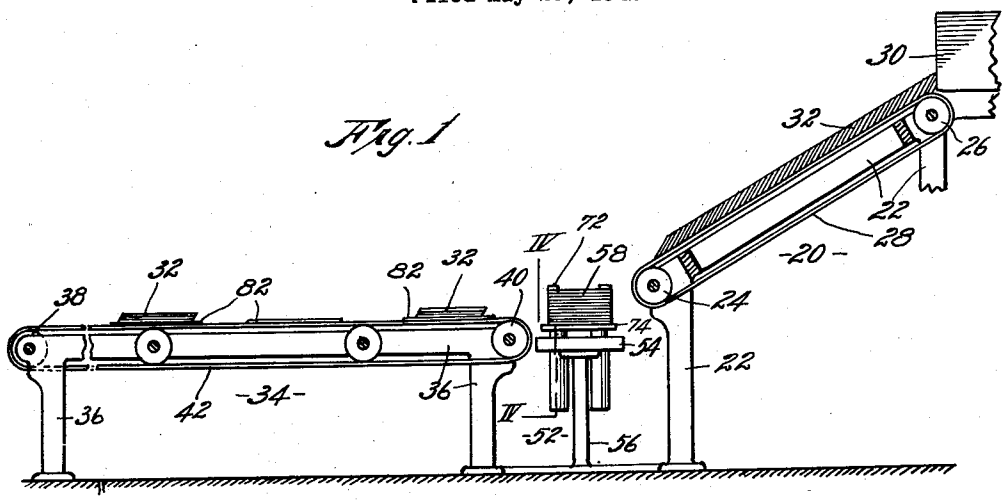
Dec. 18, 1945. C. H. CARPENTER 2,391,125

COMMODITY CONVEYING APPARATUS

Filed May 25, 1942 2 Sheets-Sheet 1

Fig. 1



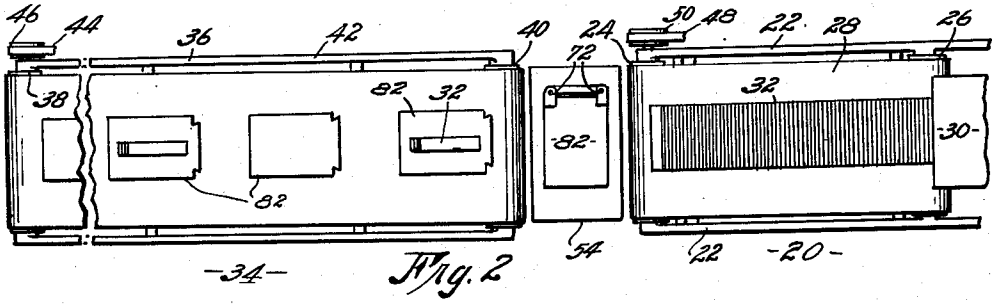


Fig. 2

Fig. 4

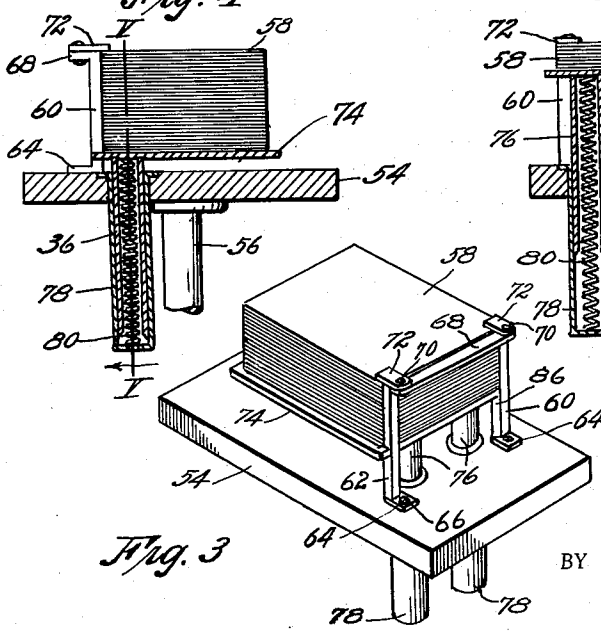


Fig. 5

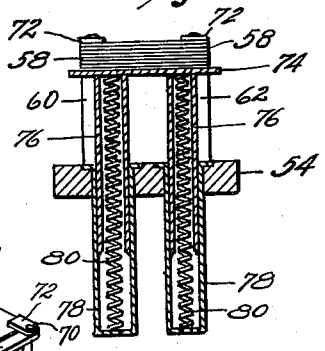


Fig. 3

INVENTOR,
Charles H. Carpenter.

