

No. 795,910.

PATENTED AUG. 1, 1905.

G. F. HAGERMAN.
CONDUCTOR SUSPENSION DEVICE.
APPLICATION FILED NOV. 22, 1904.

Fig. 1.

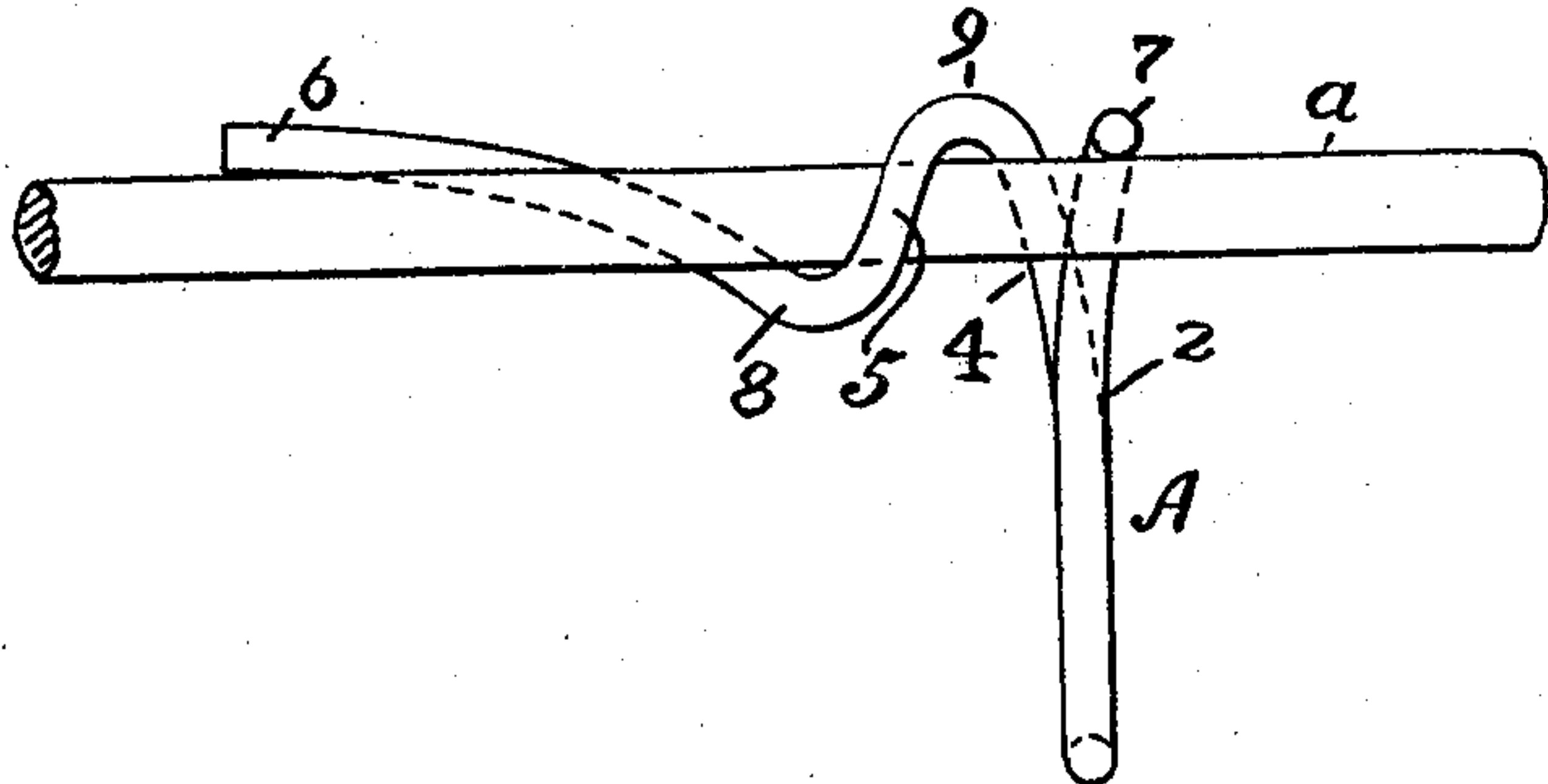


Fig. 2.

