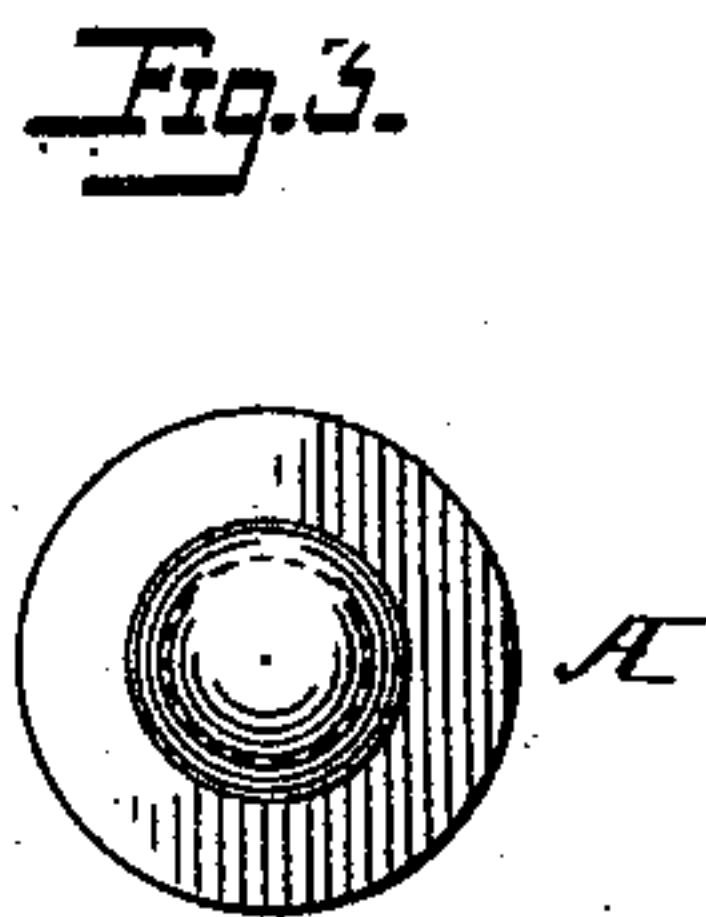
