W. H. SWIFT & J. F. WILSON.

Method of and Apparatus for Dipping Matches.

No. 196,315. Patented Oct. 23, 1877.

Fig. 1.

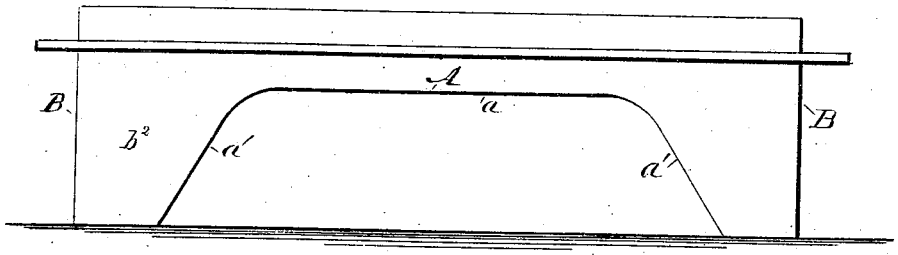


Fig. 2.

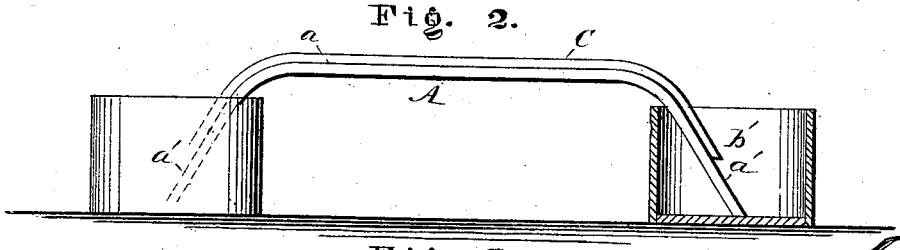


Fig. 3.

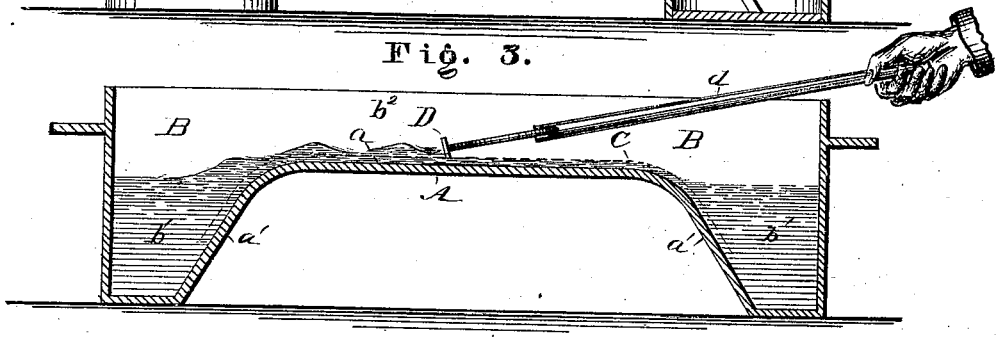
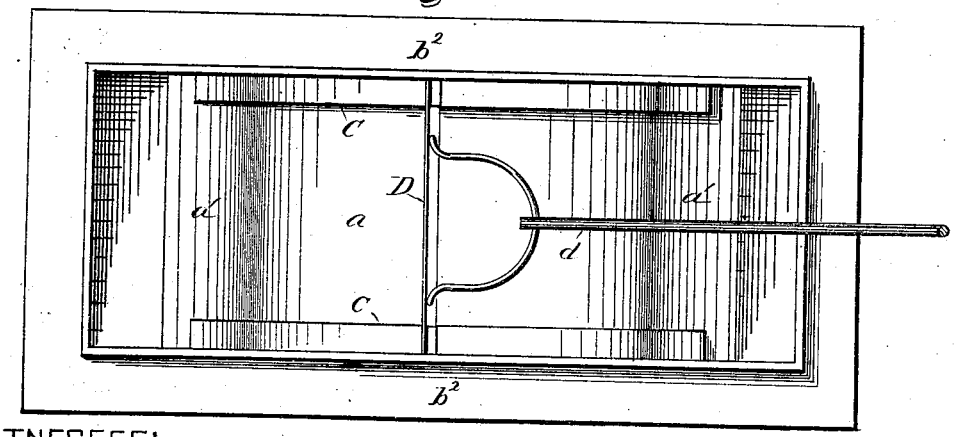


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM H. SWIFT AND JAMES F. WILSON, OF WILMINGTON, DELAWARE, ASSIGNORS TO THE SWIFT & COURTNEY & BEECHER COMPANY, OF SAME PLACE.

