(No Model.)

E. NORTON.

VENT PROTECTOR FOR CANS.

No. 364,665. Patented June 14, 1887.

Fig. 1

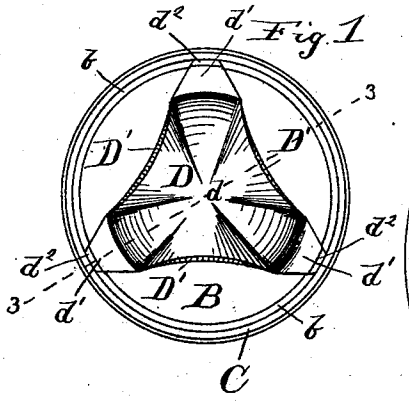


Fig. 2

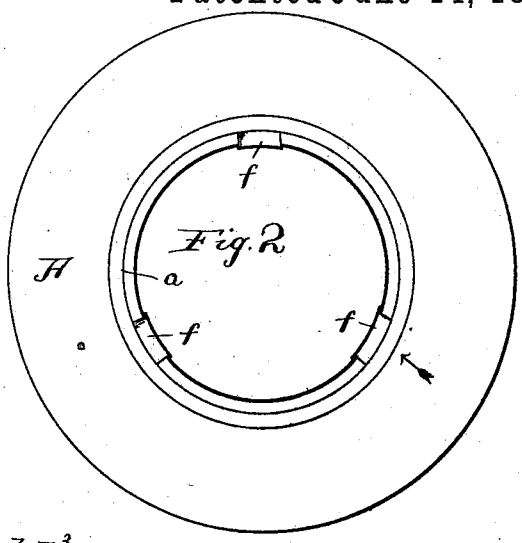


Fig. 4

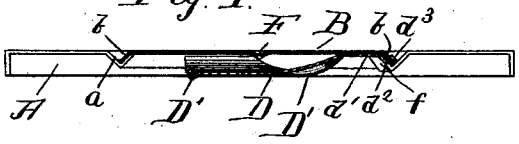


Fig. 3

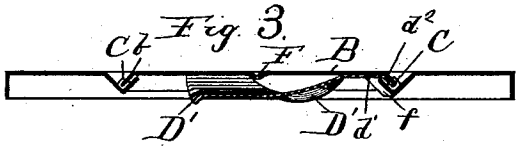


Fig. 6

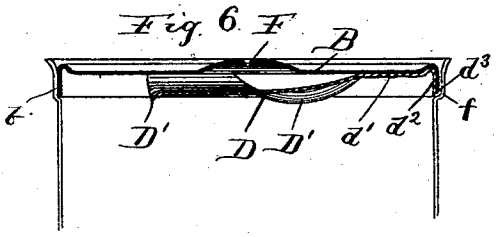


Fig. 5

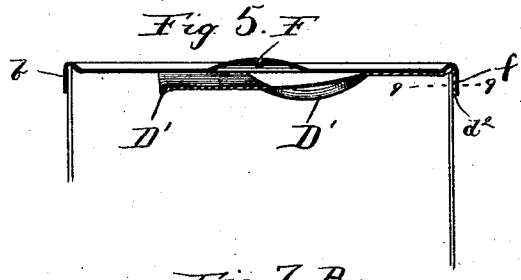


Fig. 8

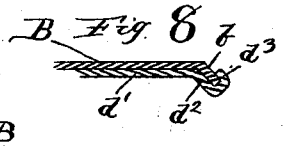


Fig. 7

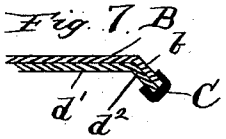
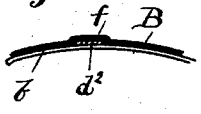


Fig. 9.



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UNITED STATES PATENT OFFICE.

EDWIN NORTON, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND OLIVER W. NORTON, OF SAME PLACE.

VENT-PROTECTOR FOR CANS.

SPECIFICATION forming part of Letters Patent No. 364,665, dated June 14, 1887.

Application filed February 18, 1887. Serial No. 228,023. (No model.)

To all whom it may concern:

Be it known that I, EDWIN NORTON, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Vent-Protectors for Cans, of which the following is a specification.

