(No Model.)

J. H. FARREL.

CONTINUOUS SELF CONSUMING OR IGNITIBLE STRIP FOR GAS LIGHTING DEVICES.

No. 421,917. Patented Feb. 25, 1890.

Fig. 1.

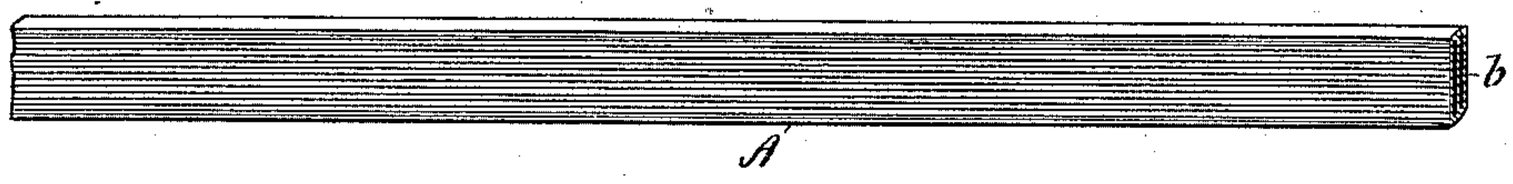
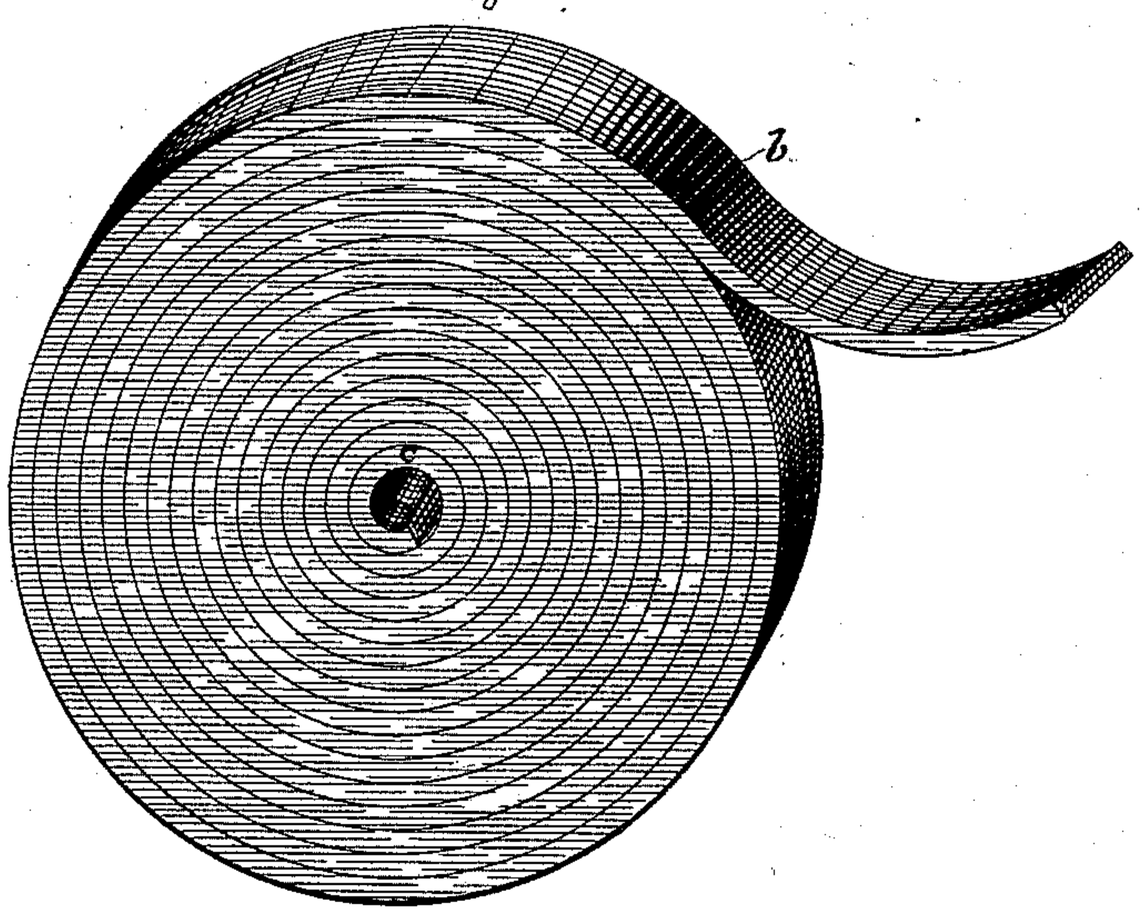


Fig. 2.



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UNITED STATES PATENT OFFICE.

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CONTINUOUS SELF CONSUMING OR IGNITIBLE STRIP FOR GAS-LIGHTING DEVICES.

SPECIFICATION forming part of Letters Patent No. 421,917, dated February 25, 1890.

Application filed September 14, 1889. Serial No. 323,955. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. FARREL, a citizen of the United States, residing at Camden, in the State of New Jersey, have invented certain new and useful Improvements in Continuous Self Consuming or Ignitible Strips for Gas-Lighting Devices, of which the following is a specification.