BY Roy E. Hamilton,
ATTORNEY.

Dec. 18, 1945. C. H. CARPENTER 2,391,125

COMMODITY CONVEYING APPARATUS

Filed May 25, 1942 2 Sheets-Sheet 2

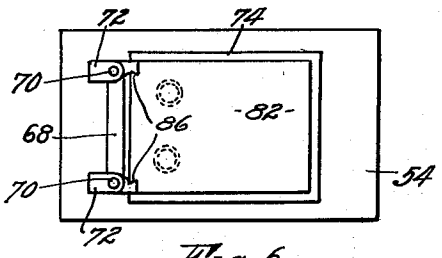


Fig. 6

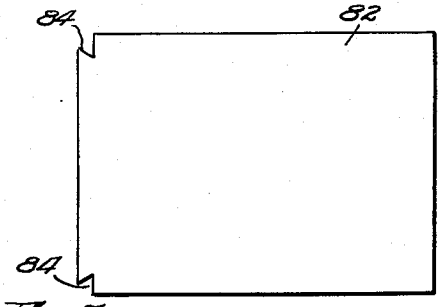


Fig. 7

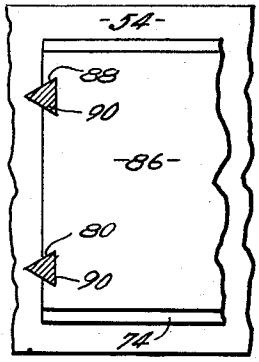


Fig. 8

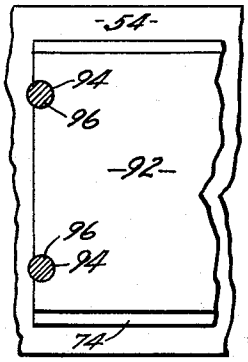


Fig. 9

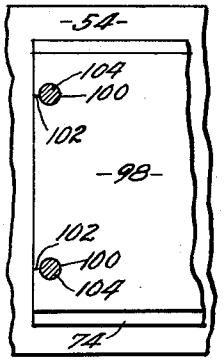


Fig. 10

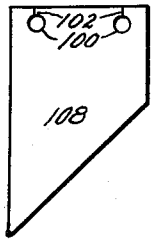


Fig. 14

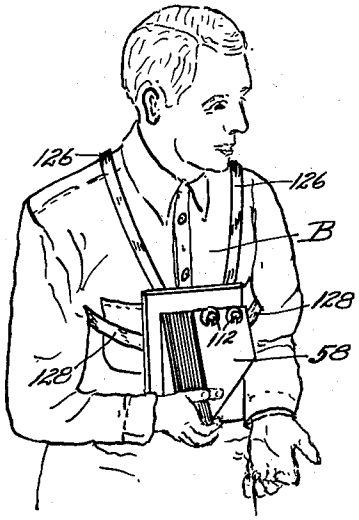


Fig. 11

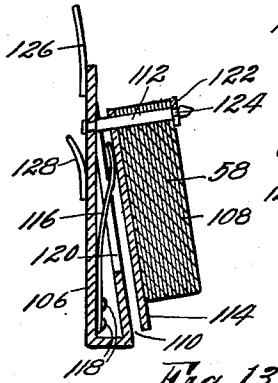


Fig. 13

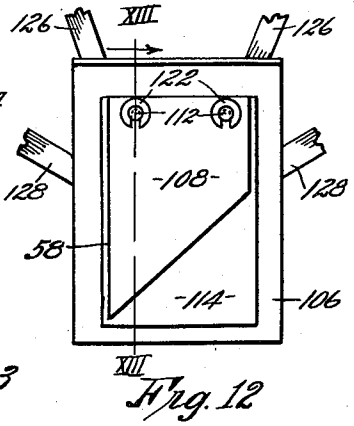


Fig. 12

INVENTOR,
Charles H. Carpenter.

