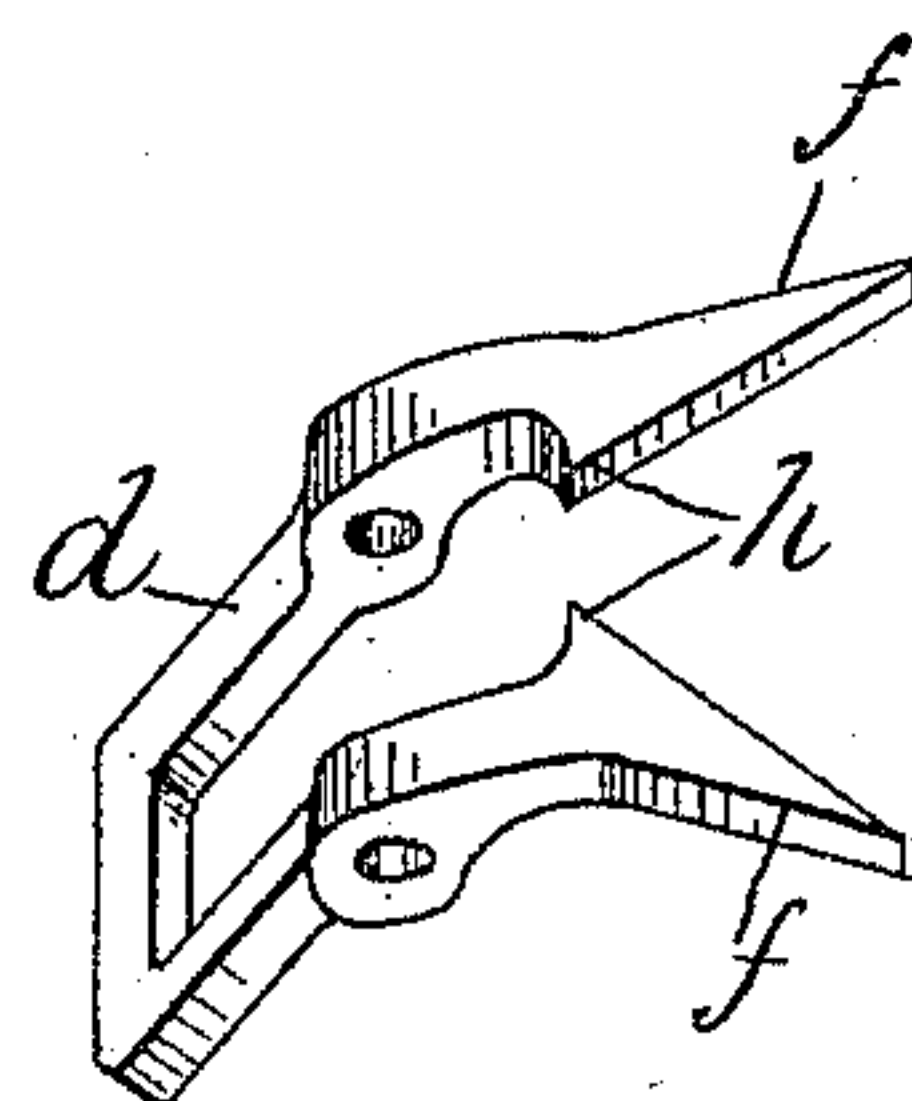
