O. STENSON.

WIREWORKING APPLIANCE.

APPLICATION FILED SEPT. 19, 1919.

1,434,856. Patented Nov. 7, 1922.

Fig. 1

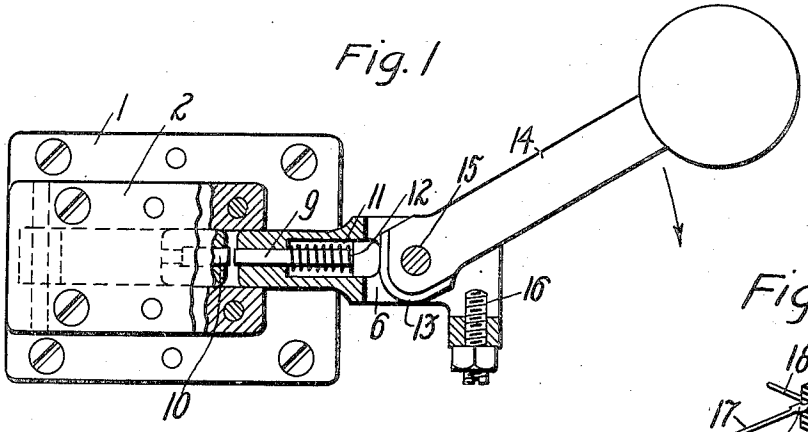


Fig. 2

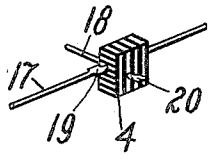


Fig. 3

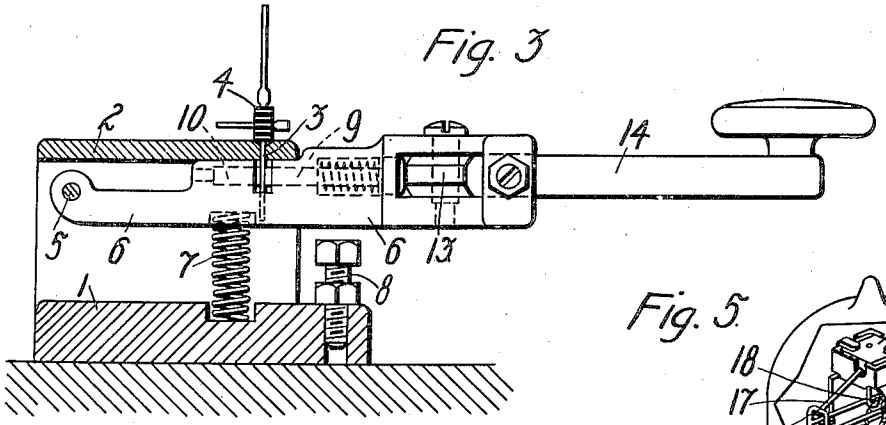


Fig. 5

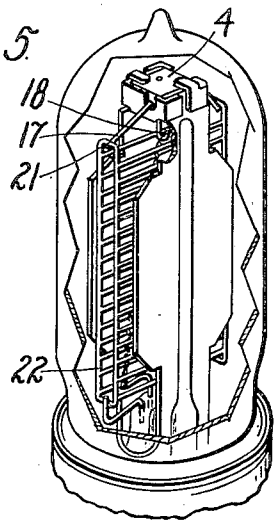
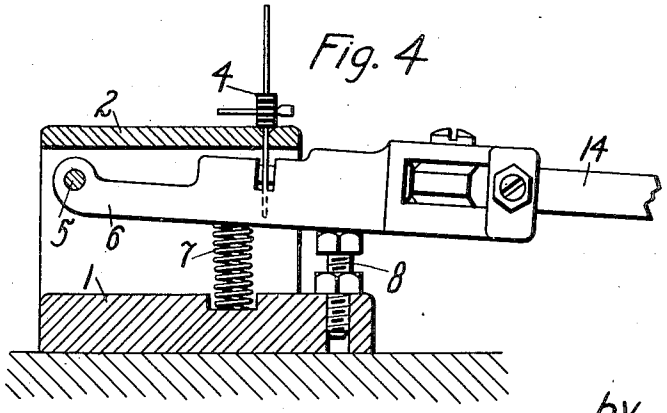


Fig. 4



Inventor:
Olaf Stenson

by W. E. Beatty
Att'y

Patented Nov. 7, 1922. 1,434,856

UNITED STATES PATENT OFFICE.

OLAF STENSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

WIREWORKING APPLIANCE.

Application filed September 19, 1919. Serial No. 324,814.

To all whom it may concern:

Be it known that I, OLAF STENSON, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Wireworking Appliances, of which the following is a full, clear, concise, and exact description.

The invention relates to wire working appliances and particularly to a device adapted to insert a wire in material such as a block of insulation which is to hold the wire.

In vacuum tubes of the audion type it has been proposed to support the grid electrode from the anode by means of a block of insulating material such as lavite supported by the plate structure. A supporting wire is fastened to the insulating material and extends to the grid to support it in its proper position within the tube.

