

[54] SAUSAGE CASING CLOSURE AND SAUSAGE SMOKING METHOD AND APPARATUS

3,313,424 4/1967 Gingher 211/113
3,342,344 9/1967 Magnuson..... 211/113

[76] Inventor: Joseph J. Frank, 401 Osborne Ave., Brielle, N.J. 08730

Primary Examiner—Nile C. Byers, Jr.
Attorney, Agent, or Firm—Dale A. Bauer

[22] Filed: Sept. 26, 1969

[57] ABSTRACT

[21] Appl. No.: 861,277

A novel closure device for the casing of a sausage or the like, such closure device having a flange at the end thereof remote from the sausage whereby the sausage may be hung upon a smoke stick having a longitudinally disposed dovetail slot adapted to receive the said flanges on the closure devices of a plurality aligned sausages. The method and apparatus for smoking sausages provided with such closure devices are also claimed.

[52] U.S. Cl. 211/113, 99/176

[51] Int. Cl. A47f 5/08

[58] Field of Search 211/113, 123, 162; 99/176, 99/229

[56] References Cited

UNITED STATES PATENTS

2,604,998 7/1952 Arbib..... 211/113 X
3,095,308 6/1963 Rumsey 99/176 X

4 Claims, 5 Drawing Figures

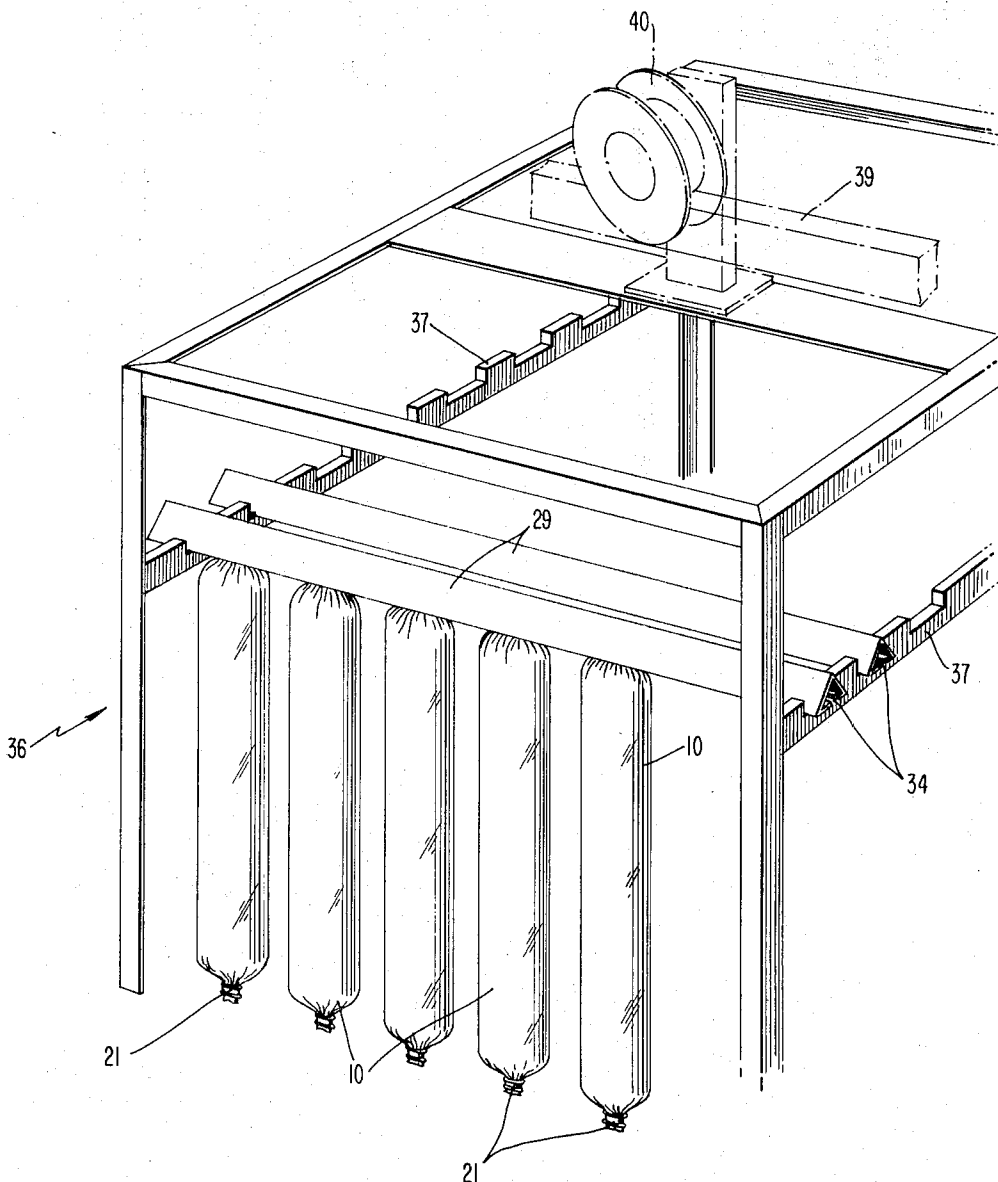


Fig. 1

PRIOR ART

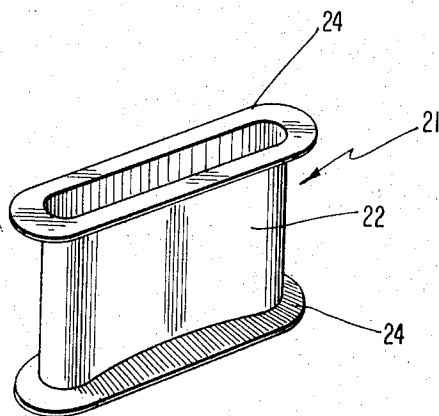
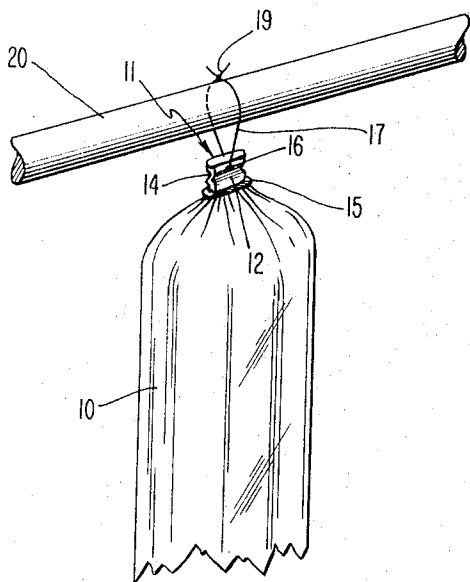
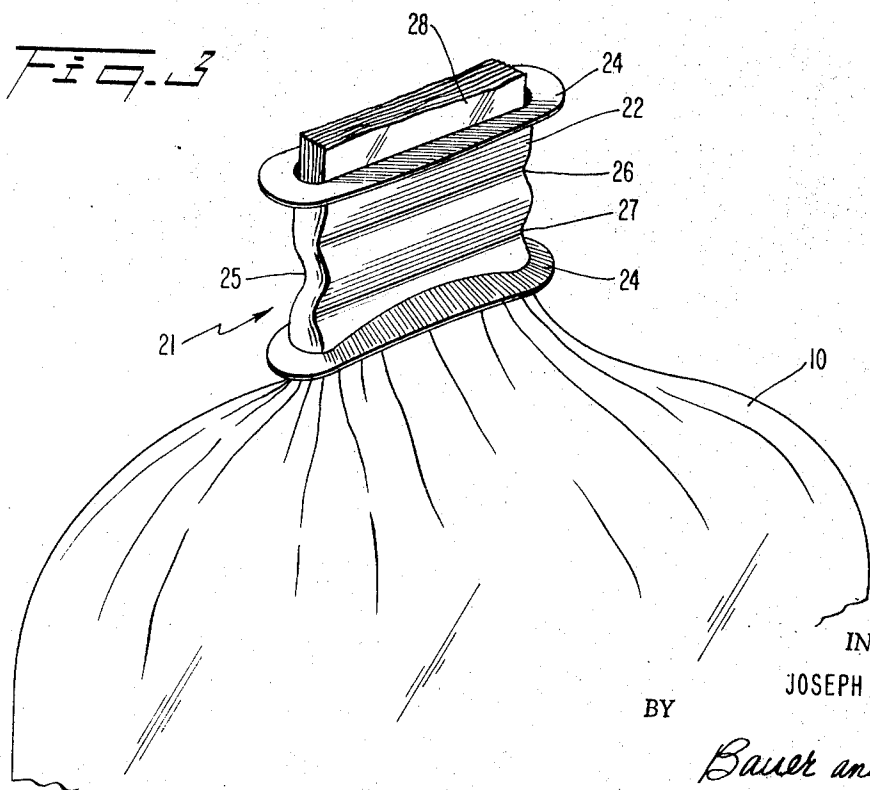


