

No. 870,772.

PATENTED NOV. 12, 1907.

C. A. GOUTY.
TROLLEY.

APPLICATION FILED JUNE 8, 1907.

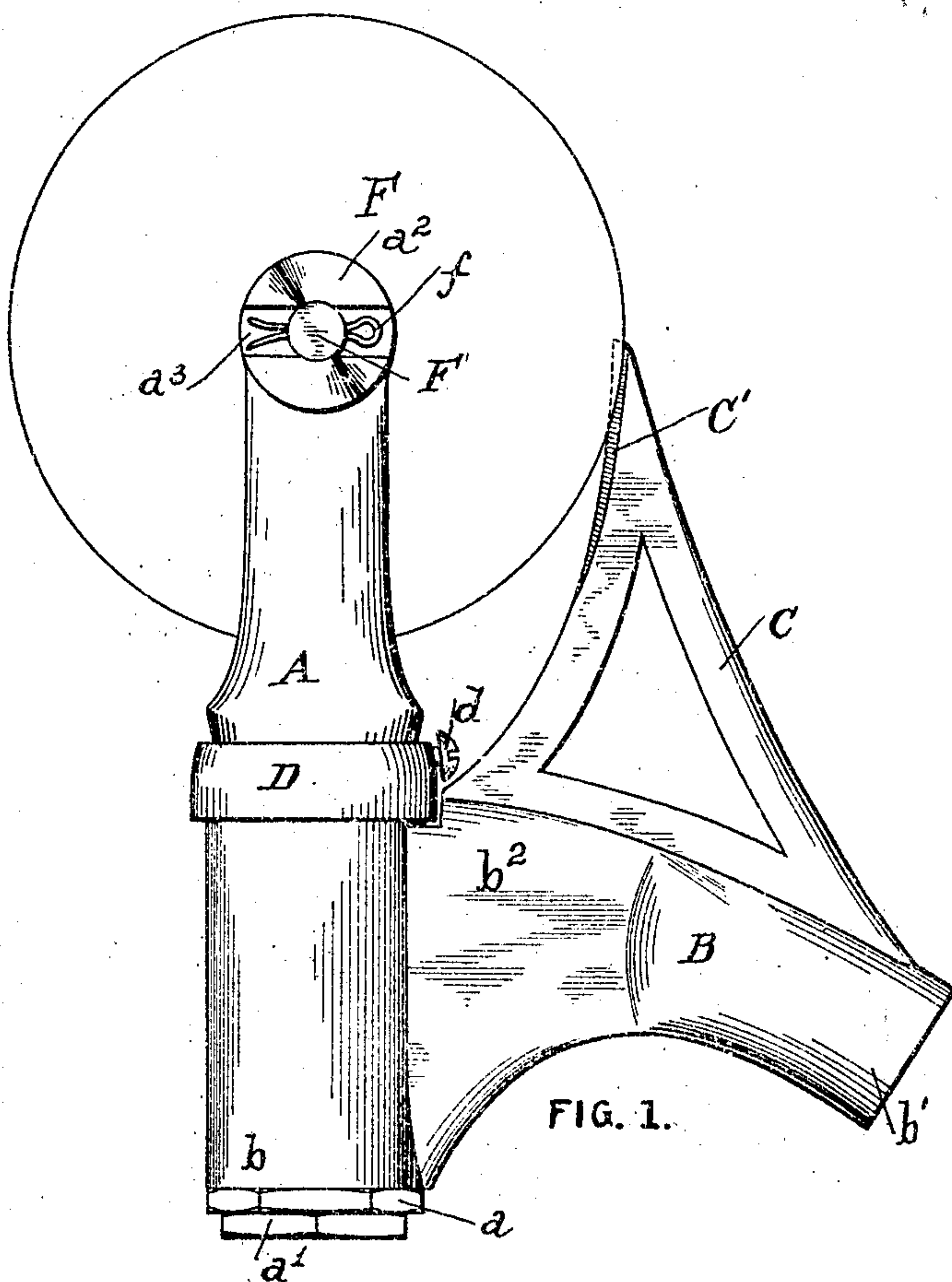


FIG. 1.

