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No. 891,323.

PATENTED JUNE 23, 1908.

B. A. BROWN.

FUSE.

APPLICATION FILED JUNE 13, 1907.

FIG. 1.

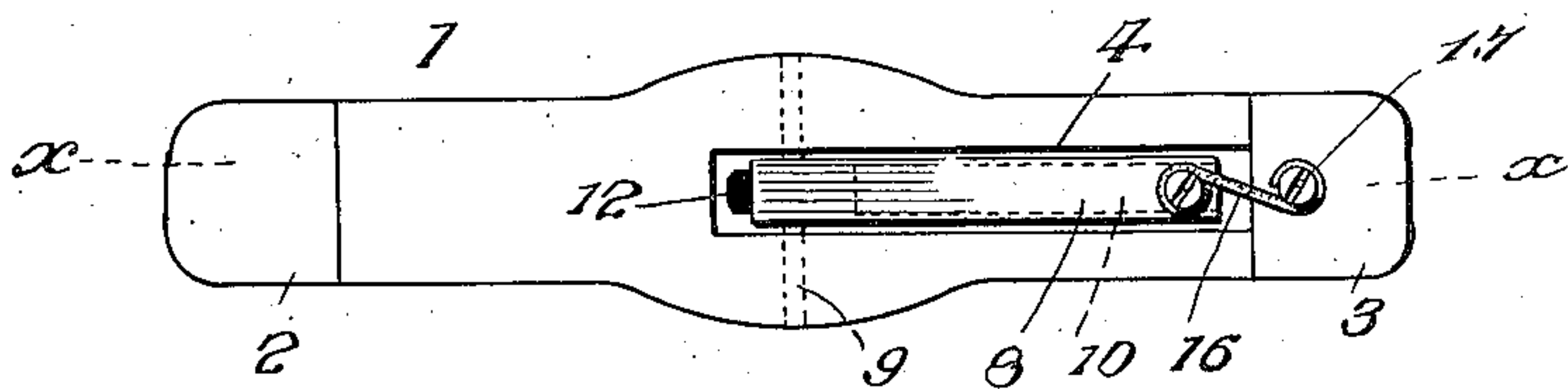


FIG. 2.

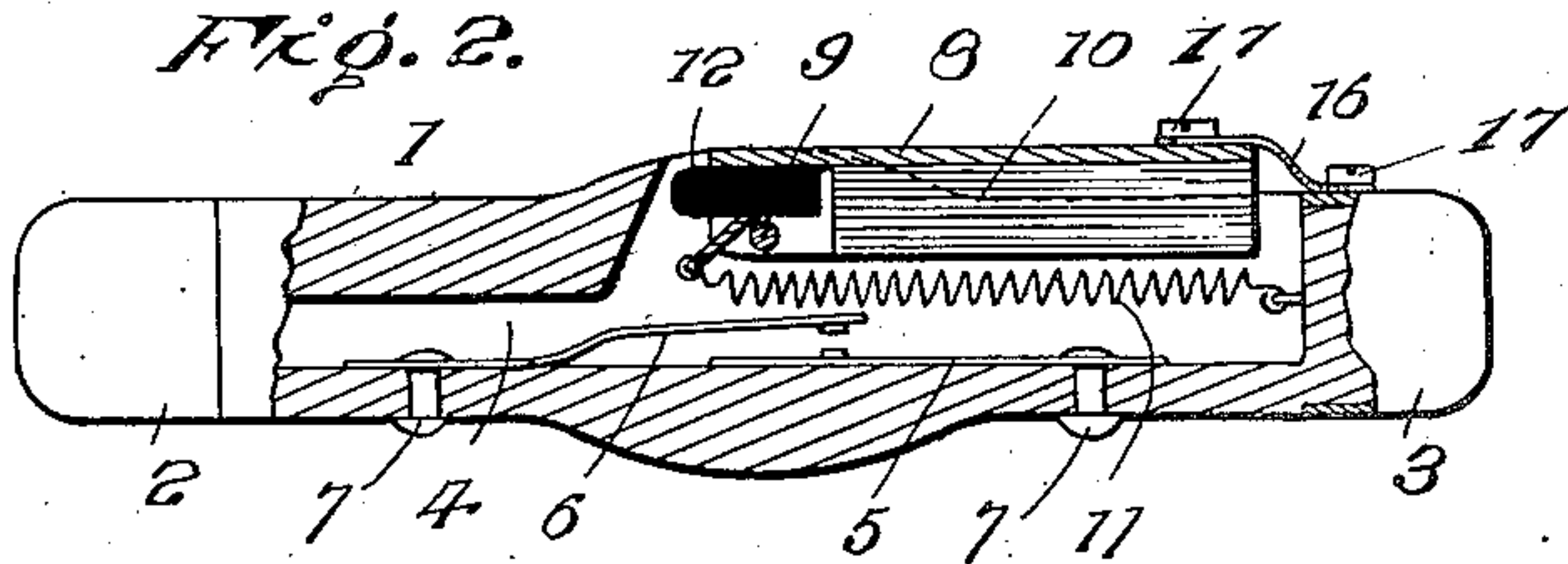


FIG. 3.