Fig. 2

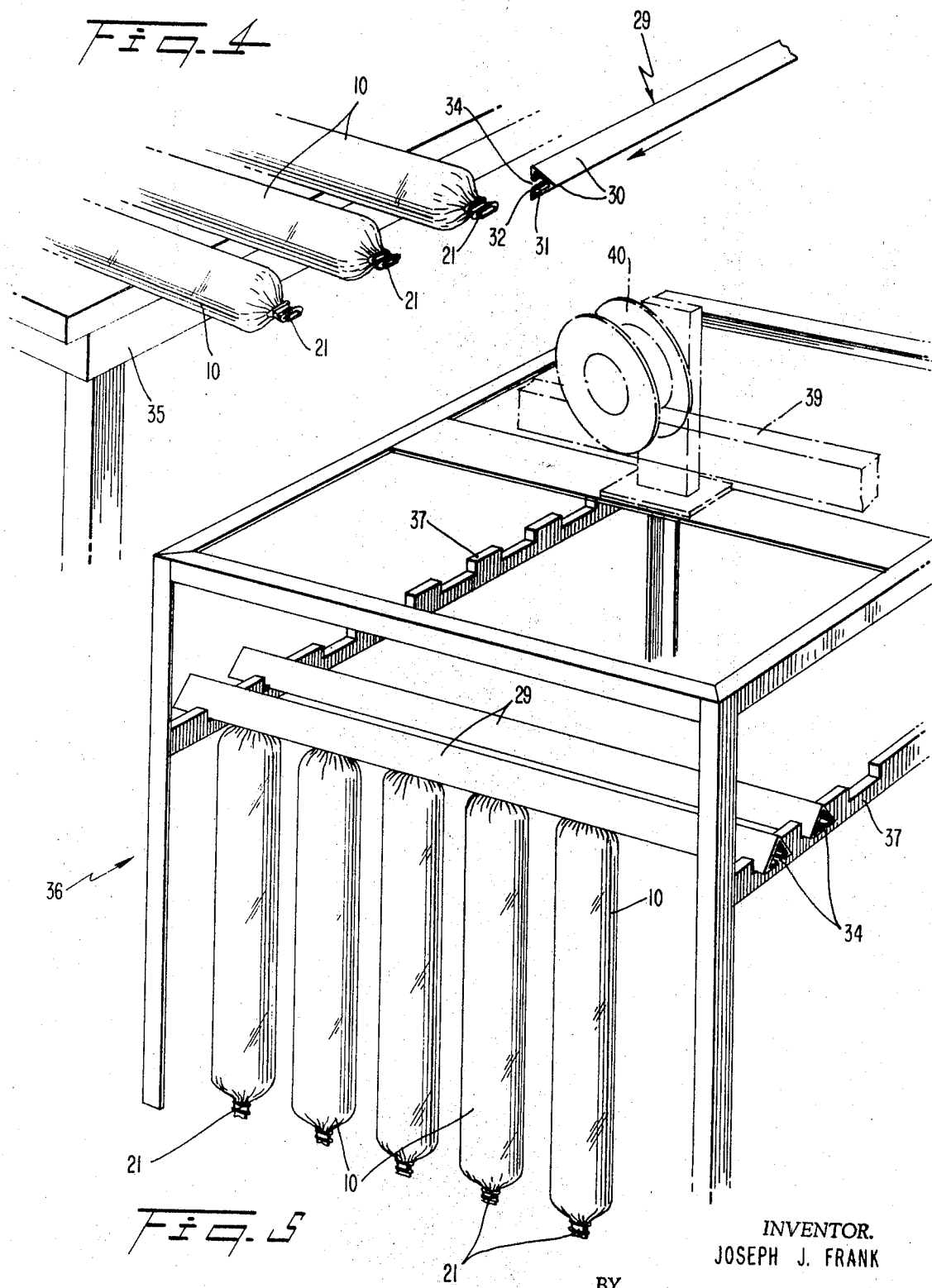
Fig. 3



INVENTOR.
JOSEPH J. FRANK

BY

Bauer and Seymour
ATTORNEYS



INVENTOR.
JOSEPH J. FRANK

BY

Bauer and Seymour
ATTORNEYS

SAUSAGE CASING CLOSURE AND SAUSAGE SMOKING METHOD AND APPARATUS

This invention relates to a closure device for the casing of a sausage or the like, to a method of smoking sausages, and to apparatus for smoking sausages.

In the past, sausages and the like which were to be smoked were provided with cap shaped closures upon the gathered end walls of the sausage casing, the closure being crimped upon such gathered end walls. The closure device not only sealed the end of the casing, but served as a means by which the sausage could be suspended while it was being smoked. In order to permit the sausage to be thus suspended, aligned holes were punched through the sides of the closure device and the gathered wall of the casing simultaneously with the crimping of the closure. A looped cord or string was then threaded through such hole by hand by use of a hooked needle, following which the free ends of the cord were knotted together, the cord forming a loop on the side of the closure opposite from the knot. Alternatively the cord was first knotted, and the bight of the looped cord was then pulled through the hole. An elongated support called a "smoke stick," in the form of a rod or the like, was then threaded through the loops on a plurality of aligned sausages until the smoke stick became loaded, following which the smoke stick was mounted in a rack called a "smoke tree." When the smoke tree became filled with smoke sticks, it was moved into an oven or enclosure in which the sausages were smoked.