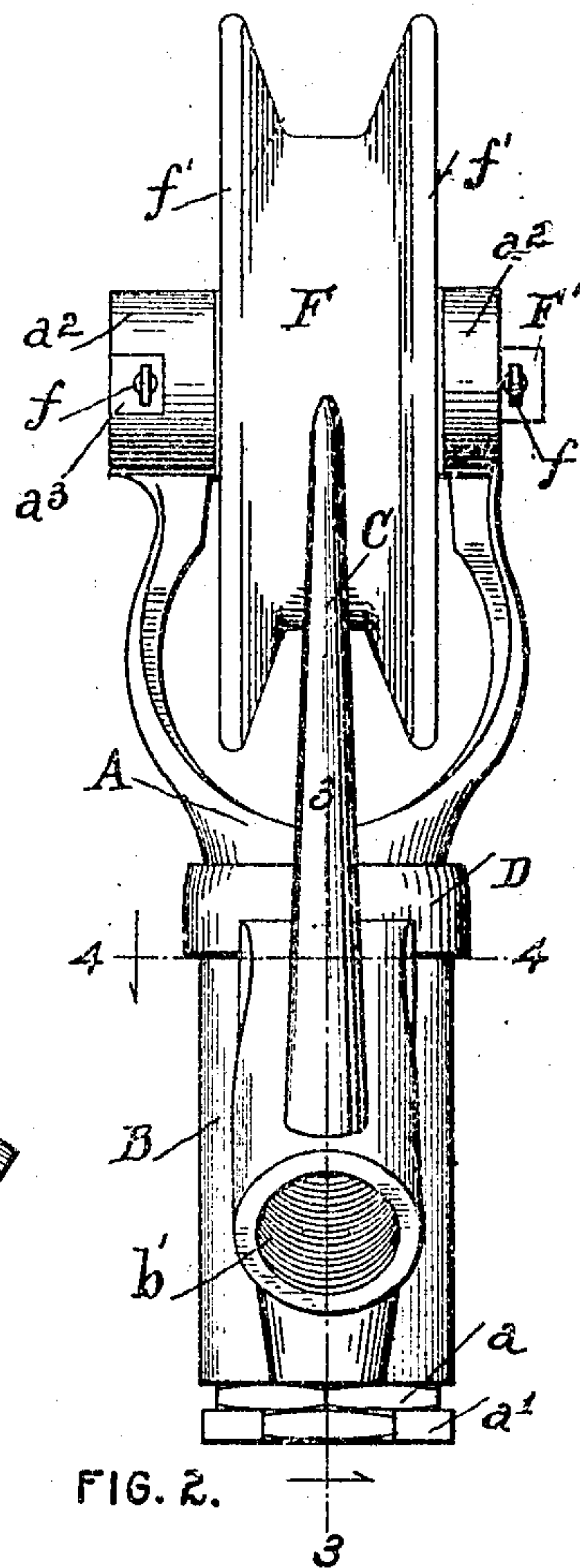


FIG. 2.

