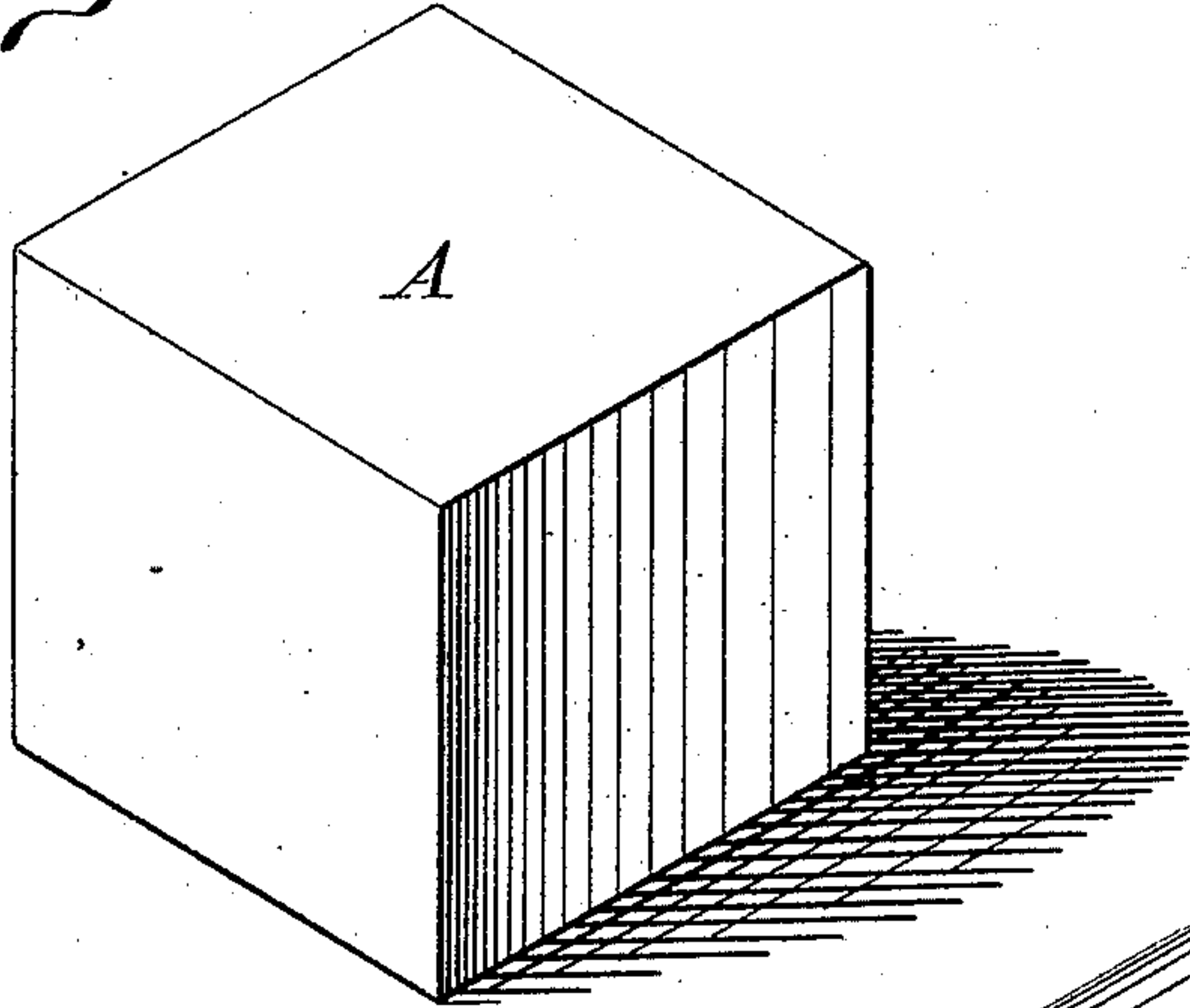