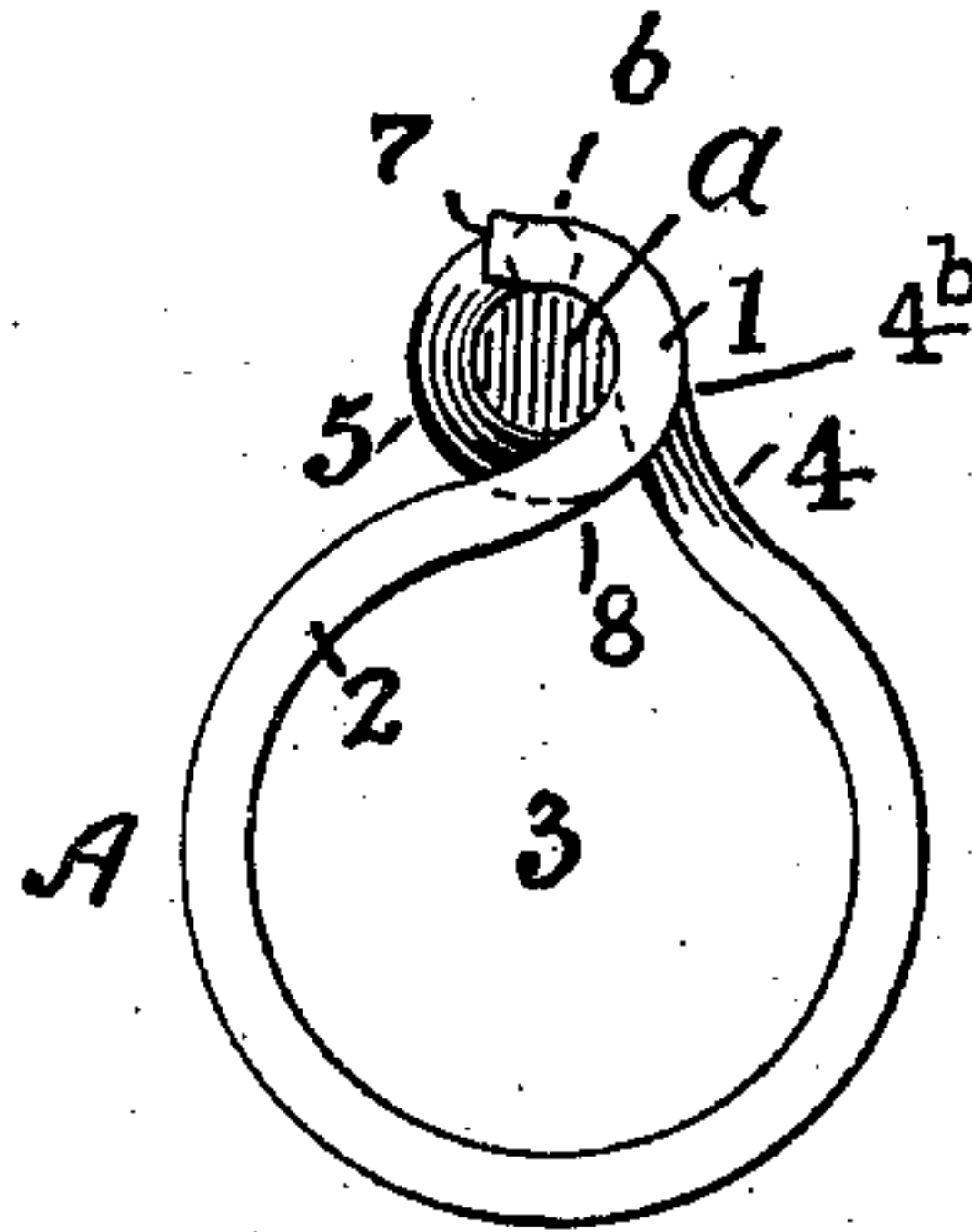


Fig. 3.

