

No. 837,464.

PATENTED DEC. 4, 1906.

W. B. GOODWIN.

MATCH.

APPLICATION FILED FEB. 21, 1906.

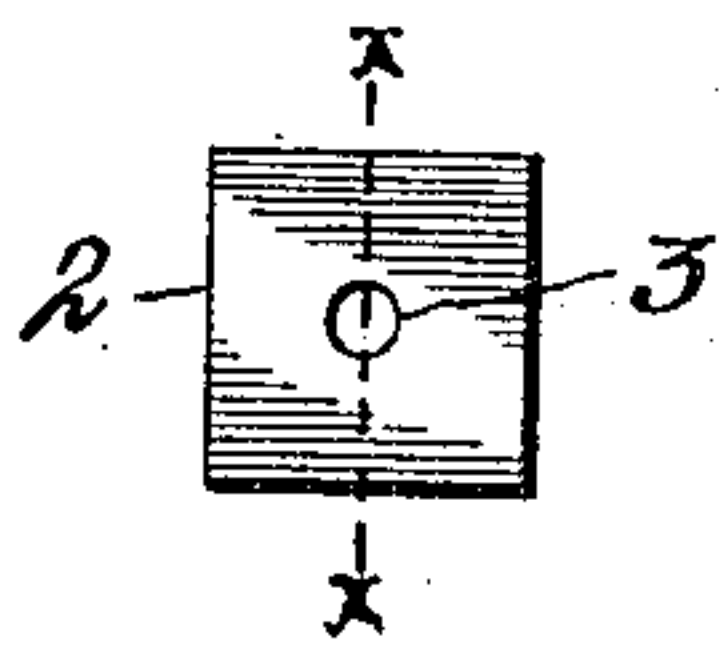


Fig. 1.

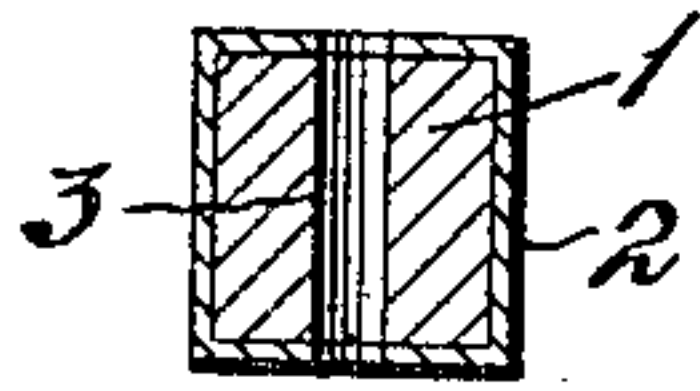


Fig. 2.

