Aug. 18, 1959 O. GEBHARDT 2,899,785

APPARATUS FOR AND METHOD OF CLAMPING THE ENDS OF BAGS FOR HAMS, SAUSAGES OR THE LIKE

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FIG. 1.

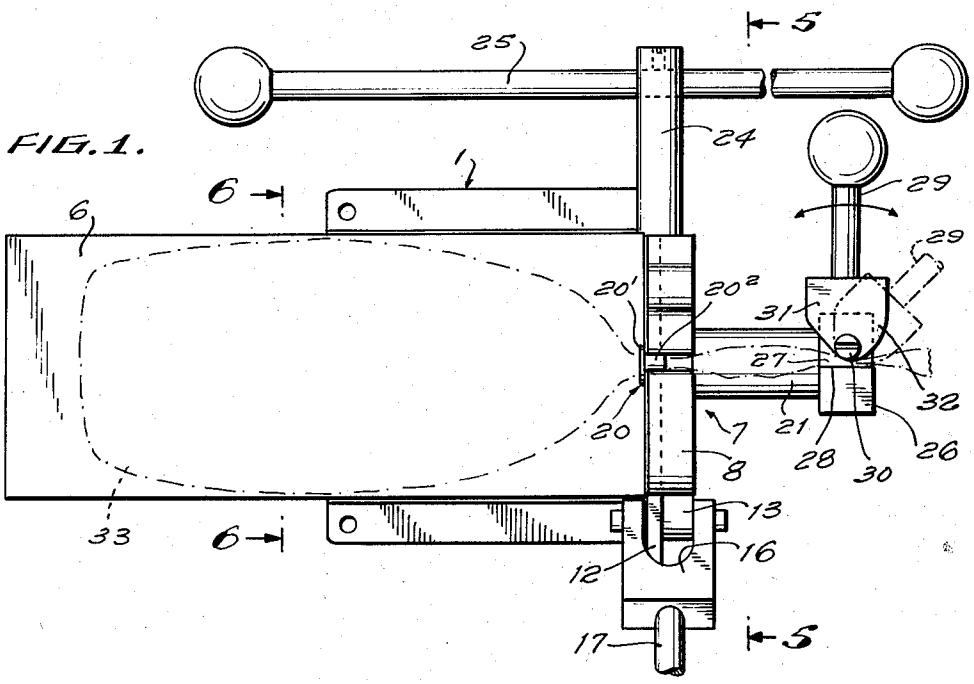
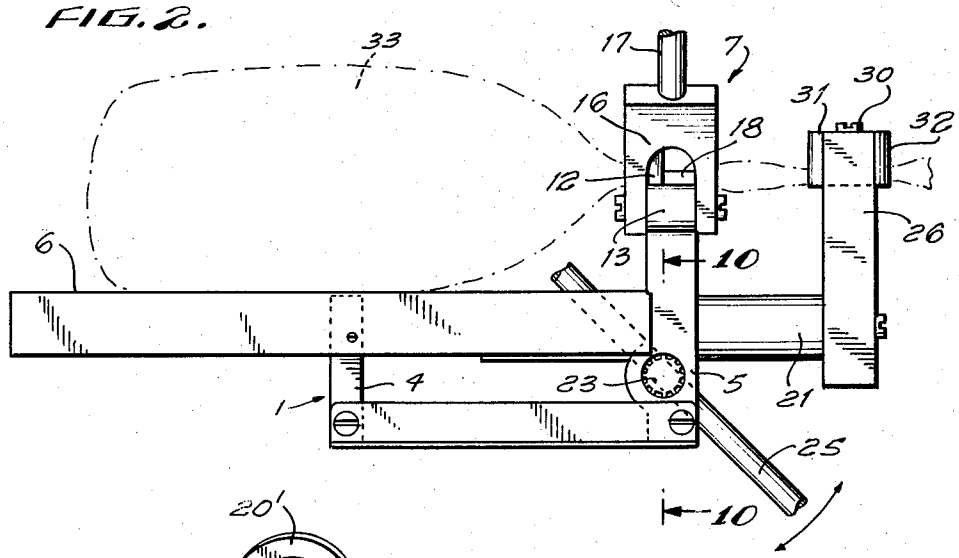


FIG. 2.



