Sept. 11, 1928. 1,683,792

R. E. NAUMBURG

CONTAINER FOR DISINFECTANTS

Filed May 26, 1926

Fig. 1

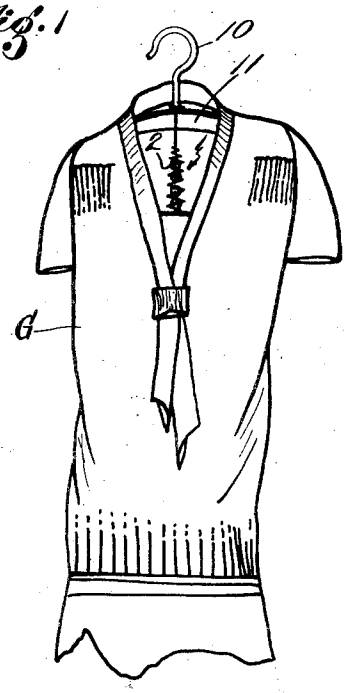


Fig. 9

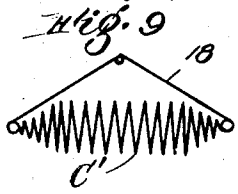
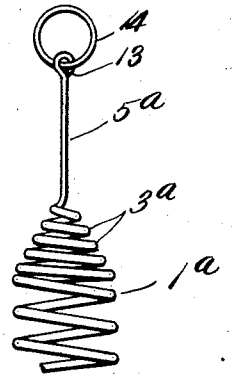


Fig. 5



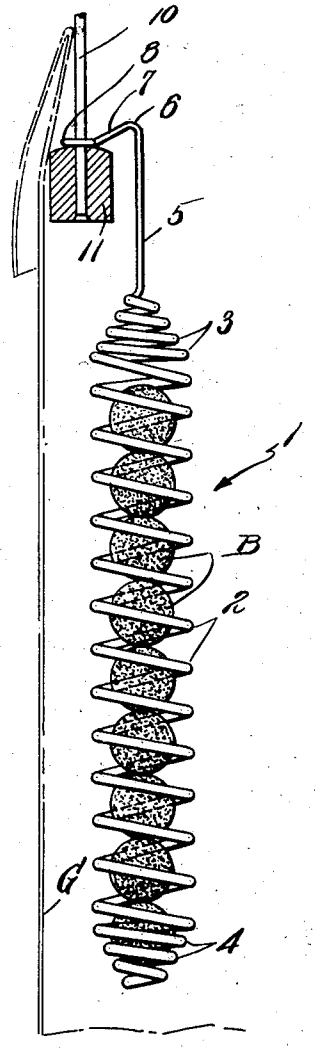


Fig. 2

Fig. 6

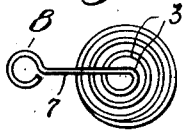


Fig. 3

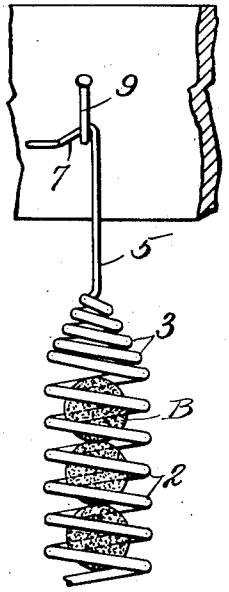
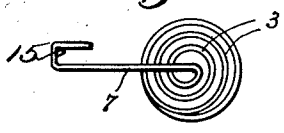


Fig. 4

Fig. 8



Fig. 7



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UNITED STATES PATENT OFFICE.

ROBERT E. NAUMBURG, OF WINCHESTER, MASSACHUSETTS.

CONTAINER FOR DISINFECTANTS.

Application filed May 26, 1926. Serial No. 111,780.

This invention pertains to containers or receptacles for holding volatile disinfectants, for example, lumps or balls of naphthalene, camphor, etc., commonly known as "moth balls," and more especially to containers particularly adapted to be associated with a garment hanger or hook upon which a garment is suspended when not in use.

