

# UNITED STATES PATENT OFFICE

JOHANN LUTZ OF VIENNA, AUSTRIA-HUNGARY, ASSIGNOR TO PAUL OLTÓSY  
& SÖHNE, OF SAME PLACE.

## INFLAMMABLE COMPOSITION FOR MATCHES.

SPECIFICATION forming part of Letters Patent No. 418,202, dated December 31, 1889.

Application filed August 27, 1889. Serial No. 322,115. (No specimens.)

### *To all whom it may concern:*

Be it known that I, JOHANN LUTZ, a subject of the Emperor of Austria, residing at Vienna, in the Province of Lower Austria, in the Empire of Austria-Hungary, have invented certain new and useful improvements in an Inflammable Composition for Matches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to the manufacture of matches, and has for its object to provide not only a safety-match—that is, to say, a match that will not ignite by friction except with a specially-prepared compound—but to produce a match without the usual head of inflammable composition. In this manner I materially lessen the labor of dipping, in that the matches may be dipped in bundles, instead of first isolating the same by insertion into the usual dipping-frames.

In carrying out my invention I prepare the following inflammable composition: water, by weight, thirty parts; chlorate of soda, by weight, twenty parts; sulphate of ammonia, by weight, four parts; carbohydrate—such as gum-arabic, sugar, or other carbohydrate—by weight, two parts. The ends of the matches are dipped in this solution and afterward dried, and for the former operation it is not necessary to secure the matches in the ordi-

nary dipping-frames, as said matches may be collected in bundles and one end of the bundle dipped into the solution, so as to become impregnated therewith, since it is not necessary to collect at the match end a sufficient quantity of inflammable material to form a head thereon, as is the case with all matches that I am acquainted with.

To ignite a match prepared as described, it must be brought in frictional contact with a suitably-prepared body or material, and this is composed of the following chemicals in equal parts, to wit: amorphous phosphorus and finely-divided and washed black trisulphide of antimony, which are thoroughly incorporated together and formed into a paste by the addition of gum-arabic, which paste is then spread upon a suitable supporting-base.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

The herein-described composition of matter for matches, consisting of a solution of chlorate of soda, sulphate of ammonia, and a carbohydrate, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHANN LUTZ.

Witnesses:

RUDOLF VON PLANK,  
NETTIE S. HARRIS.