BY Roy E. Hamilton,
ATTORNEY.

Patented Dec. 18, 1945 2,391,125

UNITED STATES PATENT OFFICE

2,391,125

COMMODITY CONVEYING APPARATUS

Charles H. Carpenter, Kansas City, Mo.

Application May 25, 1942, Serial No. 444,478

1 Claim. (Cl. 271—62)

This invention relates to improvements in commodity conveying apparatus and has particular reference to commodity conveying apparatus wherein a manual operation is a step in the complete operation.

The principal object of this invention is the provision of a commodity conveying apparatus including two longitudinally spaced apart endless belt conveyors with a stationary table positioned therebetween for carrying a stack of sheets of wrapping paper, notched to engage standards carried by said table whereby said sheets may be successively removed from the top of the stack without tearing, or disturbing the sheets therebelow.

Another object of the present invention is the provision of commodity conveying apparatus including a stationary table having adjustable means for carrying a stack of sheets of material whereby the top of the stack remains at substantially a constant level relative to the adjacent conveyor belts as the sheets are successively removed from the top of the stack.

A further object of the invention is the provision of a commodity conveying apparatus including a stationary table having vertically disposed parallel standards adapted to engage in undercut notches formed in the edge of sheets of a stack of pliable material whereby the sheets of material may be successively removed from the top of the stack transversely of the standards without tearing the sheets.

A still further object of the invention is the provision of supporting device for a stack of wrapping sheets adapted to support the sheets in such a manner as to permit the successive removal of the sheets from the top of the stack without tearing.

Other objects of the invention will appear and be referred to during the course of the specification referring to the drawings wherein:

Figure 1 is a side elevation partly in section of a commodity conveying apparatus embodying this invention.

Fig. 2 is a plan view of the apparatus as shown in Fig. 1.

Fig. 3 is an enlarged perspective view of the stationary table with a stack of sheets shown thereon in the operative position.

Fig. 4 is an enlarged vertical sectional view taken on line IV—IV of Fig. 1.

Fig. 5 is a sectional view taken on line V—V of Fig. 4.

Fig. 6 is a plan view of the table top with the sheet material carrying mechanism shown thereon with the detents moved to the inoperative position.

Fig. 7 is an enlarged detached view of one of the commodity receiving sheets.

Fig. 8 shows a fragmentary view in operative position on the table of a modified form of the sheet, wherein two dovetail notches are formed in one edge of the sheet.

Fig. 9 is a view similar to that shown in Fig. 8 showing a further modification of the sheet, wherein the open notches are formed by means of a round punch slidably overlapping the edge of the sheets.

Fig. 10 shows a further modification of the sheets wherein two round holes are punched through the paper with the sheet slit intermediate the edge of the sheet and the edge of the hole.

Fig. 11 is a modification of the apparatus disclosing a stack of sheets adjustably mounted on a base suitable for positioning on the body of the operator for convenient handling of the sheets.

Fig. 12 is an elevational view partially broken away of the apparatus shown in Fig. 11.

Fig. 13 is a sectional view taken on line XIII—XIII of Fig. 12.

Fig. 14 is a detached plane view of one of the sheets suitable for use on the device shown in Fig. 11.

Throughout the several views like reference characters refer to similar parts and the numeral **20** designates a conveyor section comprising a frame **22** on which is rotatably mounted rollers **24** and **26** carrying an endless belt **28**. This endless belt extends adjacent a slicing machine **30** of any one of the various types suitable for slicing bacon or any other similar product and delivering the slices to the conveyor belt **28** in a substantially upright position as shown at **32**. The angle of inclination of the conveyor belt may be varied for the handling of different types of commodities.