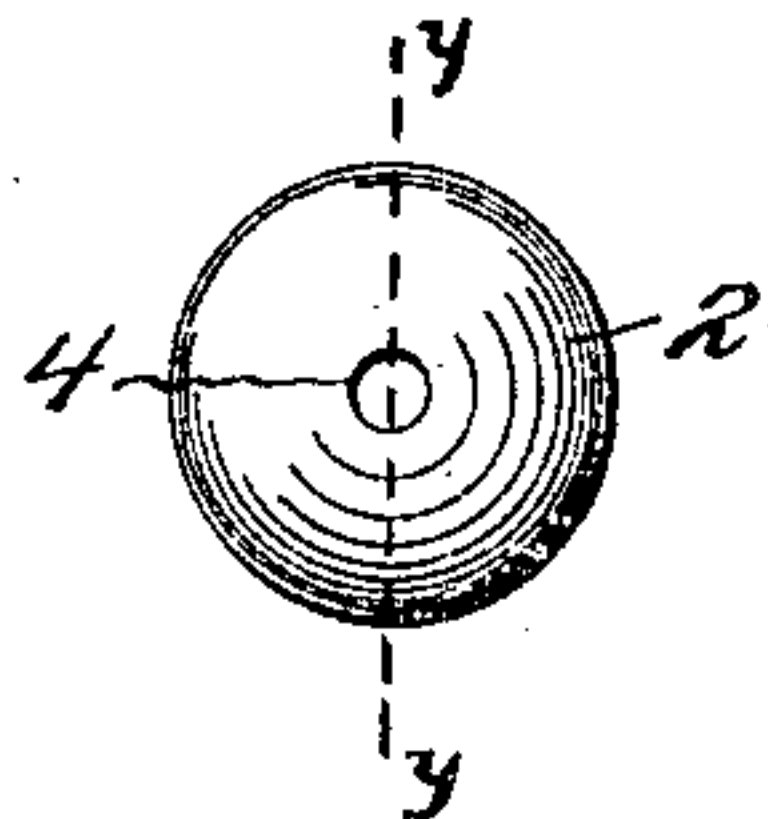


Fig. 3.

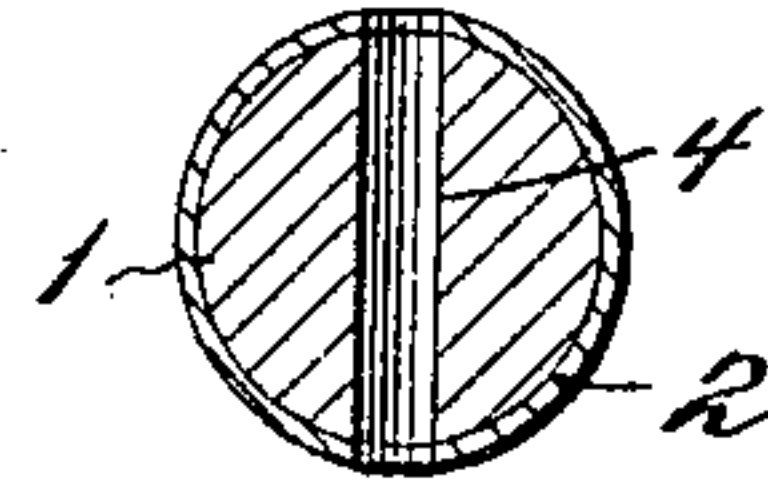


Fig. 4.

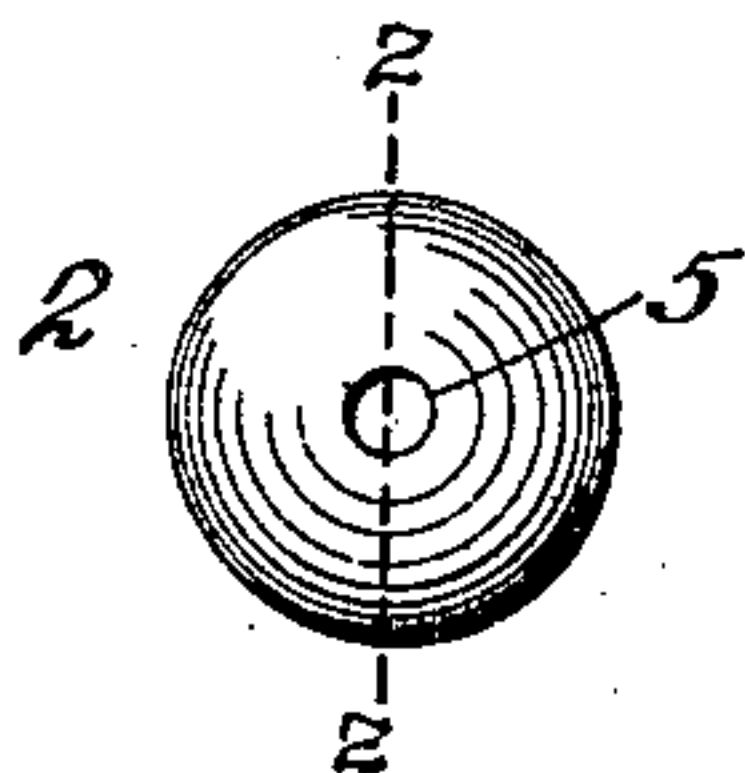


Fig. 5.



