

**No. 628,662.**

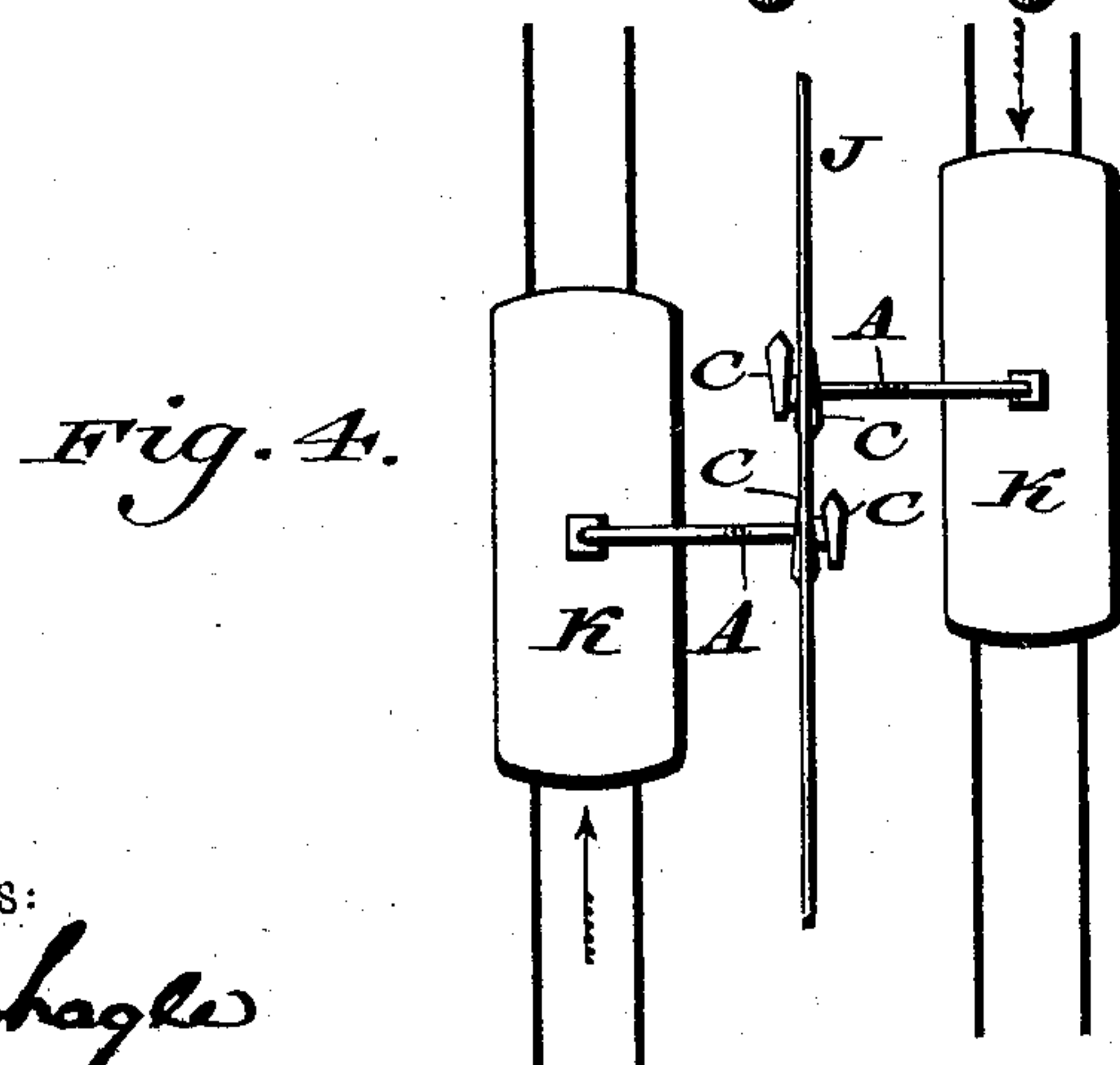