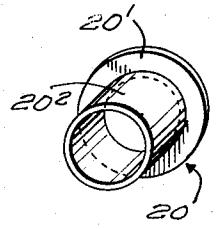


FIG. 12.

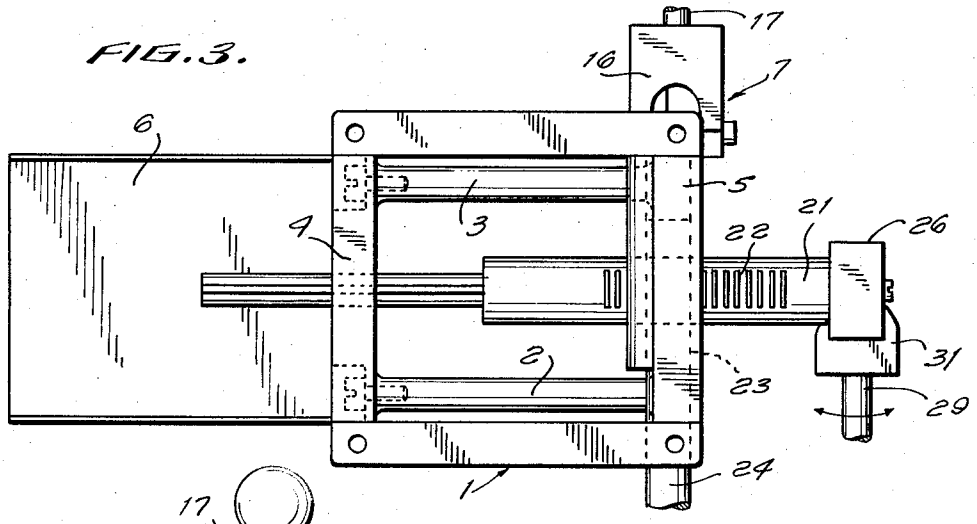
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FIG. 3.



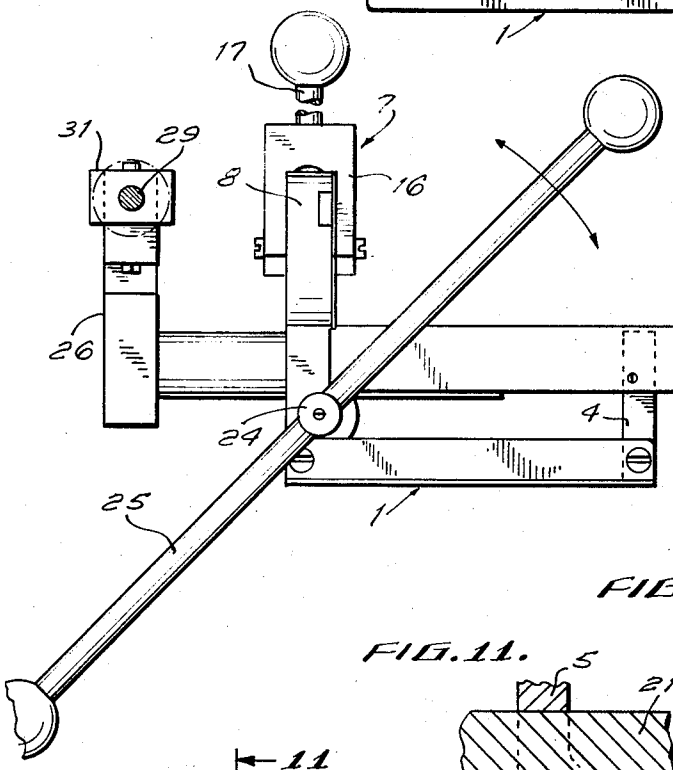


FIG. 4.

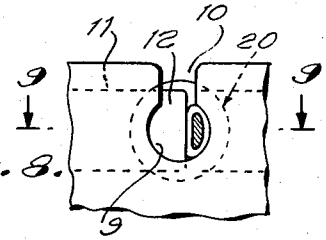


FIG. 8.

FIG. 11.

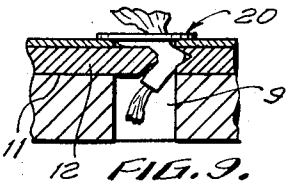


FIG. 9.