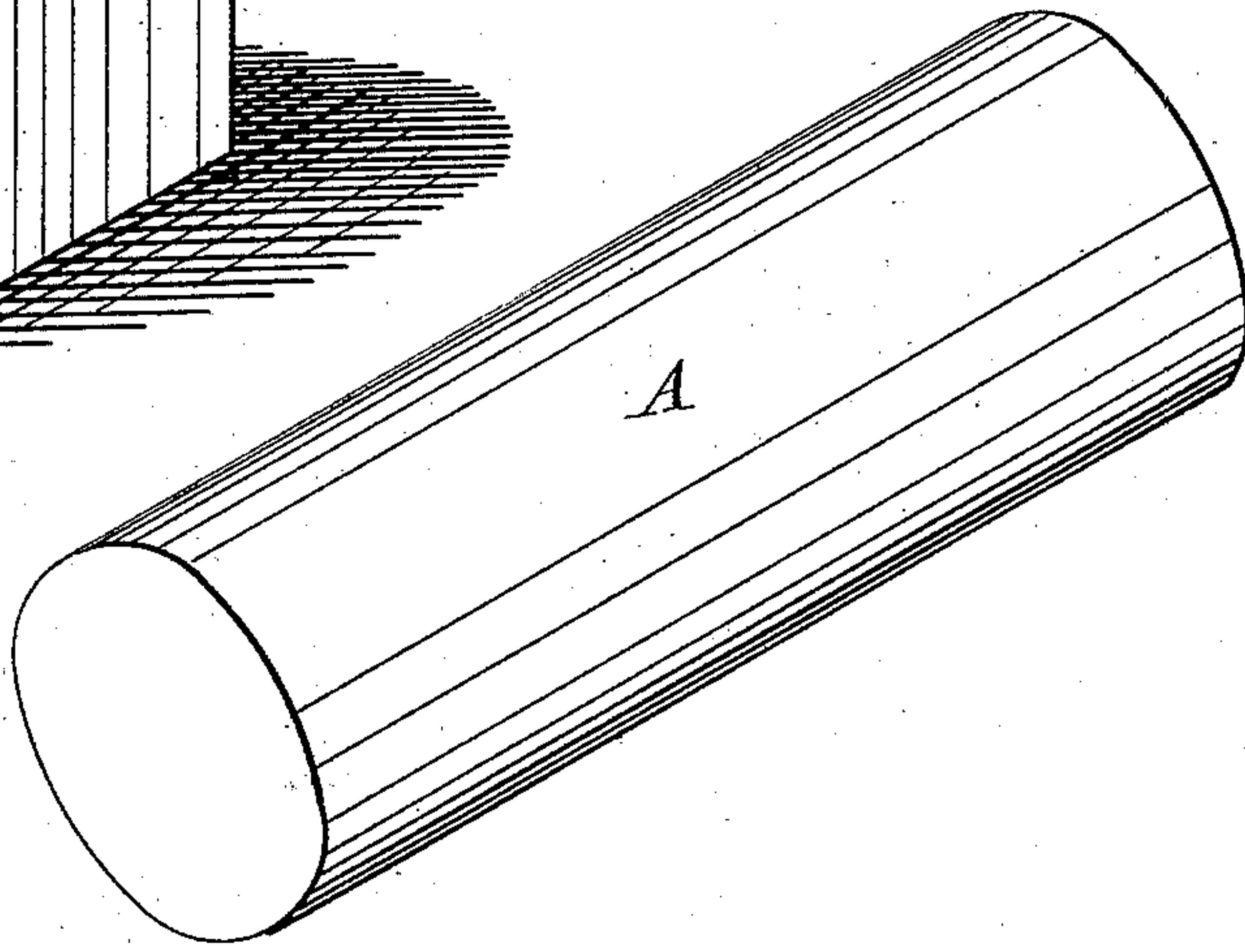


