Dec. 23, 1958 W. TALSMA 2,865,157

PACKAGING FIXTURE

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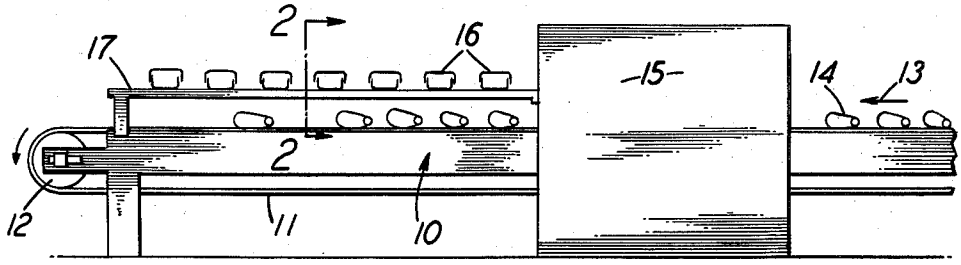


Fig. 1.

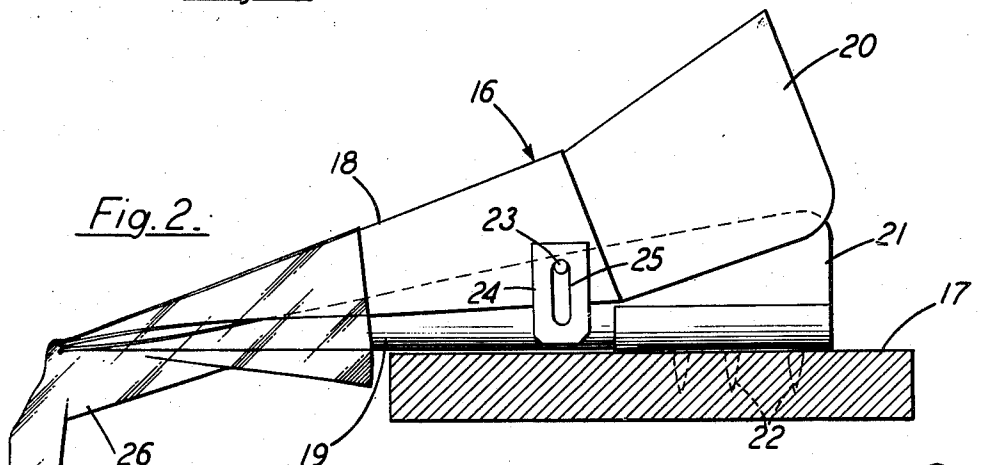


Fig. 2.

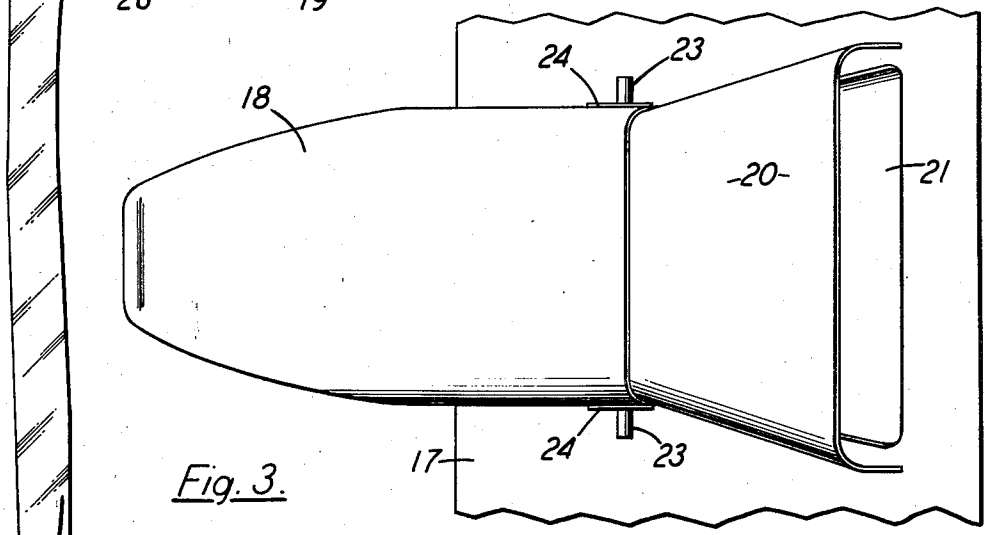


Fig. 3.