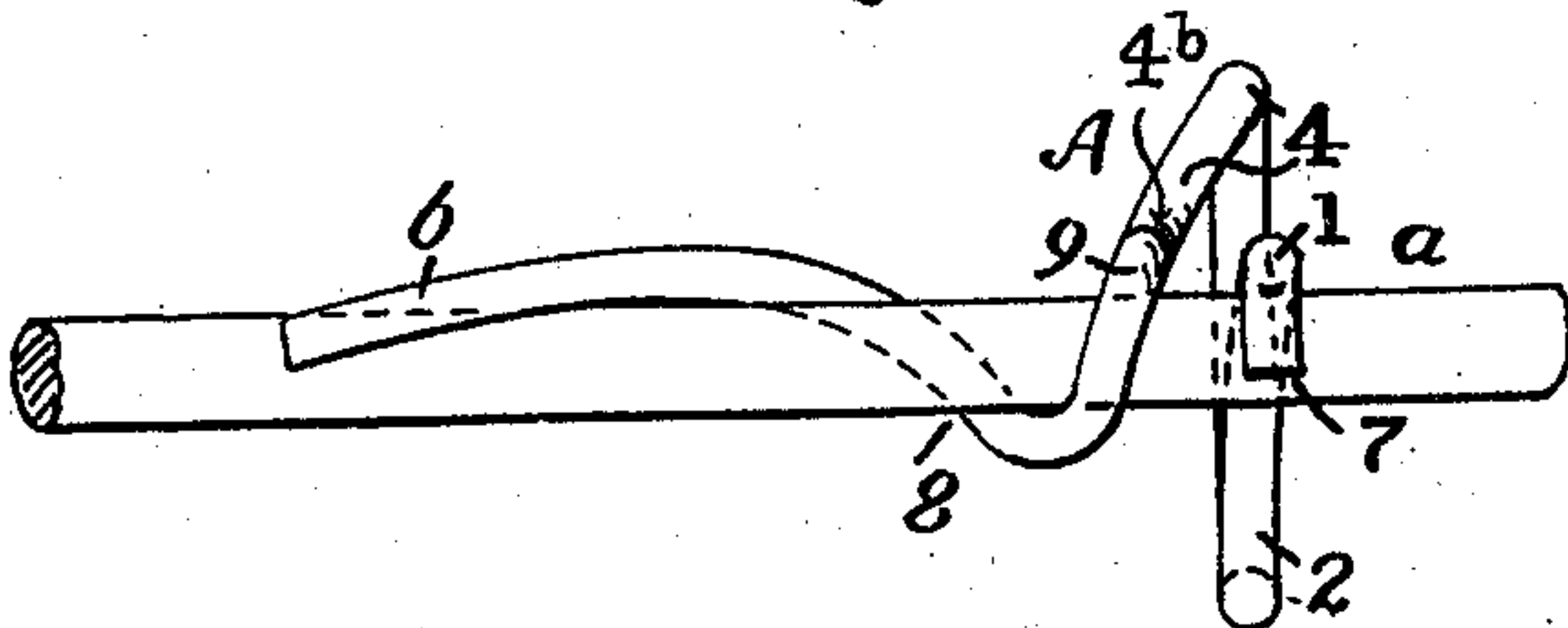


Fig. 4.

