

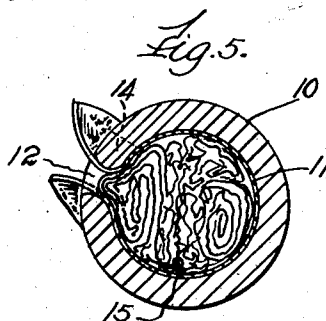
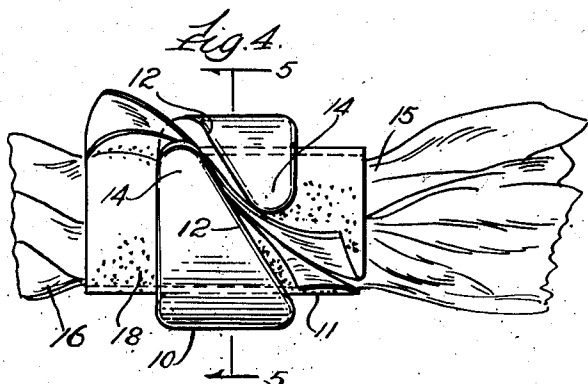
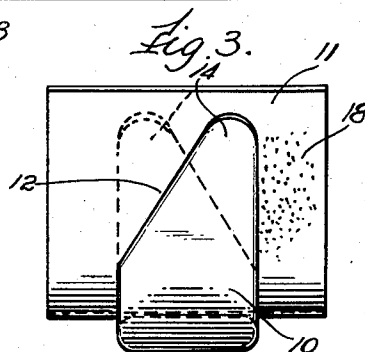
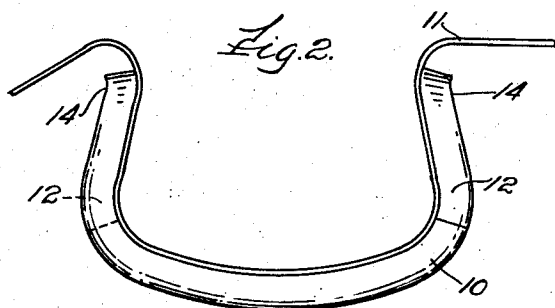
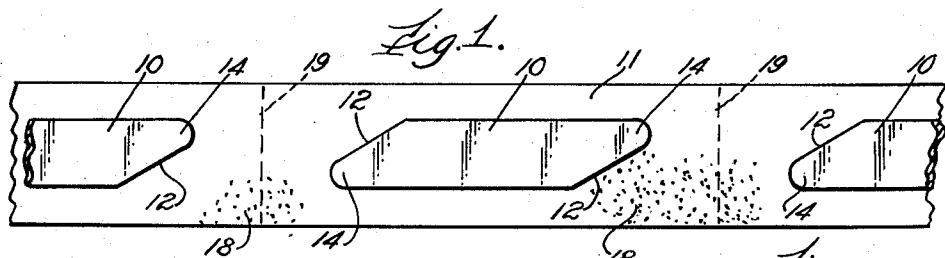
Oct. 14, 1958

D. P. SMITH
POULTRY BAG CLIP

2,855,647

Filed Oct. 25, 1954

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

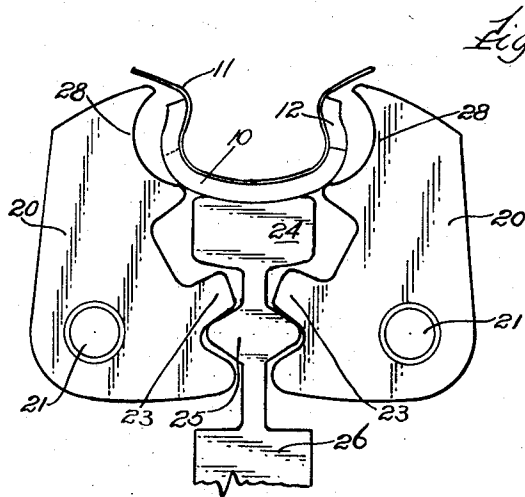


Fig. 7.