E. CLARK.  
Composition for Fire Kindlers and Lighters.  
No. 222,012.      Patented Nov. 25, 1879.

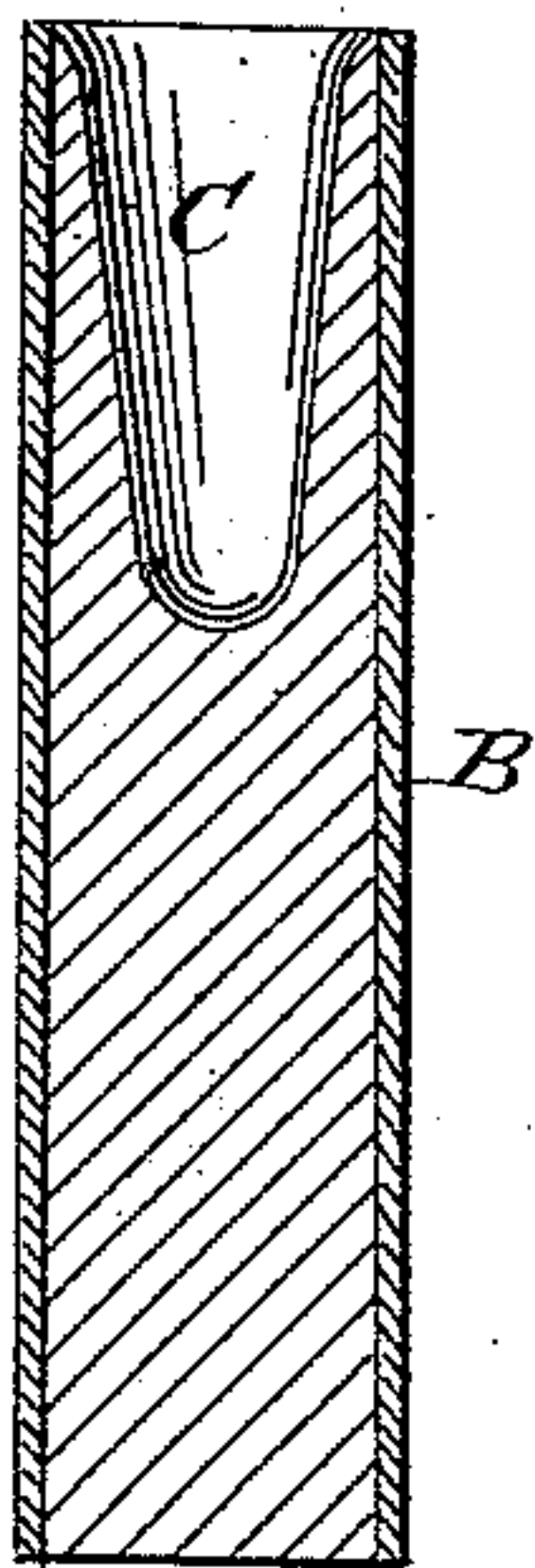
*Fig: 1.*



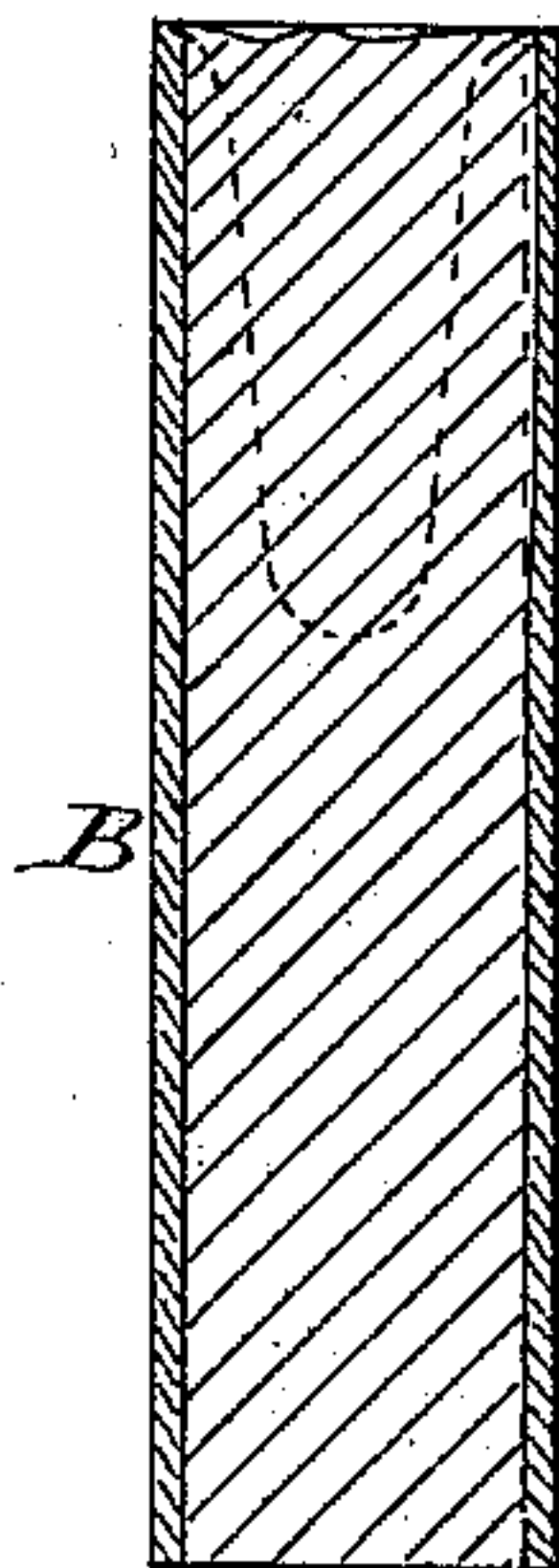
*Fig: 2.*



*Fig: 3.*



*Fig: 4.*



WITNESSES:

*Chas. Nida.*  
*C. Sedgwick*

INVENTOR:

*E. Clark*  
BY *Mum & Co*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

EDWARD CLARK, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO HIMSELF  
AND ROBERT DONSHEA, OF SAME PLACE.

## IMPROVEMENT IN COMPOSITIONS FOR FIRE KINDLERS AND LIGHTERS.

Specification forming part of Letters Patent No. **222,012**, dated November 25, 1879; application filed  
October 23, 1879.

*To all whom it may concern:*

Be it known that I, EDWARD CLARK, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Composition for Fire Kindlers and Lighters, of which the following is a specification.

Figure 1 is a perspective view of a fire-kindler made of my improved composition. Fig. 2 is a perspective view of another form of my improved fire-kindler. Figs. 3 and 4 are sectional side elevations of fire-lighters made of my improved composition.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish a composition for fire-kindlers and fire-lighters so compounded that the fire kindlers and lighters will ignite readily, and will burn freely and for a sufficient length of time to fully ignite coal.

The invention consists in a composition formed of resin, lard, washing-soda, flour-paste, and sawdust, in the proportions and manner hereinafter fully described.

In making this composition I first put into a suitable kettle a half-pound of resin, and apply heat until the resin is fully melted. Any suitable kettle may be used, and heat may be applied in any convenient way; but I prefer to use a jacketed kettle and melt the resin with steam-heat. When the resin is melted I add one ounce of lard, and stir the compound until the resin and lard are thoroughly mixed. A half-ounce of washing-soda is then added and thoroughly stirred in. A half-ounce of ordinary flour-paste is then added, and