

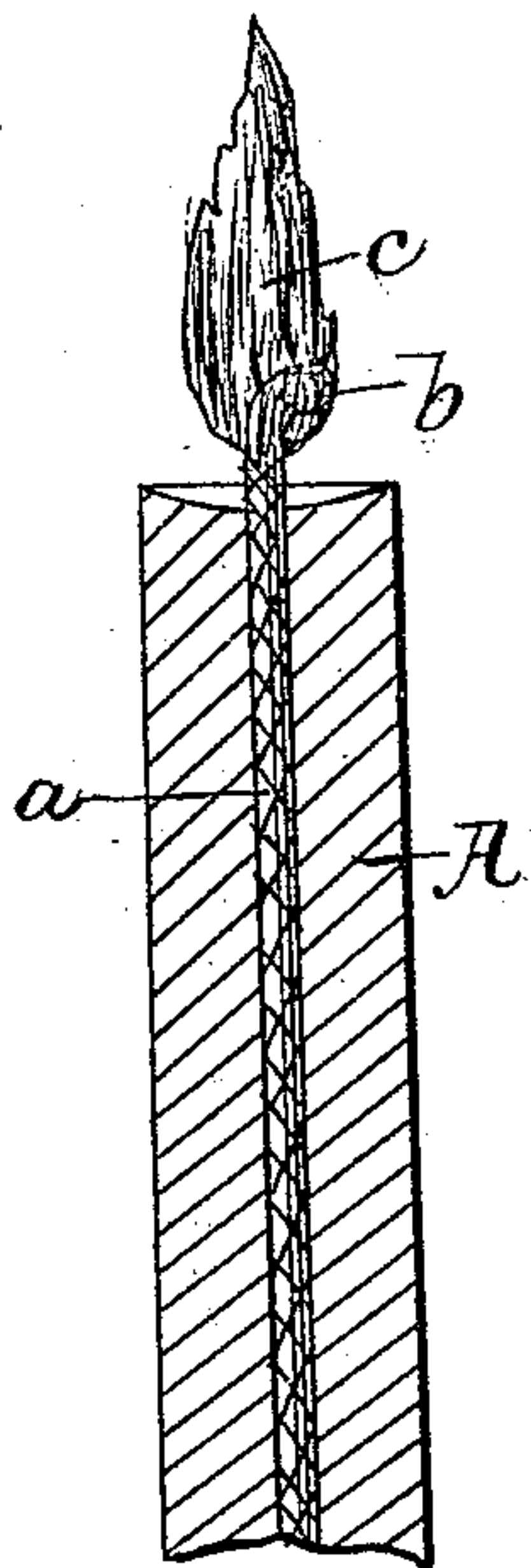
S. R. WEEDEN.

Candle Wick.

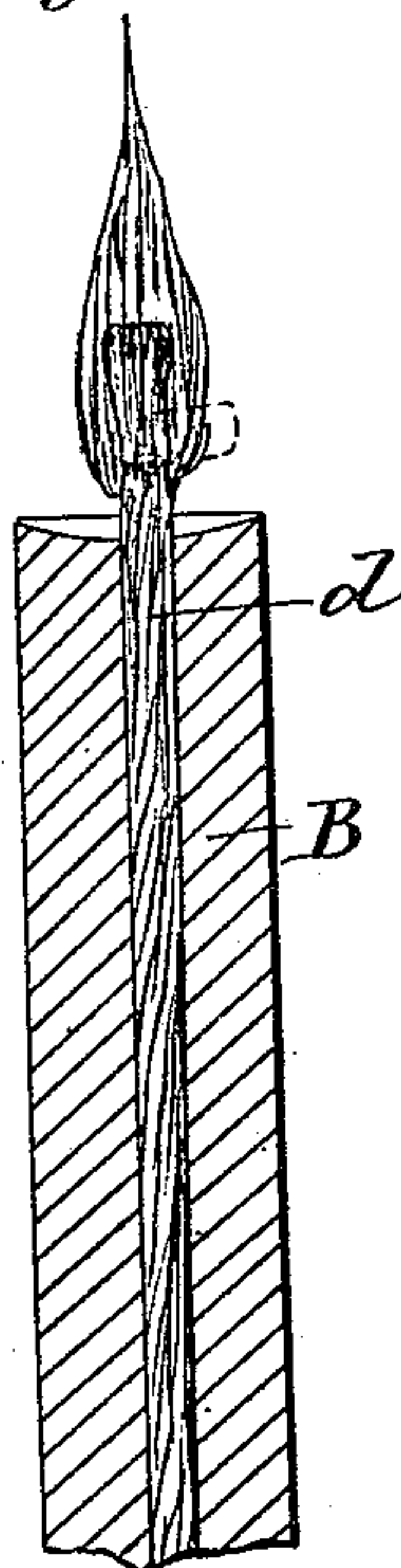
No. 25,227.

Patented Aug. 23, 1859.