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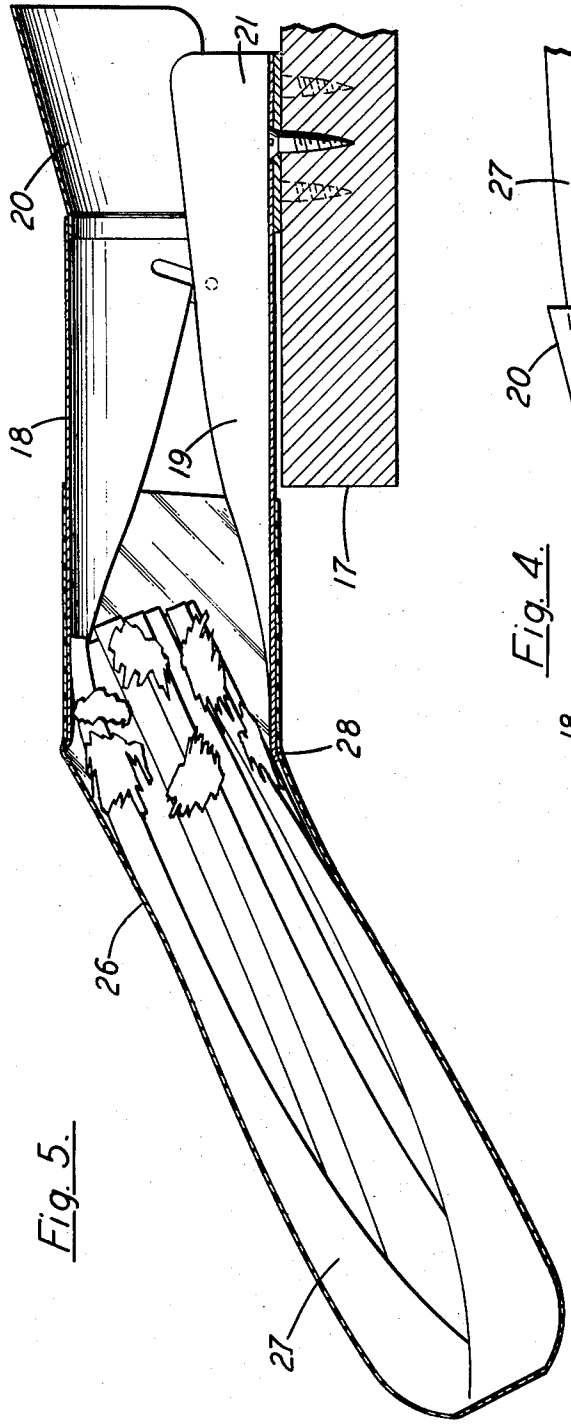


Fig. 5.