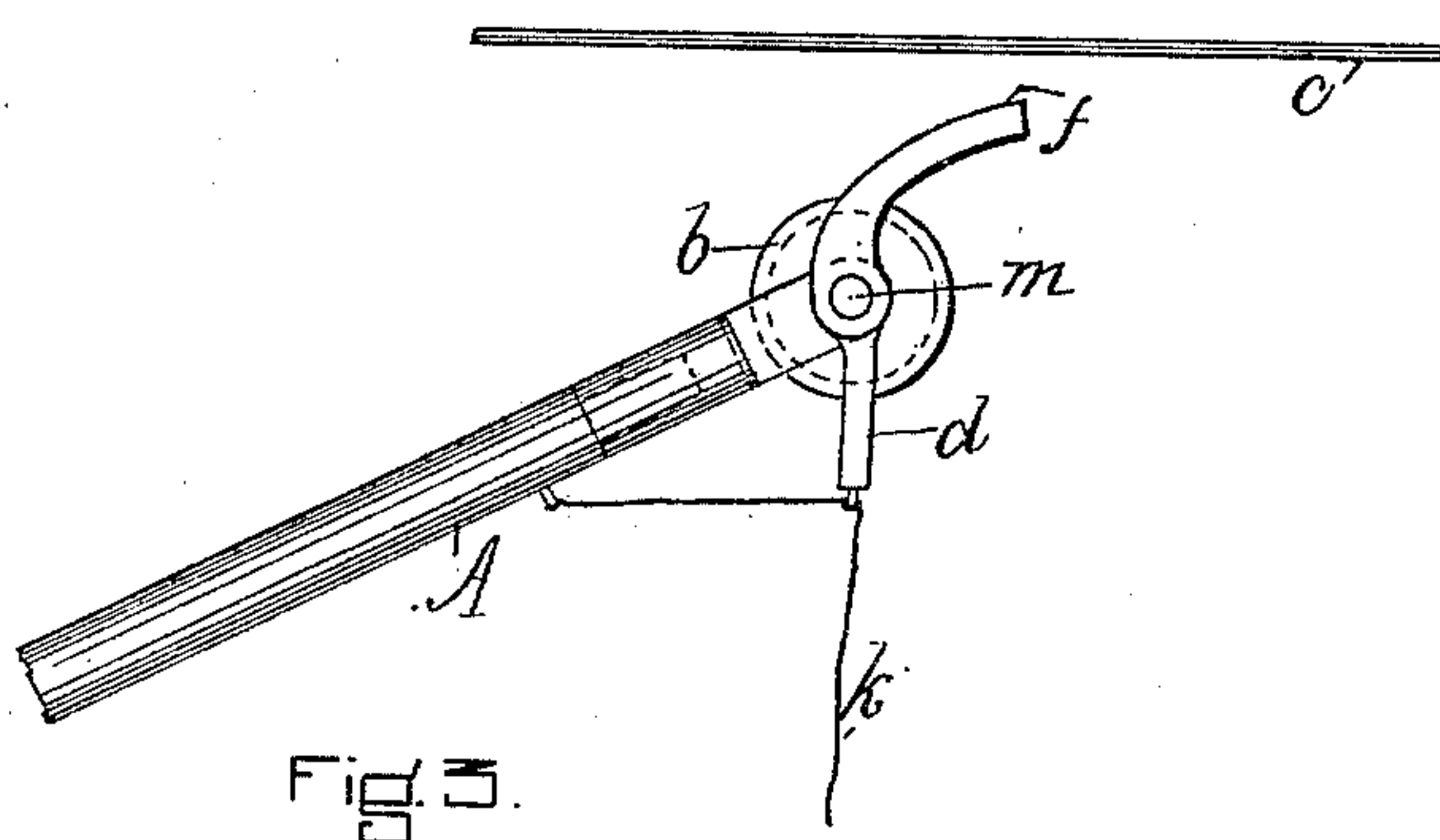
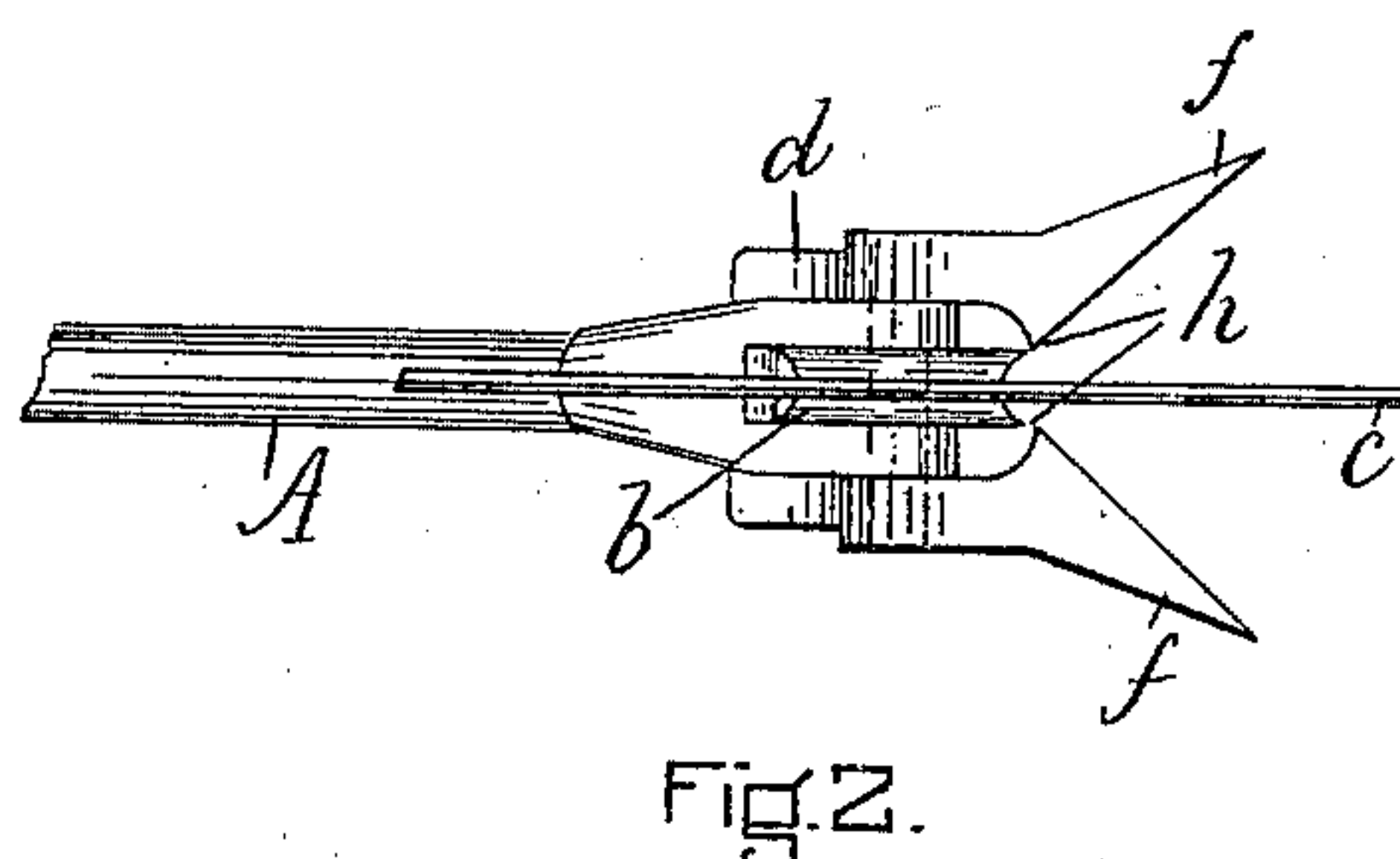