Fig. 6.

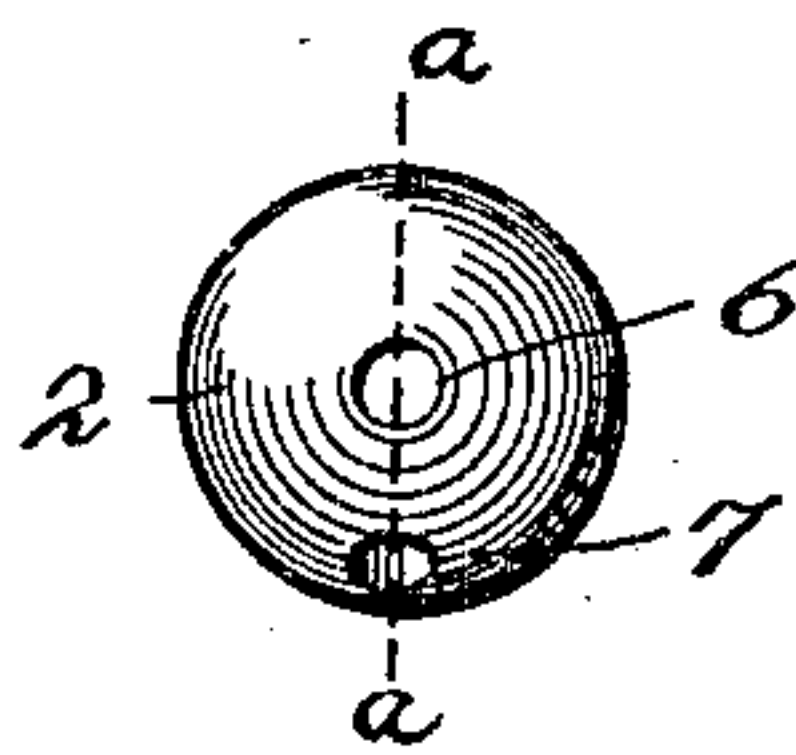


Fig. 7.

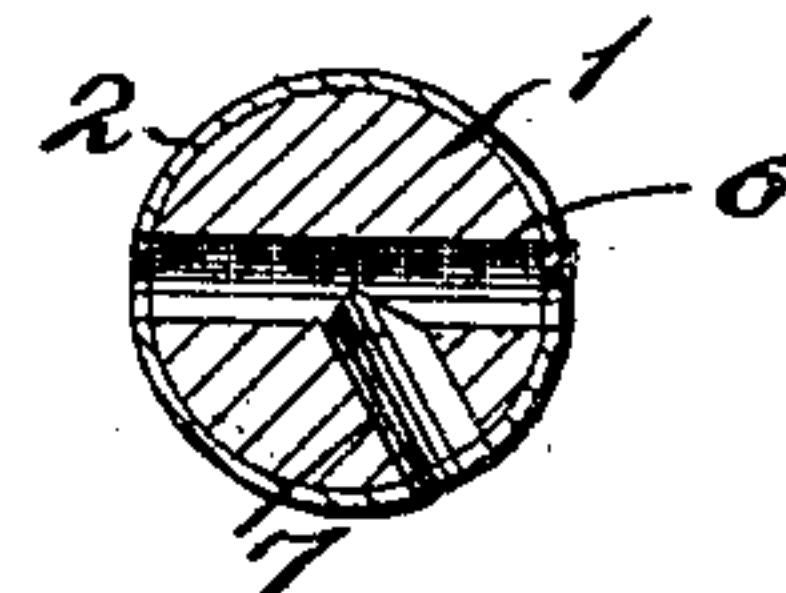


Fig. 8.

