L. J. PIERCE.

GLASS SEVERING TOOL.

APPLICATION FILED MAY 20, 1908.

909,451.

Patented Jan. 12, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

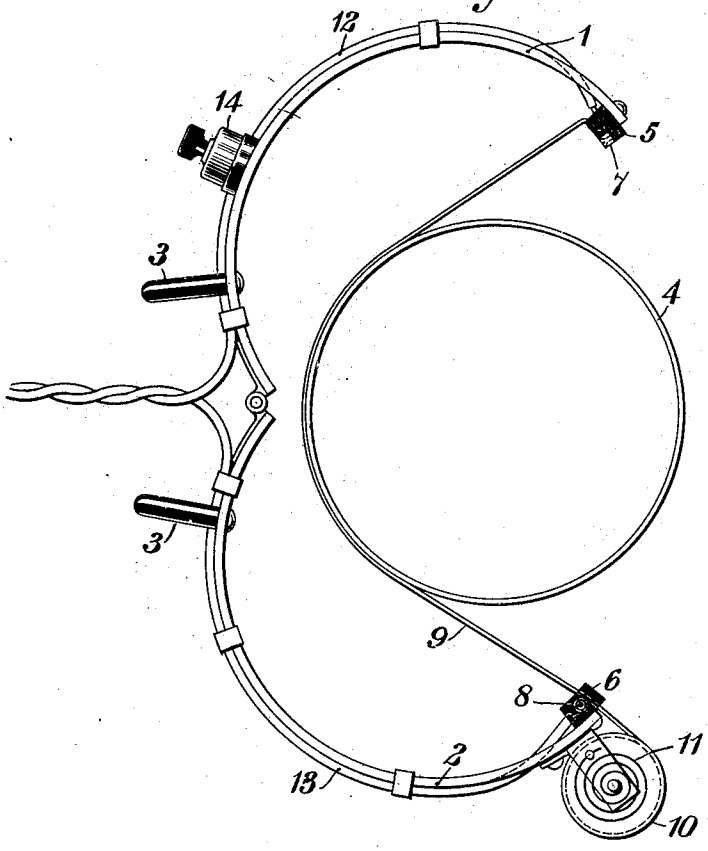


Fig. 3.

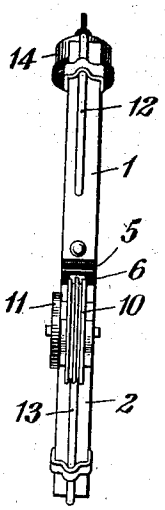


Fig. 2.

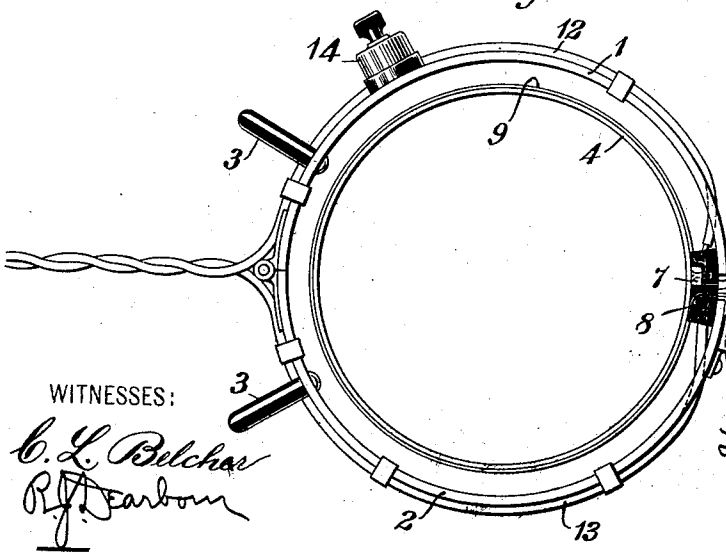
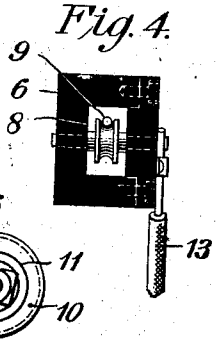


Fig. 4.