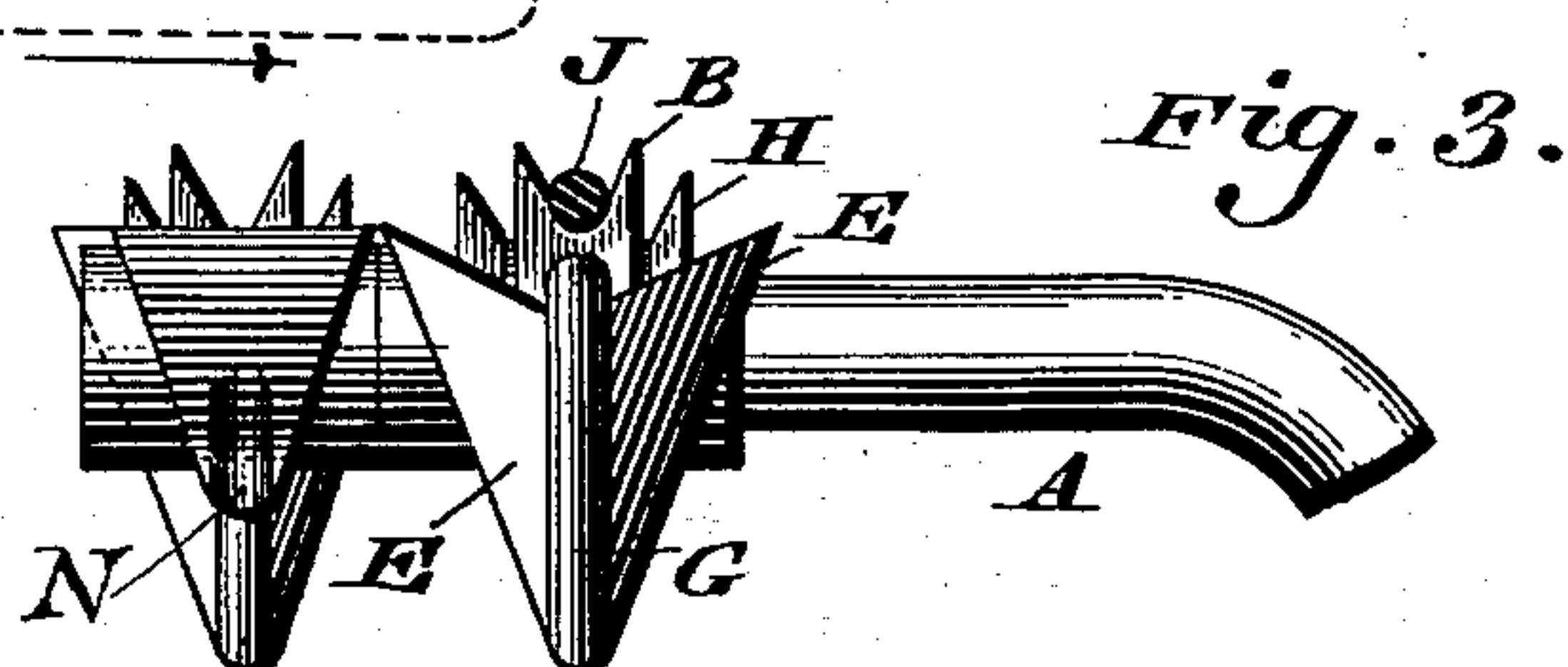
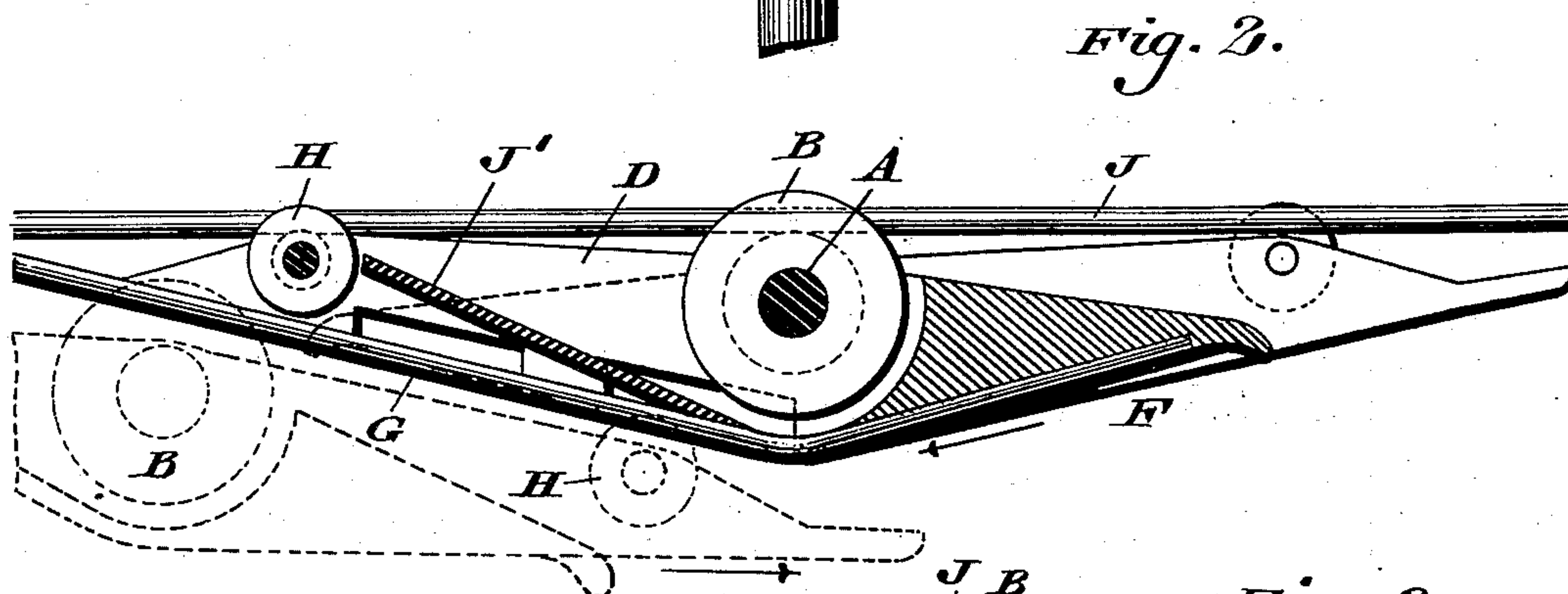
