

Dec. 15, 1959

G. W. WYANT

2,917,116

FIRE RETARDING DEVICE

Filed Feb. 17, 1958

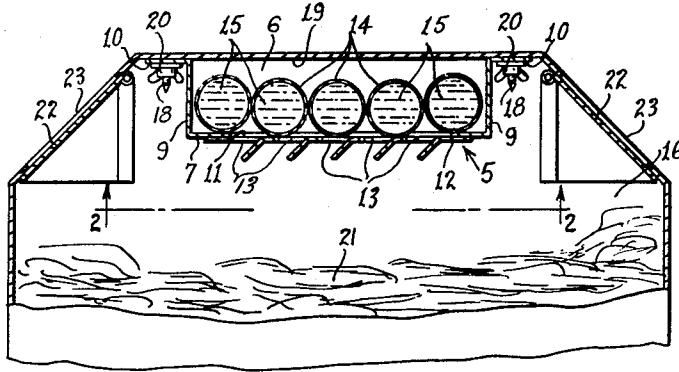


Fig. 1

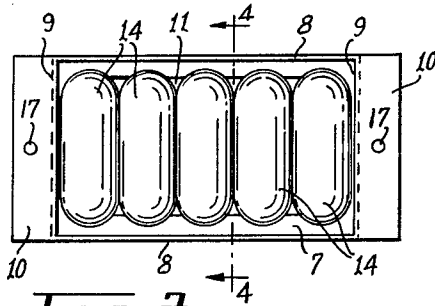


Fig. 3

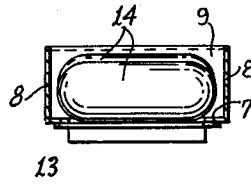


Fig. 4

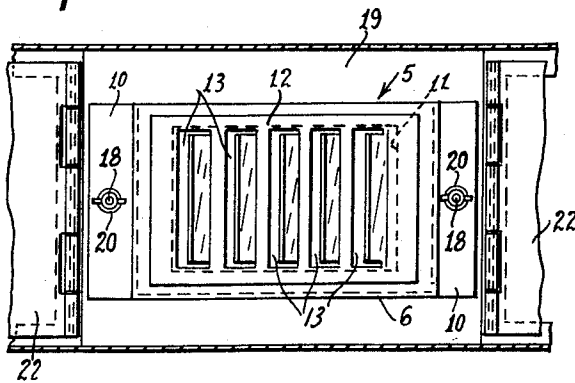
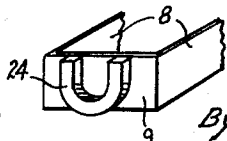


Fig. 2

Fig. 5



INVENTOR  
G. W. WYANT

By  
*Hetherington & Co.*  
ATTORNEYS

1

2,917,116

## FIRE RETARDING DEVICE

Gerald W. Wyant, Montreal, Quebec, Canada

Application February 17, 1958, Serial No. 715,759

1 Claim. (Cl. 169—2)

This invention relates to fire retarding devices and more particularly to fire retarding devices for use with trash containers, such as waste paper and waste paper towel containers, rag containers and the like.

The invention consists in the combination of an ampule or ampules of a gelatinous or plastic nature containing a fire extinguishing medium contained within a tray container mounted on the upper wall of a trash or waste paper receptacle, the tray having perforations or louvres whereby the ampules of fire extinguishing medium are directly exposed to fire or high temperature generated within the waste receptacle. The tray supporting the ampules of fire extinguishing medium are generally supported within the waste receptacles in such a manner that they are not generally accessible to unauthorized persons but are readily accessible to authorized persons for the purpose of checking the condition of the ampules or replacing them.

The object of the invention is to provide an inexpensive, lightweight fire retarding device particularly adaptable for use in waste receptacles in washrooms, garages and like public places.

A further object of the invention is to provide replaceable ampules of a fire extinguishing medium which can be kept in quantity for immediate replacement in the fire extinguisher.

A further object of the invention is to provide an ampule of a gelatinous or plastic nature as a sealed container of a fire extinguishing medium which will disintegrate instantly to release its contents when subjected to a predetermined temperature.

A further object of the invention is to provide a fire retarding device of small size which can readily be mounted within a waste receptacle out of sight of the public.

These and other objects of the invention will be apparent from the following specification and the accompanying drawings, in which:

Figure 1 is a vertical sectional elevation of the top portion of a typical trash receptacle showing a tray containing a number of ampules of a fire extinguishing medium mounted on the under side of the top wall of the receptacle.

Figure 2 is a bottom plan view of the fire retarding device mounted in place in the receptacle and generally looking on the line 2—2 of Figure 1.

Figure 3 is a plan view of the fire retarding device showing a number of ampules in the tray.

Figure 4 is a vertical cross section on the line 4—4 of Figure 3.

Figure 5 is a perspective view of one end of a tray container showing a horse shoe magnet fastened to the end of the tray.