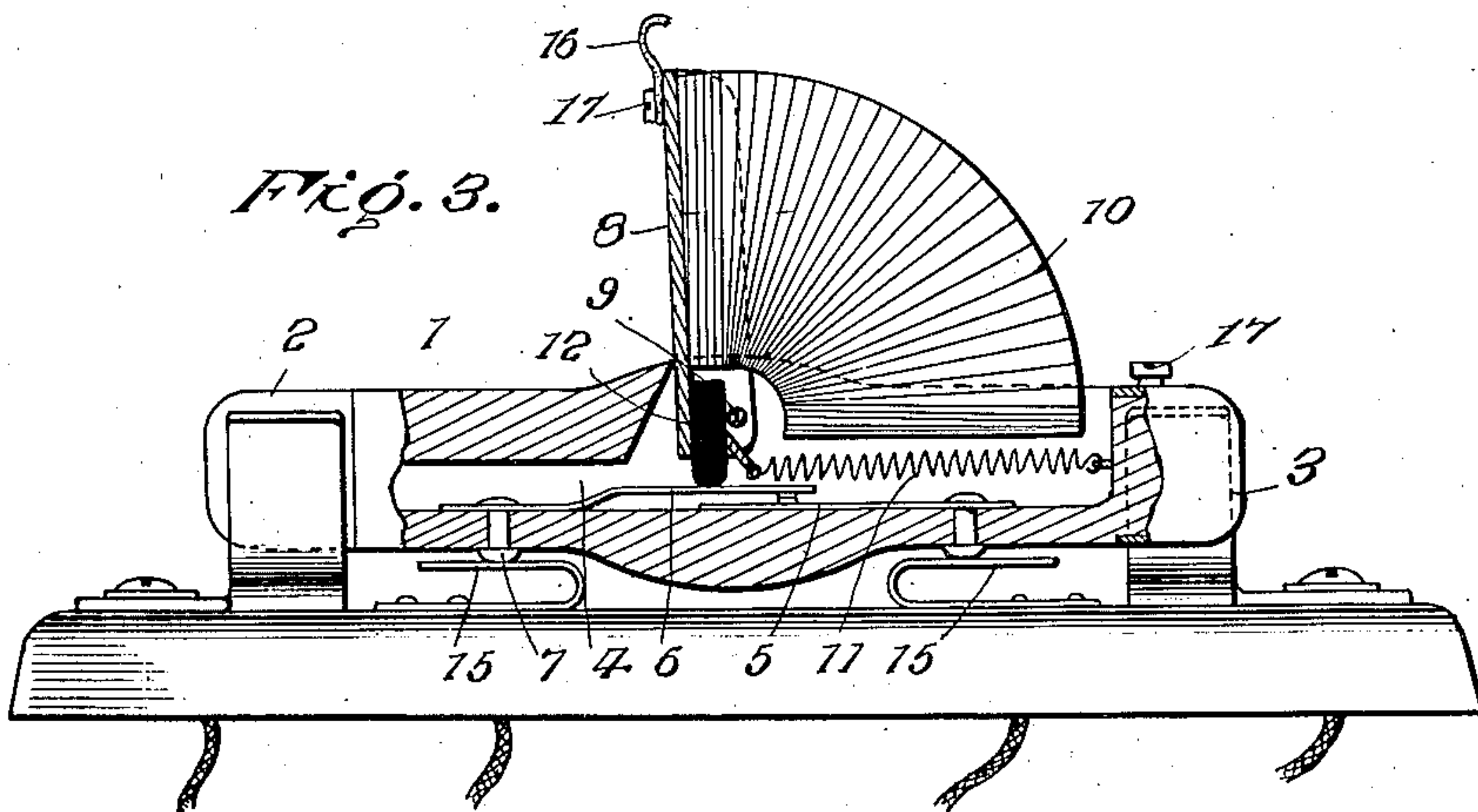