The described closure device, method of smoking sausages, and apparatus for smoking sausages have a number of marked disadvantages. The installation of the looped cords or strings on the punch prior closures was unduly time consuming. Even after the cord loops had been installed on the closures on stuffed sausages, and a plurality of such sausages had been placed in alignment on a table, it was difficult to thread a smoke stick through the cord loops since the cords were always wet, and the cords sometimes twisted or pigtailed; thus many of the cord loops required considerable individual, time-consuming attention, before a smoke stick could be filled.

The closure device, method, and apparatus in accordance with the invention overcome the above-outlined disadvantages of the prior art. The closure device does not require the formation of a hole through it; consequently the crimping dies are simpler, cheaper, and have a much longer useful life before requiring servicing. The closure device is suspended directly by engagement of a flange thereon with a novel smoke stick, thereby eliminating the need for cord loops secured to the closures. As a consequence, 1200 new closures can be attached to sausage casings in the time which it took to crimp 450 prior closures to sausage casings and to secure a cord loop to each of them. The closure of the invention costs little if any, more than the described prior closures; the smoke stick for cooperation with the new closures also costs little if any more than prior smoke sticks.

The above and further objects and novel features of the invention will more fully appear from the following description when the same is read in connection with the accompanying drawings. It is expressly to be understood, however, that the drawings are for the purpose

of illustration only, and are not intended as a definition of the limits of the invention.