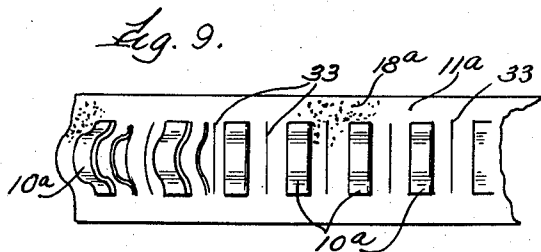
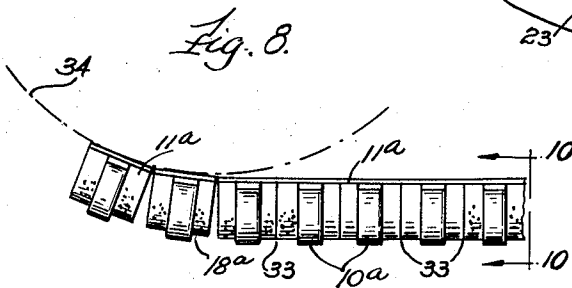
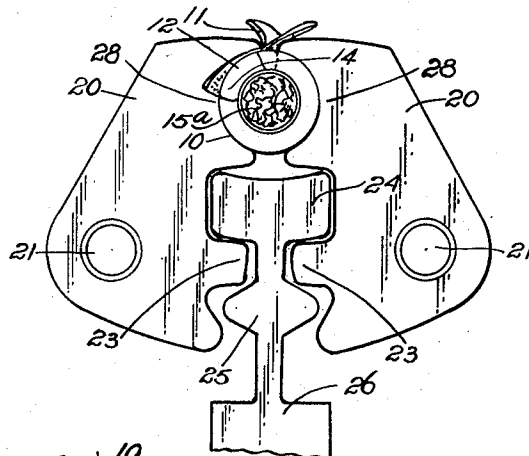


Fig. 10.

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2,855,647

POULTRY BAG CLIP

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6 Claims. (Cl. 24—30.5)

The present invention relates to clip devices for closing and sealing the open end of a bag, such as a bag used for enclosing poultry, meats and the like. Bags for such use are usually made of suitable synthetic plastic material, such as polyethylene.

After poultry or other food products to be bagged are installed in the bag, a vacuum is applied to the bag for removing air therefrom. After evacuation of air from the bag, the open end portion thereof is crimped together and twisted and a suitable clip device is applied to the twisted portion for closing and sealing the bag against entrance of air. In some instances, the bag and contents are then immersed in hot water to shrink the bag and cause it to closely and snugly conform to the shape of the contents thereof. Such form of packaging foodstuffs helps to insure preservation and maintenance of proper appearance of the foodstuffs, as well as providing a high degree of sanitation.

Heretofore, suitable clip devices formed entirely of ductile metal have been extensively employed. All of such prior devices are constructed and arranged so that the metal of the clip is in direct contact with the twisted open end portion of the bag. Due to the form of such devices and the manner of application, it frequently happens that the clips cut into or tear the bag, sometimes in a manner which is not noticeable unless the clip device is removed. Some prior clip devices are so constructed that in the process of applying to the bag, the free ends of the clip are pressed toward each other into approximate abutting relation and it frequently happens that the bag's seal is ruptured by a portion of the bag being pinched between the two ends of the clip, incident to application to the bag. Such impairment of the bags results in breaking the vacuum and permits air to enter the bag into direct contact with the foodstuffs therein and thereby destroying the advantages of employing vacuum-type sealed bags for foodstuffs.

A primary object of the present invention is to provide a novel clip device of the character indicated, which substantially eliminates entirely the possibility of damaging the bag incident to the clip device being applied to the twisted open end portion of the bag.

Another object of the present invention is to provide a novel form of clip device of the character indicated, having a ductile metal encircling band, provided with a lining in the form of a strip of flexible sheet material adapted, when the device is in applied position, to directly contact and surround the twisted portion of the bag and thereby protect the bag against direct contact by the metal portion of the clip device.

A further object is to provide a novel clip device of the character indicated, having a ductile metal member adapted for encircling the twisted end portion of a bag, and a lining strip of flexible sheet material secured to the inner surface of the metal member and having portions extending beyond the ends of said member and adapted for directly contacting and surrounding the twisted por-

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tion of the bag and protecting the bag against direct contact by the metal member of the clip device.

Still another object of the present invention is to provide a novel form of clip devices adapted to be produced in the form of a continuous strip comprising a multiplicity of interconnected clip devices.

Other objects and advantages of the present invention will be apparent from the following description, taken in connection with the accompanying drawings, in which:

Figure 1 is a plan view illustrating a preliminary operating step in producing clip devices embodying the present invention;

Figure 2 is an enlarged end elevational view of a clip device embodying the present invention;

Figure 3 is a side elevational view of the clip device;

Figure 4 is an enlarged view showing the clip device embodying the present invention applied to the twisted open end portion of a bag;

Figure 5 is a cross-sectional view through the clip device, taken substantially as indicated at line 5—5 on Figure 4;

Figure 6 illustrates, more or less diagrammatically, a suitable closure device for applying clip devices embodying the present invention to the twisted open end portion of a bag;

Figure 7 is a view similar to Figure 6, showing the closure device in another position of adjustment, after completion of the operation of forming the clip for embracing the twisted open end portion of the bag;

Figure 8 shows a modified form of clip device in the form of a continuous strip comprising a series of clip devices, embodying the present invention, in connected relation;

Figure 9 is a top plan view of the strip of interconnected clip devices seen in Figure 8;

Figure 10 is an end view, taken as indicated at line 10—10 on Figure 8.

