

J. E. NEAHR.  
 COMBINED MATCH SAFE AND IGNITING DEVICE.  
 APPLICATION FILED AUG. 22, 1918.

1,335,012.

Patented Mar. 30, 1920.  
 2 SHEETS—SHEET 1.

Fig. 1.

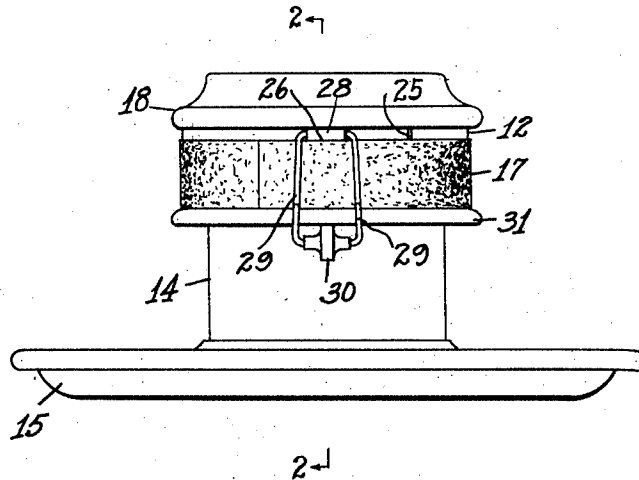


Fig. 2.

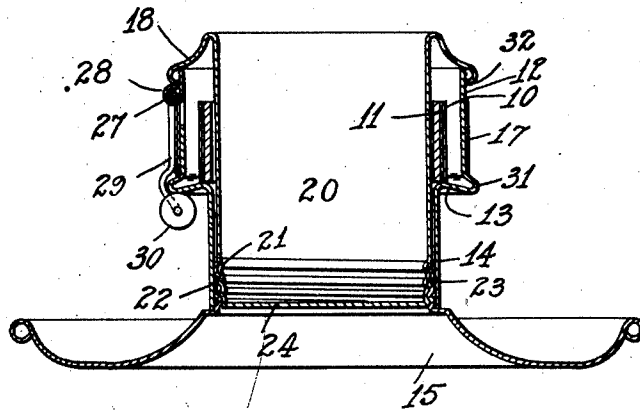
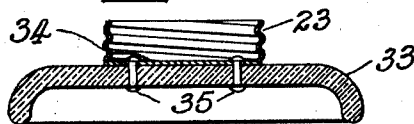


Fig. 2A.



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**Fig. 3.**

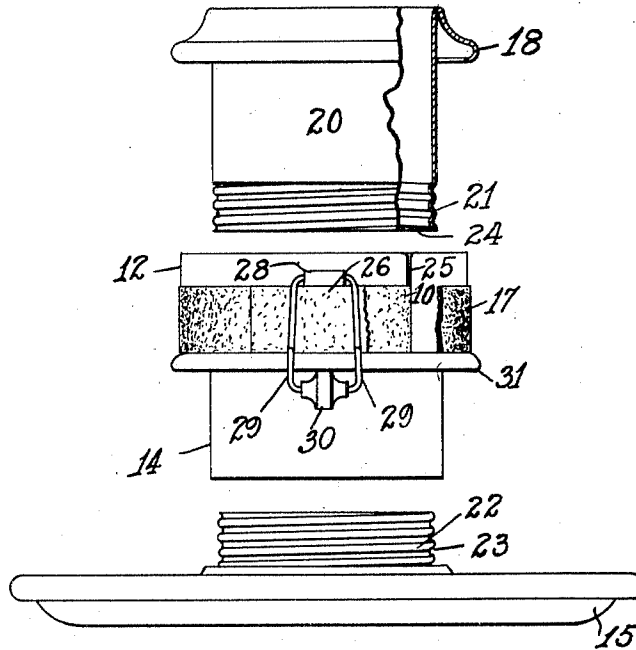
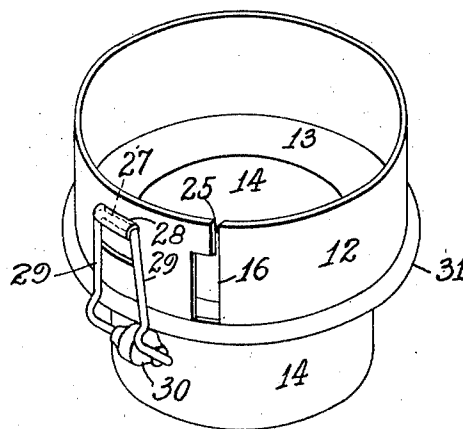


**Fig. 4.**



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# UNITED STATES PATENT OFFICE.