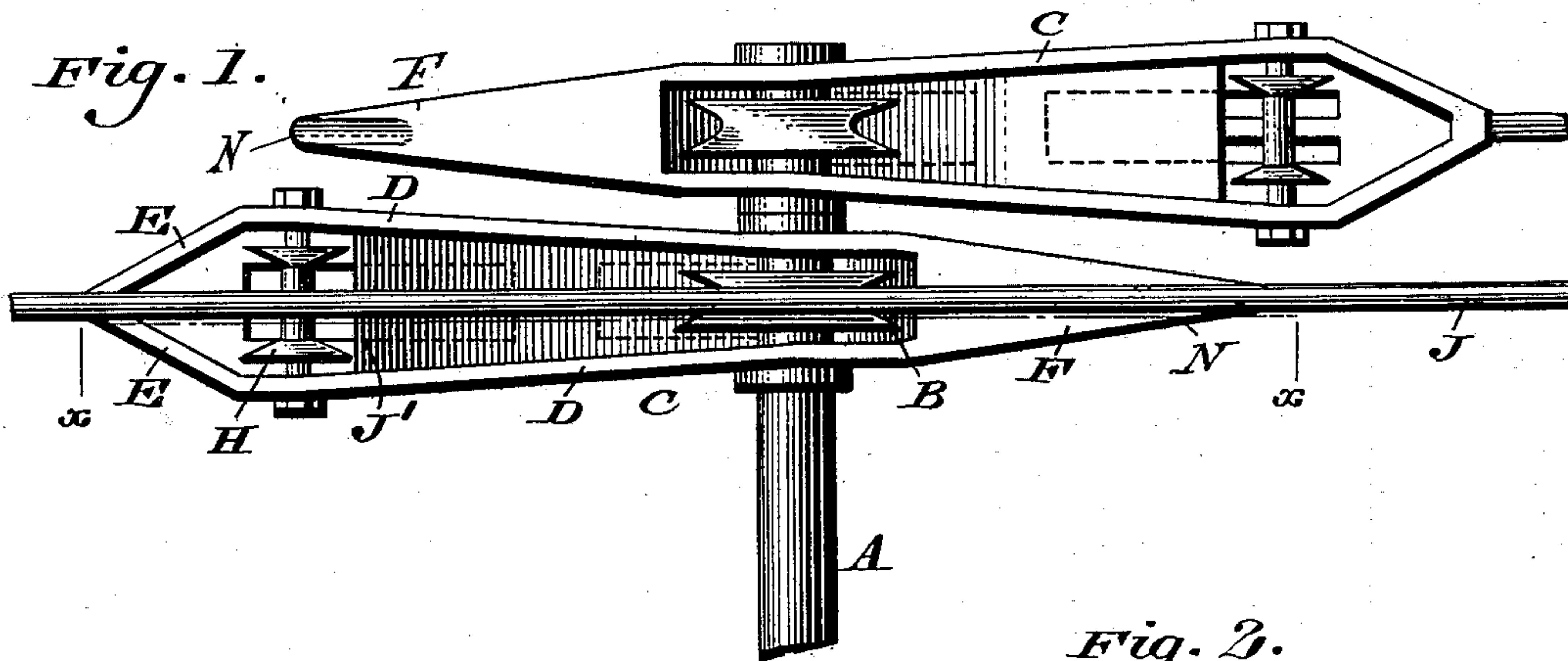
**Patented July 11, 1899.**