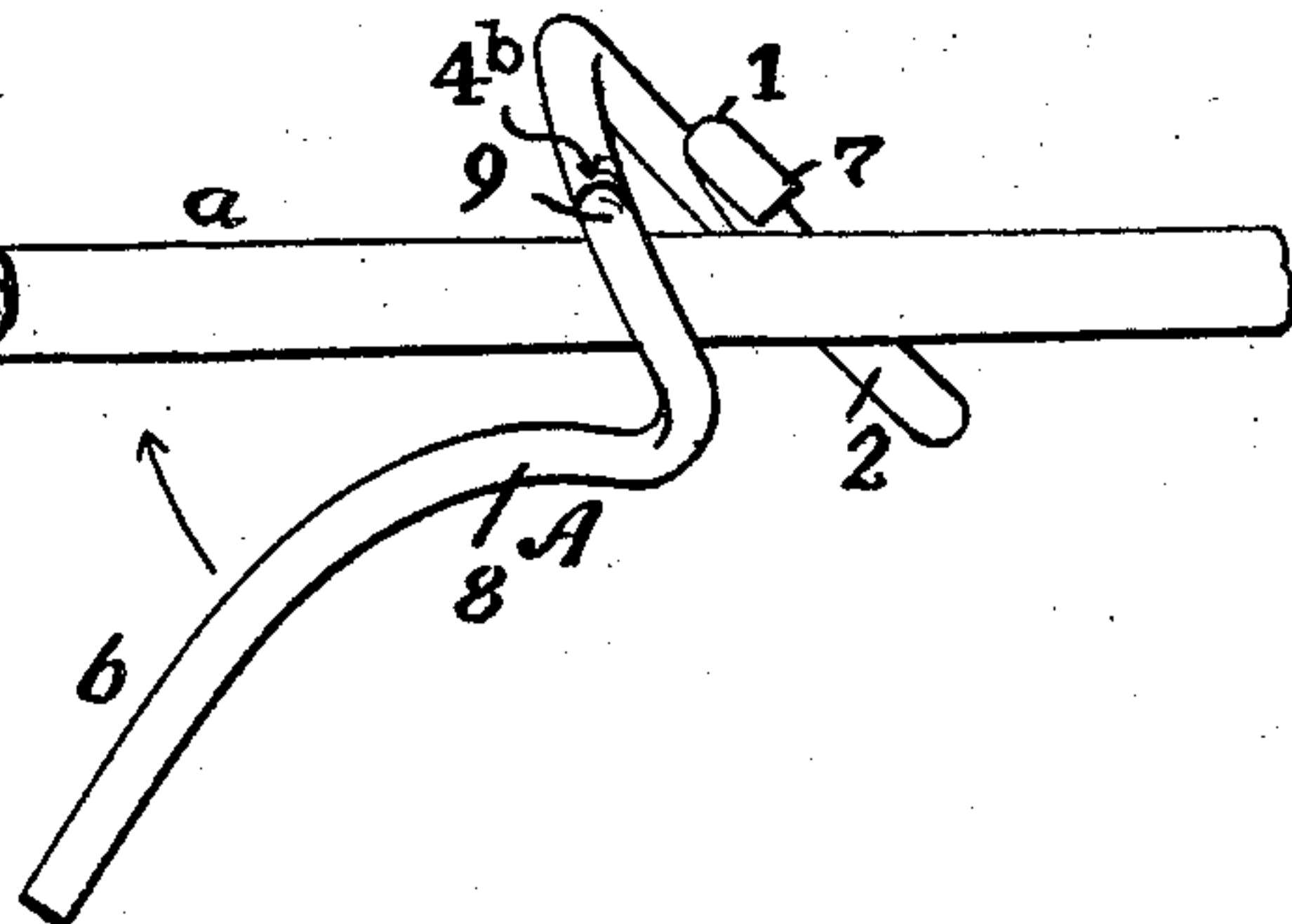


Fig. 6.