Positioned in longitudinal alignment with conveyor **20** is a substantially horizontal conveyor **34** which is spaced apart therefrom. This conveyor comprises a frame **36** on which is rotatably mounted rollers **38** and **40** carrying endless conveyor belt **42**. This conveyor is driven through means of drive belt **44** which engages drive pulley **46** and extends to any suitable power source, not shown. The conveyor **20** is likewise driven by means of belt **48** through pulley **50**. These conveyors may be driven from the same power source and the ratio of travel is usually maintained constant; however, when handling the various com-

modities it may be found more convenient to change the ratio of drive.

Interposed between conveyor 20 and 34 is a fixed table 52. The table top 54 is shown mounted on a standard 56 which in turn is integral with a horizontal framework joining together the frames 22 and 36 thus insuring proper positioning of the parts at all times. It will be noted that the upper surface of table top 54 is disposed slightly below the upper portion of the endless belt 42 so that the top of the stack of sheets of material 58, hereinafter referred to, will be below the commodity positioned on belt 28 and above the conveyor belt 42. The proper positioning of the stack of sheets 58 relative to the conveyor belts is very important in that it lends to the speed of the operator in the manual operation necessary to transfer commodities from conveyor 20 to conveyor 34.

Table 52 serves to carry vertically disposed standards 60 and 62. These standards are provided with a foot 64 which rests on the table top and are attached thereto by means of screws 66. These standards 60 and 62 are joined together adjacent the top portion by means of cross bar 68 which is disposed outwardly from the stack of sheets so as not to interfere with the positioning of the sheets on the standard. Pivotally carried at 70 on cross bar 68 are detents 72 which rest on top of the stack of sheets for the purpose hereinafter set forth. A stack plate 74 having depending parallel tubes 76 securely attached thereto, serve to telescope with tubular member 78 which extend through and below table top 54. The lower end of tube 78 is partially closed to serve as an abutment for a compression spring 80 which bears against plate 74 to exert pressure thereagainst. As clearly shown in Figs. 4 and 5, the two springs 80 are disposed beneath the stack 58 and in spaced relation to the standards 60 and 62. This spring 80 is properly tensioned to support the stack and to force it against detents 72, thereby insuring a constant positioning of the top sheet of stack 58 at a uniform level as the sheets are successively removed therefrom. The pressure of the stack against detents 72 remains substantially constant, since as the stack is diminished, the spring is extended, thereby reducing its compression force so as to maintain a substantial constant ratio between the spring and the load.

The stack of sheets consist of a plurality of sheets 82 notched at 84 in such a manner as to present undercuts suitable for engaging the inclined walls 86 of standards 60 and 62. The degree of undercut may be varied when different thicknesses of sheets are used, such as paper, waxed paper, glazed paper, Cellophane, etc. It is the purpose of applicant to so construct the sheet that it may be easily dislodged from the top of the stack without tearing the sheet. When it is desired to place another stack of sheets in the operative position on the standards the detents 72 are rotated to the position shown in Fig. 6 so that the stack of paper may be moved in alignment with the standards 60 and 62 to position after which the detents 72 are rotated to a position to engage the top of the stack.

In the operation of this device, the conveyor belts and slicer are set in motion and the sliced bacon is delivered by the endless belt 28 to a point adjacent the operator who stands in front of table 52. With one hand she removes the required number of strips of bacon from belt 28 and with the other hand removes a sheet 82 from stack 58, deposits it on conveyor belt 42, then places the bacon on said sheet. This operation is constantly maintained at a sufficient rate of speed to prevent an overrunning of the bacon and to maintain the line of sliced bacon at substantially a constant length. Positioned along the opposite sides of conveyor 34 are operators who remove and wrap the commodity in suitable packages. The method of operation after the stacks of bacon have been positioned on the conveyor belt 42 depends to some extent on the nature of sheet 82 and also the type of material used in the construction of the belt 42.

When sheet 82 is made of Cellophane the Cellophane sheet together with the bacon is removed from the belt, the bacon is weighed separate from the sheet, then the package is formed by wrapping this Cellophane sheet about the bacon. This operation might also be performed in the following manner: Each operator is provided with an extra sheet of Cellophane at the beginning of the run and removes the bacon from the Cellophane sheet carried on belt 42, weighs it, and wraps it in this extra sheet of Cellophane, thus leaving an empty sheet on the belt 42. From now on during the run she simply removes the bacon and the empty sheet of Cellophane, weighs the bacon, and then wraps said Cellophane sheet about the bacon to form the package.