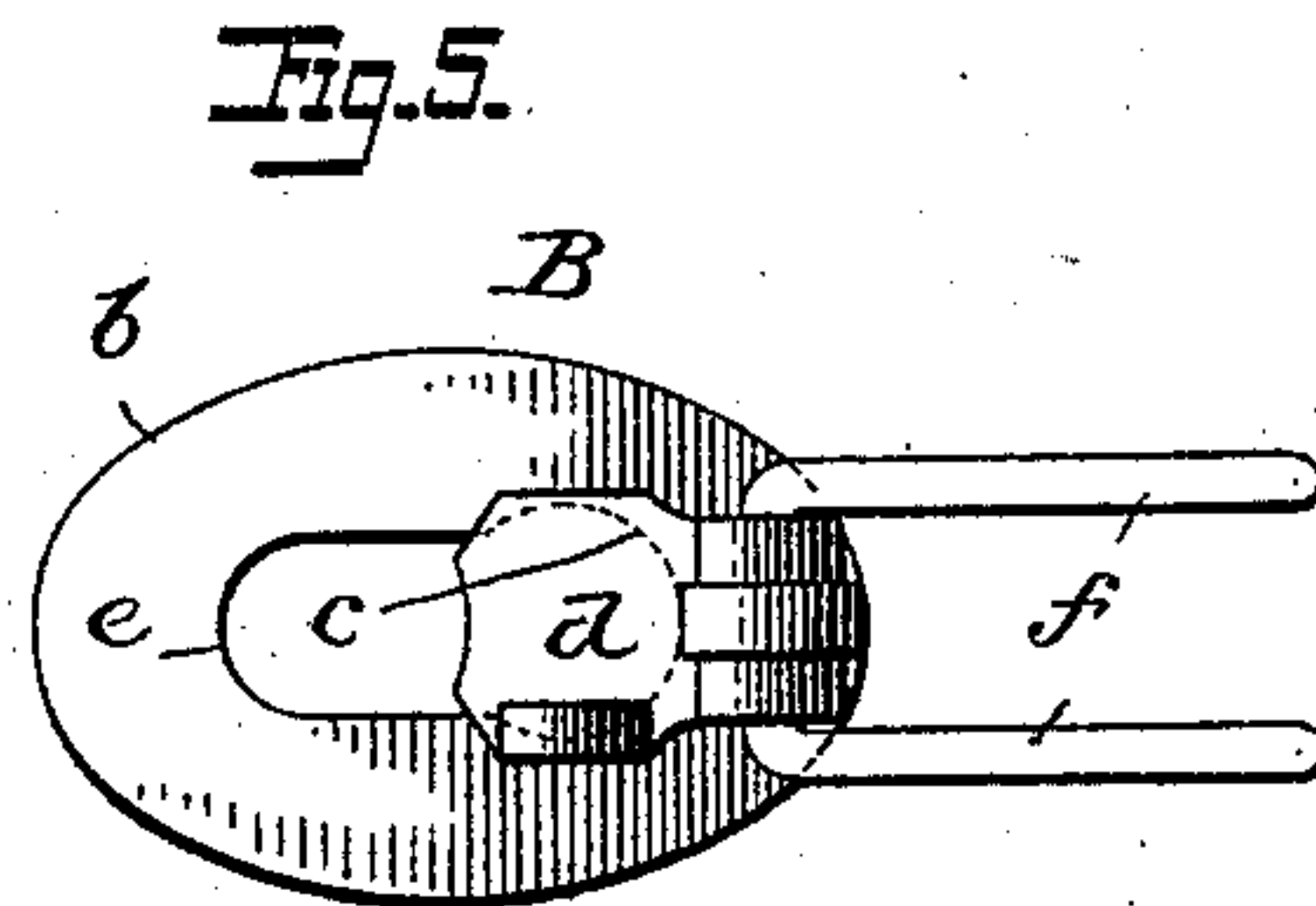
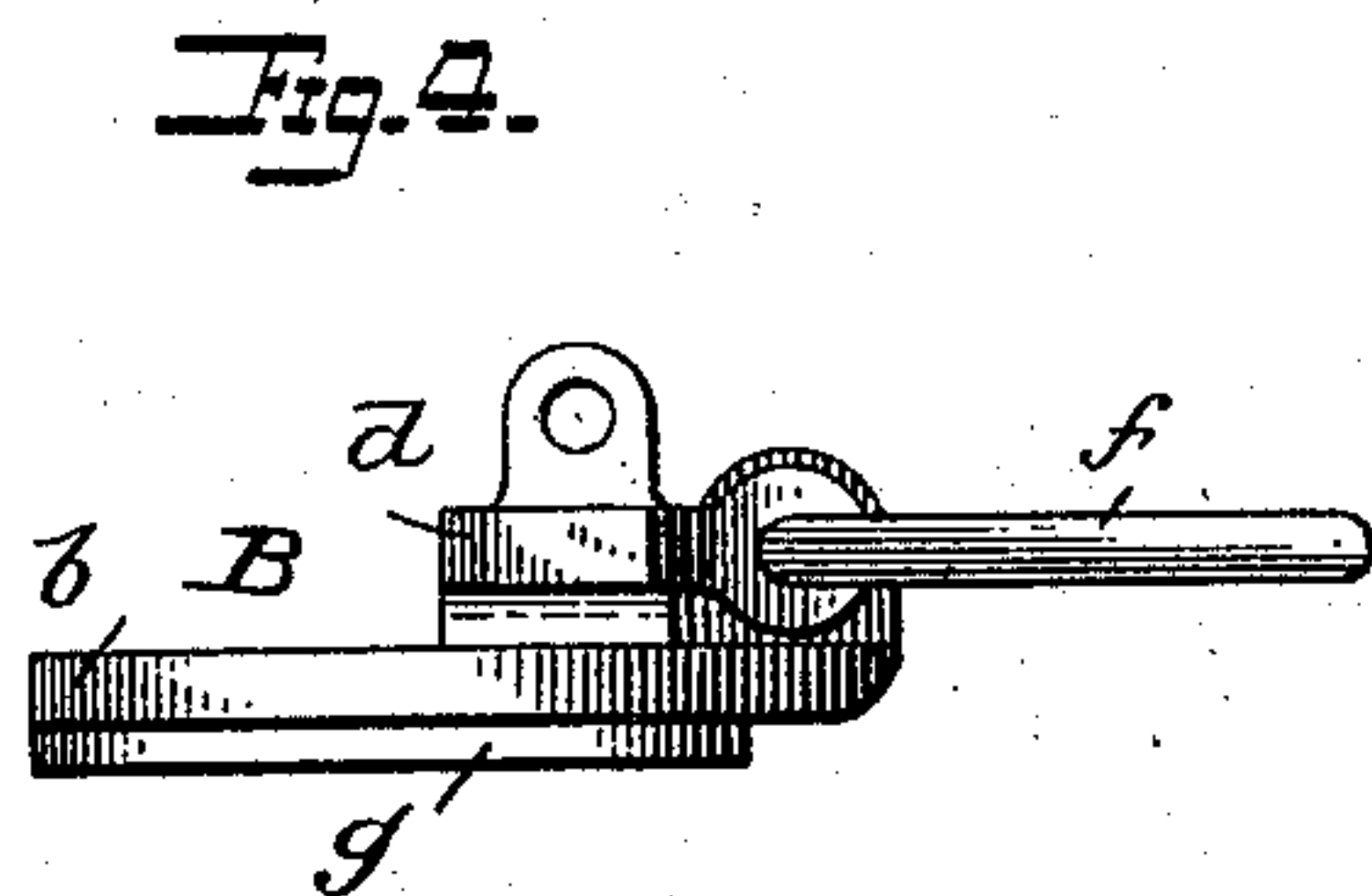
