2 Sheets—Sheet 1.

W. CHURCH.

Candlestick.

No. 1,528.

Patented March 28, 1840.

Fig. 12.

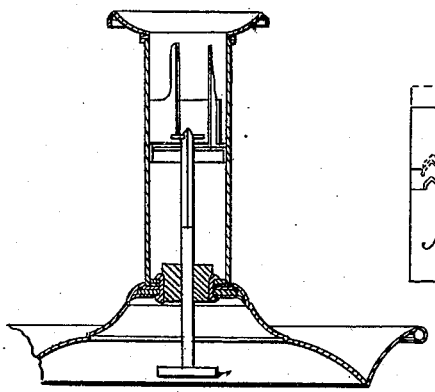

Fig. 6

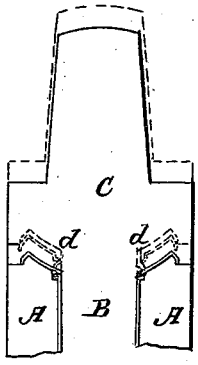

Fig. 5.

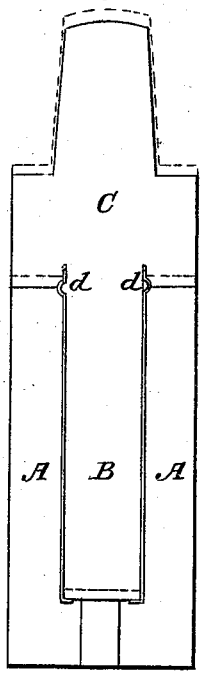

Fig. 1.

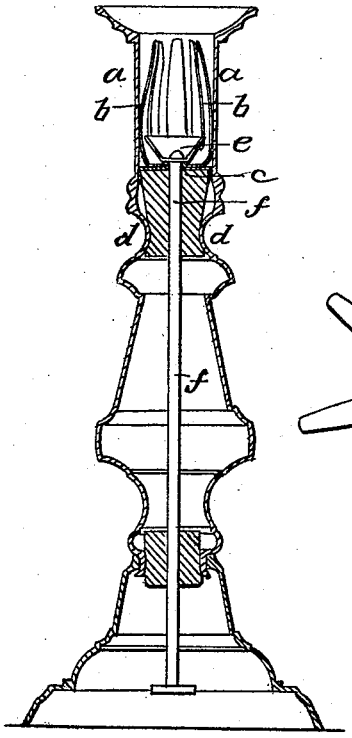

Fig. 2

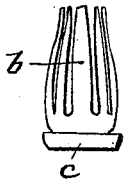

Fig. 3.

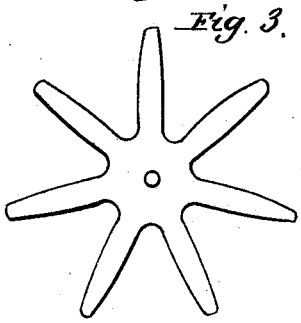

Fig. 4.

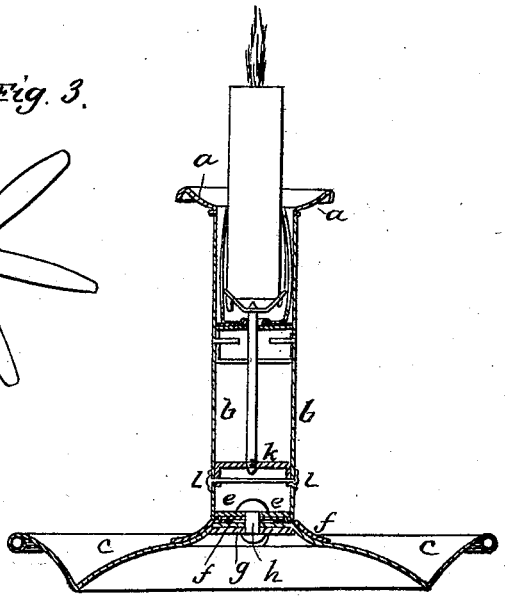

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Fig. 11.

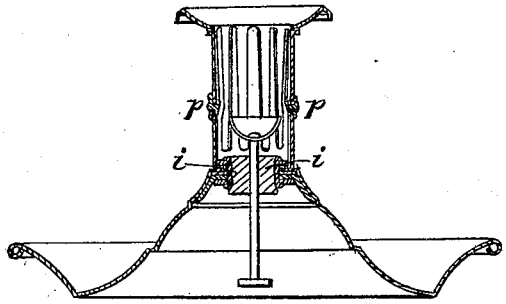


Fig. 8.

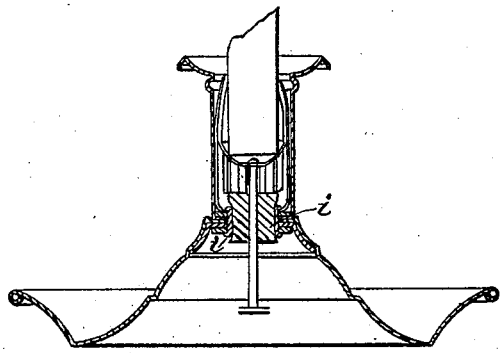


Fig. 9.