Referring to the drawings, the fire retarding device 5 is in the form of a tray 6, having a bottom wall 7, side walls 8 and end walls 9 and a pair of end flanges 10 projecting outwards from the top edge of the end walls 9. The bottom wall 7 of the tray 5 has a relatively large cut-

2

out portion 11 which is covered by the plate 12. This plate 12 can be either perforated, slotted or have a series of louvres 13. In some cases the plate 12 can be dispensed with and the bottom wall 7 of the tray can be either perforated, slotted or louvered in the same manner as the plate 12.

The tray 6 forms a carrier for the ampules 14 which are of a gelatinous or plastic nature and contain a fire extinguishing medium 15. A gelatin ampule spray coated with a liquid cellulose, such as cellulose acetate lacquer or cellulose nitrate lacquer has been found to give very satisfactory results as a container for the fire extinguishing medium 15. Such an ampule stands up to a considerable amount of handling by maintenance people responsible for storing the ampules before use and for replacing the ampules as required. The cellulose lacquer coating of the ampules excludes air and moisture from penetrating through the gelatin to the contained fire extinguishing medium 15. The fire extinguishing medium 15 can be of any element suitable for containing in a gelatin ampule and which will not gasify within the gelatin ampule by reason of its cellulose lacquer coating under normal temperature conditions. Such a fire extinguishing medium may be carbon tetrachloride or from the group of chloro bromo methane fire extinguishing elements which are non-toxic and therefore particularly suitable for use in the manner described.

The tray 6 containing the ampules 14 can be supported within the receptacle 16 in any convenient manner and is here shown in Figures 1 and 2 as having two stud receiving apertures 17 and supported on two studs 18 welded to the inner surface of the top wall 19 of the receptacle and held secure by the wing-nuts 20. Another alternative method of holding the tray 6 in place is shown in Figure 5 in which pieces of magnetized metal or horse shoe magnets 24 are fitted to the ends of the tray 6. When magnets are used the flanges 10 of the tray would be eliminated. Such an arrangement would eliminate any difficulty in fitting the tray 6 over the studs 18 and tightening up the wing-nuts 20. The size of the tray 6 and the number of ampules 14 in the tray will depend on the size of the receptacle 16 and the type of waste material 21 to be stored in the receptacle.

As will be seen from Figure 1 of the drawings, the fire retarding device 5 can only be reached by holding open the swing doors 22 of the receptacle 16, which doors are generally weighted or spring loaded to stay in the closed position to seal the openings 23 of the receptacle. With the fire retarding device located as shown it is sufficiently convenient to be serviced by authorized maintenance people and cannot be damaged by the opening of the doors 22. In the position shown, the fire retarding device is out of sight of the general public and cannot readily be pilfered.

By the use of a fire retarding device as above described, located within waste receptacles, many fires can be extinguished automatically before any serious damage is done. Should a lighted match or cigarette butt be dropped into the receptacle 16, the contents 21 will either start to smolder or will flare up at once. If the contents start to smolder, sufficient heat will be generated within a few minutes which will heat the tray 6 and at the same time melt the ampules 14 and gasify the liquid fire extinguishing medium. Such action usually takes place at a temperature range of 160° F. to 180° F. and, depending upon the nature of the contents 21 such a temperature could be reached before an actual flare up of fire is started. On the other hand should the contents 21 be dry and a fire flare up immediately, the heat generated will cause the ampules to burst and the liquid fire extinguishing medium to gasify within seconds, as such a fire has been known to generate a heat of 400° F. within 60 seconds. Pro-

3

vided there is sufficient fire extinguishing medium volume in the ampules provided in the fire retarding device for the size of the waste receptacle, the gas formed, being heavier than air, will fall down and smother the fire immediately and, as the swing doors of the receptacle are normally closed, little or no effect of the momentary fire within the receptacle will be noticeable. After a fire, the tray 6 can be quickly removed and the residue of the ampules 14 cleaned out, new ampules inserted and the tray fitted back into the receptacle.

What I claim is:

In a fire extinguishing device for waste receptacles in which the waste receptacle has a top wall and side access doors, the said fire extinguishing device comprising a removable tray secured to the inside surface of the top wall of the receptacle and shielded by the said side access doors of the receptacle, the said tray forming with the top wall of the receptacle a fire retardant containing compartment,

4

a gelatinous fusible fire retardant container within said fire retardant containing compartment, the said tray having a series of louvred openings in its downward facing side, the louvres of the said louvred openings forming protective shields for the said gelatinous fusible fire retardant container.

References Cited in the file of this patent

UNITED STATES PATENTS

|    |           |                 |               |
|----|-----------|-----------------|---------------|
| 10 | 530,057   | Salberg -----   | Nov. 27, 1894 |
|    | 645,432   | Stohr -----     | Mar. 13, 1900 |
|    | 1,325,769 | Welch -----     | Dec. 23, 1919 |
|    | 1,832,056 | Spencer -----   | Nov. 17, 1931 |
|    | 1,911,671 | Blauvelt -----  | May 30, 1933  |
| 15 | 2,003,300 | Meigs -----     | June 4, 1935  |
|    | 2,273,515 | Dachlauer ----- | Feb. 17, 1942 |
|    | 2,593,697 | Reilly -----    | Apr. 22, 1952 |
|    | 2,708,595 | Ludwig -----    | May 17, 1955  |