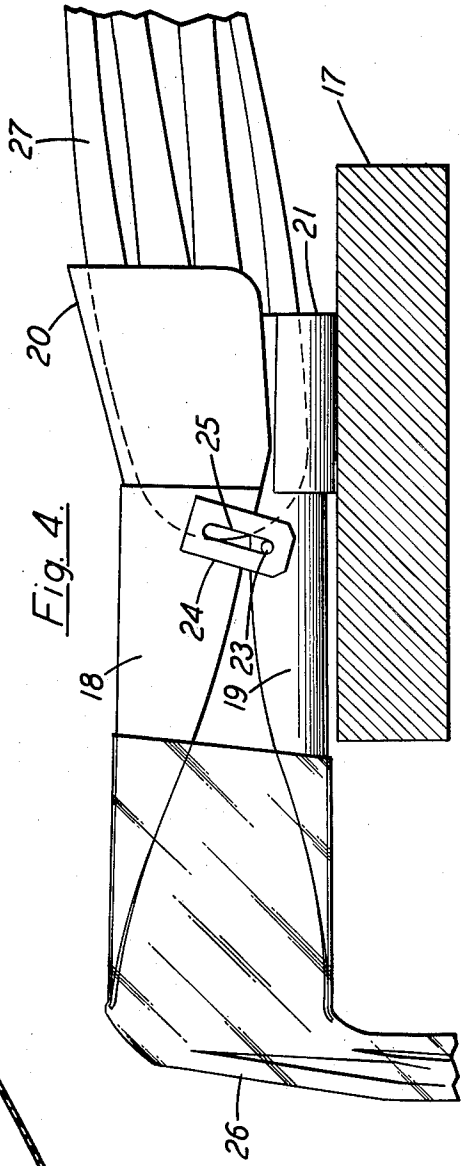


Fig. 4.

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PACKAGING FIXTURE

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1 Claim. (Cl. 53—261)

This invention provides a packaging fixture developed primarily to handle the problems involved in preparing bunches of celery for market. It is well known that the use of transparent bags or containers facilitates the handling of the merchandise in the stores, preserves its freshness, and adds an element of finished appearance which seems to increase saleability. In the case of celery, the use of a transparent bag of a flexible material commonly referred to as "Pliofilm" has been found very effective for packaging, and this invention is particularly concerned with facilitating the operation of inserting the celery in such a bag, or in a bag made of similar material.

To some extent, a fixture embodying this invention serves the general purpose of a funnel which guides material into a restricted opening. In particular, the device includes preferably two symmetrical sections which together form a conduit for guiding the celery into the bag, one end of these sections being formed and mounted to extend in cantilever fashion a sufficient distance to permit the open end of the bag to slip over the fixture prior to the insertion of the celery. The two sections are not only pivotally mounted to form a duck-bill opening and closing action, but a considerable freedom of movement is allowed in a direction which may be considered as substantially radial with respect to the axis of the movement of the celery through the conduit formed by the two sections. The radial opening and closing movement accommodates stalks or bunches of celery of various thicknesses, as well as the hand of the worker during the process of shoving the celery through the conduit into the waiting bag. The characteristics of the fixture, and the bag-filling procedure built around it, lend themselves very well to a conveyorized operation, and the equipment and the details of its use will be discussed more fully by reference to the particular embodiments illustrated in the accompanying drawings.

In the drawings,

Figure 1 presents a side elevation of a conveyorized packaging system embodying a series of packaging units.

Figure 2 presents a section on an enlarged scale on the plane 2—2 of Figure 1.

Figure 3 presents a top view of the device illustrated in Figure 2.

Figure 4 presents a view showing the condition of the equipment during the early stages of the insertion of a stalk of celery through the device and into a bag.

Figure 5 illustrates a latter stage in the packaging operation.

Referring to the drawings, a conveyor unit generally indicated at **10** includes a moving belt **11** positioned at one end by the roller **12**. Movement of the upper course of the belt **11** in the direction of the arrow **13** causes corresponding movement of the bunches of celery **14** through a processing station **15** into the area adjacent the packaging fixtures indicated generally at **16**.

These packaging fixtures are mounted on a plank **17** preferably above the upper course of the belt **11** so that the bunches of celery may be readily grasped by hand,

lifted from the conveyor belt, and inserted in the packaging fixtures with a minimum of waste motion. The fixtures themselves are preferably composed of two substantially symmetrical sections, each of which has a "bill"-shaped portion as shown at **18** and **19**, and an expanding or funnel-shaped opening portion as shown at **20** and **21**. The entire assembly itself forms a conduit through which the bunches of celery move as they are inserted in the bags. The lowermost section is secured to the plank **17** by the screws **22**.