My invention relates to the manufacture of a continuous self-consuming strip of ignitible material or substances and susceptible of use in connection with gas-lighting devices.

The principal object of my invention is to provide an inexpensive continuous self consuming or ignitible strip that may be handled with safety for lighting gas issuing from burners, oil-lamps, &c., and one perfectly reliable and effective in action in its application to lighting and other somewhat similar devices.

The nature of my invention will be more fully understood taken in connection with the accompanying drawings and the following description thereof.

In the drawings, Figure 1 is a perspective view, on an enlarged scale, of a continuous strip composed of readily-ignitible material or substances; and Fig. 2 is a similar view of a continuous self consuming or ignitible strip embodying the characteristic features of my invention and formed into a coil for use in connection with a gas-lighting device.

A convenient method of carrying out my invention for the manufacture of the continuous self-consuming strips of ignitible material or materials is as follows: In five (5) parts, by weight, of water, four (4) parts of Irish glue are dissolved by heating in any preferred manner. When dissolved, three (3) parts, by weight, of phosphorus are added, and the mass in solution stirred or agitated until thoroughly dissolved, when three (3) parts of pulverized chlorate of potash, preferably moistened in water, is added, and then four (4) parts, by weight, of whiting. The mixture or mass is then thoroughly stirred or agitated until it assumes the consistency of a thin paste.

The proportions of the different materials used in the formation of the composition or compound hereinabove mentioned may of course be varied; but in practice the said materials in about the proportions mentioned above have given most excellent results.

The ignitible composition or compound, as above described, preferably of the consistency of a thin paste, is spead first over one side or surface, and then over the other side or surface, of a sheet of paper, cloth, or similar material by means of a brush or other appliance, and another similar sheet coated on one or both sides with said composition or materials is united with the previously-coated sheet. The two united and coated sheets have applied to the top and bottom thereof a sheet of uncoated paper, cloth, or similar material, and are then pressed out smooth and partially dried in any preferred manner. The two united and partially-dried sheets are then conducted through suitable rolls or calenders in order that they may be caused to assume a more uniform thickness throughout, as well as to adhere more intimately to one another. The sheets thus treated are then cut up in any preferred manner into strips and subjected to a bath composed of shellac and alcohol, or the top and bottom surfaces and sides of the strips are coated with the shellac and alcohol in any convenient manner. The strips, after being permitted to become perfectly dry, are formed into coils for use, or they may be caused to assume any more convenient shape or form.

The particular features of my invention are, first, that the sheets of paper, cloth, or other similar material coated with the composition or materials as hereinabove described become so saturated therewith that when cut up into strips for use they become not only readily ignitible, but are effectually or thoroughly consumed when frictionally or otherwise ignited, and, second, the shellac and alcohol are applied to the top, bottom, and sides of the strips in order to render them water-proof, and also fire-proof, to a greater or less extent—that is, while handling them for use in connection with a lighting device. If the sheets of paper or other material were not applied to the coated sheets in such manner, but were made as strips have heretofore been made, of a single strip coated on either one or both sides with an ignitible material or substance, the strip in use in the one

instance by percussion is ignited, not as a percussion-cap is ignited, but the entire strip irregularly fused or burned with pieces of paper dropping off, while, on the other hand, in the use of a single strip coated on both sides the instant used the entire strip is fused or burned by its frictional contact with the operative parts of the lighting device.

By making the strips in the manner hereinbefore described such serious objectionable features encountered are entirely obviated, because the coated and united sheets in the first place are protected by the top and bottom uncoated sheets applied thereto, and in the second place the shellac and alcohol serve to render the product water-proof, and also fire-proof, as far as the handling of the sheet is concerned or while the strip is being fed to be fired—for example, to ignite the volume of gas caused to issue from a burner.

In the drawings, A is the strip embodying the particular features of my invention and composed of thin sheets or layers of paper, cloth, or other material coated with the composition or substance *b*, of a readily-ignitible nature, as hereinbefore fully explained.

e is the finished strip after having been subjected to a bath of shellac and alcohol to render the same water-proof, and dried and formed into coils for use in connection with a gas-lighting device, or the strip may be readily caused to assume any other more convenient form for use.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An ignitible strip consisting of two or more sheets or layers of paper, cloth, or other material having a paste or composition composed of an ignitible material or substance distributed over the surfaces and uncoated sheets applied to the top and bottom thereof, substantially as and for the purposes described.

2. An ignitible strip consisting of two or more sheets of paper, cloth, or other material having a paste or composition, as described, spread over the surfaces thereof, and uncoated top and bottom sheets applied thereto and the sheets compressed together, substantially as and for the purposes described.

3. An ignitible strip consisting of two or more sheets of paper, cloth, or other material having an ignitible material or substance spread over the same and uncoated top and bottom sheets applied thereto and rendered water-proof, substantially as and for the purposes described.

4. An ignitible strip consisting of two or more sheets of paper, cloth, or other material having an ignitible material or substance distributed over and permeating the surfaces thereof and uncoated top and bottom sheets applied thereto and rendered water-proof and dried, substantially as and for the purposes described.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOHN H. FARREL.

Witnesses:
GEO. W. REED,
A. B. STOUGHTON.