The clip devices embodying the present invention each comprise an elongated ductile metal member 10, secured to a lining strip of flexible sheet material, indicated at 11. The members 10 may be made of any suitable, deformable, metallic material, such as aluminum. The opposite ends of the metallic member 10 are cut on a bias, as indicated at 12, forming oppositely disposed tongue portions 14, in opposed relation to each other, so that when the member, together with the lining strip 11, is formed as seen in Figure 2, and subsequently applied for complete encirclement of the crimped, twisted open end portion 15 of a bag 16, said tongues 14 are disposed in aligned side-by-side relation as seen in Figure 4 of the drawings, so that the metallic member actually completely surrounds the twisted portion of the open end of said bag.

The flexible strip 11 may be of any suitable material, such as paper. As seen in Figure 1 of the drawings, the face of the flexible strip 11, against which the flat metallic members 10 are seated, is coated with a suitable, heat-sensitive adhesive, as indicated at 13. After the members 10 are produced in the form seen in Figure 1, heat is applied, by a heated shoe or the like, to said members as they are fed in spaced apart relation on the heat-sensitive coating of the strip 11 and thereby become firmly secured thereto. The strip 11 containing the members 10 thereon, may then be severed in suitable lengths, such as indicated at dotted lines 19, prior or subsequent to the formation of the clip in the form of an upwardly open trough or U-shaped contour, as seen in Figure 2 of the drawings. As may be seen in the drawings, the flexible strip sheet material 11 constitutes a lining for the inner surface of the metallic members 10, with portions of the strip 11 extending a substantial amount beyond each end and each side of said members.

The clips, when formed as seen in Figures 2 and 3 of the drawings, may then be applied to the twisted or crimped portion 15 of the plastic bag 16 by any suitable apparatus. In Figures 6 and 7 of the drawings, I have illustrated a suitable type of closure device for this purpose and which comprises a pair of jaws 20, pivotally mounted at 21. Said jaws are formed with cooperating inwardly extending lugs 23, positioned to coact with a supporting head 24, and cam member 25, carried on a vertically movable member 26. The upper surface of the head 24 is arcuately formed to conform to the contour of the bottom of the clip member 10, as seen in Figures 2 and 7 of the drawings, so as to provide initial proper support for the clip device preparatory to being used. When the clip device is positioned as seen in Figure 7 of the drawings, the crimped, twisted open end portion 15 of the bag is placed within the clip device, and the operating member 26 is moved downwardly, causing the jaws 20 to swing about their pivots 21 so that their upper portions, as indicated at 28, engage and shape the metallic member 10 in a generally circular form, in full surrounding relation to the twisted portion 15 of the bag, as seen in Figure 8, with the tongue portions 14 of the member 10 disposed in overlapping, side-by-side relation, as seen in Figure 4 of the drawings. It is to be noted that the flexible strip 11, constituting the liner for the metallic member 10, extends a substantial distance beyond each end and each side of the metallic member 10, so that when the clip device is in final operative position for closing and sealing a bag, the extending portions of the lining strip 11 protect against all portions of the metallic member 10 from coming in direct contact with the twisted portion 15 of the bag 16 and thereby guard against possible cutting, tearing or damaging the bag. Furthermore, because of the provision of the lining strip 11, it will be apparent that in the zone where the tongue portions 14 of the member 10 overlap in encircling the twisted open end portion of the bag, said lining prevents against pinching of the bag by direct engagement with portions of the member 10. Thus, the construction substantially eliminates all possibility of damage or injury to the bag after it has been subjected to vacuum.

A currently used form of clip device comprises a single band of metal, which is initially of elongated form and is subsequently formed generally of U-shape, and finally, by the use of suitable closure devices, it substantially surrounds a twisted portion of the upper end of a bag. The ends of the clip device, in process of application, are caused to be folded back upon themselves. Due to the rounded contour extending from the inner surface of the clip to the external surface of the folded over end portions, there is a tendency to form a bight between which portions of the twisted portions of the open end of the bag are pinched, which frequently results in tearing or damaging the bag so as to preclude obtaining the desired sealing effect by the use of the clip device.

