

H. W. WHELAN.

FRICTION MATCH.

APPLICATION FILED AUG. 23, 1907.

900,245.

Patented Oct. 6, 1908.

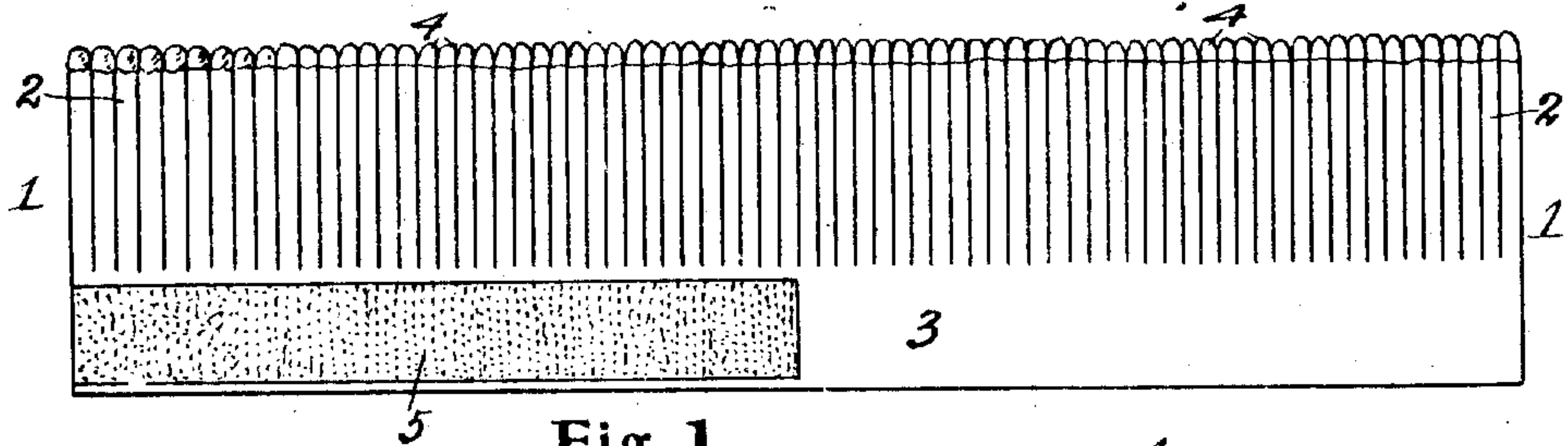


Fig. 1.

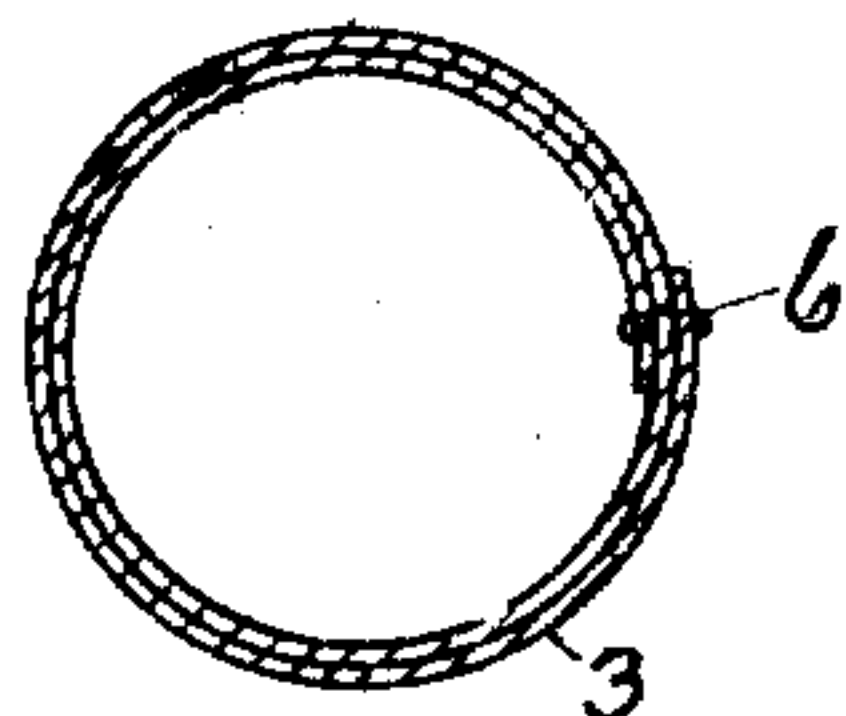


Fig. 2.