My invention relates to vent-protectors, or devices for preventing the contents of the filled can from pressing against and stopping up the vent-hole during the cooking, processing, or other treatment of the can. The vent-holes of cans filled with meats, fish, and other solid or semi-solid articles are liable to be closed by the swelling or expansion of the contents of the can during the cooking or processing thereof, thereby arresting the cooking or processing before it is completed, and thus subjecting the can and its contents to injury. In some cases disks of sheet metal properly stamped up to prevent the contents of the can from closing the vent-hole have heretofore been soldered to the cap before the cap is applied to the can. Such protector-sheet requires to be soldered to the cap at two or more points, and the soldering being done by hand they involve considerable expense both in labor and amount of solder required for attaching the protector-sheet.

The object of my invention is to provide can caps or heads with vent-hole protectors of a simple, cheap, and efficient construction, and whereby the solder and labor heretofore required in securing such protectors to the caps may be entirely dispensed with.

To this end my invention consists in the novel form and construction of the vent cleat or protector and in the means employed for attaching or combining it with the can cap or head.

My improved vent cleat or protector is cut out of scrap sheet-tin left from cutting the tops of round cans, and has a triangular or three or more pointed shape, which will permit of one or more points extending outward to the periphery of the can cap or top, and stamped into such form that the flange of the can-cap and that of the vent-protector may be soldered simultaneously at the time the cap or top is soldered to the can. The central portion of my vent-protector is raised, so as to leave an open space between the same and the can-cap, and does not differ materially from those now in common use—that is to say, this central portion is, or should be, so formed as to prevent the contents of the can from closing the vent-opening in the cap or head. The vent-protector has flanges stamped upon its points or projecting parts to correspond to the can cap or top to which it is to be attached. The shape of these flanges will vary in different cans, according to the flanges of their can caps or tops. Where the can-cap is hemmed with a continuous ring or annulus of solder folded over its rim or periphery, my vent-protector is provided at its points with beveled flanges corresponding to the beveled flange of the can-top, and is combined with the can-cap and secured thereto by means of the solder annulus, which is folded over and embraces the points or projecting parts of the vent-protector. This I deem to be the most improved and perfected form of practicing my invention. If the solder annulus is not used, the projecting points of the vent-protector may be folded over the edge or rim of the can-cap.

Where the vent-protector is to be applied to can-tops or heads of cans having a complete open top, and where the can head or top has a vertical flange which fits either inside or outside the can-body, the points of the vent-protector may have similar right-angle or vertical flanges, and fit and be held by friction as an ordinary slip-joint within the flange of the can head or top.

In cans where the head fits outside the can-body, and also where the vent-protector is applied to can caps which fit upon a corresponding flange on the can-head, I provide the can-head or the cap-seat flange of the can-top in such cases with offsets to correspond with the flanged points of the vent-protector to receive such flanged points, so that the head or cap will be flush and smooth and fit closely upon the can-body or the can-cap seat of the top. Such offsets in the can-head or in the flange of the can-head are specially important where the invention is applied to the heads of salmon or fish cans, which are ordinarily soldered up by rolling the filled cans through a solder bath, and which, for this reason, must have their heads fit very close and tight upon the

bodies of the cans. In such cans, if the can-head were not provided with offsets or recesses to receive the flanged points of the vent-protector there would be liability of the heads being forced off during the process of soldering the same.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a plan view of a can-cap provided with my invention. Fig. 2 is a similar view of the can-head, showing the offsets for receiving the flanged points of the vent-protector. Fig. 3 is a central vertical section through the can-head, taken on line 3 3 of Fig. 1. Fig. 4 is a similar sectional view showing a modification. Fig. 5 illustrates the application of the invention to the top or head of an open-ended can. Fig. 6 is a similar view showing the invention where the flange of the head fits inside the can-body; and Fig. 7 is an enlarged sectional view through one of the projecting points of the protector, showing the solder annulus by which the protector is secured to the cap, as illustrated in Fig. 1. Fig. 8 is an enlarged sectional view illustrating the means of securing the protector shown in Fig. 4. Fig. 9 is a detail horizontal section showing the offset to receive the protector-flange.

In said drawings, A represents a can head or top, having the usual bevel flange or seat, *a*, for the can-cap.

B represents the can cap, having the usual bevel rim or flange, *b*.

C is a sheet-solder annulus folded over the rim or flange *b* of the can-cap.