In the drawings, FIG. 1 is labelled "Prior Art."

FIG. 1 is a fragmentary somewhat schematic view in perspective of a hanging sausage provided with a prior art closure device;

FIG. 2 is a view in perspective of a closure device in accordance with the present invention;

FIG. 3 is a fragmentary view in perspective of the upper end of a sausage having a closure device in accordance with the invention clinched upon its upper end;

FIG. 4 is a fragmentary view in perspective of a novel smoke stick, the view showing the manner of loading of the sausages of FIG. 3 upon the smoke stick; and

FIG. 5 is a fragmentary view in perspective of a smoke tree or rack into which filled smoke sticks are loaded.

In FIG. 1 a large sausage or bologna 10 is shown provided on its upper end with a prior art closure device 11 in the form of a cap having a closed upper end. Device 11, which is drawn from sheet metal, has a hollow barrel 12 of rectangular cross section which is crimped at 14 to the gathered side wall of the upper end of the sausage casing in order to seal the casing and to permit closure device 11 to be used as a part of the means supporting the sausage during the smoking operation. The device 11 has a flange 15 on its lower end which engages the upper bulging end of the sausage casing to prevent the cutting of the casing by the closure device.

To permit the sausage to be hung from the closure device 11, a hole 16 is punched through the opposing side walls of the barrel 12 and the gathered wall of the sausage casing held therebetween. The hole 16 is usually formed by parts of the same dies which perform the crimping operation. A hanging cord or string, shown here for simplicity as a loop 17 having a knot 19, is usually secured to the device 11 by knotting the free ends of a predetermined length of cord together to form a loop 17, and then pulling the bight of the loop through hole 16 with the aid of a hooked needle. A plurality of stuffed sausage casings with thus prepared closure devices 11 and loops 17 are then laid upon a table in alignment, and a smoke stick 20 is thrust through the loops 17 in sequence of a predetermined number of sausages to load the smoke stick. The loaded smoke stick is then suspended in a rack or smoke tree, the smoke tree when loaded with a plurality of smoke sticks being transported to an oven or enclosure for the smoking of the sausages.

The novel sausage closure device 21 of the invention is shown in its unapplied, uncrimped condition in FIG. 2. Device 21, which is made of metal, is generally spool-shaped, having a thinwalled barrel 22 with two similar parallel flanges 24 on the respective ends of the barrel. The device 21 is thus at least generally symmetrical end-to-end and may be applied in either direction to the gathered side wall of the sausage at its filling end. The barrel 22 may be said to be generally rectangular, in cross section being longer than it is wide. The longer of the sides of the section are parallel, and are joined by end walls which are generally part-circular. The flanges 24 have outlines in end elevation which at least substantially parallel the outer walls of the barrel 22.

FIG. 3 shows a closure device 21 after it has been crimped or clinched upon the end of a sausage casing,

such end being in this instance the end of the casing opposite that through which it was stuffed. The gathered end of the sausage casing extends into the barrel of the closure device, where it is sealed and firmly gripped by the inner wall of the barrel at a transverse crimp or indentation 25 in one wall of the barrel and upper and lower transverse indentations 26 and 27 on the other wall of the barrel. The gathered casing extends beyond the closure device 21 at 28. This allows an operator readily to see that the closure device is correctly applied on the casing, a fact difficult to ascertain when the gathered wall of the casing extends into a closed end cap, as with the prior art closure device 11. Further, the protruding end 28 of the gathered sausage casing may be gripped if desired, as in the closing of the end of the casing through which the sausage is stuffed, to tighten the stuffed sausage against the flange of the closure device closer thereto before the clinching of the latter. It is to be understood, however, that in the practice of the method of the present invention it is necessary only that one end of the sausage be provided with a closure device in accordance with the invention.