An object of the invention is to effectively insert a wire into the receiving member such as the above described block of insulating material supported from the anode. This is accomplished by drilling a hole through the block. The wire, a portion of which is flattened to increase its lateral dimension is inserted into the hole in the block, the hole being smaller than the flattened portion of the wire. An appliance is provided, according to the present invention, for pulling the wire into the hole in the block, the flattened portion of the wire being forced into the block, thereby securely holding the wire in position.

For further details of the invention reference may be made to the drawings, in which Fig. 1 illustrates a plan view, partly in cross-section, of a wire inserting device. Fig. 2 is a perspective view of a block of insulating material having wires with flattened portions inserted into apertures therein previous to a final pulling-in of the wires by the device of Fig. 1. Fig. 3 is an elevation, partly in cross-section, of the wire inserting device of Fig. 1, the device being in position to pull in one of the wires. Fig. 4 is similar to Fig. 3, showing the position of the wire pulling mechanism after the wire has been pulled into the block. Fig. 5 is a perspective view of a vacuum tube device in which the completed article of Fig. 2 is employed.

Referring in detail to Figs. 1 and 3 of the drawing, the base 1 of the wire pulling device is provided with a platform 2 provided with an aperture 3, in which the wire to be pulled is adapted to be inserted, this wire resting in a hole not shown in the block 4 of insulating or other material. Preferably the insulating material known as lavite is employed. Pivoted beneath the platform 2 at the point 5 is a lever 6 which is normally urged against the platform by the spring 7, the ends of which may rest in apertures in lever 6 and in the base 1. An adjustable stop 8 is provided to limit the downward movement of the lever 6. This lever 6 carries a spring-pressed plunger 9 between the end of which and the stationary member 10 the wire to be pulled is adapted to be gripped. The lever 6 is provided with a chamber 11 in which is located a spring 12 which urges the plunger 9 against the cam surface 13 on the lever 14 pivoted at the point 15 to the lever 6. The movement of the lever 14 is restricted by the adjustable stop 16 mounted on the lever 6.

As shown in Fig. 2, the block 4 prior to the operation performed by the device of Figs. 1 and 3 has provided, in apertures therein, wires 17 and 18 provided with the flattened portions 19 and 20 respectively, these flattened portions having a lateral dimension larger than that of the aperture which receives the main portion of these wires. By forcing the flattened portion of the wires into the block 4 they are securely held in position. As shown, the flattened portion 19 is located about midway between the ends of the wire 17, whereas the flattened portion 20 is at the end of the wire 18. After these wires have been inserted this provides the block with three wire supporting arms, the oppositely extending arms in the specific instance illustrated in Fig. 5 being welded to the grid electrode 21, the wire 18 forming a support for the bight of the cathode 22.

The operation of the device above described is obviously that of placing in position on the platform 2 the article shown in Fig. 2, one of the wires to be inserted in the block 4 extending between the stationary member or abutment 10 and the plunger 9. The elements 9 and 10 provide a gripper mechanism for holding the wire. Movement of lever 14 in the direction of the arrow serves to grip the wire, the levers 14 and 6 then being moved as a whole about the pivot point 5, pulling the wire, the lowermost

position of the levers 6 and 14 being shown in Fig. 4.

While the invention has been described as for pulling a wire into a block of insulating material, it obviously may be employed for the insertion of a wire, rod or the like into any other material.

What is claimed is:

1. A machine, for inserting a wire into an article, comprising levers pivoted for motion in planes at right angles to each other, means operated by the motion of one of said levers in one plane to grip said wire, another of said levers serving to force said wire into said article.

2. A machine for inserting a wire into an article, comprising gripper elements, means operable in one plane to operate said gripper elements and operable in another plane to insert said wire.

3. The combination of a platform, a lever pivoted therebeneath, a plunger operated gripper mounted in said lever, and a second lever pivoted to said first-mentioned lever for operating said first-mentioned lever and plunger.

4. A wire working machine comprising relatively rectilinearly movable wire gripper elements mounted for oscillation about a pivot.

5. A wire pulling machine comprising pivoted gripper mechanism, pivoted pulling mechanism, and a handle for operating said mechanisms.

6. The combination of a horizontal platform having an aperture adapted to receive a wire, and wire gripper mechanism mounted beneath said platform for gripping said wire.

7. A wire working machine comprising a horizontal platform having an aperture adapted to receive a wire and relatively reciprocable gripper elements mounted beneath said platform for moving said wire.

8. A platform, wire gripper mechanism mounted therebeneath, a spring adapted to urge said mechanism in the direction of said platform, and a stop for limiting the motion of said mechanism away from said platform.

9. A wire working machine comprising relatively reciprocable wire gripping elements, stopping means for limiting the motion of said elements in opposite directions, and spring means for urging said elements in the direction of one of said stopping means.

In witness whereof, I hereunto subscribe my name this 5th day of September, A. D., 1919.

OLAF STENSON.