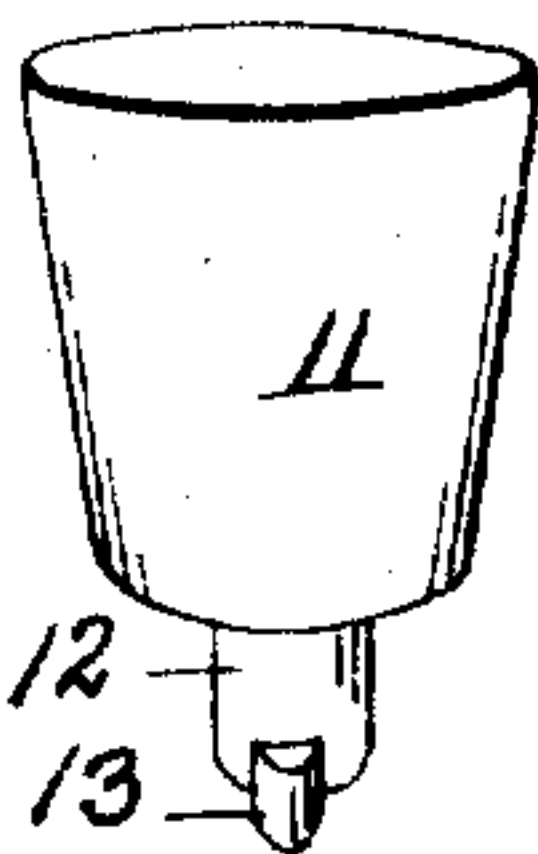


Fig. 4.