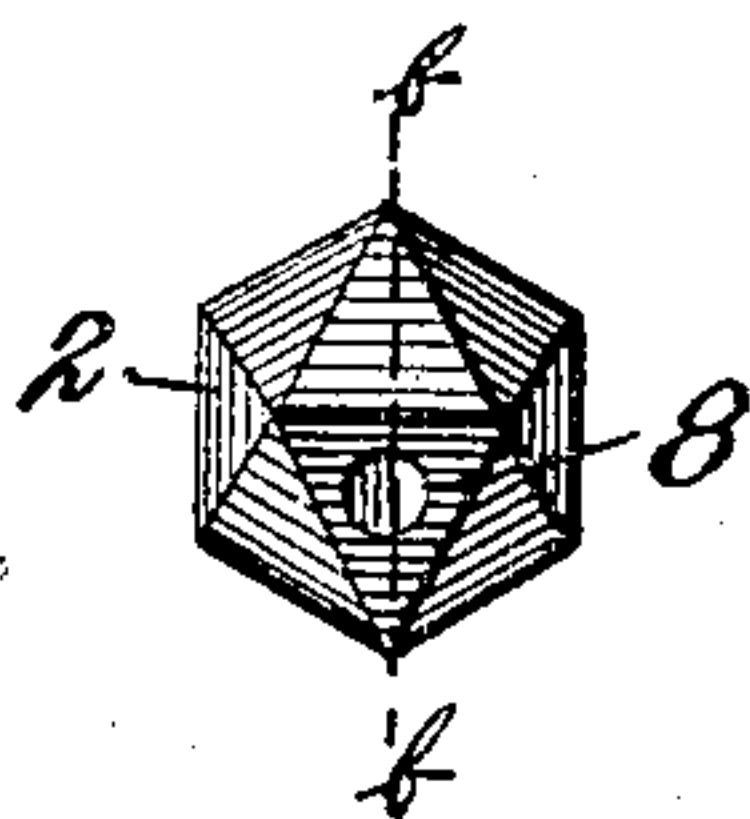


Fig. 9.

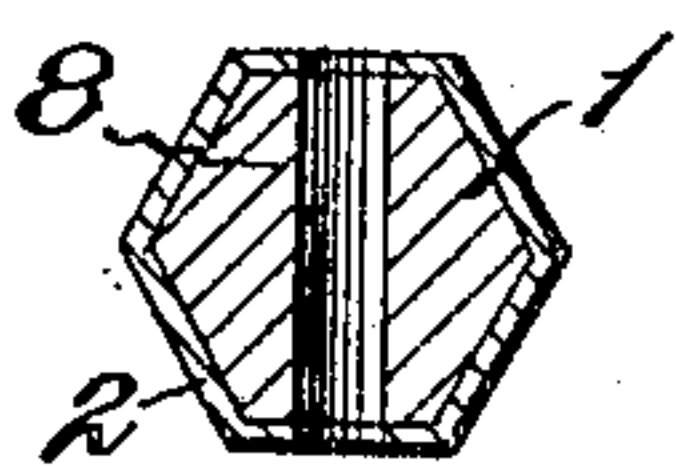


Fig. 10.