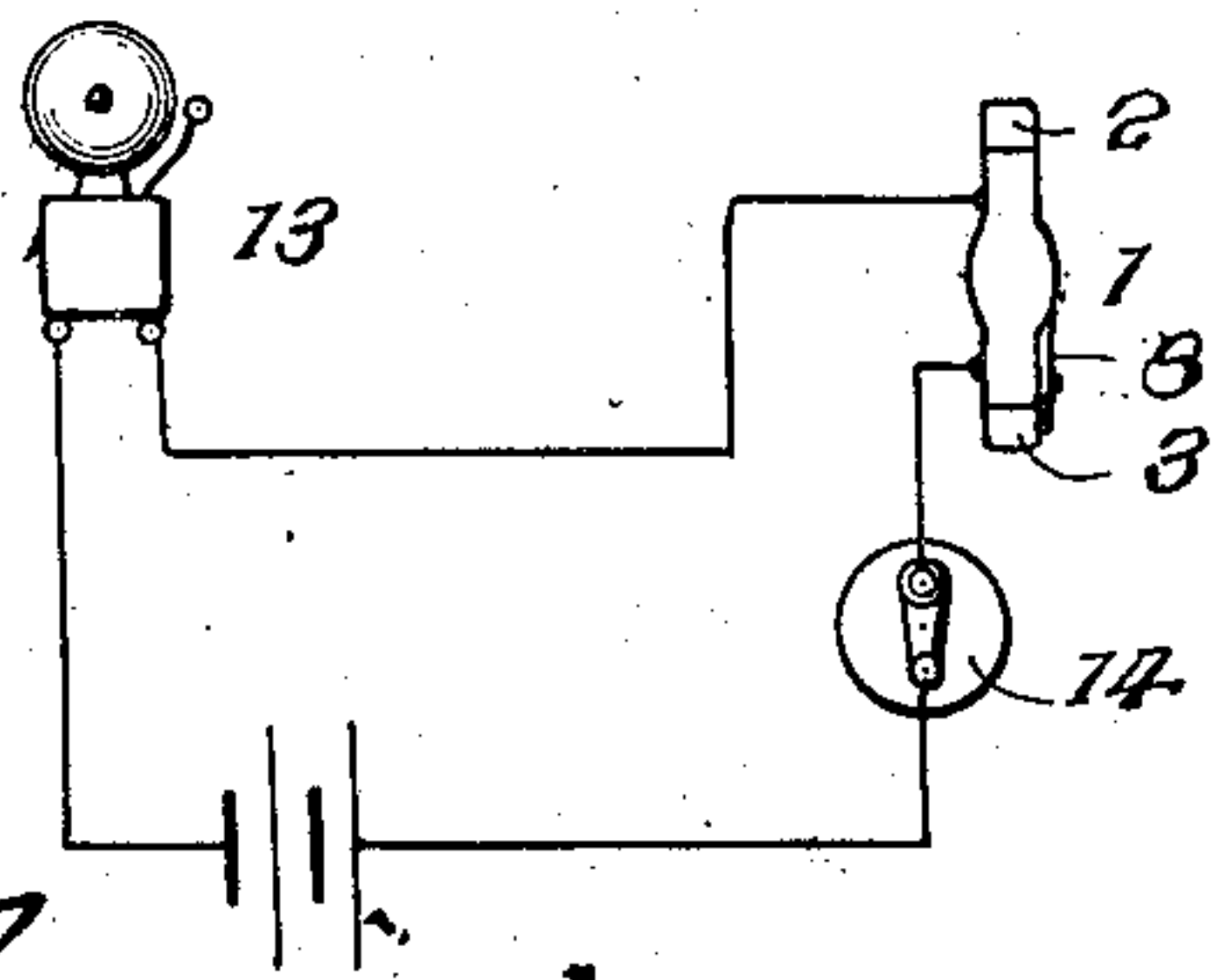