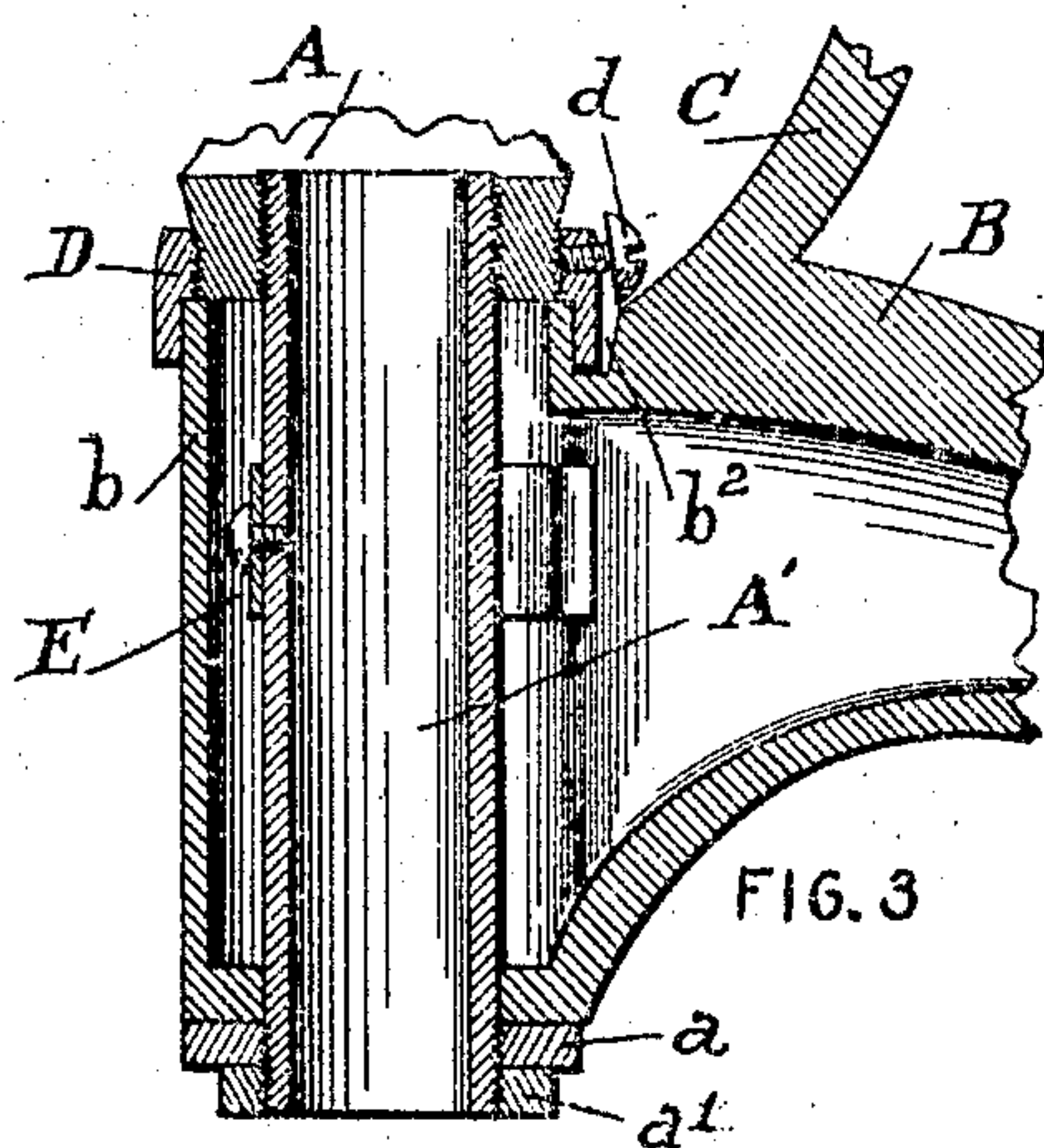


FIG. 3.