the mixture is again thoroughly stirred, after which a sufficient quantity of sawdust is added to bring the mixture to about the consistency of ordinary flour paste. The mixture while still hot is removed from the kettle and poured into molds of any desired capacity and allowed to cool. When cold, the blocks A are removed from the molds, and are ready for market.

If desired, the composition may be subjected to pressure when in the molds, to make the blocks A compact, and thus cause the kindlers to burn longer.

The molds may be cubical, cylindrical, oval, or of any other desired shape, or of any desired size. The composition may also be cooled in paper tubes B, to adapt it to be tied up with bundles of kindling-wood as a fire-starter. In this case no pressure is applied to the composition when cooling, and the shrinking of the composition in cooling leaves a flaring hole, C, in one end of the tube, which facilitates the ignition of the composition. If desired, the cavity in the end of the paper tube B may be filled by pouring in a little more of the composition after the shrinking has taken place.

In this composition the lard thins the resin and causes it to more readily receive and mix with the other ingredients, and also causes the mixture to burn with less smoke than resin without lard. The addition of the washing-soda causes the resin to foam, and thus separates its particles, so that the particles of sawdust will be more evenly and thoroughly coated. The flour-paste hardens and toughens the compound, so that the kindlers may be more conveniently handled, and so that the kindlers will not break or crumble during transportation. The paste also retards the burning of the kindlers, and causes them to burn for a sufficient time to thoroughly ignite coal.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

An improved composition for fire-kindlers composed of resin, lard, washing-soda, flour-paste, and sawdust, in the proportions and manner substantially as herein shown and described.

EDWARD CLARK.

Witnesses:

JAMES T. GRAHAM,  
C. SEDGWICK.