JACOB EUGENE NEAHR, OF NEW YORK, N. Y.

COMBINED MATCH SAFE AND IGNITING DEVICE.

1,335,012.

Specification of Letters Patent.

Patented Mar. 30, 1920.

Application filed August 22, 1918. Serial No. 250,945.

*To all whom it may concern:*

Be it known that I, JACOB E. NEAHR, a citizen of the United States, residing in the city, county, and State of New York, have  
5 invented certain new and useful Improvements in Combined Match Safes and Igniting Devices, of which the following is a specification.

This invention relates to combined match  
10 safes and igniting devices of the class illustrated in my co-pending applications Nos. 214,592 and 220,159, in which an igniting strip is wound around a drum, the supply  
15 of matches standing up within the coil. In said application 214,592, the igniting strip is in the form of a coil confined within the drum, the end of the strip being led out through an aperture in the drum wall, and wound around the drum; an annular cap  
20 serving to confine the coil within the drum.

The objects of the present invention are to simplify and improve the structure, to reduce the cost of manufacture, and to facilitate assembling and disassembling the device, with provision for firmly securing the  
25 parts together. One of the aims is to provide for assembling and disassembling without the use of tools, and by a simple operation that can be easily understood and practised.

In carrying out my present improvements, the coil-containing drum is supported by means of a pedestal upon a base, the drum and pedestal being preferably spun  
35 from a piece of sheet-metal and forming a single shell. The pedestal may have less diameter than the drum, and an exterior flange at the top of the pedestal may constitute the floor of the drum. The strip forms  
40 an annular coil to lie in the drum and rest upon its floor. Through an opening in the wall of the drum, the end of the coil may be drawn out to wrap around the drum.

In order to complete the device, there remain to be mentioned a cap to confine the  
45 coil within the drum, a box to serve as a match-safe, and means for securing the pedestal upon the base. These three requirements may, according to my invention, be  
50 supplied by means of a single device, which may be spun or drawn in one piece from sheet-metal, and may comprise for its main portion a cylindrical box or shell constituting the match-safe, said box having at its  
55 top a flange which serves as an annular cap to retain the coil within the drum. Said

match-safe or box is confined within the coil, and it has at its bottom a set of exterior rolled threads which screw into a socket provided upon the base. The flange at the  
60 top of the match-box bears down upon the top edge of the drum shell, so that, by revolving the cap, the latter is drawn down tightly upon the drum shell, thereby fastening it to the base. The diameter of the pedestal is ample, so that a solid, substantial  
65 structure is produced. The socket in the base is preferably constructed or spun from sheet-metal, rolled with threads which fit the threads in the match-box. The pedestal fits  
70 over said socket concealing the threads. These three principal parts, the base, the drum with its pedestal, and the match-box with its cap and threads, may be each formed  
75 inexpensively from sheet-metal, and yet taken together they form a solid structure not liable to looseness or other weakness.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

80 Figure 1 is an elevation of a combined match-safe and igniting device, embodying my improvements in one form.

Fig. 2 shows the same in vertical section; the section being taken through the clip  
85 which secures the outer winding of ignition coil.

Fig. 2<sup>a</sup> is a modification to illustrate the socket made separately and attached to a base of glass or other material.

90 Fig. 3 shows the three main parts of the device assembled in elevation.

Fig. 4 is a perspective view of one of the shells seen at Fig. 3, viz., the drum which contains the coil of ignition strip, and the  
95 pedestal which said drum surmounts.

An annular coil 10 of igniting strip, usually wound upon a hollow core 11, is placed in a drum 12 and rests upon the floor 13 thereof. The drum rises from a hollow  
100 pedestal 14. The pedestal, floor and drum may be drawn or spun up from a single piece of metal, said floor 13 being in the nature of an exterior stiffening flange at the top of the pedestal, the latter being of less diameter  
105 than the drum, but still of ample size to secure a firm footing upon the base, which is illustrated in the form of a dished member 15.