In order that such a container or receptacle may be effective for its intended purpose, it should be of such construction as to expose the balls or lumps of disinfectant as fully as possible to the air while at the same time securely confining such balls even when they have become substantially diminished in size by evaporation; the container should be readily refillable when the original supply of moth balls has wasted away, and should preferably comprise convenient means for suspending it in the position of use; it should be substantially free from external projections such as might catch in and tear the garment with which it may be associated; it should be devoid of parts which may be lost or mislaid; and it should be of so simple construction and design that it may be made and sold at a very low price.

The present invention has for its principal object the provision of a device of the type referred to possessing the above as well as other desirable characteristics, and in the accompanying drawings certain desirable embodiments of the invention have been illustrated by way of example.

In the drawings,

Fig. 1 is a perspective view illustrating a garment suspended upon a hanger of usual type and having a preferred form of disinfectant container constructed in accordance with the present invention suspended from the hanger within the garment;

Fig. 2 is an elevation to larger scale showing the garment hanger in transverse section with the improved container suspended therefrom, a portion of a garment being shown in broken lines;

Fig. 3 is a fragmentary elevation of the upper part of the container, removed from the garment hanger, and illustrating the mode of filling the container;

Fig. 4 is a fragmentary elevation of the upper part of the container showing the same suspended from a hook or nail;

Fig. 5 is a fragmentary elevation of the upper part of the container showing a modified type of suspension means.

Fig. 6 is a fragmentary plan view corresponding to Fig. 2;

Fig. 7 is a view similar to Fig. 6 illustrating a modification; and

Figs. 8 and 9 illustrate modified forms of suspension means.

The numeral 1 designates generally the improved container embodying the present invention, such container preferably having a body portion of elongate cylindrical form, consisting of a length of wire coiled in the form of an open helix 2. In order to obtain all of the objects of the present invention, it is essential that the wire employed be resilient, and I prefer to employ wire of the type known as "piano wire" since this possesses the desired characteristics of stiffness and high resiliency to a marked detail as well as ability to resist rust.

The helix 2 may be of any desired length and is of an internal diameter such as to accommodate lumps or balls B of disinfectant of the type which it is intended to hold. If the ordinary naphthalene moth balls are to be used in the container, the internal diameter of the helix will preferably be of the order of one inch although the exact diameter is immaterial so long as it is great enough to accommodate the disinfectant to be employed. While the helix 2 is normally open, that is to say, its adjacent spires are spaced from one another, the spacing should be close enough to prevent escape of the moth balls from between adjacent spires, at least until the balls have become very substantially reduced in diameter. Preferably the axial spacing of the spires will be less than half the normal diameter of the moth balls.

In order to prevent escape of the moth balls from the ends of the body of the receptacle, I provide permanent end closures for the space within the receptacle. These closures are formed most conveniently by deflecting the wire at the ends of the body portion so as to project inwardly across the entrance to the space within the coil. Such a deflected portion of the wire may consist of a single bend extending transversely of the end of the coil, but as here shown I prefer to form the wire at the ends of the helix 2 into a series of spirally disposed coils of successively diminishing diameter thus providing pocket-like end closures of conical form. Preferably the spirally disposed coils 3 and 4 forming the upper and lower end closures respectively are spaced more closely than the spires

of the body portion and at successively diminishing distances apart, thus providing a suitable end finish for the receptacle and at the same time effectively preventing escape of the moth balls from the space within the coil even when such balls have become very considerably reduced in diameter, the lower closure 4 constituting a pocket in which even small remnants of the balls may be retained. While it is preferred to make the body portion of the container cylindrical, other shapes may be used if desired, and the length of the body portion may be diminished to a point such that the conical end closures constitute substantially the entire container.

Since the container constructed in accordance with the present invention is particularly designed for association with a garment hanger or hook upon which a garment may be suspended, I provide the container with a suspension member 5 preferably consisting of an integral continuation of the wire forming the receptacle, the part 5 extending upwardly from end closure 3 and being bent at 6 to provide the hook portion 7 which preferably extends at an acute angle to the part 5 and downwardly, that is to say, reversely to the part 5. While this hook portion 7 may if desired terminate abruptly, as by severing the wire at the desired distance from the bend 6, I prefer to form the extremity of the hook portion 7 into a closed loop 8 the plane of which may, if desired, be substantially perpendicular to the axis of the diameter.

