

G. HARGREAVES.

MATCH-SPLINTS.

No. 175,452.

Patented March 28, 1876.

Fig. 1.

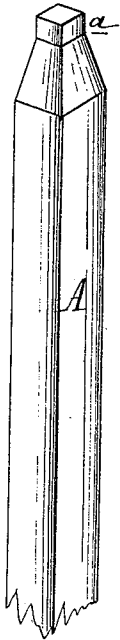
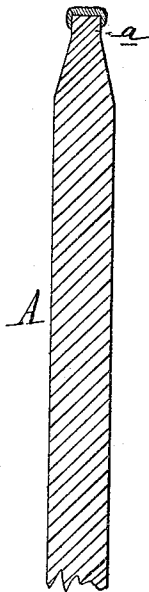


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE HARGREAVES, OF DETROIT, MICHIGAN, ASSIGNOR TO MARY HARGREAVES, OF SAME PLACE, AND GEORGE UPTON, OF BOSTON, MASS.

IMPROVEMENT IN MATCH-SPLINTS.

Specification forming part of Letters Patent No. **175,452**, dated March 28, 1876; application filed October 5, 1875.

To all whom it may concern:

Be it known that I, GEORGE HARGREAVES, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Match-Splints, of which the following is a specification:

The object of my invention is to so form the dip ends of match-splints as to avoid the necessity and expense of reeling the splints preparatory to dipping them; to reduce the amount of dipping compound required to coat the points, and to lessen their liability to ignite in the package from friction with one another, as their coated ends are not in contact with each other.

The invention consists in reducing the dip ends of the splints to a lesser area in cross-section than the body thereof, but retaining the same shape or configuration, for the purpose more fully hereinafter set forth.

Figure 1 is an enlarged perspective view of my improved match-splint. Fig. 2 is a longitudinal section of the point after dipping.

In the drawing, A represents a square match-splint, having its dip-end *a* reduced in cross-section by subjecting it to the action of mechanism not necessary here to describe. Between the base of the rectangular prism *a* and the body of the splint the intervening wood is tapered or pyramidal, to avoid a square shoulder at the base of the tip *a*, which would be liable to break off in lighting the match.

The tips *a* are coated with sulphur, and afterward dipped in the phosphorus-mixture, while the splints are bunched, the prisms *a* alone being immersed, so that when the bunch or bundle is loosened the splints will separate, as they will not have been cemented together by the igniting compound.

In the manufacture of friction-matches, by using splints of this form, the cost of reeling the splints is avoided, at a saving of at least twenty-five per cent. of the labor in well-organized establishments; only about one-third of the dipping material is required to coat the

prisms of these splints, thereby effecting a large saving over the cost of dipping the straight splints, while they will ignite fully as easy and as certainly as the latter.

The coated points, not being in contact with each other, are less likely to ignite by friction with each other in the package than those of the straight splints, which are necessarily in contact with one another.

In manufacturing round splints I make the point *a* cylindrical, with the wood intervening between the base of the cylinder *a* and the body of the splint tapered or conical, in the process of manufacturing the splints, with the same advantages over the plain round splint that my splint first above described has over the plain square splint.

I am aware that efforts have been made by others to secure some of the advantages hereinbefore enumerated by making pointed splints, but such splints have not been successful for the reason that the limited area of the point would not take up enough of the dip to secure ignition, and being pointed, the dip would not adhere, but would slip off the tapered point. To overcome this objection, attempts have been made to enlarge the splint-point by "brooming" it and burring up the extremity, and thereby present an enlarged surface for the dip to adhere to, but without success, for it will readily be seen that the burring-up process is too expensive to be practicable, and even if practicable, the weakened point, with its dip, would be broken off in attempting to light the match.

What I claim as my invention is—

A match-splint having its dip end tapered on all sides partially through its diameters, and thence continued to the extreme end in lines nearly parallel, substantially as and for the purposes described.

GEORGE HARGREAVES.

Witnesses:

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H. S. SPRAGUE.