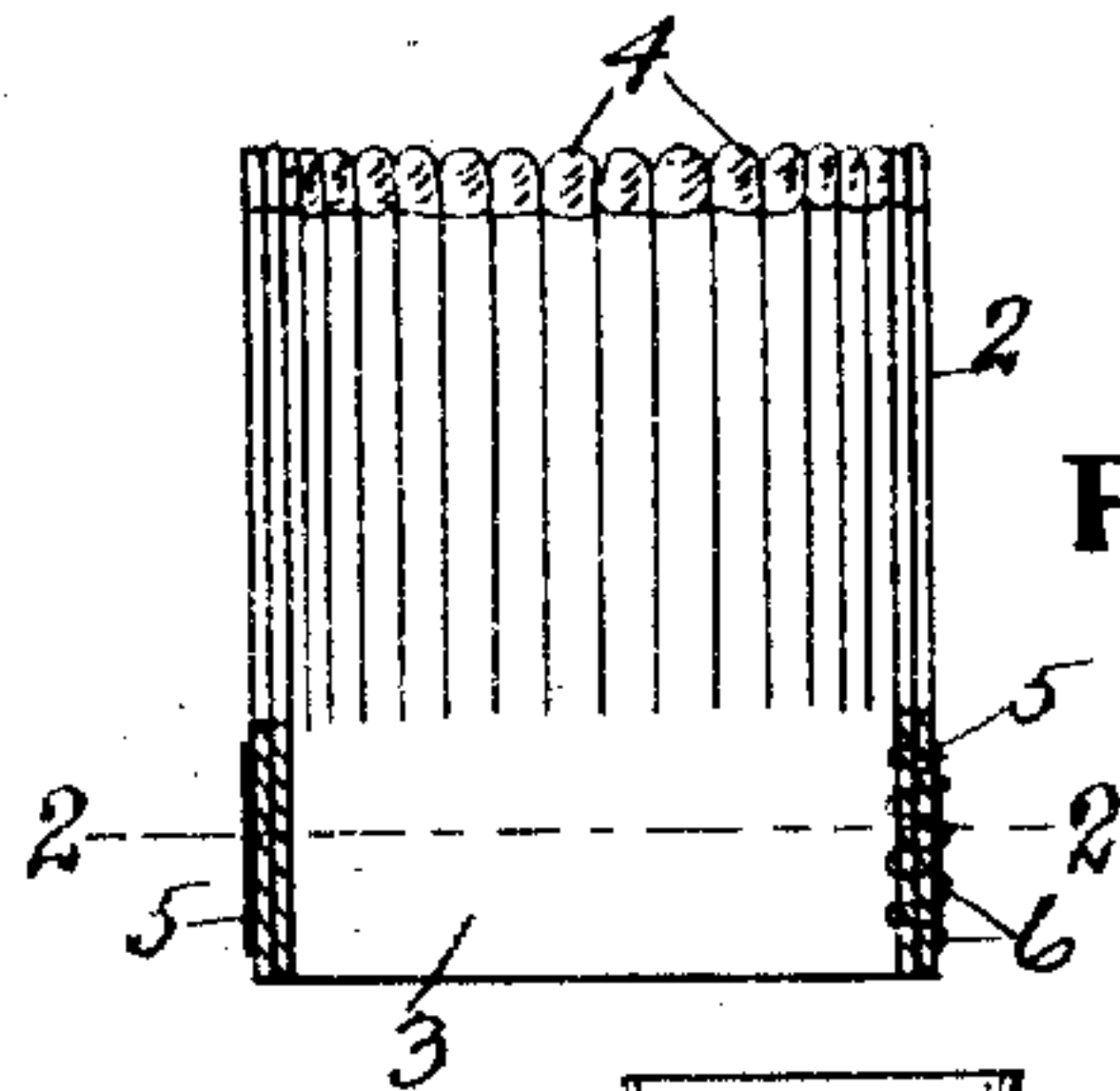


Fig. 3.

