April 17, 1951 E. A. ERNST 2,549,370

LOADING DEVICE

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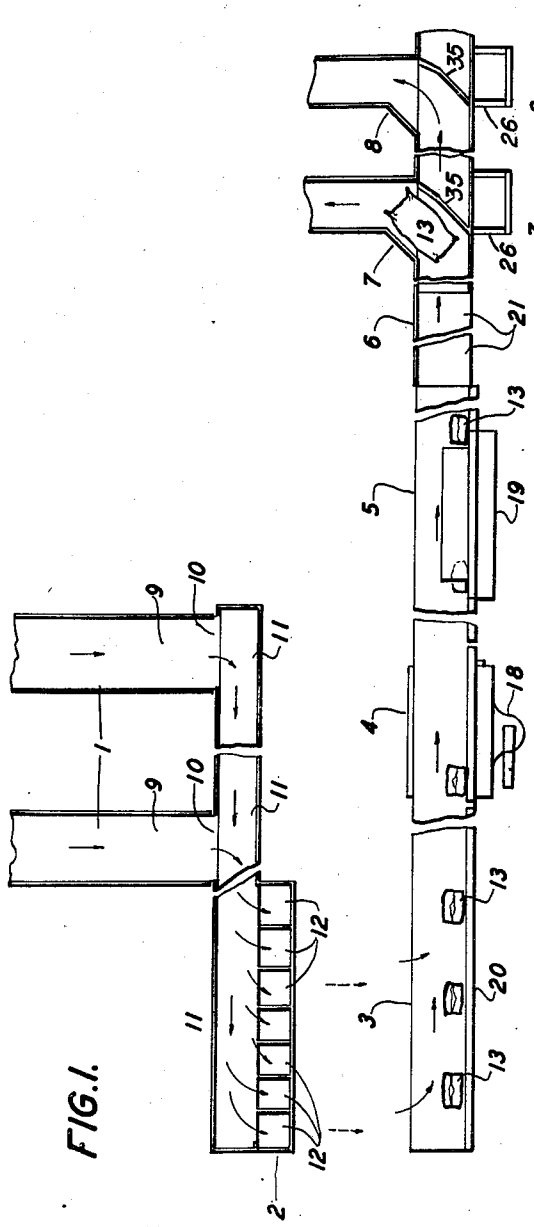


FIG. 1.

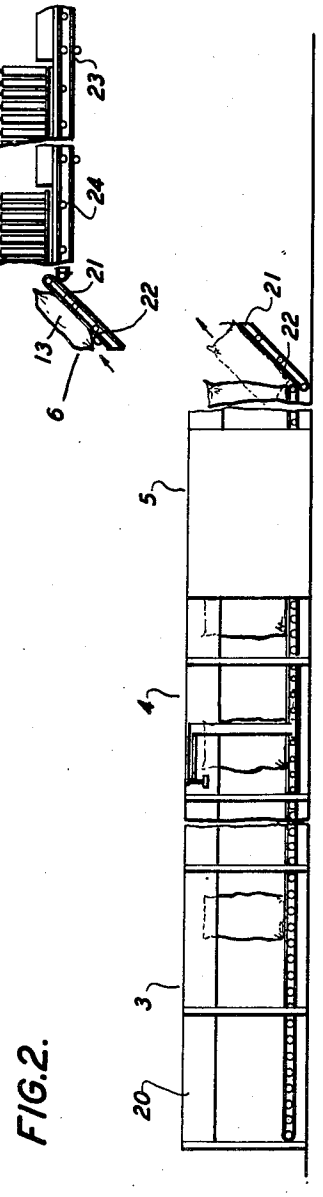


FIG. 2.

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FIG. 3.

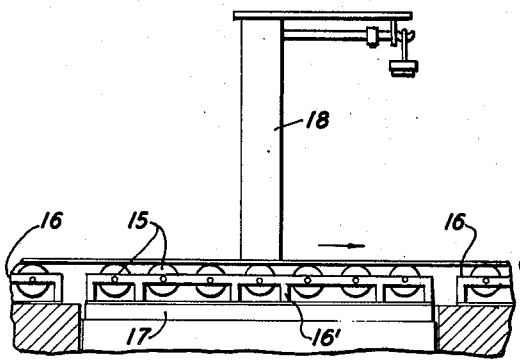


FIG. 4.