**H. J. HUMPHREY.**

**TROLLEY.**

(Application filed May 27, 1896.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HARRY J. HUMPHREY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO CHARLES P. NICHOLAS, SAMUEL HARTING, AND GEORGE W. WILLIAMS, OF SAME PLACE.

## TROLLEY.

SPECIFICATION forming part of Letters Patent No. 628,662, dated July 11, 1899.

Application filed May 27, 1896. Serial No. 593,206. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY J. HUMPHREY, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Trolleys, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a novel construction of trolley, as hereinafter described, by means of which one wire only is employed for two car-tracks or car systems, provision being made for enabling one trolley to pass under or over another trolley going in an opposite direction.

It further consists of novel details of construction, all as will be hereinafter set forth, and specifically pointed out in the claims.

Figure 1 represents a plan view of a trolley and its adjuncts embodying my invention and a portion of the feed-wire to which the same is applicable. Fig. 2 represents a partial longitudinal sectional view on line  $x x$ , Fig. 1. Fig. 3 represents an end elevation of the trolley seen in Fig. 1. Fig. 4 represents on a reduced scale a plan view of two cars and a single feed-wire therefor, showing said cars and their trolleys in the act of passing each other in opposite directions, the trolley and guide-wheels being omitted on account of the reduced size of the parts for the sake of clearness of illustration.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a trolley-pole which is attached to its car in the usual manner. B designates a trolley-wheel which is suitably journaled thereupon. C designates a frame or cage upon which said wheel B is journaled, said cage consisting of the upright diverging sides D, which are suitably connected and braced, said sides having openings therein for the purpose of reducing their weight, and the converging extremities E. The end portion F, opposite to the latter, is weighted, and the frame B has secured to the lower edge of its under side the guide-wire G.

H designates a roller mounted on the sides D at the end opposite the weight.

J designates a single conductor employed for a plurality of systems.

J' designates a strip of suitable material extending across the lower end of the frame C, underneath the wheel B, and projecting to a point adjacent the roller H, thereby forming a guard preventing the end F of a contacting frame from striking the said wheel B or getting into the space in the cage between said wheel B and roller H, and thereby coming in collision with said roller H. It will be further apparent that by the provision of the guard J' any liability of a trolley-wheel being caught in the openings in the sides D will be prevented.

K designates cars moving in opposite directions, which are adapted to pass each other. In the end F is a groove N, into which the wire J enters when that end of the cage is in contact with said wire.

It will be seen that I have shown two trolleys and adjacent parts for each car, the object of which being that the operator can place either one in connection as is required without removing the trolley from the arm or reversing the mechanism.

The operation is as follows: The trolley shown in full lines, Fig. 2, will be understood to be moving in the direction indicated by the arrow, the weighted end being at the rear. The trolley advancing in the opposite direction (shown in dotted lines, Fig. 2) has the weighted end in front; and as the trolley reaches the contiguous end of the frame C it moves on the wire G, and as the roller corresponding to the roller H nears the end F the said end strikes a guard similar to J' and directs the roller to its proper place. As the trolley seen in dotted lines moves to the right it will cause the counterpoise F to rock upwardly until its extremity is in proximity to the feed-wire J, whereupon said trolley will run readily along the weighted portion F upon said feed-wire J, the weight of said counterpoise F causing the cage C and the roller H to afterward automatically assume the position seen in full lines in Fig. 2.

It will be observed that although I have shown two cages C in the above trolley system as mounted upon the pole A it will be

evident that one device only may be employed, the above description having been confined to but one.

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

1. A trolley consisting of a suitable cage or casing, a trolley-wheel journaled therein, a roller mounted at one end of the casing, a guide underneath said cage, and a counterpoise, substantially as described.

2. In a trolley, a casing a trolley-wheel and roller, a guard mounted adjacent said roller,

a guide, and a counterpoise, substantially as described.

3. In a trolley, a suitable cage or casing, a trolley-wheel and a roller journaled therein, a guide attached to the under side of said casing, a counterpoise attached to the extremity of the latter, and a guard intermediate said trolley-wheel and roller, substantially as described.

HARRY J. HUMPHREY.

Witnesses:

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