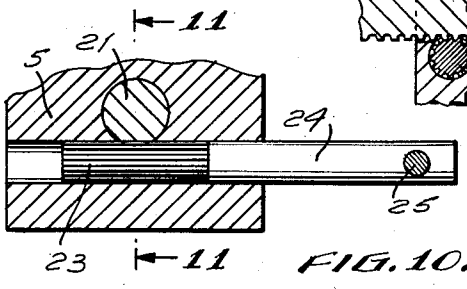


FIG. 10.

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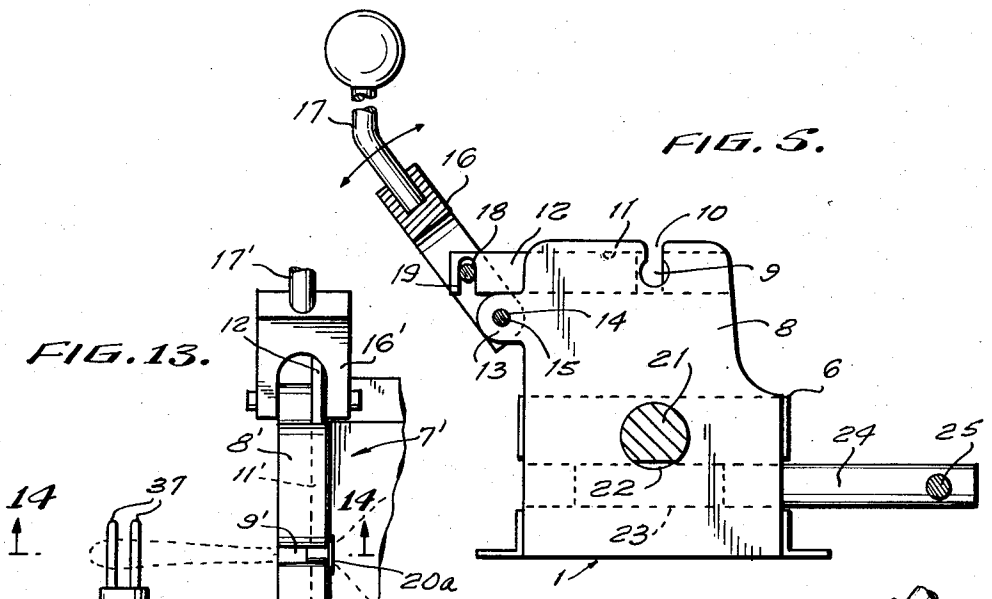


FIG. 5.

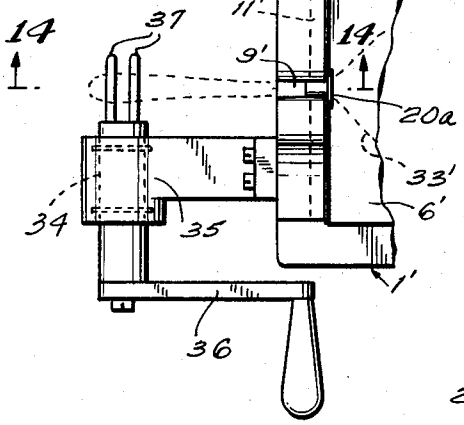


FIG. 13.

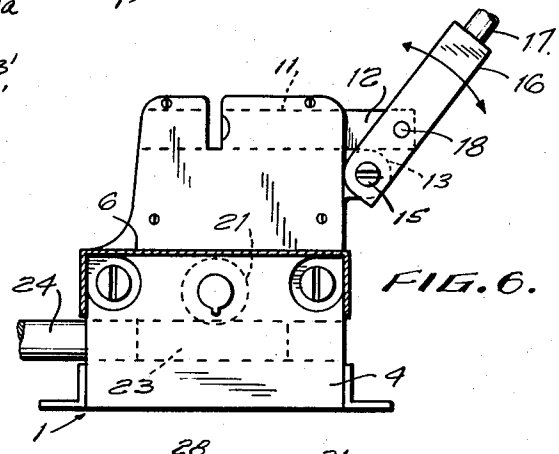


FIG. 6.