D represents my vent-protector, having a central raised portion, *d*, and three or more projecting points, *d' d' d'*, extending to the rim or periphery of the can-cap or can-head to which it is to be secured. These projecting points *d'* are provided with flanges d^2, adapted to fit upon and be secured to the corresponding flanges of the can-cap or can-head.

As shown in Figs. 1, 3, and 7, the flanges d^2 of the protector are combined with and secured to the flange *b* of the can-cap or can-head by means of the solder annulus C, which is folded over the same.

As shown in Figs. 4 and 8, the flanges d^2 of the protector are turned or folded over the rim or flange *b* of the can-cap. In this case the folds d^3 at the points of the flanges serve as the equivalents of the solder annulus in holding and securing the protector to the cap.

In Figs. 5 and 6 the vertical or right-angle flange *b* of the can-head serves, by its frictional connection with the similar flanges d^2 of the protector, to securely unite and secure the protector to the can-head. As shown in Fig. 5, the folds d^3 at the extreme points of the flanges d^2 give additional security.

F represents the vent-hole in the can cap or head which is to be protected from closing by the vent-cleat D. The vent-cleat D is provided with raised or upturned lips D' D' at the portions intermediate between the projecting points or parts *d' d' d'*.

The protector should be provided with at least three points *d*, and they are preferably located about equally distant from each other circumferentially, so that they will brace each other and form a secure attachment for the protector. The protector-sheet may, however, be provided with a greater or less number of points extending to the periphery of the can-cap or can-head. My protector is best formed from the waste scrap or triangular pieces left from cutting out can-heads from the sheet. These intermediate scrap pieces usually have three projections or points, and sometimes four. The seat for the can-cap on the flange *a* of the can-head is preferably provided with slight offsets or recesses *f*, stamped therein at the time it is made to receive the points or flanges d^2 of the vent-protector, so that the additional thickness or stock at such flanges will not prevent the can-cap from fitting smooth and flush upon the seat or flange *a*. Where the protector is applied to a can-head the flange of which fits outside the can-body, as shown in Fig. 5, the can-head flange is provided with similar offsets, *f*, to receive the flanges of the protector, and thus permit the can-head to fit tight and closely upon the can-body. By this means it will be observed that my protector, being secured to the can-cap or can-head by its projecting points or parts, having flanges secured to the flange of such can cap or head, may be applied to the can simultaneously with the cap and by the same act, and simultaneously soldered in place at the time the can cap or head itself is soldered.

Some of the advantages of my invention may be secured without attaching the vent-protector D to the can cap or head, as the protector and the cap may be separately applied to the can, and then instantaneously soldered in place, the flange d^2 on the projecting portions of the protector serving in such case to center or seat the protector in position.

I claim—

1. The combination, with a can cap or head having a vent-opening and a flange for uniting the head with the can, of a vent-protector having projecting points or parts extending to the periphery or rim of such can cap or head and provided with flanges secured to the flange of the can cap or head, substantially as specified.

2. The combination, with a can cap or head having a vent-opening and a flange for uniting the head with the can, of a vent-protector having projecting points or parts extending to the periphery or rim of such can cap or head and provided with flanges secured to the flange of the can cap or head, the seat for the flanges of such vent-protector being provided with offsets *f* to receive the same, substantially as specified.

3. The combination, with can-head A, hav-

ing can-cap seat or flange *a*, of can-cap B, having flange *b*, vent-protector D, having projecting points or parts *d'* extending to the periphery of the can-cap and provided with flanges d^2, and a solder annulus, C, folded over the rim of said can-cap and said flanges d^2, substantially as specified.

4. The combination, with can-head A, having can-cap seat or flange *a*, of can-cap B, having flange *b*, vent-protector D, having projecting points or parts *d'* extending to the periphery of the can-cap and provided with flanges d^2, and a solder annulus, C, folded over the rim of said can-cap and said flanges d^2, and offsets *f* in said can-cap seat *a*, substantially as specified.

5. The combination, with a can cap or head having a vent-opening and a flange for uniting the head to the can, of a vent-protector, D, having one or more projecting portions, *d'*, extending to the periphery of such can cap or head, and provided with a flange or flanges corresponding with the flange of such can cap or head, so that the vent-protector may be soldered in place at the same time with said cap or head, substantially as specified.

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EDMUND ADCOCK.