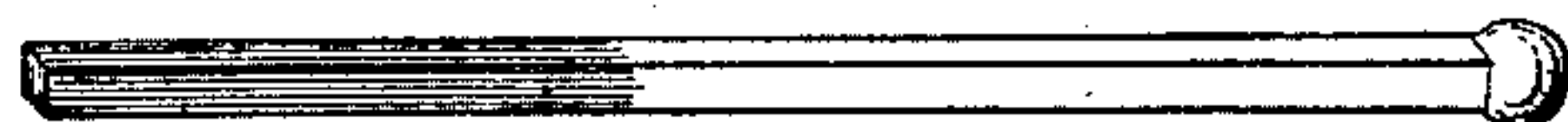


(No Model.)

W. H. PITT.
FRICTION MATCH.

No. 256,920.

Patented Apr. 25, 1882.



Witnesses:

Chas. J. Duckheit.
Edw. J. Brady.

W. H. Pitt Inventor.
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UNITED STATES PATENT OFFICE.

WILLIAM H. PITT, OF BUFFALO, NEW YORK.

FRICITION-MATCH.

SPECIFICATION forming part of Letters Patent No. 256,920, dated April 25, 1882.

Application filed November 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. PITT, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Friction-Matches, of which the following is a specification.

In friction-matches as ordinarily manufactured the wooden splints are equally combustible from end to end, and when the match is lighted the flame gradually approaches the end which is held between the fingers, and the match has to be thrown away before the splint is entirely consumed. When the match is not entirely extinguished before it is thrown away the remaining portion of the match is frequently allowed to burn out wherever it falls. This is not only a frequent cause of conflagrations, but renders the use of such matches inconvenient, as they are liable to burn the fingers of persons using the same.

The object of this invention is to limit or confine the combustibility of the match to that portion of the splint which is not held between the fingers, and which is sufficient for the ordinary purposes for which matches are lighted, thereby preventing that portion of the splint which is held between the fingers from taking fire, and enabling a person to hold the match until the combustible portion of the splint is entirely consumed and the flame completely extinguished without any effort on the part of the person using the match, but simply by the exhaustion of the combustible material.

My invention consists, to that end, of a friction-match having that portion of its splint which is designed to be held between the fingers rendered incombustible, while the remainder of the splint retains its original combustible condition.

The annexed drawing represents my improved match, the portion rendered incombustible being indicated by shading.

In preparing my improved matches I coat or impregnate that portion of the splint which is intended to be incombustible with any of the well-known substances which have the property of rendering wood incombustible at the ordinary heat produced by the burning of the combustible portion of the match. I have found that either silicate of soda or tungstate of soda dissolved in water to form a saturated solution, which, when the ends of a splint are

dipped therein, will render the same sufficiently incombustible to resist the flame of any ordinary match.

The solution may be made of sufficient thickness to form a paste which will form a coating; but I have found from experiment that a thin saturated solution will answer the purpose, and is preferred.

The matches can be treated with the solution either before or after they are dipped into the igniting composition, and the two operations of supplying the matches with the igniting composition at one end and of rendering their opposite ends incombustible by immersion or treatment with the solution may be carried on successively without taking the matches out of the frame in which they are held, thereby rendering the production of my improved matches very simple, very easy, and avoiding a material increase in the cost of production.

My improved match will take fire as readily as any ordinary friction-match, as that portion of the splint to which the igniting composition is applied is perfectly combustible, or at least as combustible as the corresponding portion of an ordinary friction-match. When the match has been ignited the combustion continues until the flame reaches that portion of the match which has been rendered incombustible, when the further progress of the flame is arrested and the flame gradually subsides until the combustible portion of the match is entirely consumed, when the flame expires because of the absence of further combustible material, and without any effort on the part of the person holding the match. The match can therefore be safely held between the fingers until the flame has died out, thereby avoiding the danger of matches being thrown away hastily without being first completely extinguished. If, however, the match should be thrown away before the combustible portion of the splint is entirely consumed, the combustion will not continue much longer, because the greater portion of that part of the match which is thrown away is incombustible, and the match will simply burn until the remainder of the combustible part of the splint has been consumed. The danger of partly-consumed matches setting fire to surrounding objects of combustible matter is therefore by my improved match very materially reduced, if not entirely avoided.

If desired, that portion of the match which is rendered incombustible may be colored by adding coloring-matter to the solution with which the matches are treated, or otherwise, for the purpose of indicating the presence of the incombustible substance, which in themselves might not color the wood treated therewith.

I claim as my invention—

10 A friction-match composed of a wooden splint having one end provided with a friction com-

pound and the opposite end rendered incombustible, and with an intermediate portion capable of combustion, whereby the flame is confined to the combustible portion of the splint and prevented from extending to the non-combustible portion, which is held between the fingers.

W. H. PITT.

Witnesses:

JNO. J. BONNER,
EDW. J. BRADY.