The coil 10 is led out through an opening  
110 16 in the side wall of the drum, and a layer 17 thereof is wrapped around the drum,

which forms a support at the match-striking operation.

An annular cap 18 is used for the double purpose of confining the coil within the drum, and of fastening the drum 12 and pedestal 14 down upon the base 15. For the former purpose, the cap 18 is made of sufficient diameter to cover up the drum, and for the latter purpose, a connection in the form of a shell or box 20 extends from the cap 18 down through the coil 10, and at its lower end is attached to the base 15, to secure the drum and pedestal firmly thereon. This attachment is effected preferably by means of threads 21 rolled upon the lower portion of the box, to engage threads 22 rolled in a socket 23, which may be struck up from the center of the base 15. This connecting shell 20 is of relatively large diameter, and its threaded connection enables it to be forced securely down upon the base without liability of becoming loosened from rough usage. It will be seen that the shell 20 may be integral with the cap 18 and may have an integral floor 24 upon which the matches may stand, so that a substantial economy is effected in making the parts and assembling the device. The cap 18 serves as a stiffening brim for the match box 20.

The coil 10 may be placed in the drum, and the outer winding 17 thereof may be introduced edgewise down through a slit 25 into the large opening 16 in the side of the drum, and this winding may be pulled out far enough to wrap once around the drum, the leading end 26 thereof overlapping a portion of the winding. This overlapping strip portion 26 may be clamped to the underlying winding, and both windings may be clamped against the drum, thereby securing the winding against slipping around the drum at the match-striking operation.

In assembling, the drum and pedestal shell may be stood upon the base 15, and then the cap and match-box connecting-shell may be inserted within the drum and coil 10, and passed down through the pedestal 14, until the threads 21 upon the bottom of the box engage the threads 22 upon the socket, whereupon, by turning the cap, the connecting shell may be rotated to draw the cap down upon the drum and force the pedestal 14 to its seat upon the base; said pedestal preferably fitting closely around the socket 23 to prevent sidewise displacement.

The clip for the outer end 26 of the ignition strip may be in the form of a bent wire having a middle portion 27 serving as a pintle which is hinged in a bearing 28 punched up and formed from the body of the drum. The clip further comprises sides 29 which extend down from said pintle. At their lower ends the sides bend toward each other to serve as a pivot for a roll 30 which

is adapted to catch under the edge of an outwardly projecting flange 31 formed at the junction of the sides and bottom of the drum to confine the strip against downward displacement; said roll springing under the edge of the flange, which is dished upwardly, Fig. 2, so that the roll will snap into its locking position from which it cannot be moved except by the application of considerable force, so that the clip is not liable to be accidentally swung out to release the strip. As the roll is sprung under the edge of the drum, the sides 29 of the clip are brought firmly into contact with the strip, said sides being bowed inwardly or formed to press the overlapping portions of the strip together and to press them against the drum. The device forms a springy means tending normally to draw the clip against the strip.

A downwardly projecting rim 32 upon the cap 18 fits over the thin top edge of the drum to protect it and to cover up the slit 25 in the top thereof, as well as to confine the strip against upward displacement.

At Fig. 2<sup>a</sup> the base 33 is made of glass, wood or other material, and the socket 23 may be formed with a bottom 34 to be attached to the base by rivets 35.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. The combination with a base having a threaded socket, of a shell formed at its upper end into a drum and at its lower end into a pedestal fitting over said socket, and a second shell comprising a match box inserted within the drum and at its lower end threaded into said socket, and at its upper end having a retaining brim to catch over said drum and also to form a cap therefor.

2. The combination with a base having a threaded socket, of a shell formed at its upper end into a drum and at its lower end into a pedestal fitting over said socket, and a second shell comprising a match box inserted within the drum and at its lower end threaded into said socket, and at its upper end having a retaining brim to catch over said drum and also to form a cap therefor, the pedestal being of less diameter than the drum, and connected thereto by an exterior flange which forms a floor for the drum.

3. The combination of a base, a shell standing on said base and comprising a drum, a match box inserted within said shell and having a brim to form an annular cap for the drum, and means provided upon said base to engage said match box to draw said shell down upon said base by means of said brim.