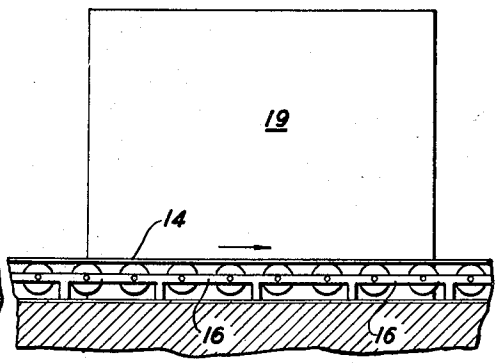
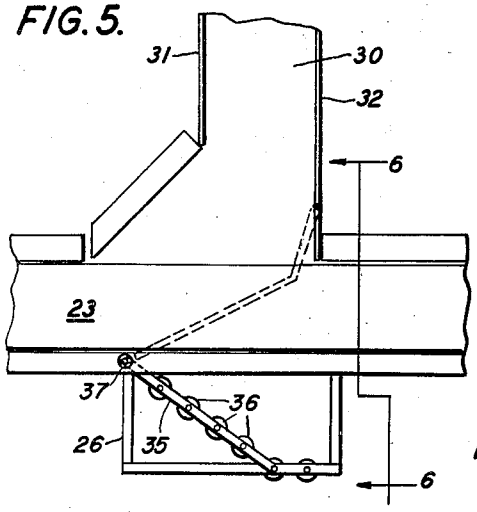


FIG. 5.



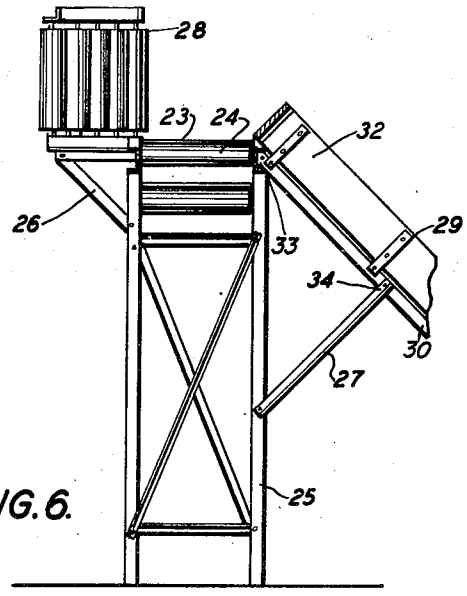


FIG. 6.

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LOADING DEVICE

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Application December 7, 1945, Serial No. 633,498

2 Claims. (Cl. 198—28)

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This invention is concerned with means and ays for bagging articles of commerce, especially vegetables and fruits, and distributing same for shipment by providing means for shifting the bags from a common runway into freight cars, automobile trucks, etc.

Means are provided for jiggling bags as they are loaded with articles and from which place they are transferred onto a general carrier for distribution to a plurality of stations where the bags are shifted from the carrier; however, while on the carrier the bags are weighed and then sewed while in motion so that no time is lost in loading the bags onto freight cars and trucks when the articles for bagging are once delivered at the bagging machine. Such a bagging machine may be of any suitable type or of the type shown in applicant's Patent Number 2,347,474 issued April 25, 1944.

One of the principal objects of this invention is to present a complete bagging and distributing means so that articles, particularly farm products, can be quickly and safely handled through a series of steps involving the washing, grading, bagging, weighing, and sewing of the bags, and distribution of the bags to one or more stations where the bags are loaded into a common carrier's vehicle for delivery to warehouses, wholesalers, and retailers.

Another object is to provide a mechanism means to handle products from their place of production to cars and trucks for their delivery to the market, such means being simple and sturdy in construction, quick and reliable in service, and economical to make and manufacture.

Other objects, advantages and features of my invention will appear from the accompanying drawings, the subjoined detailed description, the preamble of these specifications and the appended claims.

Applicant is about to illustrate and describe one of the forms of his invention in order to teach one how to make and use the same, but it is to be understood that the drawings and description thereof are not to limit the invention in any sense whatsoever, except as limited by the appended claims.

In the drawings:

Fig. 1 is a plan view of the invention with certain ends thereof broken away, and portions shown separated,

Fig. 2 is an elevational view of the device shown in Fig. 1,

Fig. 3 is an enlarged elevational view of a section of the general carrier device,

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Fig. 4 is also an enlarged elevational view of a section of the general carrier device,

Figure 5 is a plan view, enlarged, showing one of the bag shifting stations where bags are automatically removed from the general carrier means and made to enter a lateral chute which leads to a freight car or other means of conveyance.

Fig. 6 is an elevational view, partly in section, taken substantially along the line 6—6 of Fig. 5.