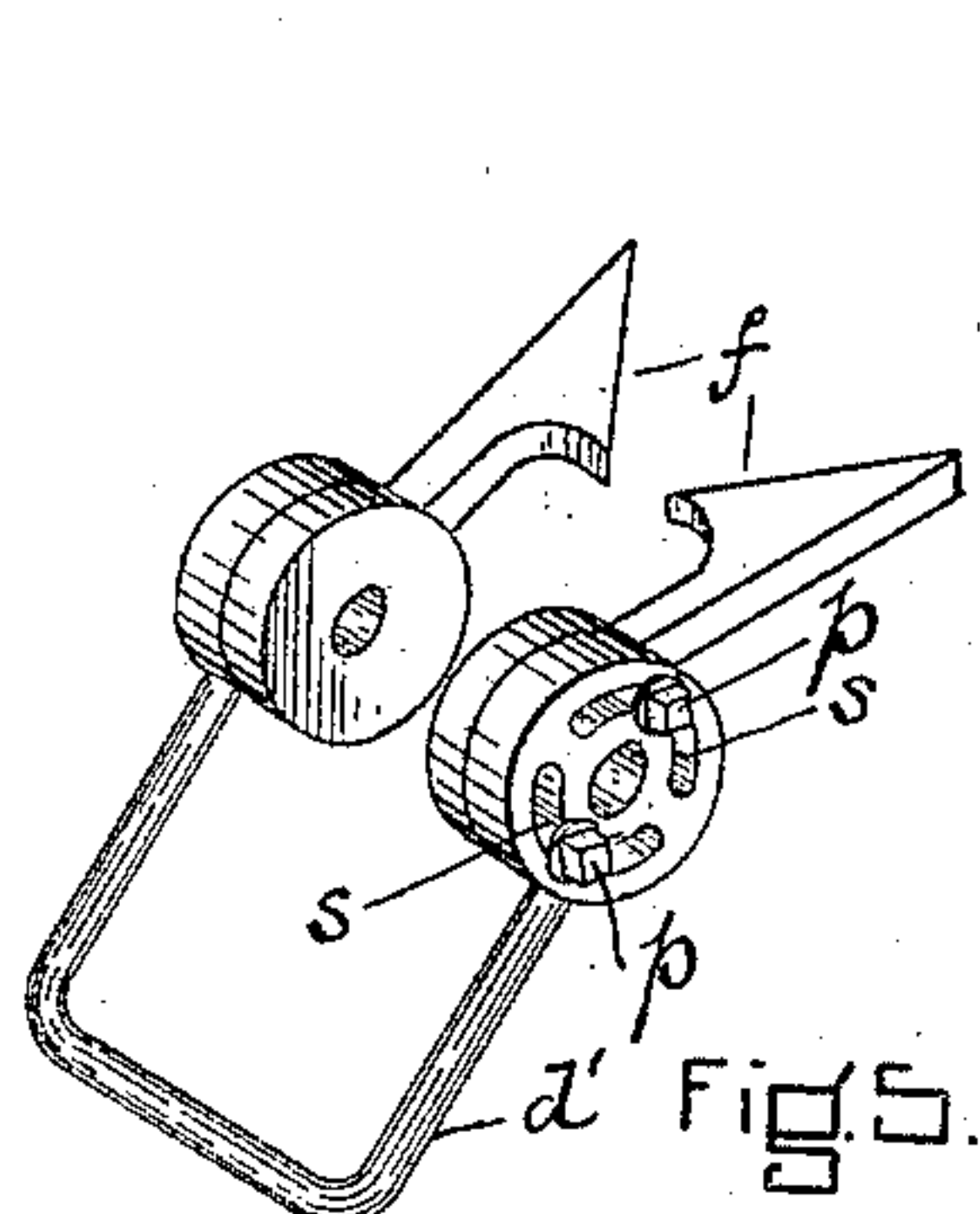