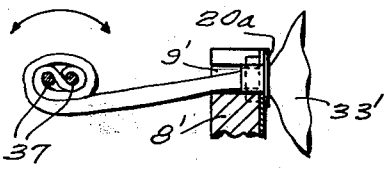


FIG. 14.

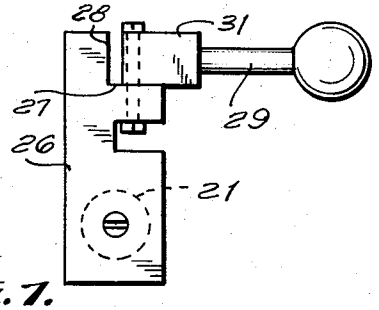


FIG. 7.

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APPARATUS FOR AND METHOD OF CLAMPING THE ENDS OF BAGS FOR HAMS, SAUSAGES OR THE LIKE

Otto Gebhardt, Douglaston, N.Y.

Application March 23, 1954, Serial No. 418,183

3 Claims. (Cl. 53—124)

The present invention relates to an apparatus for and a method of clamping the ends of bags for hams, sausages or the like.

It is very well known that it is required to put hams, sausages or similar foods into bags or casings and to tie the ends of such bags or casings in such tight manner that an appreciably high pressure developed during the treatment of the hams or sausages will be sustained without opening the ends of the bags or casings. It has been proposed before to use string, cord or the like to tie the ends of the bags or casings safely together, yet it has been found that such means are not only insufficient but require labor which makes the entire procedure uneconomical.

It is, therefore, one object of the present invention to provide an apparatus for and a method of clamping the ends of bags for hams or sausages by mechanical means which permit of the clamping of the ends of the bags or casings within a time period which is only part of the period required for manual operation.

It is another object of the present invention to provide an eyelet through which the ends of the bags or casings are threaded and to provide means for pulling the bag with the ham or sausage enclosed therein towards the eylet to bring about a close engagement therewith, and then to provide additional means for clamping together the eyelet while the end of the bag or casing is disposed therein, in order to retain the end of the bag or casing in clamped position.

It is still another object of the present invention to provide a platform on which for instance a ham rests and a device for holding the extreme end of the bag or casing by friction and a rack gear for moving the said holding device away from the ham and its surrounding bag, and finally means for clamping an eyelet against the end portion of the bag or casing threaded therethrough.

It is yet another object of the present invention to provide a clamping device for clamping together an eyelet having the end of the bag or casing threaded therethrough and a forked member disposed spaced apart from the clamping device and having a crank for turning the forked member to wind the end of the bag or casing thereon, so that when sufficient stress is exerted on the end of the bag or casing, the clamping device may be operated for clamping together the eyelet with the end portion of the bag being threaded therethrough.

It is also a further object of the present invention to provide a method for clamping together the ends of bags or casings by threading an eyelet over the end thereof, gripping the extreme end of the bag and putting the entire bag through the stationary eyelet, the latter being positioned in a clamping device and finally clamping together the opposite portions of the eyelet together with the end portion of the bag or casing threaded therethrough while being in a stressed position.

With these and other objects in view, which will become apparent in the following detailed description, the present invention will be clearly understood in connection with the accompanying drawings in which:

Figure 1 is a top plan view of the present apparatus;
Fig. 2 is a front elevation thereof;

Fig. 3 is a bottom plan view of the present apparatus;
Fig. 4 is a rear elevation of the apparatus;
Fig. 5 is a section along the lines 5—5 of Fig. 1;
Fig. 6 is a section along the lines 6—6 of Fig. 1;
Fig. 7 is a fragmentary end view of the gripping device;
Fig. 8 is a fragmentary elevation of the clamping member;
Fig. 9 is a section along the lines 9—9 of Fig. 8;
Fig. 10 is a section along the lines 10—10 of Fig. 2;
Fig. 11 is a section along the lines 11—11 of Fig. 10;
Fig. 12 is a perspective front view of an eyelet;
Fig. 13 is a fragmentary top plan view of a second embodiment of the present apparatus; and
Fig. 14 is a section along the lines 14—14 of Fig. 13.