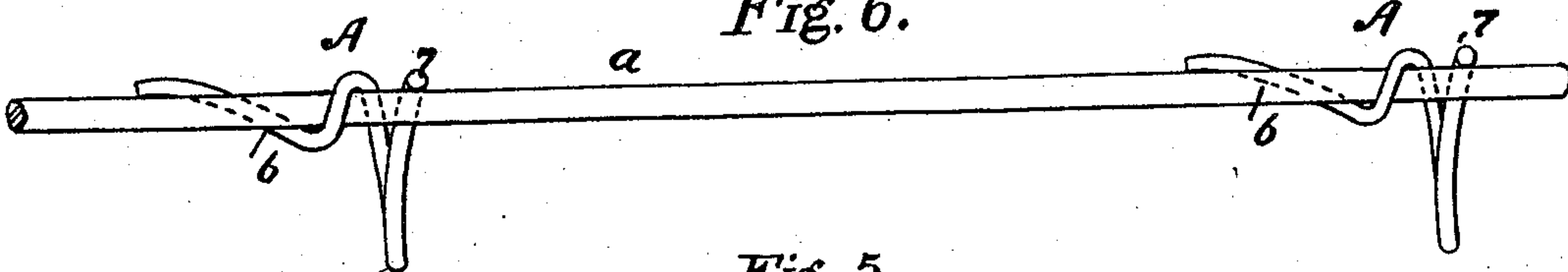
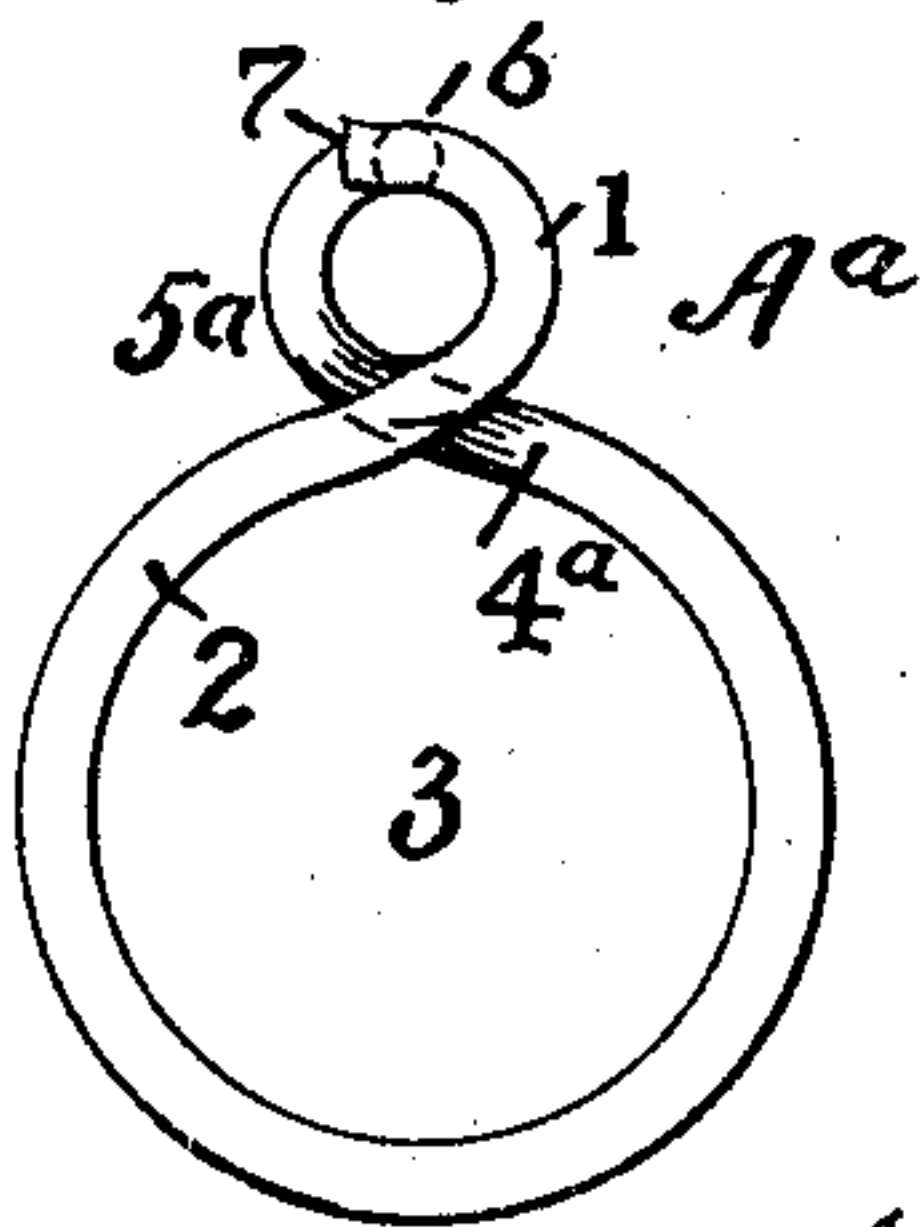


Fig. 5.



Attest.

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UNITED STATES PATENT OFFICE.

GEORGE F. HAGERMAN, OF CHELMSFORD, MASSACHUSETTS.

CONDUCTOR-SUSPENSION DEVICE.

No. 795,910.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed November 22, 1904. Serial No. 233,911.

To all whom it may concern:

Be it known that I, GEORGE F. HAGERMAN, residing at Chelmsford, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Conductor-Suspension Devices, of which the following is a specification.

The present invention relates to improvements in the means for the distribution of electric conductors, especially for use in telephonic service in places where it is desirable to carry the conductors cabled or uncabled upon poles and other sources of support, and is an improvement upon the invention described in Patent No. 714,718; granted to F. C. Locke, December 2, 1902, in which rings or conductor-suspension devices depend from and are secured to a steel span-wire and spaced at regular intervals apart. The span-wire is secured to the sides of poles or other supports by brackets or may be suspended from cross-arms, as preferred.