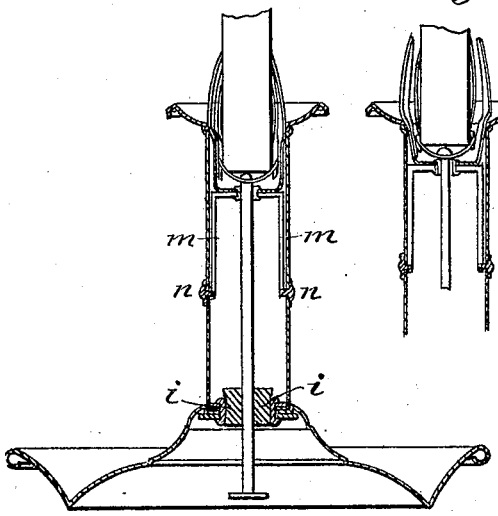
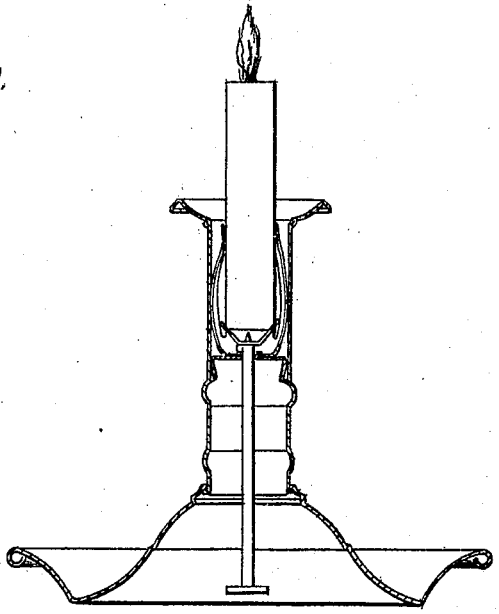


Fig. 10.

Fig. 7.



UNITED STATES PATENT OFFICE.

WILLIAM CHURCH, OF BIRMINGHAM, ENGLAND.

CANDLESTICK.

Specification of Letters Patent No. 1,528, dated March 28, 1840.

To all whom it may concern:

Be it known that I, the undersigned, WILLIAM CHURCH, a citizen of the United State of America, now residing in Birmingham, in the county of Warwick, England, civil engineer, have invented new and useful Improvements in the Construction of Candlesticks, of which the following is a full and true description, reference being had to the drawings hereunto annexed.

These improvements in the construction of candlesticks consist firstly in a new mode of holding the candle securely in the socket and secondly in peculiar methods of connecting the parts of a candlestick together without solder.

The form of the candlestick is not necessarily affected by the adaptation of these improvements; therefore they may be applied to almost every shape of candlestick. It will however suffice to show them in connection with some of the usual kinds and forms as from thence it will be perceived that very slight alterations only may be necessary to adapt the same improvements to other kinds and shapes.

The accompanying drawing represents at Figure 1 a vertical section of an ordinary table candlestick. *a a* is the socket. Within this is situate an elastic holder *b b* for the end of the candle to be inserted into which is formed of a number of spring tongues combined in the manner shown in Fig. 2.

A convenient method of making elastic holders is shown at Fig. 3. A plate of thin steel (or it may be some other metal) is cut into a star form. Its ends or tongues are then bent up to the shape of the elastic holder represented in Fig. 2, but I do not intend to confine myself to this particular mode of constructing an elastic holder as it might be formed by springs combined in several other ways. A disk of metal *c* is attached to the base of the elastic holder *b* by means of riveting or otherwise. The edge of this disk is turned down all around as a broad flange which is made to embrace and hold fast one end of a cork to be afterward driven firmly into the shaft of the candlestick as at *d d*, Fig. 1. By these means the elastic holder *b* is secured in its proper place within the socket. In some instances the cork is dispensed with and the disk and holder fastened to the socket by pins, screws, rivets, or other modes of attachment as shown in Fig. 4, or the elastic holder may be made of a cylindrical form at its lower part and be riveted or otherwise attached immediately to the socket without employing a disk. I also sometimes fasten the elastic holder to the top of the socket or to the nozzle, so as to allow the spring tongues to project above the candlestick and in some cases I attach the holder by means of what is called a bayonet fastening in order that it may be readily detached if necessary. A cup *e* in which the bottom of the candle rests within the spring holder is attached to the top of the rod *f* constituting what is commonly called the "push up" for raising the candle in the socket, and which I also employ for expanding the elastic holder when a fresh candle is to be introduced. Some other forms of candle holder applicable to the same purpose I shall describe hereafter. The form of Fig. 1 is that of an ordinary cast metal candlestick in the manufacture of which I propose no novelty.