Figures 1 and 2 of the drawings show the general layout of applicant's device having the following indicated stations: station 1 where the articles to be sacked are washed and graded, station 2 where the articles are loaded into bags, station 3 where the bags are positioned after the loading operation, station 4 where the bags are weighed, station 5 where the tops of the bags are sewed, station 6 where the bags are elevated, but this station may be dispensed with where the weighing and sewing stations are already at a high enough level, and stations 7 and 8 where the bags are shifted laterally for delivery to freight cars, trucks, boats, etc.

Any suitable framing may be employed for supporting the various parts of the invention. Station 1 shows a plurality of endless belts 9 which have their ends 10 terminated over the sides of another endless belt 11 which has at its left end a plurality of bag holding frames 12 which support in open mouth fashion individual bags, such bags being indicated at 13 along the general distributing carrier. A shearer, or deflector plate, not shown, may be employed along the endless belt 11 for shifting the articles on the belt into the bags. By referring to applicant's Patent Number 2,347,474 details of construction of the washer and grader, as well as the shearer, can be obtained.

The general carrier device comprises an elongated endless belt 14 that is looped upon the plurality of roller elements 15, each one of which is journalled in the legged frame members 16 on either side of the belt. The legged frame member 16', however, is supported by the plate 17 of a balancing beam type scale 18, so that loaded bags passing over the plate of the scale can be weighed. Obviously, the beam of the scale is provided with the necessary weights, which total 100 lbs. in the case where potatoes are sacked; the beam of the scale indicating clearly when the bag is over or under required weight. If the bag is too heavy, one or two articles are removed, but if too light, one or two articles are added. It is hardly ever necessary to remove or add more

than one or two articles as the men loading the bags are quite skilled in loading them to substantially the correct amount.

Next in the line of travel, is a sewing machine 19 where the tops of the bags are coarsely sewed. Along the outer side of the endless belt 14, there is a fixed wall 20 having its inner surface smooth so that the standing bags can easily slip therealong. At the station 6, another endless belt, indicated at 21, is provided, this belt being supported in an inclined position by the rollers and similar framing as shown for the belt 14. Since the belt 21 is inclined at a fairly steep angle, the outer surface thereof is provided with fixed cross cleats 22 so that the bags thereon will not slip downwardly.

The belt 21 carries the bags to an elevated endless belt, or belts 23, this belt, or belts, being supported by the plurality of rollers 24 which are similar to the rollers 15. Suitable braced framing members provide the fabricated standards 25 which support the endless belt, or belts, and these standards are sufficiently numerous to support any length of endless belts desired. Wherever the endless belt 23 has an outlet port, a bracing member 26 is provided and also a bracing member 27. The bracing member 26 supports a shearer or deflector unit 28 and the bracing member 27 aids in supporting a chute unit 29, see Fig. 6 of the drawings.

The chute 29 may be of any suitable length and consists of an inclined floor or wall 30 with the upstanding side walls 31 and 32 on either side thereof. The top end of the chute is hinged at 33 to the sides of the standards 25 and the end 34 of the brace 27 is removably fastened to the chute as shown, the other end of the brace, at each side of the chute, being pivoted to the standard. The braces, standards, and chutes are so arranged that the chutes can be easily and quickly set up anywhere along the elevated endless belt 23.

Wherever a chute 29 can be placed along the belt, a shearer or deflector unit 28 can also be positioned for shifting bags from the endless belt into the chutes which transfer the bags into the body of a waiting truck or freight car. Each one of the shearers consists of a bent frame 35 at the top and bottom portions thereof, which is provided with a plurality of rollers 36 journalled between them. One end of the shearer unit is pivoted, as at 37, to the bracket and brace means 26, and the other end made free so that it can

be swung over the endless belt and fastened in an oblique position so as to deflect bags from the endless belt into a registered chute. As soon as one car or truck is loaded, the shearer is swung out of the way and another one swung across the belt where there is another waiting vehicle to be loaded.

It is, of course, understood that various changes and modifications may be made in the details of form, style, design and construction of the whole or any part of the specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the limitations clearly expressed in the following claims.

Having thus described my invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a baffle device adapted to be pivotally supported alongside of a moving carrier belt and the like, the device comprising a plurality of spaced apart rigid horizontal arms which are substantially parallel and bent in like manner to form obtuse angles, free rolling vertical means journalled to the arms and between them, said obtuse angles and rolling means presenting a baffle with a predetermined bend therein.

2. In a baffle device for attachment to moving carrier belts and the like, the device comprising a pair of spaced apart rigid horizontal arms extending in parallel arrangement and which have means for pivoting them to a support along the side of a carrier belt, a plurality of free wheeling vertical rollers journalled to the arms and between them, said arms having a like bend therein to provide a flared opening toward the on-coming movement of the belt so as to deflect the thing being carried on the belt onto another belt which is at an angle thereto.

EARL A. ERNST.

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