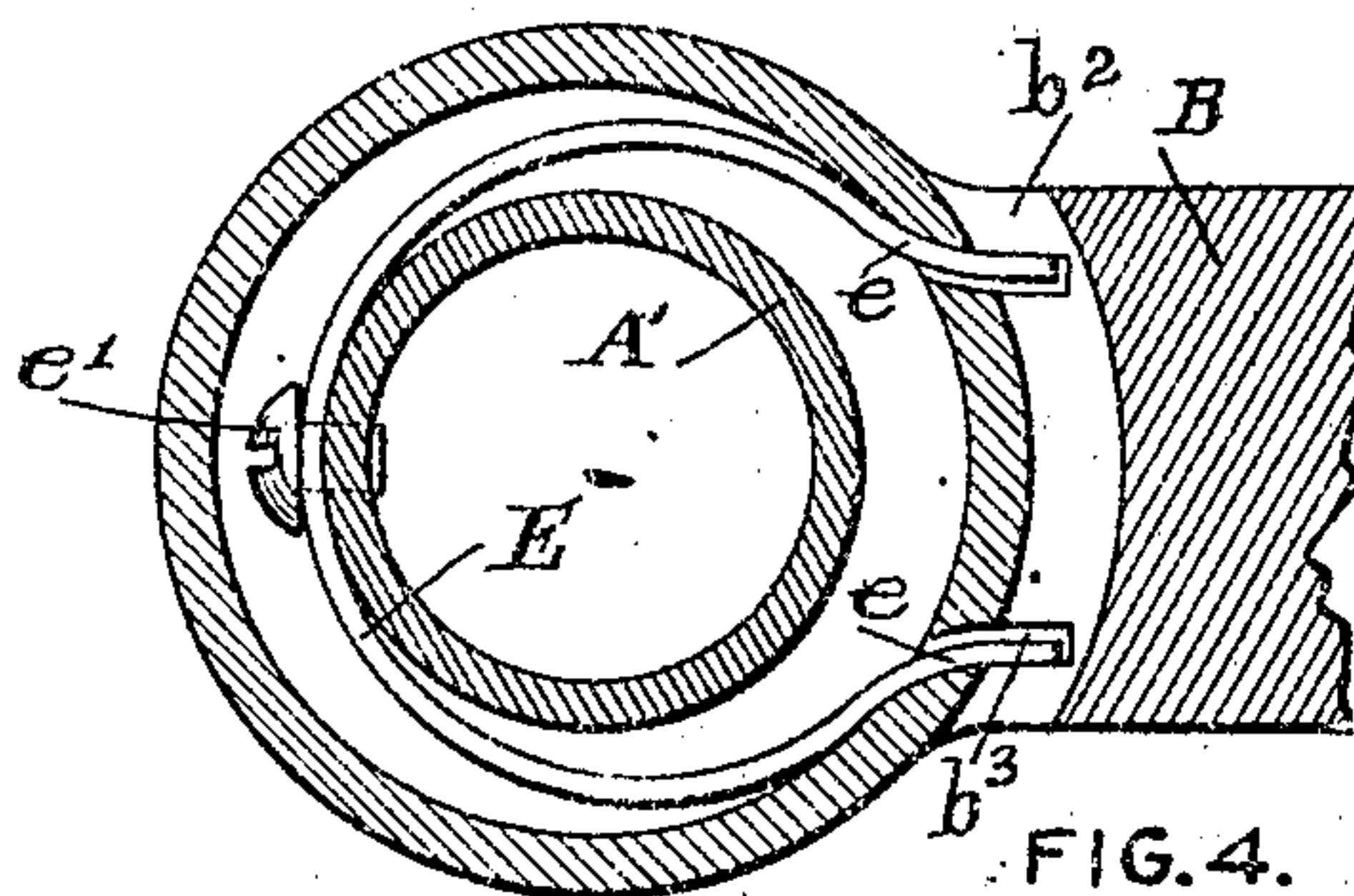


FIG. 4.

WITNESSES
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TROLLEY.

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Specification of Letters Patent.

Patented Nov. 12, 1907

Application filed June 8, 1907. Serial No. 377,984.

To all whom it may concern:

Be it known that I, CLARENCE A. GOUTY, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a certain new and useful Trolley, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use my said invention.

This invention relates to trolleys for street cars or the like, and the purpose is to provide a trolley-harp of improved construction, to provide improved means for mounting the trolley wheel on the harp, to provide means for limiting the oscillations of the trolley, and to provide means adapted to normally keep the trolley wheel in the plane of the axis of the trolley-pole but adapted to permit the harp to oscillate to a limited extent relative to the plane of the axis of the trolley-pole.

With these ends in view the invention consists in the novel features of construction and combinations of parts shown in the annexed drawings, and hereinafter particularly described and finally recited in the claims.

Referring to the drawings Figures 1 and 2 are respectively a side elevation and an end elevation of the trolley. Fig. 3 is a partial vertical section on the line 3-3 of Fig. 2 and Fig. 4 is an enlarged transverse section on the line 4-4 of Fig. 2.

Similar reference letters and characters designate like parts in the several views.

The harp A has a tubular shank A' screw-threaded at both ends. The upper end of the shank A' screws into the harp A. Nuts a and a' fit on the lower screw-threaded part of the shank A'.

The arch B is a hollow casting and has a tubular part b within which the shank A' turns, and an internally screw-threaded part b' in which the upper end of the trolley-pole fits. The lower end of the harp A turns on the upper end of the tubular part b of the arch B. In the upper part of the arch B is a segmental channel b^2 accommodating the collar D. The collar D screws onto the lower end of the harp A and is secured by a screw d .