When paper is used instead of Cellophane, and the belt 42 is made of canvas, leather, or any similar porous flexible material, the operator does not use any of the sheets from stack 58 for wrapping purposes but permits them to travel to the end of the conveyor belt where they are discarded. In this instance, separate sheets are provided for wrapping the bacon after it is weighed. While in the description in the operation of this machine, sliced bacon was the commodity being wrapped, yet it is quite evident that candy bars or any other article might be handled in a similar manner.

The sheet 86 shown in Fig. 8 is provided with a plurality of dovetailed notches 88 at its one end. These notches permit the sheet to be successively fitted on the angled standards 90 to allow the proper positioning of the stack and to preclude accidental transverse movement of the sheet relative to the standards.

Referring now to Fig. 9, the sheets 92 are punched at 94 in such a manner as to produce circular undercuts suitable for receiving the round standards 96 for maintaining the sheet in the proper position thereon.

Sheet 98 is provided with a circular punch hole 100 spaced apart from the edge of the sheet which is slit at 102 so as to connect the circular opening with the outer edge of the sheet to allow the removal of the sheet from standards 104 without tearing.

Reference will now be had to the modified forms shown in Figs. 11, 12, 13, and 14 wherein the table 52 is dispensed with and the stack of paper 58 is mounted on a base 106 so as to properly position the sheet 108 when the apparatus is supported on the operator as shown in Fig. 11. This type of apparatus is intended for use in head wrapping in the poultry industry. Base 106 is preferably provided with a pulpit 110 which is inclined relative to the base 102. Standards 112 are rigidly mounted on the base 106 perpendicular to the base of the pulpit so as to receive the stack plate 114 on which is positioned the sheet stack 58. A flat spring 116 attached by means of rivets 118 to base 106 is formed out-

wardly to extend through slot 120 formed through pulpit 110 so as to engage the underside of stack plate 114. This spring urges the stack and stack plate outwardly against the washer detent 122 which engages in the notch 124 formed in the outer extremity of each of the standards 112. This spring constantly urges the stack outwardly so that the outer sheets are always in the same position relative to the base 106. The shoulder straps 126 and body straps 128 serve to definitely position the devices on the body B of the operator. The sheet 108 is rectangular at its notched portion with an obliquely disposed lower edge thus producing a trapezoid suitable for conforming to the head of the poultry when wrapped therearound. While the notched portion of this sheet is shown similar to that shown in Fig. 10, it is apparent that any other of the various forms might be substituted therefore. In the use of this form of the apparatus, the operator pulls the top sheet from the stack, wraps it around the head of the poultry and attaches it in position by means of a cord or any suitable fastening means.

The principal feature of novelty in all forms of this invention, as shown and described, is the provision of a suitably formed sheet nested together to form a stack which is mounted on a carrier, against accidental removal, but from which the sheets are adapted to be successively removed without tearing or causing particles of the same to be detached therefrom. In the old method now in use, small torn-away fragments of the wrapping paper oft-times become lodged on the product being wrapped and must be removed therefrom before wrapping.

It is quite apparent from the drawings and specifications that many modifications of this apparatus might be had without departing from the spirit of the invention.

I claim:

In a device of the character described; a table top; a pair of standards fixedly carried by said table top formed and relatively positioned to releasably engage undercut edge notches formed in pliable sheets of material forming a stack; a stack plate adjustably carried by said table top; a detent pivotally mounted on each of said standards outside the plane of the notched side wall of said stack of sheets and adapted to extend beyond said standards and over the stack of sheets to limit the upward movement of the stack of sheets carried by said stack plate, and adapted to be moved horizontally from over said stack of sheets to permit the threading of said stack of sheets down onto said standards; and spring means to constantly urge said stack plate upwardly to force the upper sheet of said stack of sheets against said detents.

CHARLES H. CARPENTER.