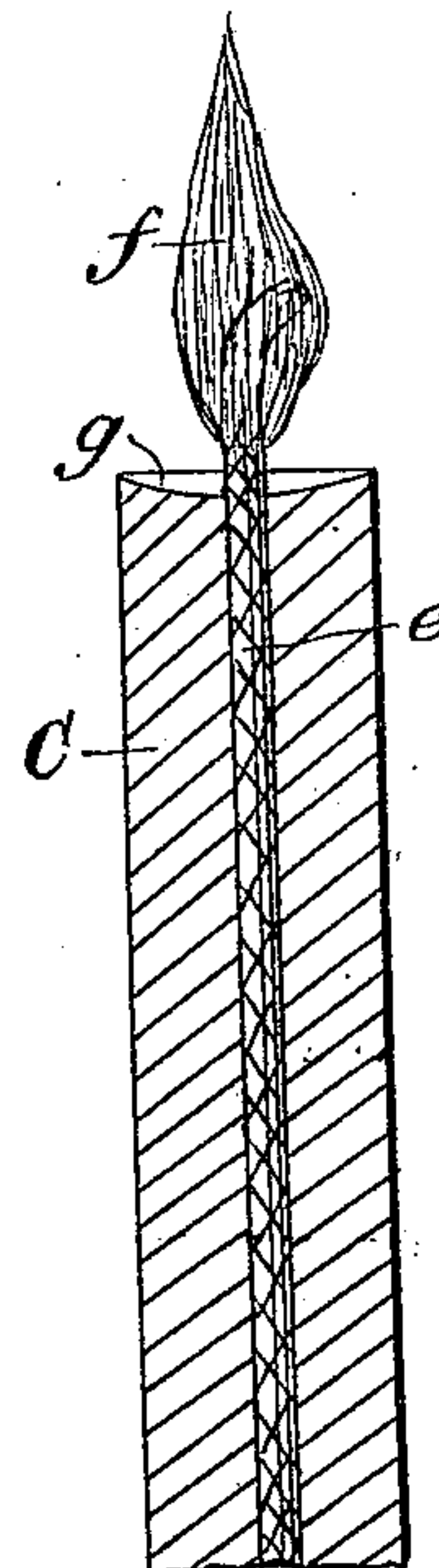
*Fig: 1.*



*Fig: 2.*



*Fig: 3.*



*Witnesses.*  
*Nathaniel Scarle*  
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# UNITED STATES PATENT OFFICE.

STEPHEN R. WEEDEN, OF PROVIDENCE, RHODE ISLAND.

## PREPARATION OF CANDLE-WICKS.

Specification of Letters Patent No. 25,227, dated August 23, 1859.

*To all whom it may concern:*

Be it known that I, STEPHEN R. WEEDEN, of Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Candle-Wicks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical central section of a candle the stock of which fuses at a high temperature. Fig. 2, is a vertical central section of an ordinary tallow candle which fuses at a comparatively low temperature and is supplied with a common twisted wick. Fig. 3, is a vertical central section of a candle formed of ordinary tallow and my improved wick.

The object of this invention is to provide candles that are made of tallow and other stock that fuses or melts at a comparatively low temperature with a self-snuffing wick, or in other words, with a wick that, as the candle burns, will bend and have its ends brought in contact with the air and be consumed, without "gutting" the candle or causing it to burn badly.

Candles made of stock that fuses at a comparatively high temperature such as wax, stearin, spermaceti, and the like are provided with wicks of the above class, as the bending of the wick does not, on account of the more infusible stock, melt or gutter the candles at the side over which the wick bends and where there is a preponderance of flame.

My invention consists in the employment or use of a braided or plaited cotton wick saturated with acetate of lead and then coated with silicate of soda, or silica combined with any suitable alkali, whereby the wick is stiffened so that it will not bend too readily and at the same time bend or curve over and be brought in contact with the air at such a height above the "cup" as not to melt the candle at one side, enough to occasion guttering.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, Fig. 1, represents a wax candle or a candle formed of either of the more infusi-

ble kinds of stock. In this candle a plaited wick *a*, is used which is small in diameter. This wick *a*, as the candle burns will bend over and its end *b*, projecting beyond the side of the flame *c*, will in consequence of being brought in contact with oxygen be consumed. This wick therefore requires no snuffing.

B, in Fig. 2, represents an ordinary tallow candle provided with a common twisted wick *d*. This wick *d*, it will be seen is considerably thicker than the wick *a*, in Fig. 1, and it is also not so compact. Tallow when melted being much more viscid than the wax, spermaceti or stearin of candles A, requires a loose thick wick in order to insure sufficient capillarity and keep the flame properly supplied with the tallow. The twisted wick *d*, is rigid and consequently requires to be frequently snuffed in order that the candle may burn with a good illuminating flame. If a loose plaited wick were used it would bend too readily and as tallow melts at a low temperature the candle would gutter or burn unevenly as shown in red, Fig. 2.

I overcome the above difficulty and obtain a wick that requires no snuffing by using a braided or plaited wick *e*, see Fig. 3, which is made of requisite thickness and sufficiently loose to insure a requisite degree of capillarity. This wick *e*, I first dip into a solution of acetate of lead and then into a solution of silicate of soda, or into a solution of silica with other caustic alkali, or suitable flux. The silicate stiffens the wick, in fact the fibers of the wick are coated with a thin film of glass which on account of the acidulous salt (acetate of lead) readily yields to the heat of the flame *f*, and permits the wick *e*, to bend over and come in contact with the air so as to be consumed at a point sufficiently above the cup *g*, to prevent the candle from "guttering"—see Fig. 1.

The acetate of lead renders the wick *e*, more inflammable than it otherwise would be and neutralizes any effect which the silicate might have to retard its burning. Other substances however might be used. Boracic acid, for instance, would probably answer.

I do not claim a plaited or braided wick for candles for they are well known and in common use; neither do I claim separately the employment or use of acetate of lead or



other substance applied to a wick to aid combustion for such has been previously used; but,

I do claim as new and desire to secure by  
5 Letters Patent,

A plaited or braided candle wick *e*, saturated with a solution of acetate of lead or

other substance to aid combustion and coated with a silicate as and for the purpose set forth.

STEPHEN R. WEEDEN.

Witnesses:

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