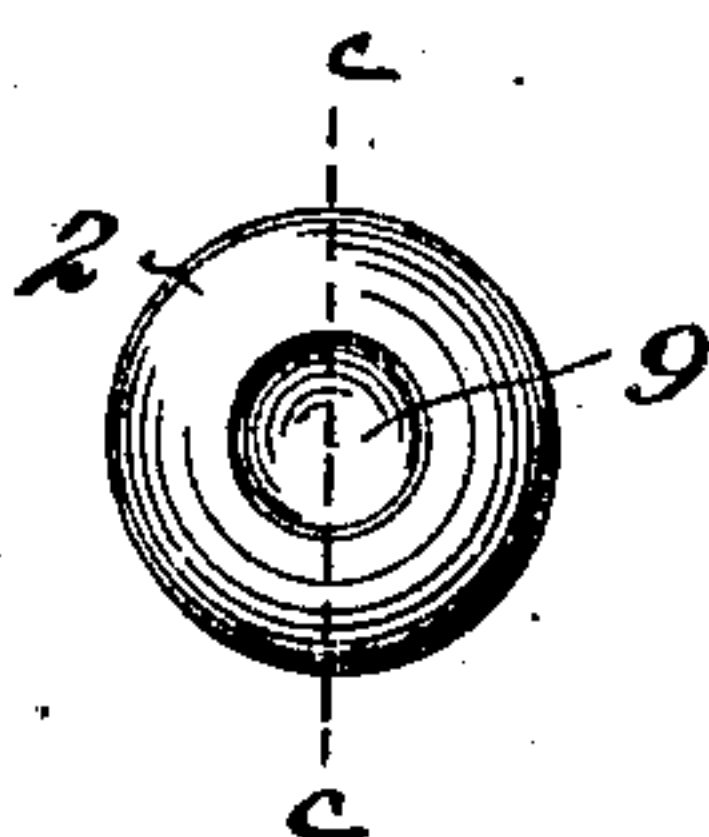


Fig. 11.

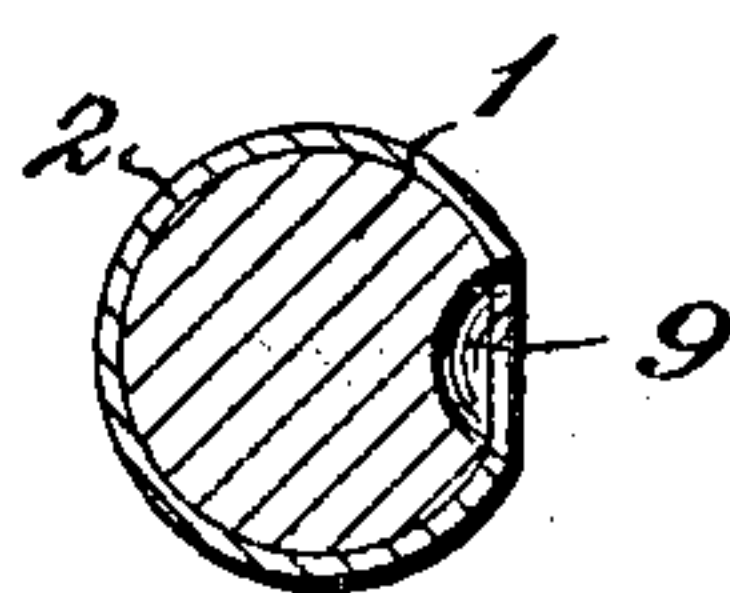


Fig. 12.

WITNESSES

Carl Stoughton

W. B. Ehler.

INVENTOR

William B. Goodwin

BY

The Shuck & Paine

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM B. GOODWIN, OF COLUMBUS, OHIO.

MATCH.

No. 837,464.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed February 21, 1906. Serial No. 302,207.

To all whom it may concern:

Be it known that I, WILLIAM B. GOODWIN, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Matches, of which the following is a specification.

My invention relates to new and useful improvements in matches, and more particularly to that class adapted to be contained in a holder and exposed for ignition.

The object of the invention is to provide a match of any suitable shape and which lacks the usual stem.

My improved match comprises a body of slowly-combustible material which is coated with a quickly-burning substance easily ignitable by friction or percussion. However, the essential feature resides in not completely enveloping or covering the body of the match with the coating and thus providing a suitable draft-opening. There may be one or more openings in the match, and the said opening may extend entirely through the match or part way therethrough, being cut in from one side.