After a plurality of sausages 10 provided on at least one end with a closure device 21 have been stuffed and sealed, they are laid upon a table 35 in aligned parallel relationship as shown in FIG. 4. A smoke stick 29 is then moved along the edge of the table in the direction of the arrow so as operatively to engage the closure devices 21 of successive sausages. The smoke stick 29 in the embodiment shown is generally of isosceles triangle cross-section, being bent from an elongated plate of metal; the stick has a central longitudinal fold from which opposite diverging walls 30 depend. From the bottom edges of walls 30 the metal extends inwardly in two similar horizontal flanges 31 which present a slot 34 between their confronting edges of a width sufficient loosely to receive the crimped barrel 22 of a closure device 21 but substantially less than the total width of the device 21 measured between the outer edges of a flange 24 on the opposite longer sides of the closure device. The thickness of the flanges 31 is substantially less than the axial length of the barrel 22 of closure device 21, so that device 21 is readily receivable in the smoke stick. When a sausage depends from and is supported by a smoke stick 29, the upper flange 24 of the closure device 21 rests upon the flanges 31 of the smoke stick and sustain the weight of the sausage. At at least one end, and preferably at both ends of the smoke stick 29 the flanges 31 are rounded as shown at 32 to facilitate the entry of the barrels 22 of the closure devices 21 between them. The smoke stick 29, as well as the closure devices 21, are preferably made of stainless steel; this is particularly important in the case of the smoke stick, which is used repeatedly over long periods, since it is subjected to oxidizing conditions when in use. It will be understood that smoke sticks of other configurations, such as sticks having a longitudinally extending dovetail or T-shaped slot milled therein to

receive the barrel and a flange of the closure device 21, may be employed if desired in place of the sticks 29.

After a smoke stick 29 has received a predetermined desired number of sausages 10, such that the sausages will be spaced from each other when they hang vertically from the stick, the filled smoke stick is lifted in horizontal position and carried to a rack or "smoke tree" 36 (FIG. 5) provided with spaced parallel longitudinal supports 37 having opposed pairs of notches or seats on their upper edges. Supports 37 are spaced apart a distance which is somewhat less than the length of the smoke sticks 29, so that the filled smoke sticks may be supported on the smoke tree with their ends in the respective notches in supports 37. After the placement of a filled smoke stick on the smoke tree, the spacing of the sausages on the smoke stick may be readily adjusted by sliding the closure devices 21 along the stick. The metal-to-metal engagement between smoke stick and closure device makes it easy to make the required adjustment. Cord loops, on the other hand, frequently tended to stick on the smoke stick, and thus required more time to adjust when necessary. After the smoke tree has been filled with loaded smoke sticks, it is moved into a smoking enclosure or oven by means, for example, of a monorail conveyor which is schematically shown as having a roller 40 connected to the smoke tree, the roller riding upon a horizontal rail 39 leading to the smoke oven.

What is claimed is:

1. Apparatus for suspending a sausage having a casing in vertical position, comprising a closure device for closing and sealing the upper end of the casing, said device having means receiving and crimped upon the gathered upper end of the casing, a flange on the device spaced above the body of the sausage, and an elongated supporting member having a longitudinally extending dovetail slot therein with the larger part of the slot disposed uppermost, the slot receiving the upper end of the closure device including the flange therewithin, whereby the sausage is suspended from the flange.
2. Apparatus according to claim 1, wherein the closure device has a second flange coaxial of and spaced from the first flange, the second flange engaging the body of the sausage at its upper end, the closure device having a hollow barrel between the flanges receiving and crimped upon the gathered upper end of the casing, the barrel of the closure device lying within the lower, smaller portion of the slot in the supporting member.
3. Apparatus according to claim 1, wherein the elongated supporting member is in the form of an elongated plate bent so that its transverse section is of generally isosceles triangle shape, the base of the triangle being centrally divided by a longitudinal slot.
4. Apparatus according to claim 1, wherein the elongated supporting member is a smoke stick suspending a plurality of sausages, and comprising a smoke tree supporting a plurality of such loaded smoke sticks.

* * * * *