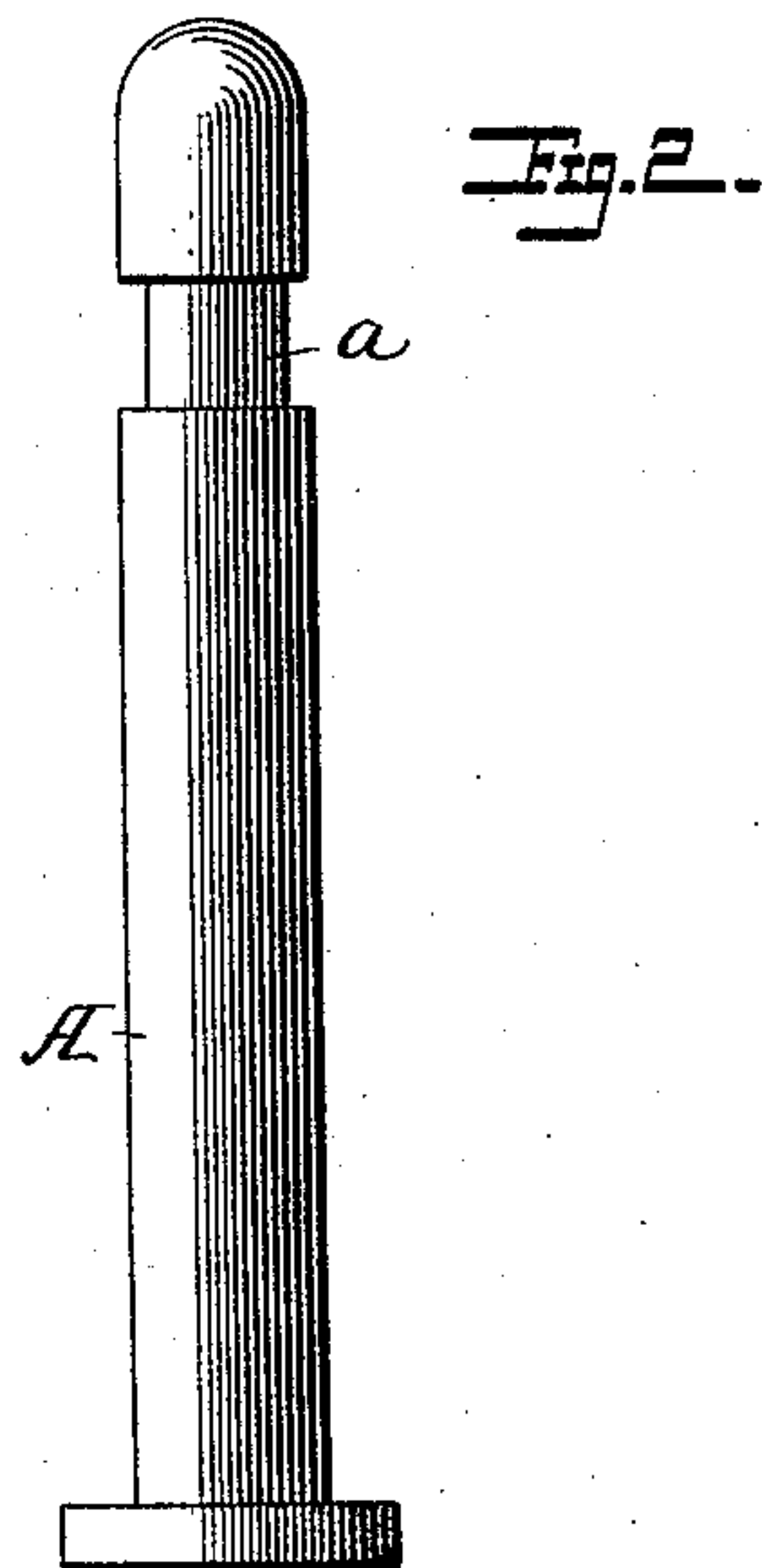