For convenient use of clip devices embodying the present invention in conjunction with suitable closure devices, I have illustrated in Figures 8-10 a modification of my invention wherein a series of clip devices are arranged in interconnected relation for convenient handling and feeding as a strip into a suitable closure device. As seen in Figures 8-10, a strip of flexible sheet material, indicated at 11a, has its upper surface provided with a heat-sensitive adhesive coating 18a, on which is superimposed in longitudinally spaced apart relation and extending transversely of the strip 11a, a plurality of metallic members 10a of the form seen in Figure 1 of the drawings. The strip containing members 10a is then fed into a suitable die for forming the metallic members 10a and portions of the lining strip 11a to the form as seen generally in Figures 8-10 of the drawings. The strip 11a is provided with slits 33, substantially centrally between adjacent metallic members 10a, so that an interconnected series of clip devices in strip form, as seen in Figures 8 and 9, may be conveniently handled and fed

to a suitable closure device, wherein the continuous strip may be caused to follow a curved path, as indicated at 34 in Figure 8 of the drawings. By virtue of the slits 33, the outer marginal portions of the strip 11a in alignment with the slits constitute hinge portions so as to permit clip devices to articulate with respect to each other in process of following a curved path of travel, preparatory, to being severed one by one, at a plane in alignment with the slit 33, and applied to the twisted open end portion of bags.

While I have herein shown and described certain preferred embodiments of my invention, manifestly it is capable of modification and rearrangement of parts without departing from the spirit and scope thereof. I do not, therefore, wish to be understood as limiting this invention to the precise embodiments herein disclosed, except as I may be so limited by the appended claims.

I claim:

1. A clip device for encircling and closing the open end of a poultry bag or the like, comprising an elongated member of ductile metal, and a lining strip of flexible material secured to one face of the member and extending beyond the ends of said member, said member and strip being of trough shape formation, with the strip positioned on the inside of the member, for the initial reception of a contracted open end of a bag therein, preparatory to final closing and encirclement of said open end of the bag.

2. A clip device for encircling and closing the open end of a poultry bag or the like, comprising an elongated member of ductile metal, and a lining strip of flexible material secured to one face of the member and extending beyond the ends of said member, said member and strip being of trough shape formation, with the strip positioned on the inside of the member, for the initial reception of a contracted open end of a bag therein, preparatory to final closing and encirclement of said open end of the bag, the ends of said member being oppositely cut on a bias, forming tapered tongues, whereby, when said clip device is positioned in encircling relation to the open end of the bag, said tapered tongues register in a side-by-side relation.

3. A clip device for encircling and closing the open end of a poultry bag or the like, comprising an elongated member of ductile metal, and a lining strip of flexible material secured to one face of the member and extending beyond the ends and side edges of said member, said member and strip being of trough shape formation, with the strip positioned on the inside of the member, for the initial reception of a contracted open end of a bag therein, preparatory to final closing and encirclement of said open end of the bag.

4. A clip device for encircling and closing the open end of a poultry bag or the like, comprising an elongated member of ductile metal, and a lining strip of flexible material secured to one face of the member and extending beyond the ends and side edges of said member, said member and strip being of trough shape formation, with the strip positioned on the inside of the member, for the initial reception of a contracted open end of a bag therein, preparatory to final closing and encirclement of said open end of the bag, the ends of said member being oppositely cut on a bias, forming tapered tongues, whereby, when said clip device is positioned in encircling relation to the open end of the bag, said tapered tongues register in a side-by-side relation.

5. A series of clip devices in interconnected form, adapted to be separately severed for individual use for encircling and closing the open end of a poultry bag or the like, comprising an elongated strip of flexible material, and a multiplicity of longitudinally spaced apart, elongated members of ductile metal positioned transversely of and secured to said strip and being positioned with their ends spaced inwardly from the marginal edges of said strip, said members and the portions of the strip registering therewith being shaped to provide a trough-

like formation, extending longitudinally of the strip, and with said portions of the strip positioned on the inside of said members.

6. A series of clip devices in interconnected form, adapted to be separately severed for individual use for encircling and closing the open end of a poultry bag or the like, comprising an elongated strip of flexible material, and a multiplicity of longitudinally spaced apart, elongated members of ductile metal positioned transversely of and secured to said strip and being positioned with their ends spaced inwardly from the marginal edges of said strip, said members and the portions of the strip registering therewith being shaped to provide a trough-like formation, extending longitudinally of the strip, and with said portions of the strip positioned on the inside of said members, said strip, intermediate each set of adjacent members, being transversely slit, intermediate the width of the strip, whereby said combined strip and mem-

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bers in connected form may be caused to follow an arcuate path in process of being used.

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