R. MADDUX.