A. HOFHEIMER.

SMOOTHING DEVICE.

APPLICATION FILED DEC. 8, 1910.

997,295.

Patented July 11, 1911.

2 SHEETS—SHEET 1.

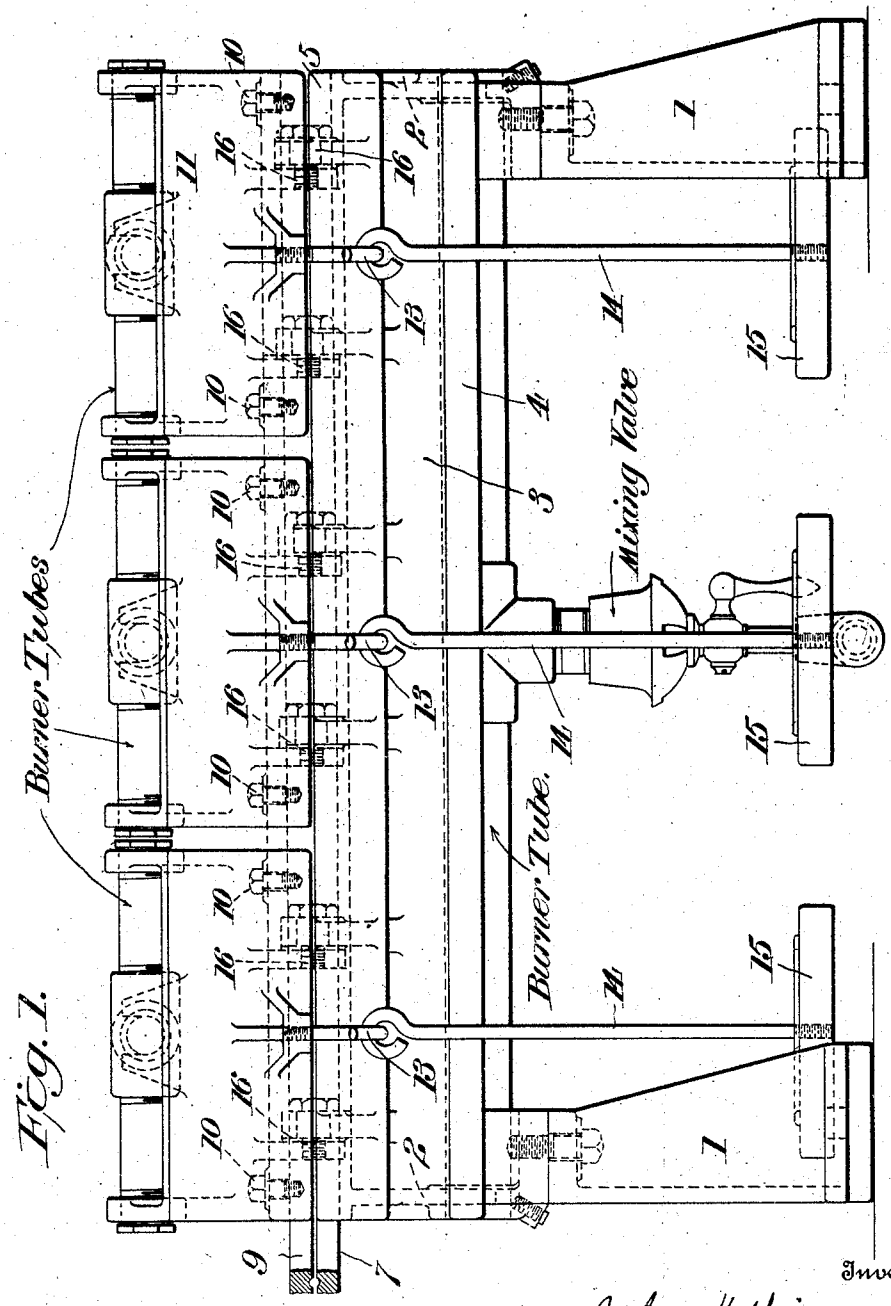

Fig. 1.

Witnesses,
C. M. Walker.
R. L. Hulsizer.