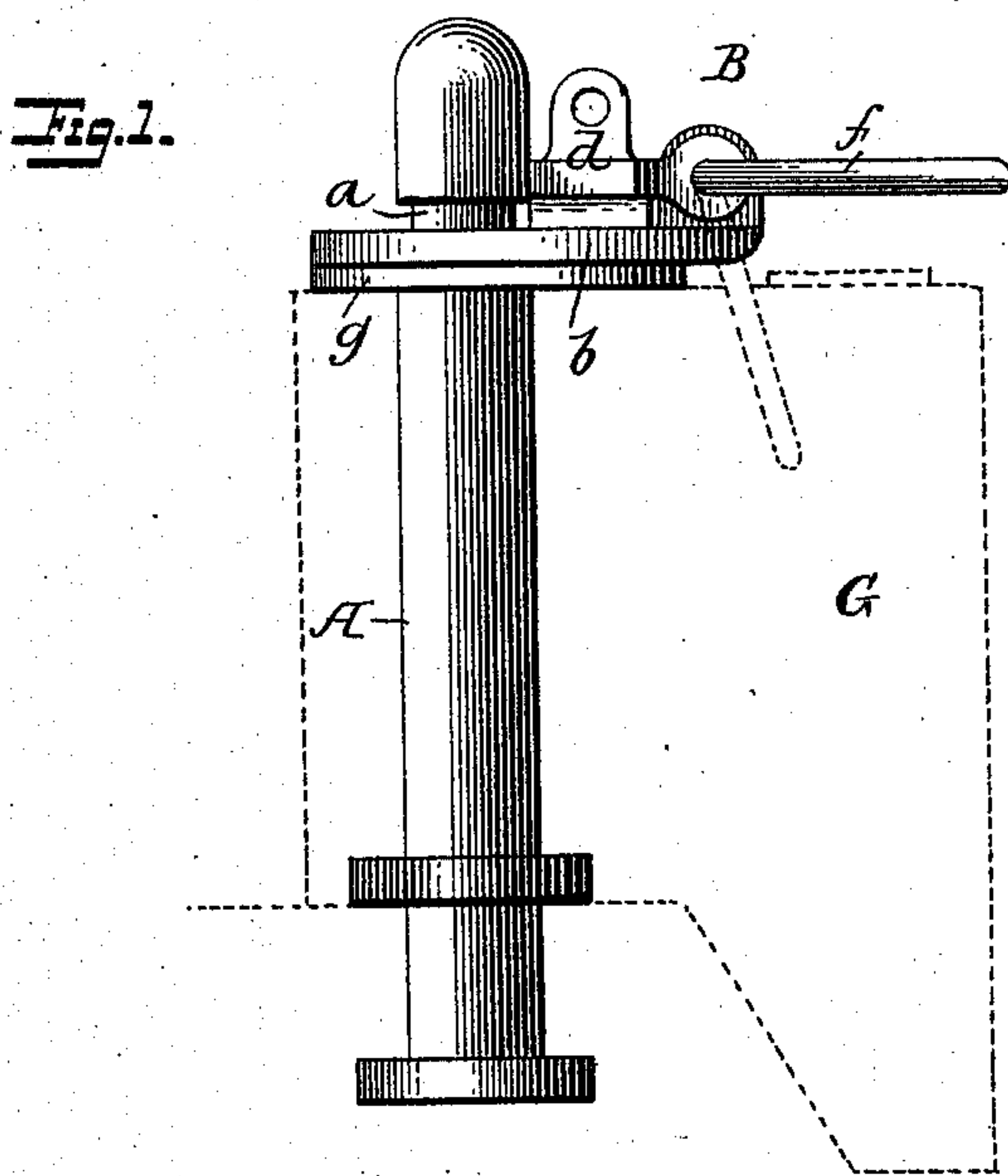