Referring now to the drawings and in particular to Figs. 1 to 11, the present apparatus comprises a framework 1 consisting of two longitudinally disposed portions 2 and 3 which connect two crosswise disposed portions 4 and 5, the latter supporting a platform 6 which is adapted to receive a ham, sausage or the like during the clamping operation for its bag or casing.

A clamping device 7 is disposed at one end of the platform 6, which clamping device comprises an upwardly extending portion 8 which is equipped with a substantially circular recess 9, from which recess 9 an upwardly extending slot 10 provides an opening for the recess 9.

As particularly clearly shown in Fig. 5, the upper part of the portion 8 forms a guide 11 to receive a clamping tool 12 which may reciprocate in the guide 11. The rear end of the portion 8 has a forked projection 13, the latter having a central opening 14 for the purpose to receive a pin 15, which operates as a pivot for a lever 16 which terminates in a handle 17. The lever 16 has intermediate its ends a sidewardly projecting pin 18 which extends into a vertical slot 19 arranged adjacent the rear end of the clamping tool 12. Upon turning the lever 16 upon its pivot 15, the clamping tool 12 reciprocates in its guide 11 and permits the clamping of the cylindrical portion of the eyelet 20 (Fig. 12).

The crosswise disposed portions 4 and 5 of the frame 1 form a bearing for a longitudinally arranged rack bar 21 which carries teeth 22 at its bottom portion which mesh with a pinion 23 of a crosswise disposed shaft 24 which is turnably but axially immovably disposed in the crosswise disposed portion 5 of the frame 1. One end of the shaft 24 carries a crank or a double armed handle 25, so that upon turning the handle 25 the shaft 24 will turn upon its own longitudinal axis and advance or withdraw the rack bar 21 relative to the platform 6.

The outer end of the rack bar 21 is equipped with a gripping device for gripping the extreme end of a bag containing the ham and any suitable device may be used for this purpose. A preferred embodiment of such gripping device is shown in the drawings and comprises substantially a post 26 secured to the front end of the rack bar 21 for simultaneous reciprocating movement with the latter. The top of the post 26 forms a horizontal base portion 27 and an adjacent vertical wall portion 28. A hand lever 29 is pivoted to the base portion 27 by means of a pin 30 slightly spaced apart from the vertical wall portion 28. The inner end of the lever 29 has an enlarged portion 31 with inclined faces 32 which are adapted to engage the vertical wall 28 upon turning the lever 29 in one or the other direction (see Fig. 1).

The present device operates in the following manner:

As particularly clearly shown in Figs. 1 and 2 of the drawings, a bag 33 containing a ham or any other similar food rests on the platform 6 and upon inserting an eyelet 20 into the recess 9 of the clamping device 7 in such manner that the flange portion 20' of the eyelet 20 engages the front face of the upwardly extending portion 8 towards the bag 33 while its cylindrical portion

20^1 enters the recess 9 of the clamping device 7. The end of the bag 33 is then threaded through the eyelet 20 and brought into engagement with the vertical wall 28 of the gripping device. The lever 29 is then turned in either direction in order to grip the end portion of the bag 33 between one of the inclined faces 32 and the vertical wall portion 28. While in this gripping position, the crank lever 25 is operated to move the gripping device as much as possible away from the clamping device, thereby pulling the bag 33 together with the ham close to the front face of the upwardly extending portion 8 of the clamping device 7. When the closest position is reached, the lever 16 is turned upon its pivot 15 moving the clamping tool 12 in its guide 11 and clamping together the cylindrical portion 20^2 of the eyelet 20, clamptherebetween the end portion of the bag 33 threaded therethrough. Figs. 8 and 9 show particularly clearly in an end view and a section the end position of the eyelet 20 upon completion of the clamping step.

During the clamping operation, that means during the turning of the lever 16 with one hand, the other hand maintains a grip on the lever 29 of the gripping device in order to maintain a good grip on the extreme end of the bag 33 during the clamping operation. Upon termination of this step, the lever 29 is returned into its normal substantially sidewardly extending position, thereby releasing the grip on the end portion of the bag 33 and the deformed eyelet 20 is then removed through the slot 10 in upward direction from the recess 9, whereupon the bag containing the ham is removed from the platform 6, the end of the bag being tightly sealed by means of the deformed eyelet 20.