Inventor
Arthur Hofheimer
By Byrnes Townsend & Brickenstein
Attorneys

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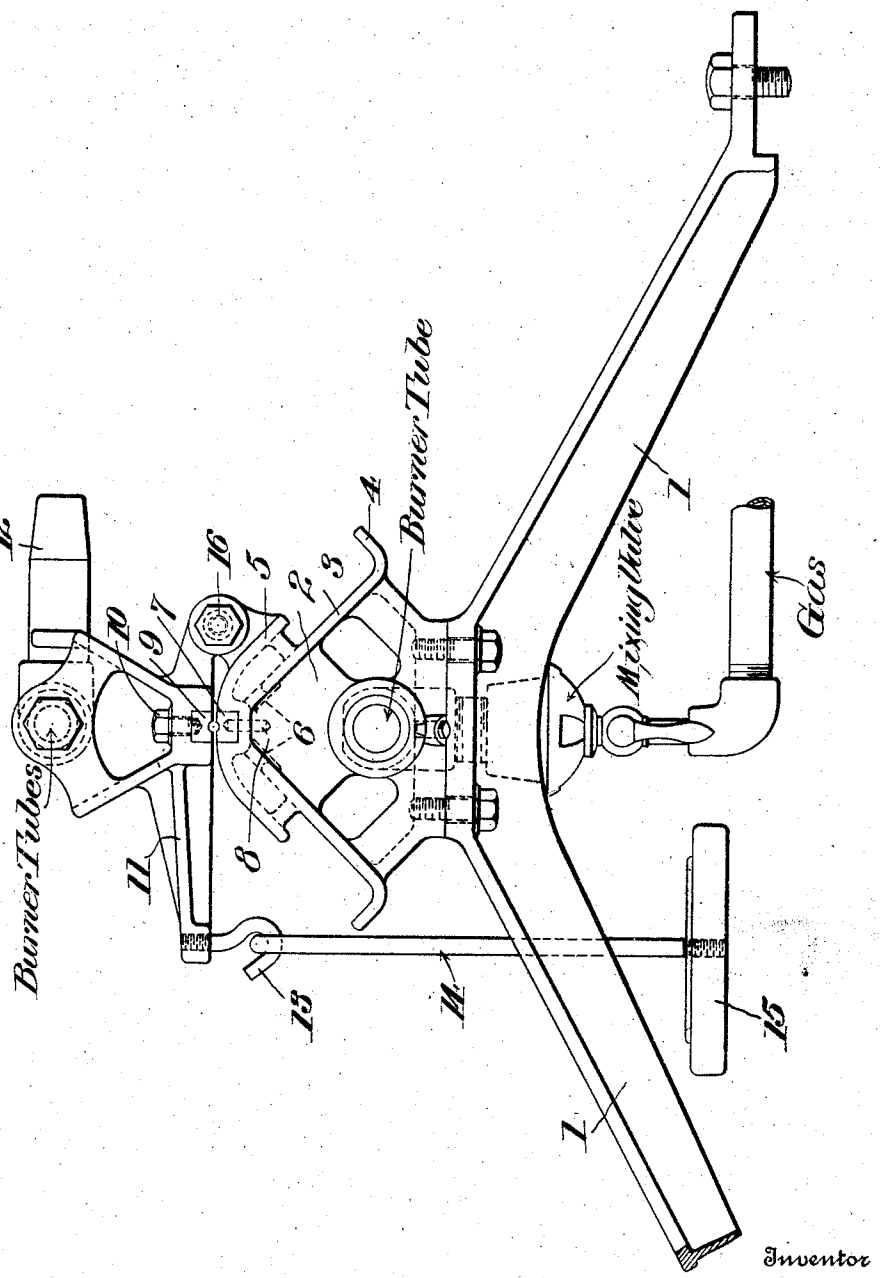
2 SHEETS—SHEET 2.

Fig. 2.



Witnesses

C. N. Walker.

R. L. Schleizer.

Inventor

Arthur Hofheimer

By Byrnes Townsend & Brickenstein

Attorneys

UNITED STATES PATENT OFFICE.

ARTHUR HOFHEIMER, OF YORK, PENNSYLVANIA, ASSIGNOR TO HEANY FIRE-PROOF WIRE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF PENNSYLVANIA.