(No Model.)

J. STEPHENSON.  
GRIP LOCK.

No. 412,559.

Patented Oct. 8, 1889.



Witnesses

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Inventor

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By his Attorneys

*Jester & Leman*



# UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

## GRIP-LOCK.

SPECIFICATION forming part of Letters Patent No. 412,559, dated October 8, 1889.

Application filed July 18, 1889. Serial No. 317,886. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN STEPHENSON, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Grip-Locks, of which the following is a specification.

The spirit of the times is to have some mechanical substitute for horse propulsion of tram-cars. The plan heretofore meeting with most approbation is a cable moving beneath the street-surface which may be gripped and released at will. The grip mechanism is attached to some part of the car central to the wheel-base and with flexibility of connections, adapted to freedom for horizontal motion in every direction. The necessities are attained by the grip-machine having its cross-head provided at each end with a socket fitting on a metal post secured to the grip-carrier with its possibilities for motion. This method has also merit in its convenience for lifting the grip up through the floor, as is necessary on some roads, at every terminal of the circuit. The moving cable, when gripped, is apt to jerk the front end of the grip cross-head up and off from its post. As a remedy I have devised a grip-lock, illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of a grip post and lock. Fig. 2 is an elevation of the post, the lock detached. Fig. 3 is an end view of the post. Fig. 4 is a side view of the lock detached. Fig. 5 is a plan of the lock detached.

The post A in the socket of the grip-machine has an annular groove *a* near the top end, which supports the lock B. The base of the lock is a metal plate *b*, of proper dimensions and of thickness corresponding with the post-groove, and in the plate is a hole *c*, of same diameter as the post, and an adjoining lesser hole *e*, of same diameter as the post-neck, the two holes united by a channel of width of the lesser hole. The greater hole is adapted to be slipped over the top end of the post to the groove, and there moved sidewise till the post-neck occupies the smaller hole in the plate.

The upper side of the lock-plate has a hinged flap *d*, which may be lifted up to let the post into its place and then fall against the post to prevent it leaving the smaller hole, and that the lock may not be jostled around the post the pin of the flap-hinge joint is extended both ways, with its ends drooping and forming a hinged yoke *f*, adapted to fall astride the neck of the grip-machine G, a portion of which is indicated by the dotted lines in Fig. 1.

The under side of the lock-plate is faced with leather *g*, which prevents rattling during the movements of the car.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. A grip-lock with its plate having a hole of diameter and form adapted to a grip-carrier post, with a groove to receive the lock-plate and prevent the grip-machine from rising on the post, substantially as and for the purpose described.

2. A grip-lock with its plate having on its upper side a hinged flap adapted to be raised up to permit the lock being placed over the head and in the groove of the grip-post and there retained by said hinged flap, substantially as and for the purpose described.

3. A grip-post lock with a hinged flap on its upper surface and its hinge-pin extended both ways, with its ends drooping and forming a yoke adapted to fall astride the neck of the grip-machine, substantially as and for the purpose described.

4. A grip-lock with its plate adapted to a grip-post holding the socket of a cable-grip machine, the under side of the lock-plate faced with leather or similar noiseless substance, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN STEPHENSON.

Witnesses:

CHARLES E. FOSTER,  
S. A. STEPHENSON.