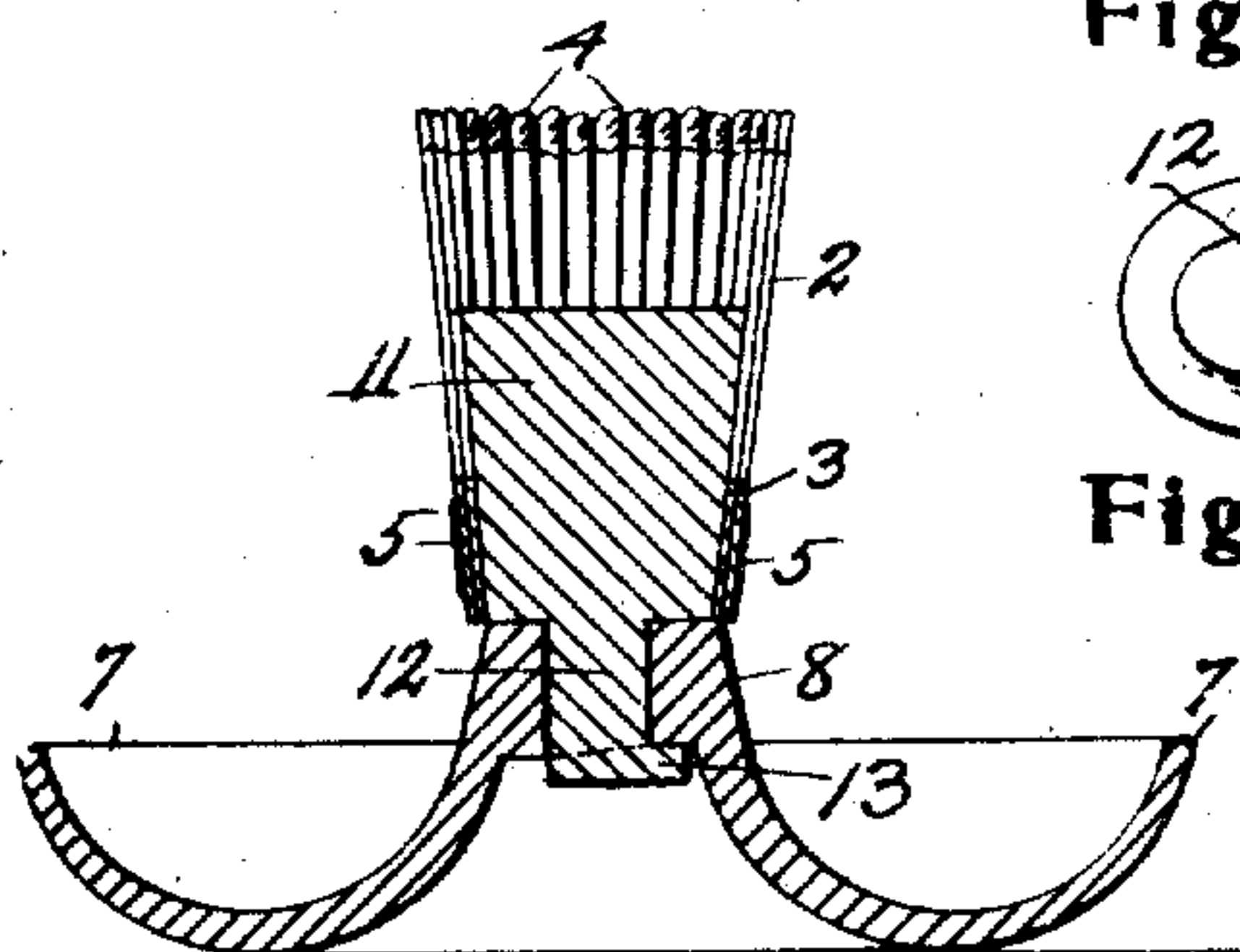


Fig. 7.

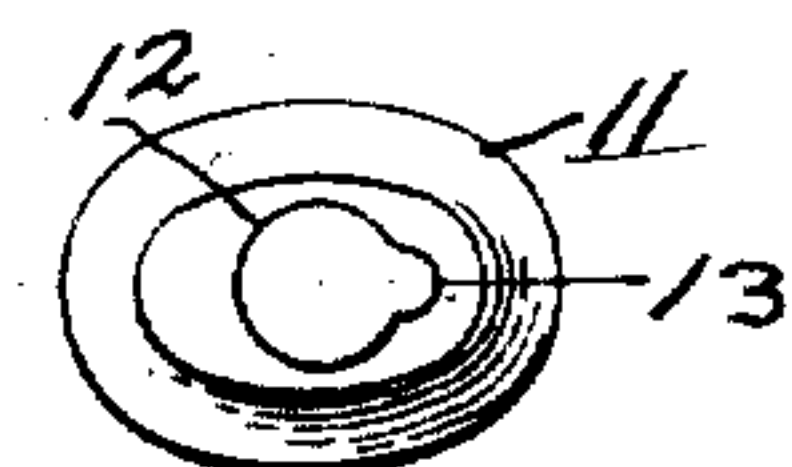


Fig. 5.