In the invention about to be described the rings or conductor-suspension supports are made from a single piece of resilient wire and when bent into shape consist of a ring or conductor-supporting portion and an attachment and spring-locking portion. The ring portion is made at one end of the wire and forms a closed circle, the extreme end of the wire constituting an abutment, while the remaining portion of the wire is formed into a single helix which terminates in a comparatively straight portion, which constitutes the spring-locking part. This device is adapted to be attached to span-wires of diameters varying within certain limits and at any part of the same and to be securely locked thereon without the aid of special tools and can be readily removed without injury and be used again, all of which I will now proceed to describe, and point out in the claims.

Of the drawings which illustrate the invention, Figure 1 is a side view of the conductor-suspension device attached to a span-wire. Fig. 2 is an end view, and Fig. 3 is a top view, of the same. Fig. 4 is a plan view of the device to illustrate the way it is applied to the span-wire. Fig. 5 is an end view of a modification of the device, and Fig. 6 is a side view showing two of the devices attached to a span-wire.

Referring to the figures, *a* represents a span-wire such as is supported upon the sides of telephone-poles or attached to their cross-arms and is adapted to support uncabled

or cabled conductors through the intermediation of the rings A, which are made from a single piece of resilient wire, preferably of steel, and are formed by a machine. The device A may be divided, according to function, into two portions—*i. e.*, a ring or conductor-holding portion and an attachment and spring or cam locking portion. To form the ring portion, a half-turn or hook 1 is made at one end 7 of the wire of sufficient internal diameter to embrace a span-wire of the largest size intended, and this serves as a hook-support and an abutment. Then the wire is bent to a reverse curve 2 of larger diameter sufficient to inclose the intended number of conductors or the cable in the space 3 to be drawn therethrough. The curve 2 completes a circle to the point 4 when a reverse is made to the contour of the turn 1 and a complete left-hand helix 9 and 5 is made to the point 8 of the same internal diameter as the one-half turn 1, from which point a long one-half turn 6 is made to the end of the wire, and this long turn 6 constitutes the locking feature and is so adjusted relatively to the helical turn 9 5 and the abutment 4^b of the short helix and the semicircular or abutment end 1 that it exercises a cam-like effect upon the span-wire and will pinch tight upon varying diameters thereof within certain limits and maintain such a hold upon the span-wire as to be moved lengthwise only with very great force—much beyond anything liable to come to it.

The device constitutes an article of manufacture and can be made quickly and very cheaply, and as no special tools are required to place the same upon the span-wire or to remove it it is easily and economically applied and removed. When the device is to be attached to the span-wire *a*, it is placed diagonally across the same, as indicated in Fig. 4, with the part 9 of the single helix resting upon the span-wire. The tailpiece 6 is turned toward the span-wire, as indicated by the arrow, until the abutments 1 and 4^b come against the said wire, when the tailpiece is forced under the said wire until its end comes over on top of the same, which is thus held in a firm resilient vise-like grip. To remove the device, the end of the tailpiece 6 is forced down the side of and around the span-wire, which thus unlocks the device, when it is then turned around and lifted off from the span-wire. If desired, the end 1 may be drawn away from the span-wire and conduc-

tors passed into the space 3, as the helical abutment 4^b will sustain the pressure.

In the modification shown in Fig. 5 the wire on leaving the point 4^a turns under instead of over and forms a helix having a twist in a direction reverse to that shown in the other figures.

Having fully described my invention, I claim—

1. A device for carrying electric conductors adapted to be attached to a span-wire, provided with a conductor-holding ring portion one end of which terminates in a short hook, the other end of the ring extending at a right angle thereto and constituting means for embracing the span-wire and consists of a helical portion terminating in a cam-like portion, whereby the device may be firmly attached to the span-wire.

2. A device for carrying electric conductors adapted to be attached to a span-wire provided with a ring at one end constituting

the conductor-holding portion, one of its ends having a short hook while the other extends at an angle to the plane of the ring and comprises a helix to embrace the span-wire, and a cam-like spring-terminal forming the locking portion.

3. An article of manufacture made from a single piece of resilient wire bent to form at one end a short hook, a ring portion in the same plane as the hook from which the wire is turned outward at a right angle to form a short helix, and terminating in a longer helical end.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 15th day of November, 1904.

GEORGE F. HAGERMAN.

Witnesses:

WALTER B. PERKINS,
PAUL R. ATHERTON.