SMOOTHING DEVICE.

997,295. Specification of Letters Patent. Patented July 11, 1911.

Application filed December 8, 1910. Serial No. 596,269.

To all whom it may concern:

Be it known that I, ARTHUR HOFHEIMER, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Smoothing Devices, of which the following is a specification.

My invention relates to an apparatus for smoothing or ironing down a coating of insulating material during the process of applying such material to electrical conductors, and has for its object to enable the production of a smooth polished coating on an insulated wire which shall be of uniform gage.

In the drawings—Figure 1 is a side elevation of the device; and Fig. 2 is an end elevation.

My invention is particularly applicable to that method of insulating wires which are to be used as electrical conductors, in which a layer of insulating material such as flocculent asbestos is first applied to the wire, and there is then applied over the fibrous coating a layer of some plastic insuluating material such as an asphaltic paint or varnish. My device is intended to remove any surplus material and at the same time to smooth, polish or iron down this coating so that the insulated wire will be brought to a uniform gage or diameter. These results are produced by passing the coated wire, which may or may not be revolving on its axis, longitudinally through or between lower and upper die-bars 7 and 9, which dies may be grooved if desired.

The die-bar 7, shown as a long bar, is carried on supporting frames 2, 2, which are in turn mounted on brackets 1, 1, secured to any suitable frame (not shown). To these supporting frames 2, 2, is secured a roof-shaped hood 3 which may have its side edges upturned as at 4 to form grooves or gutters for receiving the surplus material removed from the wire by the dies. Near its apex, the hood 3 has openings 6, 6, through which the heating gases pass into a chamber formed between the main hood 3 and a supplemental hood 5, these heating gases being supplied from a burner tube located beneath the hood. As shown the burner tubes are supplied with gas and air through a mixing valve which may be of any usual construction.

Pivoted to the hood 3 is a series of plates 11 (three being shown, though more may be used if desired), each plate carrying a burner tube arranged to direct hot gases downward. Die-bars 9, 9, are secured in place in these plates by bolts 10, and the lower die-bar 7 is similarly secured to its support by pins 8. Hooks 13 screwed into the plates 11 support, by means of rods 14, weights 15.

In operation, the wire with its coating of plastic insulating material, as it passes between the heated dies, is subjected to sufficient pressure to cause the plastic material to permeate the interstices of the previously-applied fibrous material, while at the same time the surplus material is removed, the surface of the coating material smoothed or ironed down, and the wire brought to a uniform gage. The needed pressure can be obtained, as shown, by means of weights, or by equivalent means such as springs, the pressure being regulated by applying different weights or by proper adjustment of the springs if such are used. The hood 3 prevents the surplus material removed by the dies from interfering with the operation of the burner, and the supplemental hood enables the hot gases to escape without coming into contact with the surplus plastic material as it passes down over the supplemental hood.

By using in series several devices such as have been above described, various degrees of heat may be applied to the coated wire, and by omitting the heat from the devices at the end of the series, such unheated devices act as polishers to give a finished surface to the insulated wire.

What I claim is:

1. In a wire insulating device, an apparatus comprising a die, a support therefor consisting of an angular hood, and a burner located beneath said hood.

2. In a wire insulating device, an apparatus comprising a die, a support therefor consisting of an angular hood having perforations near its apex, a supplemental hood over said perforations, and a burner located beneath the hoods.

3. In a wire insulating device, an apparatus comprising a die, a support therefor consisting of an angular hood having upturned flanges at its sides, and a burner located beneath said hood.

4. In a wire insulating device, an apparatus comprising upper and lower dies, a support for the lower die, means for heating said die, a carrier pivoted to the lower die support, the upper die being mounted on said carrier, means for heating said upper die, and means for applying a yielding pressure to the upper die carrier.

5. In a wire insulating device, an apparatus comprising a longitudinally extended lower die, means for applying heat thereto, a series of longitudinally extended upper dies arranged over said lower die, means for applying heat to said upper dies, and means for applying a yielding pressure thereto.

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

ARTHUR HOFHEIMER.

Witnesses:
GEO. W. DEWEY,
F. A. R HOFFEDITZ.