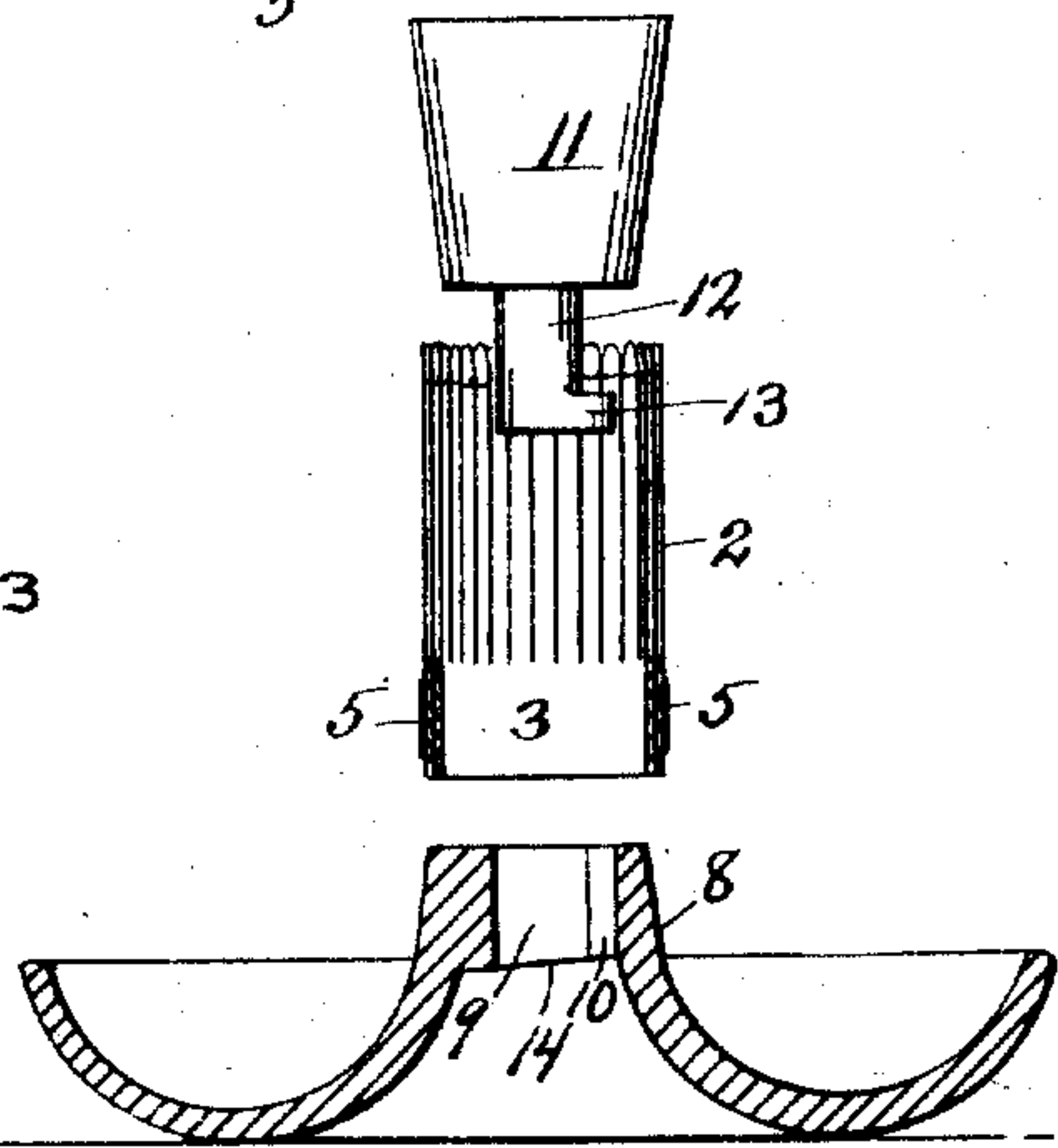


Fig. 6.