While the embodiment shown in Figs. 1 to 11 requires a special gripping device and in addition a rack and gear for changing the distance between the gripping device and the clamping device, the embodiment disclosed in Figs. 13 and 14 eliminates the special gripping device as well as the rack and gear with its crank and provides instead a shaft 34 properly rotatably mounted in a bearing 35 secured to the outside face of the clamping device 7'. The outer end of the shaft 34 carries a crank 36 while the inner end of the shaft 34 terminates into forklike projections 37 which are disposed spaced apart from the clamping device 7', yet at about the level of the recess 9' of the latter and extending substantially parallel to the end wall of the upwardly extending portion 8' of the clamping device 7'.

The just described second embodiment of the present structure operates in such manner that the end of the bag 33' containing the ham is threaded again through the eyelet 20*a* and the extreme end of the bag 33' is wound once or twice over the forklike projections 37. Upon turning the crank 36 counter-clockwise, the end of the bag 33' will be further moved towards the front wall of the clamping device 7' and while in this stressed position the lever 17' of the clamping device is again operated to achieve the same result of deforming the eyelet 20, as shown substantially in Figs. 8 and 9 in connection with the first described embodiment of the present invention.

While I have disclosed two embodiments of the present invention, it is to be understood that these embodiments are given by example only and not in a limiting sense, the scope of the present invention being determined by the objects and the claims:

I claim:

1. In an apparatus for clamping the ends of a bag, casing, or the like for ham, sausages or similar food by means of an eyelet, a frame, a longitudinal platform supported by the said frame, means disposed at one end of the said platform in crosswise direction for clamping together the ends of the said bag, the said clamping means having a substantially circular recess adapted to receive the said eyelet with the end of the said bag threaded therethrough, and means spaced apart from the said clamping means for pulling the said bag through

the said clamping means prior to the clamping operation to retain the end portion of the said bag in stressed position during the clamping operation, the said clamping means comprising a crosswise disposed upwardly extending portion of said frame having the said recess with a slot disposed between the said recess and the upper margin of the said portion, the latter forming the tubular guide, a clamping tool reciprocating in the said guide and in its clamping position entering the said slot, and a lever pivotally secured to the said upwardly extending portion and pivotally connected with the rear end of the said clamping tool, so that upon turning of the said lever, the said clamping tool may reciprocate in the said guide.

2. In an apparatus for clamping the ends of a bag, casing, or the like for ham, sausages or similar food by means of an eyelet, a frame, a longitudinal platform supported by the said frame, means disposed at one end of the said platform in crosswise direction for clamping together the ends of the said bag, the said clamping means having a substantially circular recess adapted to receive the said eyelet with the end of the said bag threaded therethrough, and means spaced apart from the said clamping means for pulling the said bag through the said clamping means prior to the clamping operation to retain the end portion of the said bag in stressed position during the clamping operation, the said pulling means for the said bag comprising a rack disposed in longitudinal direction below the said platform and mounted for movement in axial direction and a gear meshing with the said gear rack and mounted on a crosswise disposed axially immovable, rotatable shaft, a crank on one end of the said shaft, so that upon turning of the said crank the said gear rack will be moved in axial direction, and means for gripping the extreme end of the said bag, the said gripping means being secured to the outer end of the said gear rack, in order to change the distance between the said gripping means and the said clamping means upon turning the said crank.

3. In an apparatus for clamping the ends of a bag, casing or the like for ham, sausages or similar food by means of an eyelet, a frame, a longitudinal platform supported by the said frame, means disposed at one end of the said platform in crosswise direction for clamping together the ends of the said bag, the said clamping means having a substantially circular recess adapted to receive the said eyelet with the end of the said bag threaded therethrough, and means spaced apart from the said clamping means for pulling the said bag through the said clamping means prior to the clamping operation to retain the end portion of the said bag in stressed position during the clamping operation, the said pulling means comprising a shaft disposed crosswise at about the level of the said recess and spaced apart from the said clamping means, one end of the said shaft terminating in forklike projections opposite the said recess in the said clamping means and the other end of the said shaft carrying a crank, the said fork-like projections being adapted to wind thereon the end portion of the said bag upon turning the said crank and, thereby, to pull the said bag through the said clamping means prior to performing the clamping operation.

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