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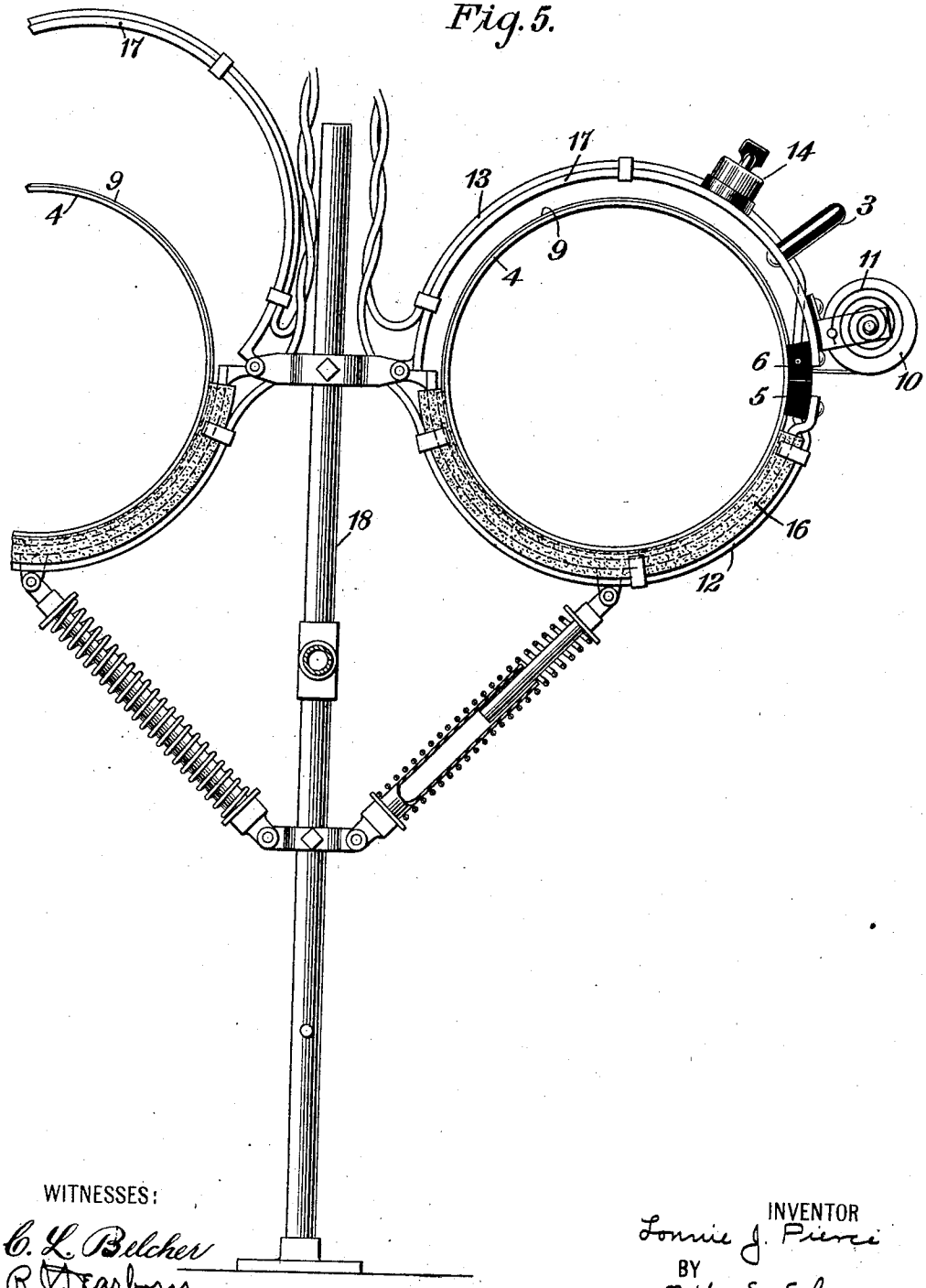
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Fig. 5.



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GLASS-SEVERING TOOL.

No. 909,451. Specification of Letters Patent. Patented Jan. 12, 1909.

Application filed May 20, 1908. Serial No. 433,846.

To all whom it may concern:

Be it known that I, LONNIE J. PIERCE, a citizen of the United States, and a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Glass-Severing Tools, of which the following is a specification.

My invention relates to glass severing tools, and particularly to such as are employed for the purpose of "capping off" glass cylinders that are formed in the process of the manufacture of window glass.

The object of my invention is to provide a hand tool of the character and for the purpose indicated that shall be extremely simple in construction and more convenient to manipulate than others heretofore provided.

Many glass severing tools, comprising electrical conductors adapted to be heated by the passage of current therethrough, have heretofore been devised, but in all of which I am aware it is either necessary for the operator to reach around the glass cylinder in order to cause the wire to encircle the same and then to manually maintain the wire taut during the passage of current through it, or else they have been otherwise very awkward and cumbersome to manipulate. The present device is in all respects convenient to operate, obviating the necessity of reaching around the glass cylinder and providing means for automatically maintaining the conductor taut.

Figure 1 of the accompanying drawings is a side elevation of a device constructed in accordance with the present invention, the device being open to receive a glass cylinder about to be severed. Fig. 2 is another side elevation of the device which is shown closed around the glass cylinder. Fig. 3 is an end elevation of the device. Fig. 4 is an enlarged end elevation of some of the parts of the device, and Fig. 5 is a side elevation of a device illustrating a specific application of the invention.

The tool comprises two approximately semi-circular pivotally connected arms 1 and 2 that are provided with conveniently located handles 3 whereby they may be separated to receive a glass cylinder 4 between them and then closed around the cylinder.