A harp-shaped spring E is secured on the shank A' by a screw e^1 and has members e which project through slots b^3 in the upper part of the arch B. The members e of the spring E are of equal tension and normally act to hold the wheel F in line with the trolley-pole, but under pressure yield sufficiently to permit the trolley-wheel to take any standard curve of the wire, without running off the wire.

A guard C mounted on the arch B and preferably integral therewith, extends upward within the groove of the wheel F and has flattened parts C' against which the flanges f' of the wheel F strike, on either side, to prevent excessive oscillation of the wheel F. The upper end of the guard C is about the same height as the cen-

ter of the shaft F'. The shaft F' is supported on the arms of the harp A and the wheel F turns on the shaft F'. The shaft F' is mounted in the hubs a^2 at the upper end of the arms of the harp A and is connected therewith by cotter-pins f . The wheel F turns on the shaft F'. One of the pins f occupies a transverse channel a^3 in one of the hubs a^2 and prevents turning of the shaft.

The collar D fitting on the screw-threaded part of the harp A and the screw-threaded shank A' screwing into the lower part of the harp and provided with nuts as shown, serve for accurate adjustment of the harp on the arch at such height that the point of the guard C will be close enough to prevent the wire from getting between the point of the guard and the circumference of the wheel F; and the nuts a and a' serve to adjust the shank A' so that the harp will turn freely on the tubular part b of the arch and yet will not have excessive play. The slots b^3 extend downward from the upper end of the tubular part b to admit of inserting the spring E when it is in place on the shank A'.

The lower part of the harp A lying upon the upper end of the part b , and the collar D inclosing the upper end of the part b , exclude moisture and dirt from the tubular part b and thereby avoid undue friction and wear of the parts.

In assembling the parts the shank A' will be screwed into the harp A. The collar D will then be screwed onto the lower end of the harp A. The spring E will then be secured on the shank A'. The shank A' with the spring thereon, will be then inserted into the tubular part b of the arch B and the members e of the spring will pass downward in, and occupy the slots b^3 , in the arch B. The nuts a and a' will then be screwed on to the lower end of the shank A' to give the desired adjustment of the parts. When the collar D is in place it will be secured by the screw d .

When the parts are assembled as described the upper end of the guard C will occupy the groove of the wheel F as shown; the members e will occupy the slots b^3 and will be adapted to yield sufficiently to permit the trolley-wheel F to oscillate to the right or the left to follow the curve of the line wire; the harp A will rest upon the upper end of the tubular part b of the arch; the nuts a and a' in place on the shank, will prevent lifting of the harp and the longitudinal opening through the tubular shank A' will permit dirt or snow, or other matter likely to interfere with the operation of the wheel, to pass freely through the shank A'.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a trolley, the means adapted for vertical adjustment of the trolley-wheel and also adapted to exclude dirt from the bearing of the harp; comprising an arch having a tubular part, a harp fitting on the upper end of the tubular

- part of the arch, a tubular shank screwing into the body of the harp, nuts fitting on said tubular shank, and a collar fitting on said harp and inclosing the upper end of the tubular part of the arch.
- 5 2. In a trolley, the combination of an arch having a slotted tubular part and a segmental channel, a harp having a shank turnable within the tubular part of the arch, and a spring secured on the shank of the harp and having members of equal tension fitting in the slots of the tubular
- 10 part of the arch.
3. In a trolley, the combination of an arch having a slotted tubular part and a segmental channel, a guard mounted on said arch, a harp adapted to turn on the tubu-

lar part of the arch, a shank adapted for vertical adjustment of the harp relative to the guard on the shank, a collar adjustable on the harp and turnable in the channel of the arch, and a spring secured on the shank of the harp and having members of equal tension fitting in the slots of the tubular part of the arch.

In witness whereof; I have hereunto subscribed my name at Springfield, Sangamon county, Illinois, this 15th day of May 1907.

CLARENCE A. GOUTY.

Witnesses:

W. K. HALE,

G. S. BAUMANN.