The loop portion 8 is adapted to embrace the suspending hook 10 of a garment hanger 11 of usual type, and as the loop is offset from the suspension member 5, the container when thus supported upon the hanger is disposed in front of the plane of the hanger so that it depends within the garment without necessarily contacting with the material of the garment.

While the closed loop 8 is desirable, since it positively prevents dislodgment of the container from the hanger, an open or hook-like loop such as shown at 15 in Fig. 7 may be used if desired, such open loop being more easily associated with the hanger than the closed loop. Whether or not any loop be provided, the hook portion 7 may, if desired, be hooked over a nail or other support 9 to suspend the container in a convenient position for use independently of a garment hanger.

In Fig. 5 a modified arrangement is illustrated in which the receptacle 1^a is provided with a conical upper end portion 3^a from which extends the suspension element 5^a. This suspension element terminates in the loop 13 carrying a ring 14 by means of which the device may be suspended from a hanger, hook, nail or other suitable part. Obviously this ring 14 might be slipped over the hook 10 of the garment hanger 11 in the same way as the loop 8 of the first modification.

Since the ends of the container are permanently closed and since the spires of the body portion of the container are normally spaced apart a distance less than the diameter of the balls of disinfectant, it is necessary to deform the container in order to permit it to be filled. One mode of filling the container is indicated in Fig. 3. Thus, by bending the receptacle quite sharply, adjacent spires 2^a and 2^b may be separated to an abnormal extent sufficient to permit a ball B′ of disinfectant to be slipped between them into the space within the coil. Alternately, the coil may be elongated axially to separate its spires. Obviously in order that either mode of filling may be employed the material of the coil must be highly resilient in order that it may resume its normal shape after the filling operation, and for this reason I prefer, as above stated, to employ spring wire, for example, steel piano wire as the material for use in making the container.

The container when complete is very light in weight, takes up but little room, has no sharp projections which might injure a garment, in the preferred form is of unitary construction so that there are no parts to be lost or misplaced, and it may be made with extreme rapidity and at a very low cost upon wire working machinery of well-known type. While the balls of disinfectant are exposed in the desired manner to the air, they are securely retained in position until they have very substantially diminished in size, the open coiled conical pocket 4 retaining even small remnants of the balls, and a new supply may readily be inserted in the manner described and without manipulation of caps, gates, or other movable parts which might accidentally open or become misplaced.

While, as illustrated, it is preferred to provide a suspension member integral with the wire forming the container proper, I contemplate the provision of other types of suspension, as for example the arrangements shown in Figs. 8 and 9. Thus in Fig. 8, the container C is provided with a loop of string 16 attached to the uppermost coil 17 which is twisted to form a vertical ring, the latter being adapted of itself to engage a hook or nail if desired. In Fig. 9, the string 18 is attached to both ends of the container C′ and is adapted to support the container in horizontal position, as for example beneath a garment hanger, in a suit case, bureau drawer, etc.

I claim:

1. A container of the class described having an elongate cylindrical body portion consisting of an open helical coil of resilient wire, and conical end closures each consisting of coils ot the same wire disposed in a spiral of diminishing diameter, access to the inte-

rior of the container to introduce a ball of disinfectant being obtainable only by temporary spacing adjacent coils of the wire abnormally, and suspension means consisting of a substantially straight length of the wire extending axially from the apex of one of the end closures and having an angularly extending extremity provided with a loop lying in a plane substantially perpendicular to the axis of the coil.

2. A container for moth balls or the like consisting of an open helical coil formed from a single length of resilient wire, portions of the wire being so disposed as to constitute a permanent closure at each end of the coil for the space within the container, access to said space for the purpose of inserting the contents therein being obtainable by temporarily separating any pair of adjacent spires abnormally such deformation of the coil being automatically corrected by the natural resiliency of the wire.

Signed by me at Boston, Massachusetts this 22nd day of May, 1926.

ROBERT E. NAUMBURG.