Mounted upon and within insulating blocks 5 and 6 that are secured respectively to the free ends of the arms 1 and 2 are terminal members 7 and 8, the former being rigidly secured to the block 5, and the latter being a rotatably mounted sheave or pulley. Attached at one end to the terminal member 7 and extending between the same and the terminal member 8, over which it passes, is an electrical conductor 9 that is adapted to be heated by the passage of current through it and that consists, for instance, of No. 20 or No. 22 Climax resistance wire. The portion of the said conductor that projects through and extends beyond the insulating block 6 is wound upon a reel 10 that is rotatably mounted near the free end of the arm 2 but that is insulated therefrom, the reel being actuated automatically to maintain conductor 9 taut under all conditions, by means of a spiral spring 11.

Electrical current is conducted to the terminal members 7 and 8 by means of insulated conductors 12 and 13 that extend along the outer faces of the arms 1 and 2 and that may be connected, when the device is in use, to any suitable lighting or other curcuit. For the purpose of governing the supply of current to the device a switch 14, here represented as an ordinary snap switch, but that may be of any other suitable form, is connected in series with the conductor 12 and is mounted upon the outer face of the arm 1.

In using the device, the arms 1 and 2 are first separated as shown in Fig. 1 to receive between them the glass cylinder to be severed and they are then closed around the cylinder so as to cause the conductor 9 to encircle the same, substantially as shown in Fig. 2. The switch 14 is then closed to permit the conductor 9 to become heated by the passage of current through it, and in order that the cylinder may be heated uniformly around its circumference, the device should be rotated through a comparatively small angle. When the proper degree of heat is attained, the cylinder may be readily severed by applying a cold article, such as a piece of iron, to the cylinder in the vicinity of the heated portion.

A convenient application of the device in connection with the standards or supports upon which the glass cylinders are placed when they are severed into short lengths is illustrated in Fig. 5, in which one of the arms 16 constitutes the supporting member for the cylinder, and the arm 17, that carries the reel at its outer end, is pivotally connected thereto by the same means as pivotally secures the arm 16 to the vertical mem-

ber 18 of the standard. When the device is applied in this manner the severing operation may be effected after the cylinder is placed upon the standards by simply moving the arm 17 to bring the terminal members into close proximity and to thereby cause the resistance conductor to encircle the cylinder. By properly spacing the several standards upon which a cylinder is supported, the cylinder may be conveniently severed into just the desired lengths.

I claim:

1. A glass severing tool comprising pivotally connected arms adapted to surround the article to be severed, terminals carried thereby, a conductor extending between the terminals and adapted to be heated by the passage of an electrical current therethrough, and means for automatically maintaining the conductor taut.

2. A glass severing tool comprising pivotally connected arms, terminals carried thereby, a conductor extending between the terminals and adapted to be heated by the passage of an electrical current therethrough, a reel for the conductor carried by one of the arms, and means for automatically actuating the reel to maintain the conductor taut.

3. A glass severing tool comprising pivotally connected arms, terminals carried thereby, a conductor extending between the terminals and adapted to be heated by the passage of an electrical current therethrough, a reel for the conductor carried by one of the arms, and a spring for actuating the reel to maintain the conductor taut.

4. A glass severing tool comprising pivotally connected arms, terminals carried thereby, that upon one arm comprising a roller, a conductor passing over the roller and secured at one end to the other terminal, the said conductor being adapted to be heated by the passage of an electrical current therethrough, a reel for the conductor carried by the arm upon which the terminal comprising the roller is mounted, and resilient means for automatically actuating the reel to maintain the conductor taut.

5. A glass severing tool comprising pivotally connected arms, terminals carried thereby, conductors for connecting the terminals to an external circuit extending along the arms from the terminals to the pivotal connection between the arms, a conductor extending between the terminals and adapted to be heated by the passage of an electrical current therethrough, and means for automatically maintaining the conductor taut.

6. A glass severing tool comprising pivotally connected arms, terminals carried thereby, conductors for connecting the terminals to an external circuit extending along the arms from the terminals to the pivotal connection between the arms, a switch in series with one of said conductors and mounted upon one of the arms, a conductor extending between the terminals and adapted to be heated by the passage of an electrical current therethrough, and means for automatically maintaining the conductor taut.

7. A standard comprising a supporting arm, another arm pivotally mounted with respect to the supporting arm, the said arms being adapted to surround the article supported by the standard, terminals carried by the said arms, a conductor extending between the terminals and adapted to be heated by the passage of an electrical current therethrough, and means for automatically maintaining the conductor taut.

8. A glass severing tool comprising arms adapted to surround the article to be severed, terminals carried thereby, and a conductor extending from arm to arm between the terminals, and adapted to engage between the arms with the article to be severed and to be heated by the passage of an electrical current therethrough.

9. A glass severing tool comprising arms adapted to surround the article to be severed, terminals carried thereby, a conductor extending from arm to arm between the terminals, and adapted to engage between the arms with the article to be severed and to be heated by the passage of an electrical current therethrough, and means for automatically maintaining the conductor taut.

10. A glass severing tool comprising pivotally connected arms adapted to surround the article to be severed, terminals carried thereby, and a conductor extending between the terminals and adapted to be heated by the passage of an electrical current therethrough.

In testimony whereof, I have hereunto subscribed my name this 7th day of May, 1908.

LONNIE J. PIERCE.

Witnesses:
W. F. SHROYER,
OTTO S. SCHAIRER.