

Aug. 14, 1945.

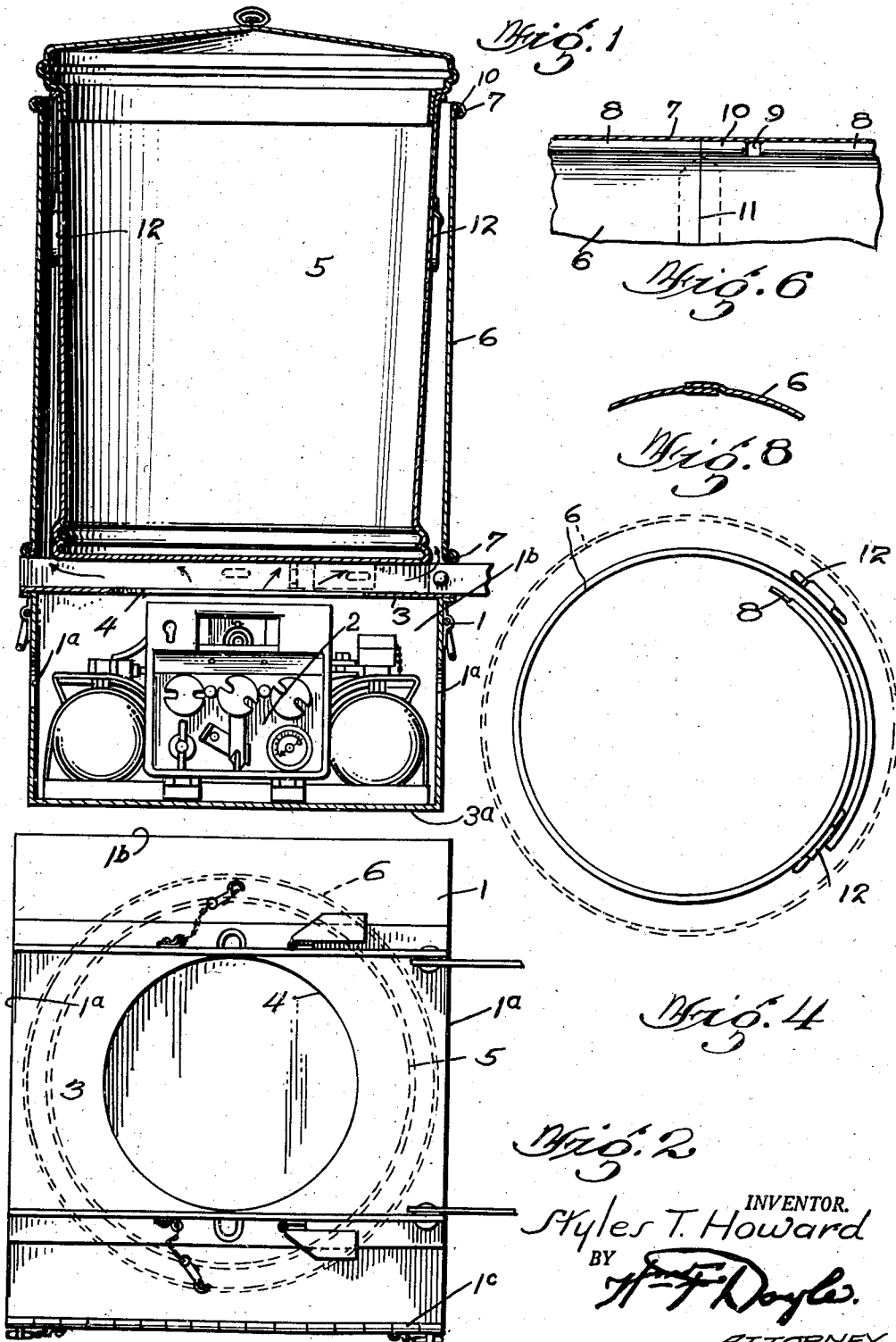
S. T. HOWARD

2,381,906

COLLAPSIBLE HEAT DIRECTING CLOSURE

Filed Oct. 16, 1942

2 Sheets-Sheet 1



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COLLAPSIBLE HEAT DIRECTING CLOSURE