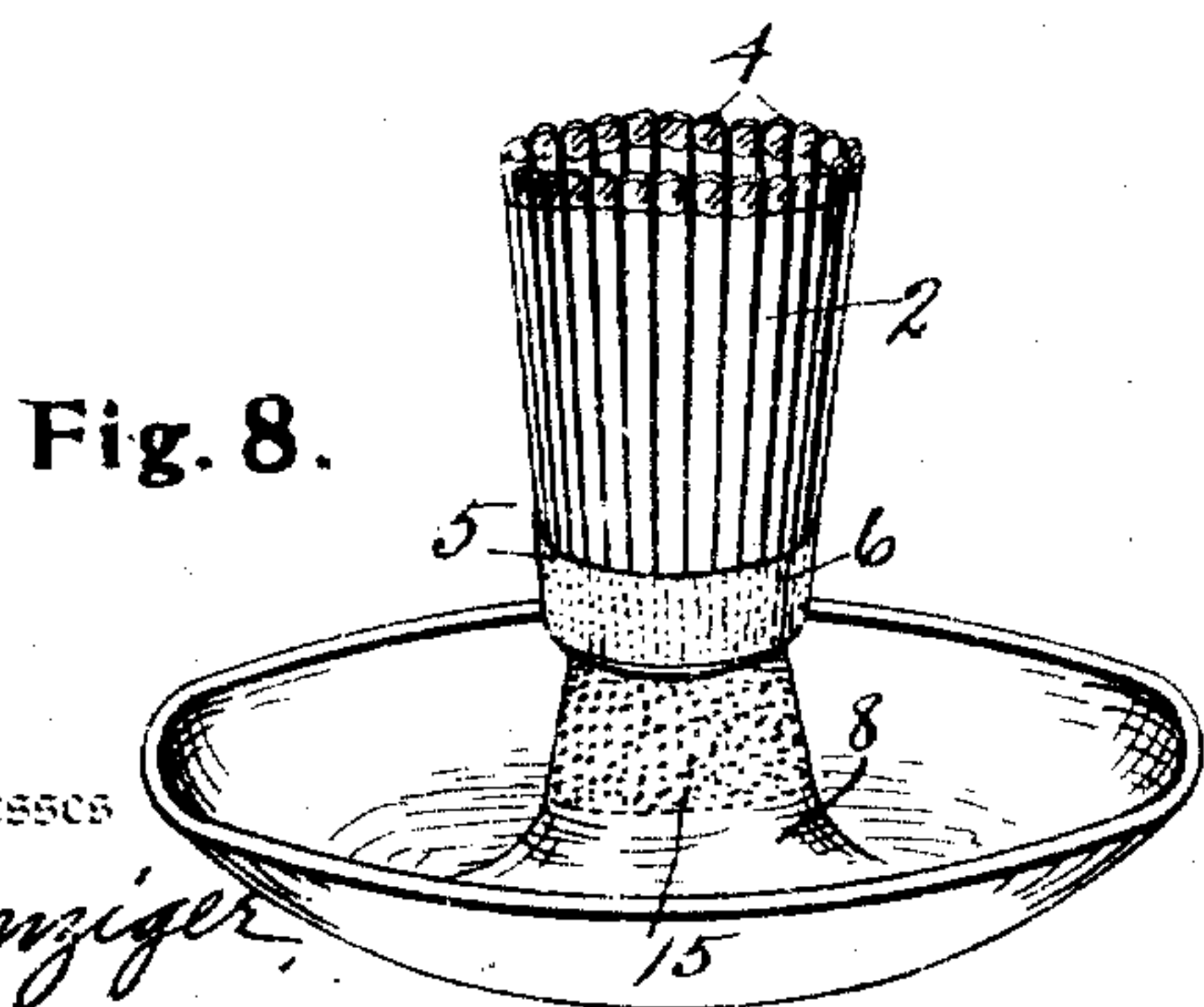


Fig. 8.

