

# UNITED STATES PATENT OFFICE.

FREDERICK ZAISS, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN PARLOR-MATCHES.

Specification forming part of Letters Patent No. 125,874, dated April 16, 1872.

### SPECIFICATION.

*To all whom it may concern:*

Be it known that I, FREDERICK ZAISS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain improvements in Parlor Friction-Matches, of which the following is a specification:

My invention relates to the manufacture of parlor friction-matches; and consists in the use of certain novel elements or materials in the place of, as well as in addition to, certain materials now used, by which I am able to produce white and various light-colored as well as perfumed parlor-matches.

Heretofore, in the manufacture of parlor-matches, (the burning stuffs,) phosphorus, chlorate of potash, crocus metallorum, nitrate of lead, and red lead or litharge have been mixed with glue, gum arabic, and ground flint. The crocus metallorum, especially, gives to this mixture a positively dark color, which is further strengthened by red lead. The matches made from it are all dark brown, and are those generally in use; and when rubbed for ignition upon any light-colored surface they leave a dark line or mark, because of the coloring nature of the mixture; and, besides, are not without some offensive odor to persons of delicate susceptibilities.

The object of my invention is to produce matches of white and various light colors; and I have found, after many experiments, that this can be accomplished by the use of the phosphuret or phosphide of sulphur in the place of the phosphorus and crocus metallorum in the firing or burning stuffs, and white Russian glue, and white dextrine or purified starch in the mixing or adhesive stuffs; that with the use of these elements a white mixture, susceptible of being colored as well as of being perfumed, could be produced for the manufacture of the matches.

In the manufacture of my white or various-colored parlor-matches (perfumed or not) I use, for the firing or burning stuffs, phosphuret or phosphide of sulphur, chlorate of potash, and nitrate of lead; and for the mixing or adhesive stuffs, white Russian glue, white dextrine or purified starch, with dry zinc and ground flint, if desired. This mixture is white, and the sticks are dipped into it in the usual way. Other desired colors may be given to this compound by mixing with it any suitable coloring material.

In the manufacture of perfumed matches I use, in combination with the mixture, benzoin, cascarilla, or cinnamon, having found that these materials or substances may be safely used and give a perfume to the match while burning.

I have found that in the place of the phosphuret or phosphide of sulphur that the bisulphuret of carbon might be used, but not with equally as good results.

I am aware that matches have been colored by means of a varnish or wash, but this I do not claim.

Having thus described my invention, what I claim is—

1. The use of phosphuret or phosphide of sulphur, white Russian glue, and white dextrine or purified starch, with or without any coloring material, as herein described, for the purpose of producing white or colored matches, as set forth.

2. The use of benzoin, cascarilla, or cinnamon in the manufacture of parlor-matches; for the purpose of giving them a perfume while burning, as set forth.

FREDERICK ZAISS.

Witnesses:

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H. B. MUNN.