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2 Sheets-Sheet 2

Fig. 3

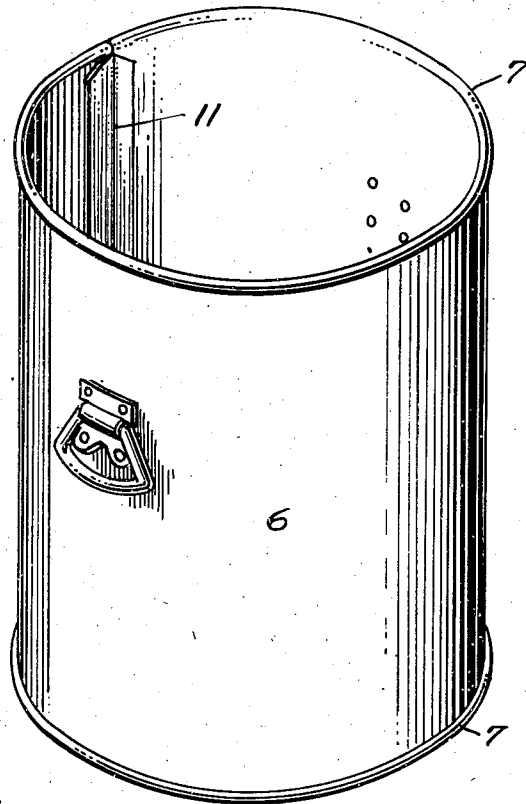


Fig. 7

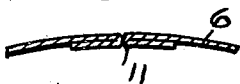
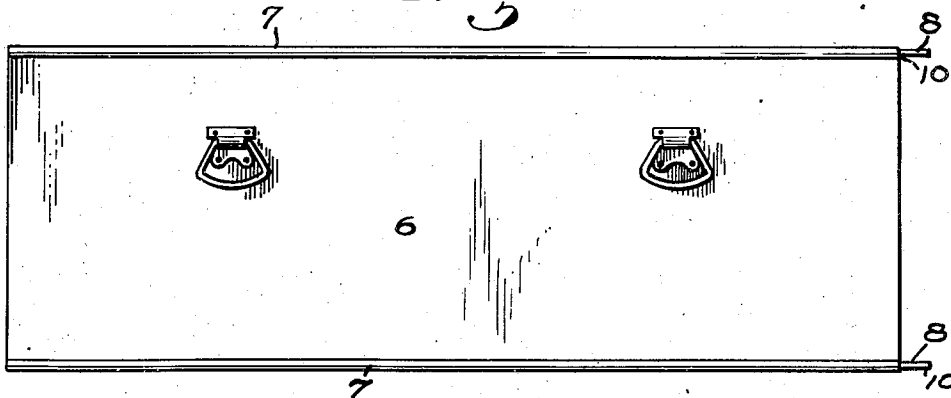


Fig. 5



INVENTOR.

Stiles T. Howard

BY

A. F. Doyle

ATTORNEY

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COLLAPSIBLE HEAT DIRECTING CLOSURE

Styles T. Howard, Jeffersonville, Ind.

Application October 16, 1942, Serial No. 462,272

1 Claim. (Cl. 126-9)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon.

This invention relates to a collapsible heat directing closure or sleeve for use when heating a receptacle, and more particularly for use by the Army when heating a G. I. can or the like on the standard Army combined fire unit carrying case and receptacle support.

The objects in view are to provide a simple, convenient device adapted to surround the receptacle to be heated, by a closure of fire-proof material such as that of which stove pipe is constructed preferably of slightly heavier gauge, formed from a sheet of metal or other suitable material adapted when not in use to be collapsed sufficiently to permit its insertion into for instance a standard Army G. I. can, with which it is intended to be used, it being of practically the same height and of a diameter when surrounding the receptacle to provide a small space between same and the improved closure, said closure being of a very durable and inexpensive material and construction.

While a preferred form of the device is shown and described, its shape from a true cylinder may be modified to some extent to correspond to the outer formation of a receptacle to be heated and the same principles and benefits obtained, without falling beyond the scope of the claims.

Similar numerals indicate corresponding parts in all the figures of the drawings in which:

Fig. 1 is a vertical section of a receptacle support, showing a receptacle thereon, the improved heat directing closure or sleeve encircling the receptacle outside of the opening in the top of the receptacle support and the currents of heat adjacent to the container indicated by arrows.

Fig. 2 is a plan view of parts shown in Fig 1 with receptacle 5 and closure 6 removed but indicated by dotted lines.

Fig. 3 is a perspective view of the improved closure or sleeve.

Fig. 4 is a plan view of the closure collapsed as it will appear within a receptacle the latter being in dots.

Fig. 5 is a plan view, reduced in size, of the closure when flattened out for transportation in groups separate from the receptacles with which they are used.

Fig. 6 is a detail showing the separable connecting means at the adjacent edges of the seam in the closure.