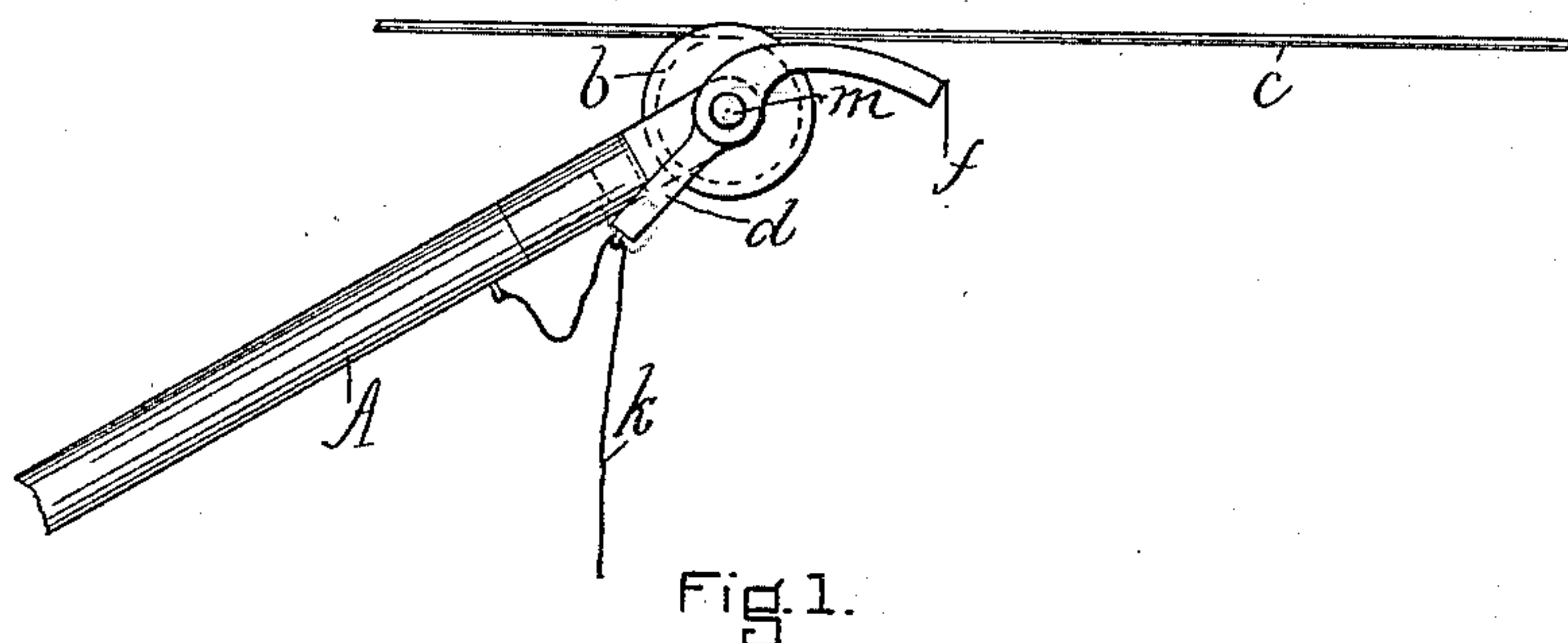