The second feature of my invention—viz., the peculiar methods of connecting the parts of a candlestick together without solder—applies principally to those which are called in the trade "sheet hand" candlesticks. It perhaps may be scarcely necessary to observe that the several parts of such candlesticks when properly shaped are usually connected together at the junctions by solder or brazing. This improvement, it is therefore to be observed, is a method or methods of forming such junctions by locking and bolting the parts together in which I employ a peculiar kind of bolt, when a bolt is used for attaching the foot to the shaft.

These descriptions of candlesticks as Fig. 4 usually consist principally of three parts—the nozzle *a a*, the shaft *b b*, and the foot *c c*. The shaft is a cylindrical tube of metal cut to the required length and has a flange turned inward at the lower end. This tube is to be placed in suitable tools for the purpose of forming an indentation at the upper end. In order to effect this object I provide a pair of cylindrical steel dies shown partly in section at Fig. 5. These dies are exactly fitted to the tube and in their upper parts have a circular recess or groove *d d* the lower part being formed with a shoulder for the flange of the tube to rest upon. The tube being inserted in the hollow part of the die A A. The plunger B constituting part of the upper die C is then introduced and by the pressure exerted from above a por-

tion of the tube is forced out into the circular recess and made to form a bead or boss at *d d*. The tube so prepared as the shaft of the candlestick is now ready for receiving the nozzle to be attached to its upper end.

The part for the nozzle *a a* having been formed in the ordinary way by stamping, the shaft *b b* above described is to be introduced into another hollow die shown in section at A A Fig. 6. The nozzle *a a* having a circular aperture in the middle is then placed upon the shaft bearing upon the boss or bead as shown by dots at *d d*, and the plunger B being inserted pressure is exerted by the upper die C on the top of the tube sufficient to crush its end outward and bring the parts together so as to secure the nozzle to the shaft in the way shown at Fig. 4.

Although the principal parts of a "sheet hand" candlestick are usually united by soldering or brazing, the foot is sometimes attached to the shaft or socket in a manner similar to that shown in Fig. 4, where the plates or disks *e f g* are employed in securing the socket and foot together by means of the solid bolt *h*; but as the solid bolt *h* prevents the stem of the "push up" from passing through the bottom of the candlestick I employ in lieu thereof a tubular rivet or hollow bolt, as shown at *i i i i* Figs. 8, 9, 11 and 12, and I sometimes cause the tubular rivet or bolt *i i* to include the flange of the spring holder and thereby attach it firmly to the bottom of the socket as shown in Figs. 8 and 11. A cork being firmly driven into the hollow bolt *i i* prevents the tallow from leaking out when melted and also provides a convenient passage for the stem of the "pusher up." The lower end of the shaft may also be connected to the foot by locking in a similar manner to that described for locking the nozzle and socket together, see Fig. 7, where a cork is also shown through which the stem of the "pusher up" also passes. This cork is secured in its place by being forced in and then expanding into a recess formed in the shaft as shown in the figure. The manner of connecting the parts of the candlestick may however be varied without deviating from the above principle of locking the junctions, some examples of which are shown in Figs. 7, 8, and 9.

In Fig. 7 the nozzle is formed with an external flange turned downward, which is connected to the upper part of the shaft (previously prepared with a small lip turned outward and downward) by pressure in a similar manner to that described in reference to Figs. 5 and 6. The nozzles of Figs. 8 and 9 have each an internal flange connected to the upper part of the shaft by pressure in like manner. In some instances I attach the end of the stem of the "pusher up" to a sliding piece *k* Fig. 4 situate within the shaft and raise or depress the "pusher up" by a ring *l l* connected to it which slides on the outside of the shaft. In some cases I make the spring candle holder movable as at Fig. 9 by attaching it to a sliding staple *m m* which is connected to a ring *n n* sliding on the outside of the shaft of the candlestick.

By raising the sliding staple as at Fig. 10 the spring holder is allowed to expand, when the candle may be introduced and on pushing it down again as at Fig. 9 the springs are made to collapse and hold the candle securely. Fig. 11 shows another modification in which the arms of the holder are made to collapse within the socket by sliding down a ring *p p*, which is connected to an internal ring or nibs pressing against the sides of the springs. And I sometimes construct the holder by attaching three convolute springs to the internal part of the socket and expand them when a candle is to be introduced by means of a small cam as shown at Fig. 12 which may be readily turned around by any convenient contrivance below. I would here remark that I sometimes attach my candle holder to a false nozzle and I would also observe that the above described improvements are applicable to every description of candlestick whether made of silver, brass, iron, or tin.

Lastly, I desire it to be understood that I claim as one of the features of this invention of improvements in candlesticks—

An elastic holder for the candle connected to the socket by whatever means and however formed.

In testimony whereof I, the said WILLIAM CHURCH, hereto subscribe by name in the presence of the witnesses whose names are hereto subscribed on this seventeenth day of October, one thousand eight hundred and thirty nine.

WILLIAM CHURCH.

Signed in our presence:

CHARLES HY FOSTER,

WILLM. B. PLANT.