The two conduit sections, which may be referred to as the upper and the lower sections, have a pivotal relationship with each other as a result of the engagement of the pins **23** (which are fixed with respect to the lower section) with the brackets **24** formed of sheet metal and fixed with respect to the upper section. The elongated slots **25** in the brackets **24** not only provides for the pivotal relationship of the upper and lower sections, but permits the upper section to move upwardly in response to the entrance of a large bunch of celery. This separating movement in a radial direction with respect to the axis of movement of the celery through the conduit also can accommodate the hand of the workman when it is desired to shove the bunch of celery beyond the point of pivotal connection of the upper and lower sections. Preferably, the upper and lower sections are formed of a relatively thin sheet material such as stainless steel, and are sufficiently light in weight as to present very little obstruction to the celery or the manual movements involved. The expanding sections **20** and **21** serve the purpose of guiding the celery into the more constricted portions of the conduit, and also guide the leafy portions of the bunches gently into position for insertion into the bags.

In the operation of the device, a bag **26** is slipped over the point formed by the bill sections **18** and **19** when they are in the closed position illustrated in Figure 2. With the operator standing on the right side of the device as viewed in Figure 2, he will then ordinarily with his left hand hold the bag in the position shown while grasping a bunch of celery with his right hand. The stalk will then be inserted approximately in the position shown in Figure 4, and the entrance of the stalk into the device will ordinarily result in the expansion of it within the freedom of movement provided by the slots **25**, usually coupled by a pivoting of the sections so that the bill portions **18** and **19** open to a sufficient degree to permit the passage of the stalk of celery indicated at **27**. This action will result in distending the mouth of the bag **26**, and will serve to hold the bag solidly in position through frictional forces as the celery is shoved home into the position illustrated in Figure 5.

The condition illustrated in Figure 5 has some rather interesting characteristics. With the stalk of celery in approximately the position shown, it tends to pivot about the point indicated at **28** creating an upward force on the bill section **18** which maintains the unit in the fully "open" position. The circumferential tension on the mouth of bag **26**, however, limits this degree of opening movement, with the net result that the packaged article will hang in the position illustrated in Figure 5 until it is removed by the operator (who will ordinarily then proceed to put the bag through a sealing operation). A slight elevation of the lower left end of the packaged article (as shown in Figure 5) will instantly release the binding action on the mouth of the bag, and the item can be easily removed from the packaging fixture. It the material forming the bag has exceptionally good frictional characteristics, as is the case in the recommended "Pliofilm" material, the stalk of celery need only extend into the packaging fixture an amount just beyond the left extremity of the bill portions **18** and **19**, as shown in

Figure 5. In other words, if the frictional engagement between the bag and the bill portions is sufficient, the celery itself does not need to apply a leverage to move the bill portions to the open position. The presence of the celery, however, does prevent the closure of the fixture, and under those circumstances, the engagement of the packaged article with the fixture remains until the unit is manually removed.

The particular embodiments of the present invention which have been illustrated and discussed herein are for illustrative purposes only and are not to be considered as a limitation upon the scope of the appended claims. In this claim, it is my intent to claim the entire invention disclosed herein, except as I am limited by the prior art.

I claim:

A packaging fixture comprising: first and second oppositely disposed substantially symmetrical guiding members forming a conduit, said members having substantially coextensive projecting bill portions at corresponding ends thereof adapted to enter and grip a receptacle, and having substantially coextensive overlapping funnel portions at the opposite ends thereof; means providing a pair of slots intermediate one of said members, and a pair of aligned radial pins projecting into said slots and carried intermediately of the other of said members, said pins and slots constituting the only connections between said members and each of said slots having a length less than the extent of overlap of said funnel portions.

References Cited in the file of this patent

UNITED STATES PATENTS

1,078,492	Fischer	Nov. 11, 1913
2,192,982	Meendsen	Mar. 12, 1940
2,317,292	Nash	Apr. 20, 1943
2,402,869	Buchanan et al.	June 25, 1946
2,685,995	Feeser	Aug. 10, 1954