With the above and other objects in view the invention consists of the novel details of construction and operation, a preferable embodiment of which is described in the specification and illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of my improved match made in the form of a cube. Fig. 2 is a transverse vertical sectional view of the same, taken on the line *xx* of Fig. 1. Fig. 3 is a plan view of a globular form. Fig. 4 is a vertical sectional view of the same, taken on the line *yy* of Fig. 3. Fig. 5 is a plan view of a semispherical form. Fig. 6 is a transverse vertical sectional view of the same, taken on the line *zz* of Fig. 5. Fig. 7 is an elevation of a globular form having two draft-openings. Fig. 8 is a transverse vertical sectional view of the same, taken on the line *aa* of Fig. 7. Fig. 9 is a plan view of a hexagonal form. Fig. 10 is a transverse vertical sectional view of the same, taken on the line *bb* of Fig. 9. Fig. 11 is an elevation of a globular form provided with a draft-opening in one side; and Fig. 12 is a transverse vertical sectional view of the same, taken on the line *cc* of Fig. 11.

It is to be noted that in the drawings the different views of the match are greatly enlarged, so as to clearly illustrate the construction. Each of the forms shown com-

prises a body 1 and a partial enveloping coating 2, the body 1 being composed of some suitable slowly-combustible material that will take fire from the coating 2, which is composed of a suitable substance easily ignitable by friction or percussion. This body 1 should be of such material or substance as when ignited to sustain combustion and supply a flame for sufficient length of time for the various purposes for which the match may be used.

In carrying out the invention, for instance, the body 1 may be composed of wood or fiber reduced to a pulp or powder and compressed or molded into proper shape, while the coating 2 may be of some phosphorous composition. It is to be understood, though, that no restrictions or limitations are placed on the material used and those most desirable and productive of the best results may be employed. It is essential to my invention, however, that each of the forms in which the match is made be provided with a suitable opening which may extend partially or entirely through the match, this opening supplying air to the body 1, and thereby supporting combustion and assuring the ignition of the body from the coating. In this way a match is produced which will ignite under conditions unfavorable to a match in which the coating completely surrounds the slowly-combustible material or surrounds it to such an extent that a draft-opening is not provided.

In Figs. 1 and 2 I have shown the match in the form of a cube provided with a central draft-opening 3 extending entirely therethrough. In Figs. 3 and 4 I have shown the match in the form of a globe or sphere, the coating 2 being of uniform thickness and conforming to the shape of the body, while passing entirely through the match is a cylindrical draft-opening 4. Figs. 5 and 6 illustrate a semispherical form in which the coating 2 only covers the rounded portion of the body 1, and a central draft-opening 5 extends through the body and the coating.

I have shown in Figs. 7 and 8 a form comprising a spherical or globular body 1, having an opening 6 extending entirely therethrough and an inclined opening 7 extending inwardly from the outer surface of the body and joining the opening 6. The coating 2 is placed about the body so as to expose the ends of the opening 6 and the outer end of the opening 7. A match of this form will

burn freely and briskly and when once ignited will be extremely difficult to extinguish, owing to the free circulation of air or draft obtained. Figs. 9 and 10 illustrate a hexagonal body 1 and a coating 2 corresponding thereto in shape, with a draft-opening 8 extending entirely through the body and coating.

Figs. 11 and 12 illustrate a simple and inexpensive form in which the body 1 is spherical in shape and together with its coating 2 is recessed or cut out at one side to form a draft-opening 9, the latter extending only part way into the body. The body thus exposed will be caused to burn freely and briskly by the draft supplied through the opening.

In explanation of my reason for showing so many different forms it might be stated that the match is to be used with a suitable holder and lighter constructed to contain a number of the matches and ignite and burn them one at a time. While I make no claim to the holder, it is to be understood that various styles of holders may be employed, and

each particular form of match is best suited to a certain style of holder.

What I claim is—

1. A pellet-like match comprising a body of slow-burning material, and a coating of quick-burning substance easily ignitable by friction or percussion, said coating having a draft-opening formed therethrough.

2. A pellet-like match comprising a body of slow-burning material, and a coating of quick-burning substance, said coating and said body having a draft-opening formed therein.

3. A pellet-like match comprising a body of slow-burning material, and a coating of quick-burning substance, said coating and said body having a draft-opening formed entirely therethrough.

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

WILLIAM B. GOODWIN.

Witnesses:

A. L. PHELPS,
M. B. SCHLEY.