(No Model.)

H. H. BROOKS.  
SHIPPER FOR TROLLEYS.

No. 440,584.

Patented Nov. 11, 1890.



WITNESSES.

Robert Wallace.  
C. E. Notte

INVENTOR

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his Atty.



# UNITED STATES PATENT OFFICE.

HERBERT H. BROOKS, OF CAMBRIDGE, ASSIGNOR OF ONE-HALF TO ARTHUR F. BARDWELL, OF BOSTON, MASSACHUSETTS.

## SHIPPER FOR TROLLEYS.

SPECIFICATION forming part of Letters Patent No. 440,584, dated November 11, 1890.

Application filed May 14, 1890. Serial No. 351,715. (No model.)

*To all whom it may concern:*

Be it known that I, HERBERT H. BROOKS, of Cambridge, county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Shippers for Trolleys, of which the following is a specification, reference being had to the drawings accompanying and forming a part hereof, in which—

10 Figure 1 is a side elevation showing the upper part of a trolley-pole and trolley and a portion of the overhead conductor with which the trolley is in contact, and also showing my improvement applied to the trolley. Fig. 2  
15 is a plan view of the same. Fig. 3 is a side elevation showing the same parts as are shown in Fig. 1, but with the trolley-rod drawn down and the shipper in position to place the trolley in contact with the wire. Fig. 4 is a  
20 perspective of my device detached. Fig. 5 shows a modified form of my device, the arms *f* being separate from the U-shaped connecting-piece *d'*, so as to be capable of adjustment relatively thereto.

25 As is well known the trolleys which are in common use on electric cars for making contact with the overhead conducting-wire are sometimes displaced while the car is in motion and leave the overhead wire. When  
30 this happens, the conductor of the car seizes a rope or cord which is commonly attached to the trolley-pole, pulls the end of the pole down until the trolley is below the wire, and then shifts the pole until he succeeds in placing the trolley again in contact with the wire.  
35 As the face of the trolley is comparatively narrow, this is, especially if the car be on a curve, comparatively difficult to do and occasions delay and annoyance.

40 My invention has for its object to provide a device by means of which the trolley when thrown off the wire may be easily shipped or again placed in contact with the wire; and it consists in the simple attachment or device  
45 hereinafter described, and which is more particularly pointed out in the claims appended hereto and made a part hereof.

50 My device and its operation will be readily understood from the following description, in which reference is made to the accompanying drawings.