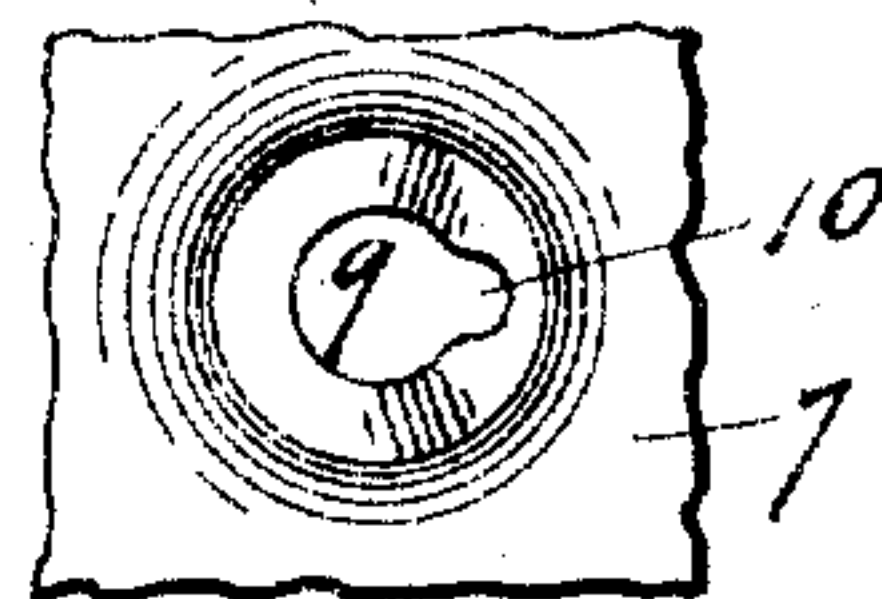


Fig. 9.

Witnesses  
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# UNITED STATES PATENT OFFICE.

HENRY W. WHELAN, OF DETROIT, MICHIGAN.

## FRICITION-MATCH.

No. 900,245.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed August 23, 1907. Serial No. 389,797.

*To all whom it may concern:*

Be it known that I, HENRY W. WHELAN, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Friction-Matches; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to safety matches, so called, especially designed for use in public places, or where matches are gratuitously furnished, and consists in the construction and arrangement of parts hereinafter fully set forth and claimed.

The primary object of the invention is to provide economical means for supplying matches to customers in cigar stores, and like places, in such a manner as to prevent the matches being carried away, and also to prevent the reckless use of matches by rendering it inconvenient to remove them except one at a time.

A further object is to assemble the matches in a cylindrical or tubular form preparatory to securing them on a holder in a manner to render them accessible from all sides.

The above objects are attained by the construction and association of parts illustrated in the accompanying drawings, in which:—

Figure 1 is a plan view of a strip of matches formed of suitable flexible material, preferably card-board, and showing at the base of said strip a prepared ignition surface on which the matches may be ignited by frictional contact therewith. Fig. 2 is a horizontal section through a cylindrical body formed by rolling the flexible strip of matches upon a suitable mandrel, said section being on line 2—2 of Fig. 3. Fig. 3 is a vertical section through a cylindrical body formed by rolling the strip of flexible material of which the matches are formed. Fig. 4 is a perspective view of a conical body which may serve as a holder and upon which the cylindrically formed strip of matches may be mounted, said holder being adapted to be detachably connected with a base or stand. Fig. 5 is an inverted plan of Fig. 4. Fig. 6 is a sectional view of one embodiment of a base of a holder and of a flexible strip of

matches in cylindrical form, the conical detachable portion of the holder upon which the matches may be mounted appearing in elevation and said parts being segregated preparatory to the mounting of the matches on the holder. Fig. 7 is a vertical sectional view through the assembled parts shown in Fig. 6. Fig. 8 is a perspective view of a stand or holder, showing the matches in position thereon. Fig. 9 is a fragmentary view, being an inverted plan of the central portion of a stand such as illustrated in the other views showing the central aperture through which passes the stem of the tapered holder upon which the matches are mounted.

Referring to the characters of reference 1 designates a strip of flexible, fibrous material preferably paper or straw-board, of suitable quality and thickness, which is slit transversely through one of its longitudinal margins forming divisions or splints 2 of the requisite length to serve as matches, the lower ends of said splints being fragilely joined to a solid base portion 3 of said fibrous strip. The outer ends of the splints are provided with head 4 of an ignitable composition adapted to ignite only when struck or rubbed upon the surface of igniting material of a character to cause the ignition of the composition forming the heads of the matches, as will be well understood in the art. As a matter of convenience this surface of igniting material may be placed upon the base strip 3 to which the match splints are attached so as to extend from one end thereof, as shown at 5 in Fig. 1, the length of said surface of igniting material being sufficient only to extend around the cylindrically formed match containing strip when said strip shall have been rolled, as shown in Fig. 2. After the strip of flexible material, of which the match splints are formed, shall have been rolled as shown in Fig. 2, it is secured in that position by stitching through the lapped ends thereof as shown at 6, thereby presenting the matches in circular rows so as to project vertically from the base portion 3 to which they are fragilely attached so as to enable them to be broken off one at a time when desired for use.

