J. A. E. CRISWELL.

MATCH.

APPLICATION FILED JUNE 13, 1905.

988,250. Patented Mar. 28, 1911.

Fig. 1.

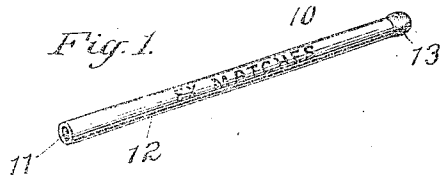


Fig. 2.

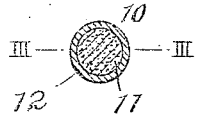


Fig. 3.

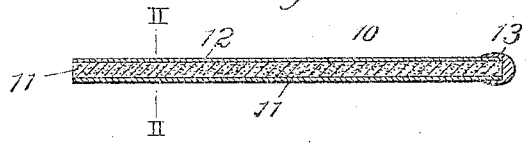


Fig. 4.

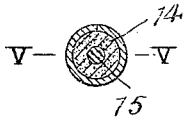
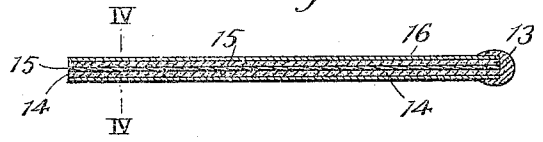


Fig. 5.



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MATCH.

988,250. Specification of Letters Patent. Patented Mar. 28, 1911.

Application filed June 13, 1905. Serial No. 265,093.

To all whom it may concern:

Be it known that I, JAMES A. EKIN CRISWELL, of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Matches, of which the following is a full, clear, and exact description.

This invention relates more particularly to matches of a composite nature of the character disclosed in my pending applications Sr. No. 40,548 filed December 20, 1900, and Sr. No. 166,794 filed July 24, 1903.

One object of the invention is to provide matches in which cheap and inexpensive materials may be utilized in their manufacture; which are strong and of uniform quality, and which will burn longer than the ordinary form of wood match.

A further object of the invention is to provide matches which may be made in various forms and of distinctive character, and on each of which may be placed suitable advertising matter.

With this and other objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and will then be pointed out in the claim at the end of the description.

In the drawings, Figure 1 is a perspective view of one form of match embodying the invention. Fig. 2 is an enlarged transverse section taken on the line II—II of Fig. 3. Fig. 3 is a longitudinal section, somewhat enlarged, taken on the line III—III of Fig. 2. Fig. 4 is an enlarged transverse section taken on the line IV—IV of Fig. 5, of a slightly different form of match; and Fig. 5 is a longitudinal section taken on the line V—V of Fig. 4.

Each match body 10 has an inner core 11, an outer covering of paper or other material 12, and a suitable igniting head 13. The core 11 is made of paper-making pulp which may be mixed or not with other materials for the purpose of hardening or to better unite the parts of the match bodies together, such as paste, blue, copperas, plaster of Paris and the like. The paper-making pulp may be of any of the materials of which paper may be made, such as old waste paper, newspapers, scraps from factories, wood pulp, and similar materials, and this pulp is collected in any suitable way and formed into cores which are compressed to a suitable degree to provide sufficient stiffness and rigidity to the match body. Around the core and inclosing the same is a paper cover 12 which is fixed and united to the core 11, either by the nature of the materials composing the same, or by additional glutinous substance such as paste or glue. The paper covering may be applied to the cores 11 while in a damp or wet state, or after the paper has been made and thoroughly dried, and the casing and core may be united and formed by any desired means.

In Figs 4 and 5, the construction of the match is substantially the same as in Fig. 3, except that the core 14 has an inner body or strand of flexible material such as cotton wick 15. The purpose of this wick or flexible body is to form a foundation for the plastic body of the core, and to sustain the same prior to and during the covering of the core with the paper casing or closure 16. The paper casing or closure 16 may be of any of the materials of which paper is made, whether of wood pulp, straw board, or the like, and may be of any desired thickness.

By making the matches according to the method herein disclosed, very cheap materials may be employed for the whole or the greater part of the match bodies or stems; and the matches so made will be strong and uniform in quality, and will burn for a considerable length of time.

The match bodies may be of any desired shape, and may be colored, and on each match body may be placed suitable advertising matter as shown in Fig. 1.

The match bodies, or the materials of which they are made, may be impregnated with suitable chemicals to prevent glowing after the flame has been blown out.

The match bodies may be passed through paraffin, stearin, and the like to form a wax coating and thereby form wax matches, and at any stage of the manufacture such and similar materials may be incorporated with the other materials; and in any case where the match is to burn more freely, rosin, sulfur, saltpeter, and similar materials may be added.

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

A match having a stem composed of a core of compressed paper-making pulp having a central strand of unpulped flexible combustible fibrous material embedded therein, and a tubular cover of paper inclosing and adhering to said core.

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