A is the upper end or portion of the trolley-pole. This may be of the usual construction.

*b* is the trolley or grooved roller, which is pivoted in the forked upper end of the trolley-pole in the usual manner. The overhead conductor with which the trolley is in contact is shown at *c*.

My shipper device is shown at *d*, and consists, essentially, of two flaring arms or projections *f*, which are preferably rigid relatively to each other, and which are mounted on the pivot of the trolley. They might be pivoted to the upper end of the trolley-pole, a separate pivot or pivots being employed for the purpose; but I prefer for convenience to mount them on the pivot or pin *m*, which secures the trolley in place. For this purpose the said pin requires to be made somewhat longer, and is preferably headed at one end and provided with a screw-nut at the other. The arms *f* are bent slightly and are preferably joined together underneath the trolley, as shown. They are so shaped above the trolley as to project slightly over the edge thereof at that point where they approach most nearly to each other—that is, at the point which is marked *h*. From this point they flare so that their spread from tip to tip is many times the width of the face of the trolley. The projections *f* are heavier than that portion of my device which lies under the trolley, and in consequence they fall down as far as the under portion will permit them to and are out of the way of the frogs, cross-wires, or other parts of the overhead construction with which the conductor is connected. The cord *k* is such as is commonly employed, and is secured to the under portion of my device and from that point may also be secured to the trolley-pole, as shown, if desired, although the latter is not necessary. When the trolley is thrown from the overhead wire, the conductor seizes the cord *k* and draws it down. The first action of this is to throw up the shipper into the position shown in Fig. 3, in which position the projections *f* extend above the trolley. The further downward movement of the cord *k* pulls the trolley down below the overhead wire and the conductor has then only to shift the pole sufficiently to bring the overhead wire over



the space between the tips of the arms *f* and allow the trolley to rise. As the tips of the arms may be a foot apart, the trolley may be very easily and speedily shipped and the delay of the car reduced to a minimum.

In some cases the trolley-pole, owing to its length, or to the height of the overhead conductor, or to other causes, stands at a different angle to the overhead wire than in other cases—that is, in some cases the pole when the trolley is on the wire is more nearly perpendicular than in others. This fact renders it desirable to construct my device in such a manner that the diverging arms *f* may be set in a different position relatively to the U-shaped connecting-piece *d'*, since it is better that the said arms *f* should when in normal position—that is, when the trolley is in contact with the wire—lie somewhat below the overhead wire. Now with the parts of my device in the position shown in Fig. 1 if the angle of the trolley-pole *A* were changed relatively to the wire, so that the pole stood in a more nearly perpendicular position, the tips of the arms *f* would be raised and would project above the line of the wire, and thus strike the frogs and other parts of the overhead construction with which the conductor is connected. This would be objectionable, and to avoid this objection I make the U-shaped connecting part *d'* (see Fig. 5) separate from the arms *f* and secure it adjustably thereto in any well-known manner. This may be done, as shown in Fig. 5, by enlarging the ends of part *d'* where the pivot *m* passes through them and providing them with curved slots *s*

to receive the pins *p*. The arms *f* are enlarged at the end in a similar manner to receive the pivot *m* and are provided with said pins *p*, which are of sufficient length to project through the said slots and are secured in place by screw-nuts. In putting the parts together the U-shaped piece *d'* is sprung over the pins *p* and clamped securely in any position desired by the said nuts. By this arrangement the position of the arms *f* may be varied as desired.

What I claim is—

1. A shipper device for trolleys, consisting of two diverging pivoted arms, one on either side of the said trolley and extending outwardly from either face thereof, said arms projecting normally when the trolley is in contact with the wire below the said wire and below any portions of the overhead construction adjacent thereto, substantially as shown and described.

2. The combination, with the trolley-rod and trolley, of the arms *f* and the connecting-piece *d'*, adjustably secured thereto, whereby the position of the arms *f* relatively to said connecting-piece may be varied, substantially as shown and described.

3. The combination, with the trolley-rod and trolley, of the rigidly-connected diverging arms *f* and the cord *k*, substantially as shown and described.

HERBERT H. BROOKS.

Witnesses:

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ROBERT WALLACE.