For the purpose of mounting or holding the matches so as to render them accessible and at the same time prevent the removal of the rolled strip to which the matches are attached, there is provided a base or stand



7 cast preferably of iron to give it the requisite weight, and substantially saucer shape in form having a raised central portion 8 through which is formed a vertical aperture 9 having a communicating channel 10. Associated with said base or stand is a holder 11 which is conical in form and oval in transverse section, the minor diameter of said holder being equal to the inner diameter of the cylindrical body of matches formed by rolling the flexible strip from which the match splints are cut. Extending centrally from the lower end of the conical holder 11 is a stem 12 having a laterally projecting lug 13. The stem of said holder is adapted to pass through the central opening 9 of the stand and the lug 13 on said stem is adapted to pass through the channel 10 communicating with said opening, when by rotating said holder the lug 13 is caused to engage under the inclined margin 14 surrounding said opening and leading from said channel 10, whereby the holder 11 becomes securely locked to the base or stand but in a manner to enable it to be removed therefrom by turning it backward until the lug 13 on the stem thereof is caused to register with said channel.

The cylindrical body of matches may be mounted upon the holder 11 by detaching said holder from the base and passing it downwardly into said cylindrical body, as illustrated in Fig. 6, the flare of said holder causing it to wedge within the tubular body of matches which is caused to tightly embrace said holder by reason of the solid base strip 3 to which the match splints are attached. After the matches shall have been mounted upon the holder 11, said holder may be secured to the base as before described, thereby presenting the matches to the user in a manner to enable them to be readily detached from the base strip 3, as required, and ignited upon the surface 5, but preventing the removal of the matches without also removing the stand on which they are mounted, which is purposely made cumbersome and heavy so as to prevent such practice. Instead of placing the igniting material 5 upon the base 3 of the match strip, said igniting material may be mounted upon the centrally projecting portion 8 of the stand, as shown at 15 in Fig. 8.

The oval shape of the holder 11 presents two sides that are more nearly flat for the purpose of enabling the matches to be more readily ignited upon the surface of igniting material attached to the bottom of the match strip.

After all of the matches shall have been broken from one of the rolled strips mounted upon the holder, the residuary ring of flexible material is removed from the holder

after said holder shall have been detached from the base and a new tube or cylinder of matches placed upon said holder.

It will be observed that because of the taper of the holder 11, the matches are not only held firmly in position thereon, but the tube or cylinder of matches is prevented being withdrawn from said holder because of the fact that the major diameter thereof will not pass through the tubular roll of matches, while the circular base of the match strip after the matches shall have been used therefrom, may be readily removed from the smaller end of the holder to enable the mounting of another tube thereon, as will be well understood. It will further be observed that the saucer shape of the stand affords a receptacle for the burned matches.

Having thus fully set forth my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A strip of flexible material partially divided into splints whose free ends are coated with ignitable compound, said strip being rolled into cylindrical form, and the end of said strip being secured to maintain said cylindrical form during the removal of the individual matches for use.

2. A strip of flexible material partially divided to form match splints, and having a remaining integral base portion, the upper ends of said splints being coated with ignitable compound, the lower end of said splints being fragilely attached to the base portion and said strip being rolled into cylindrical form, an igniting surface upon the base of said strip and said strip being held in said cylindrical form in a manner to allow of the free removal of the individual matches.

3. A plurality of match splints in the form of a tubular body having a common base strip to which they are fragilely attached, the end of said strip being secured to said body to maintain it in tubular form, and an ignition surface on said base strip.

4. A strip of flexible material slit transversely to form a plurality of match splints which are fragilely attached at one end thereto, and at the other end are provided with a coating of ignitable compound, said strip being rolled to form a rounded body composed of parallel rows of separately detachable splints, and the free end of said strip being secured to said body to maintain said rounded form.

In testimony whereof, I sign this specification in the presence of two witnesses.

HENRY W. WHELAN.

Witnesses:

I. G. HOWLETT,

O. B. BAENZIGER.