IMPROVEMENT IN METHODS OF AND APPARATUS FOR DIPPING MATCHES.

Specification forming part of Letters Patent No. **196,315**, dated October 23, 1877; application filed June 14, 1877.

To all whom it may concern:

Be it known that we, WILLIAM H. SWIFT and JAMES F. WILSON, of Wilmington, in the county of New Castle and State of Delaware, have invented a new and useful Method of and Apparatus for Dipping Matches; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists, mainly, first, in an improved method of dipping the matches, consisting, essentially, in the following series of consecutive actions: first, placing an excess of the previously-prepared composition upon a proper surface; second, in sweeping off the excess over the required depth; and, third, dipping the match-splints into the bed of composition which remains.

It consists, secondly, in the special apparatus employed to carry our methods into effect, consisting, essentially, first, in the combination of a plane surface with one or more receptacles for holding the match composition and receiving the excess; and, second, in the combination, with the plane surface, of permanent guide-pieces, as will be fully described hereinafter.

In the drawings, Figure 1 represents a side elevation of the preferred form of our dipping-pan; Fig. 2, a modification of the same; Fig. 3, a longitudinal central sectional elevation of Fig. 1, and Fig. 4 a plan view of the same.

To enable others skilled in the art to make and use our invention, we will now proceed to describe fully the methods, and also the construction of the apparatus, and the manner of using the same.

A general statement of our improved methods may be made as follows: The composition may be properly spread to obtain a bed of the required depth for dipping the matches by placing the previously-prepared composition upon any suitable plane surface in an amount exceeding that required, and then sweeping off from said surface said excess portion, in such manner as to leave a bed of proper depth undisturbed, this result being readily accomplished by using guides, as will be hereinafter described, either permanently attached to the surface bed or table, or to the blade or plate, by means of which the excess is removed.

The best method of dipping the match-splints is as follows: First, place an amount of the composition exceeding that required upon the plane surface; second, sweep off the excess, and leave a bed of the required depth; and, third, dip the splints in the bed.

This series of actions being indefinitely continued, it follows that the bed of composition will always be uniform in depth, and that a smooth, unbroken surface will always be presented to each successive mat of splints, in consequence of which uniform and perfect results are obtained without the exercise of judgment or special care.

The apparatus preferred to carry these methods practically into effect will now be described.

A represents a plate or bed of any suitable material and proper size, which is properly bent to form the central plane surface *a*, and one or more inclined end surfaces, *a'* *a'*, as shown in Fig. 3. B represents a box or case, in which the plate A is properly secured, in such manner as to form the pocket or receptacle b^1 at one or both ends, and the side strips or pieces b^2, to prevent waste of composition, as shown. C C represent guide or gage strips, by means of which the sweep or blade employed to remove the excess is held in its movement sufficiently above the surface to leave undisturbed a bed of proper depth to receive the splints. D represents a proper blade or plate, equaling in length the width of the table, and having a suitable handle, *d*.

The method of using the apparatus will be readily understood. The match composition, having been previously mixed and prepared, is placed in proper quantities in the pockets b^1 b^1, as shown. The blade D is then placed in one of the pockets b^1, and is quickly pushed up the inclined surface *a'*, with a quantity of composition before it. A portion of this composition necessarily fills the vacant spaces resulting from the dipping of the last mat of splints, and the excess is carried by the continued movement of the blade into the opposite pocket. In the return

movement of the blade a quantity of composition is again drawn over the surface to insure perfect smoothness, the excess of which is finally carried into the first pocket.

By the use of this apparatus in the manner described, very rapid action is obtained with uniform and certain results.

This process also is much more cleanly than the ordinary process employed, and consequently is much less injurious to the health of those who practice it.

Any suitable material may be employed for making the apparatus; but metal covered with porcelain is preferred.

If desired, a single pocket may be employed instead of two.

If desired, also, these pockets may be independent receptacles instead of forming a permanent portion of the apparatus, as shown in Fig. 2.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The method described of dipping matches, consisting, essentially, in the following series of consecutive actions: first, placing an excess of the previously-prepared composition upon a proper surface; second, sweeping off the excess over the required depth; and, third, dipping the match-splints into the bed of composition which remains.

2. In combination with a bed having the surfaces $a\ a'\ a'$, the pockets b^1, substantially as described.

3. In combination with the bed, the gage-strips.

4. The box B, plate A, constructed substantially as and for the purpose described.

This specification signed and witnessed this 9th day of June, 1877.

WILLIAM H. SWIFT.
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Witnesses:
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