FIG. 4.



Witnesses

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FUSE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BERT A. BROWN, citizen of the United States, residing at Churchville, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Fuses, of which the following is a specification.

This invention provides a fuse of novel form which will indicate the line interrupted by the burning out of the fuse so that repairs may be quickly made and the line restored to normal or working condition without entailing the loss of time incident to looking up the line and obviating the expense attendant upon such investigation to locate and replace the burned out fuse.

The present invention, besides indicating the line of fuse burned out by the passage of an abnormal charge over the line, also admits of repairs being quickly and economically effected, it only being necessary to replace the burned out fuse wire which may be effected at a nominal cost and in a moment's time.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a front view of a fuse embodying the invention. Fig. 2 is a vertical longitudinal section on the line $x-x$ of Fig. 1, showing the relation of the parts under normal conditions. Fig. 3 is a view similar to Fig. 2, showing the relation of the parts after the fuse has been actuated by the burning out of the fuse wire. Fig. 4 is a diagram, showing the application of the invention.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The fuse in its general appearance is not unlike the ordinary fuse and comprises a body 1 of dielectric material, preferably wood, and having metal ends 2 and 3. A longitudinal slot or recess 4 is formed in a side of the body 1 and extends from one end

to within a short distance of the other end and receives contact springs 5 and 6 which normally stand apart at their inner ends and have their outer ends attached to the body 1 by means of fastenings 7 which also constitute contact points. A movable arm 8 is pivoted near one end to the body 1, being mounted upon a pin 9 which extends transversely through registering openings formed in the arm 8 and portions of the body 1 bordering upon the slot or recess 4.

The movable arm 8 is hollow upon its inner side and is preferably formed of metal and consists of a strip of sheet metal bent upon itself. The hollow side of the movable arm is utilized to receive the signal 10, which consists of a fan, one end being attached to the body 1 and the other to the arm 8 so that when the free end of the arm 8 is thrown outward, the signal or fan 10 is exposed, thereby attracting attention or enabling one of a series of fuses to be readily ascertained when burned out. A coil spring 11 of the retractile type has one end attached to the movable arm 8 and its other end to the body 1, said spring being arranged to throw the free end of the arm 8 outward when said arm is released from the restraining influence of the fuse wire by the latter burning out. The coil spring 11 extends lengthwise of the body and is arranged within the slot or recess 4 so as to be out of the way and protected. The butt of the movable arm 8 is arranged to engage with the free end of the contact spring 6 and press the same inward so as to cause two contact springs 5 and 6 to make electrical connection when the fuse wire is burned out and the arm 8 is thrown outward at its free end by the action of the spring 11. The butt of the movable arm is provided with a tip 12 of hard rubber or other dielectric material, thereby preventing the metal of the arm 8 coming in contact with the metallic spring 6.

In accordance with this invention the fuse is located in a local circuit embodying an alarm 13, switch 14 and contacts 15. The contacts 7 of the fuse are in electrical connection with the contacts 15 when the fuse is in position. The local circuit is held open by the separation of the contact springs 5 and 6, but when the fuse wire burns out by the passage of an abnormal charge, the movable arm 8 flies outward at its free end and its butt portion pressing upon a contact spring 6 closes the local circuit by causing

said contact springs 5 and 6 to make electrical connection, thereby sounding the alarm 13 and attracting attention and giving warning that someone of a series of circuits has been disturbed and the particular circuit interrupted may be readily ascertained by the signal 10. The local circuit may be opened or closed by means of the switch 14. The movable arm 8 is held in normal position or within the slot or recess 4 by means of a fuse wire 16, one end being attached to the metal end 3 and the opposite end to the movable arm 8, clamp screws 17 being provided for attaching the fuse wire to the respective parts. When the fuse wire 16 burns out it is not necessary to throw the fuse away or to replace the same by a new one, which entails considerable expense, but a short length of fuse wire is placed in position, being secured to the end 3 and to the movable arm 8 in the manner stated.

Having thus described the invention, what is claimed as new is:

1. In a fuse, the combination of a body, an arm pivoted to said body, means for throwing said arm outward, a fuse wire for normally holding the pivoted arm in restraint, and a signal connected at one end to the pivoted arm and at its opposite end to the said body and adapted to be displayed when the pivoted arm is thrown outward after being

released from the restraining influence of the aforesaid fuse wire.

2. In a fuse, the combination of a body, an arm pivoted near one end to the body and made hollow upon its inner side, means for throwing said arm outward at its free end, a fuse wire for normally holding the pivoted arm in restraint, and a signal normally arranged within the space of the pivoted arm and concealed and protected thereby and adapted to be displayed when said arm is released from the restraining influence of the fuse wire and thrown outward.

3. In combination, a circuit including an alarm, a switch and contacts, a second set of contacts in electrical connection with the contacts of the aforesaid circuit, a pivoted arm adapted under abnormal conditions to bring the said second set of contacts in electrical connection to close the aforesaid circuit, a visible signal actuated by said arm to be displayed when the arm is thrown outward, and a fuse wire for normally holding the said arm in restraint.

In testimony whereof I affix my signature in presence of two witnesses.

BERT A. BROWN. [L. S.]

Witnesses:

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