4. The combination of a base, a shell standing on said base and comprising a

drum, a match box inserted within said shell and having a brim to form an annular cap for the drum, a threaded socket provided upon said base, and threads formed upon

5 said match box to screw into said socket.

5. A single-piece shell forming a match box provided with a bottom, and having at its top a brim to form an annular cap for an ignition strip, rolled threads being formed

10 upon the bottom of said match box to engage a threaded base-socket.

6. A single-piece shell comprising a pedestal, and a drum of larger diameter than the pedestal, said pedestal and drum connected by a flange forming a floor for the

15 drum, said drum having an opening in its side wall for an ignition strip.

7. A combined match-safe and ignition device comprising a base and two telescoped

20 shells thereon, one shell comprising a drum, and the other shell comprising a match box within the drum provided with a brim to serve as an annular cap for the drum, and means connecting the base and match box to

25 hold the drum upon the base.

8. A combined match-safe and ignition device comprising a base and two telescoped shells thereon, one shell comprising a drum, and the other shell comprising a match box

30 within the drum provided with a brim to serve as an annular cap for the drum, means connecting the base and match box to hold the drum upon the base, said holding means comprising a threaded socket upon the base,

35 and corresponding threads upon the match box.

9. The combination with a drum having an opening in its side wall, of an annular ignition coil inserted in the drum to pass out

40 through said opening, a slit extending from said opening to the top of said wall to facilitate insertion of the strip, and a match box inserted within said coil, said match box having a brim which serves as an annular

45 cap for the drum, said cap having a protecting rim to catch over the top edge of the drum wall.

10. The combination with a drum having an opening in its side wall, of an annular ignition coil inserted in the drum to pass out

50 through said opening, a slit extending from said opening to the top of said wall to facilitate insertion of the strip, a match box inserted within said coil, said match box

55 having a brim which serves as an annular cap for the drum, said cap having a protecting rim to catch over the top edge of the drum wall, a base upon which the drum structure is carried, and means provided

60 upon said box to hold said drum down upon the base.

11. The combination with a drum to inclose a coil of ignition strip, said drum hav-

ing an opening through which the strip may be drawn out, of a clip upon said drum for

65 said strip, said clip hinged at its upper portion to the side wall of the drum above the strip, and having means to catch under the bottom edge of the drum, said catching

means comprising springy means normally

70 tending to draw the clip against the strip.

12. The combination with a drum to inclose a coil of ignition strip, said drum having an opening through which the strip may be drawn out, of a springy clip upon said

75 drum for said strip, said clip hinged at its upper portion to the side wall of the drum above the strip, and having a catch to snap under the bottom edge of the drum, said

80 bottom edge being upwardly beveled to secure the catch against accidental release, and to tend to draw the clip against the strip.

13. The combination with a drum to inclose a coil of ignition strip, said drum having a bottom bead and also having an open-

85 ing through which the strip may be drawn out, of a springy clip upon said drum for said strip, said clip hinged at its upper portion to the side wall of the drum above the strip, and having a catch to snap under the

90 bottom bead of the drum, said catch in the form of a roll, which, by reason of the springiness of the clip, normally tends to ride up along said bottom bead, thereby to press the clip against the strip.

95 14. The combination with a drum to inclose a coil of ignition strip, said drum having a bottom bead and also having an opening through which the strip may be drawn

100 out, of a clip upon said drum for said strip, said clip hinged at its upper portion to the side wall of the drum above the strip, and having a catch to snap under the bottom

105 bead of the drum, said catch in the form of a roll, which, by reason of the springiness of the clip, normally tends to ride up along said bottom bead, thereby to press the clip against the strip, and said clip comprising

110 springy sides connected at their upper ends by a pintle, and at their lower ends projecting inwardly to carry said roll.

15. The combination with a drum, of a

coiled ignition strip, said drum having in its

side wall an opening through which the igni-

115 tion strip may be drawn out, a springy clip hinged upon said drum above the strip and having means to snap under the lower

edge of the drum, said clip formed with a

part to force the overlapping portions of the

strip together and hold them against the

120 drum wall when the snapping means is caught under said edge.

JACOB EUGENE NEAHR.

Witnesses:

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MARGARET G. NOONAN.