Fig. 7 is a detail section of the adjoining edges of the seam of the above.

Fig. 8 is a detail section of a modified form of seam at the adjoining edges of the closure.

Reference now being had to the drawings by numerals, 1 is the combined standard Army fire unit carrying case and receptacle support, with the outline of a fire unit 2 shown within the case. The case consists of side, and rear walls 1a and 1b respectively and top and bottom plates 3 and 3a respectively and a hinged front wall 1c for entrance of the fire unit within the receptacle support.

The top plate 3 of the case is provided with an opening 4, so located that when the fire unit is placed in the case, the burner of the unit rests beneath the opening 4.

The fire unit may be carried from place to place with its parts all protected from injury, or the case may be placed on its bottom and a receptacle 5, to be heated, placed on top of the case. When the case is to function as a support for a receptacle to be heated the fire unit functions as a heating unit within the case, the heat passing up through opening 4 to the receptacle 5 resting on top of the case.

When the heating of a receptacle is being performed, without a heat directing closure herein shown, the heat from the fire unit passes up through opening 4 and into contact with the bottom of the receptacle and will be practically immediately dissipated, said heat being wasted and in the event of winds or strong drafts, will not only be blown away from the receptacle, but the burner may be extinguished or the flame from the burner may be blown into contact with adjacent objects, the legs of the attendant or cause other damage.

It is with a view of meeting the above and other objectionable conditions that the herein described device was designed including the unique manner of transporting same singly or a limited number within the receptacle, as well as one that may be flattened and shipped in large groups in a relatively small space, all of which benefits are of prime importance to the Army.

The improved collapsible heat directing closure 6 for use in heating a receptacle, is constructed of any suitable non-combustible material such as sheet steel of a gauge slightly heavier than stove pipe steel, is provided, when bent into cylindrical form, with rolls 7 at the ends of the cylinder in which are mounted heavy reinforcing and coupling wires 8 of the same length as said rolls, and are so arranged within the rolls as to provide

sockets 9 formed at the ends of the rolls by the unoccupied portions of the wires, by withdrawing the wires from one end of the rolls and causing the wires to project at 10, beyond the opposite ends of the rolls. Said projections 10 of the wires at one end of the rolls are adapted to enter sockets 9 at the opposite ends of their respective rolls and firmly retain the device in cylindrical form, by coupling the parts together.

The seam 11 formed at the adjacent edges of the device when in cylindrical form may be as shown, a butt joint or by slightly offsetting said edges in opposite directions, provide a lap joint.

Handles 12 adapted to fold close to the outer face of the closure are so spaced thereon as to occupy opposite positions when it is in cylindrical form, are provided for convenient handling of the closure.

The operation of the device here shown is obvious, wherein the edges at the ends of the sheet of metal are brought into contact and the extending ends of the wires at the top and bottom of the then formed cylinder may be introduced into the socket for their reception at opposite respective ends of the rolls at the ends of the cylinder, in which position a very substantial and firm seam connection is provided which will not be accidentally separated.

In the manufacture of the closure it may be formed in such a manner as to have a tendency to roll into a circumference less than it must assume when in use, which provides dual benefits, namely, such a tendency to roll within its normal size while in use, provides for its automatically assuming a size when the parts at the seam are separated, that will permit of its inser-

tion into the receptacle with which it is used, and said tendency will also tend to hold the parts at the seam in place. Said tendency of the closure to collapse into a circumference less than that while in use, will not prevent the temporary flattening of the closure if necessary during shipment in quantity.

Having thus fully described my invention what I claim and desire to secure by Letters Patent is:

A collapsible heat-directing closure including a rectangular sheet formed of resilient material having longitudinal edges and transverse edges, a hollow reinforcing bead extending along each longitudinal edge of the sheet and having a coupling socket in one terminal thereof, a resilient wire within each bead and having one terminal extending axially beyond the bead to provide a coupling projection adapted to be received in a coupling socket, the transverse edges of the sheet being thickened and reinforced by flanges turned back along said edges, the sheet, beads and wires being shaped and constrained by their inherent resiliency to form substantially a cylinder of given diameter having overlapping concentrically-disposed terminal portions, the closure forming a cylinder of greater diameter when the coupling projections are positioned in the coupling sockets in which position the transverse edges of the sheet are biased for movement circumferentially towards engagement with each other, whereby the tendency of the cylinder to contract maintains the coupling projections in the sockets and presses the reinforced transverse edges of the sheet together.

STYLES T. HOWARD.