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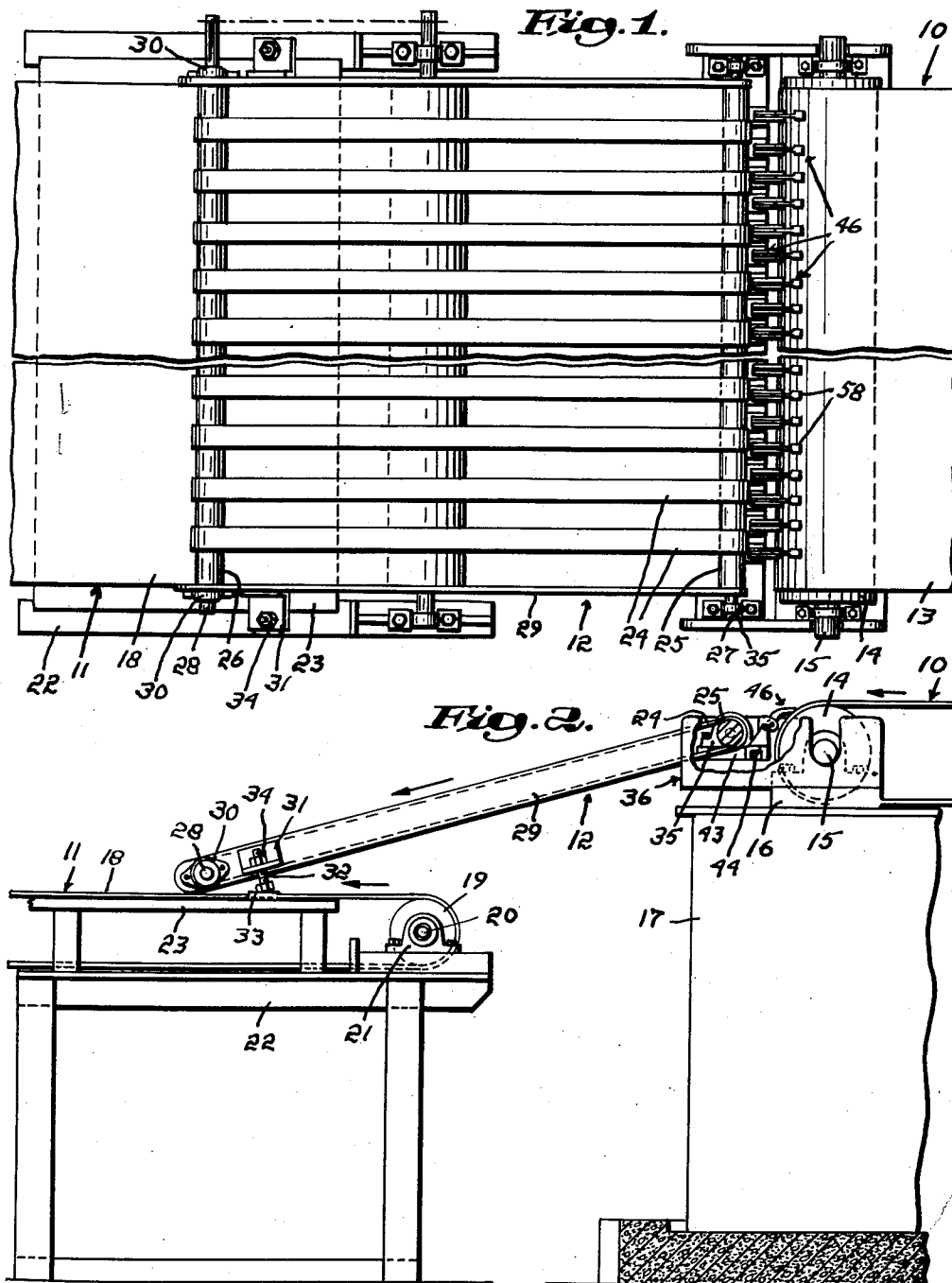
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3,073,430

APPARATUS FOR STRIPPING HIDES FROM CONVEYORS

Filed July 25, 1960

2 Sheets-Sheet 1



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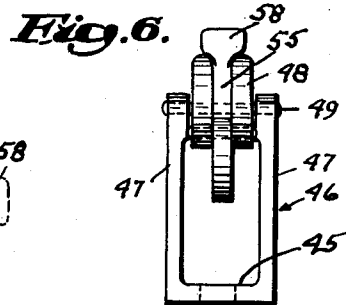
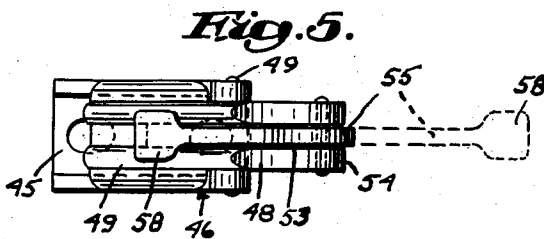
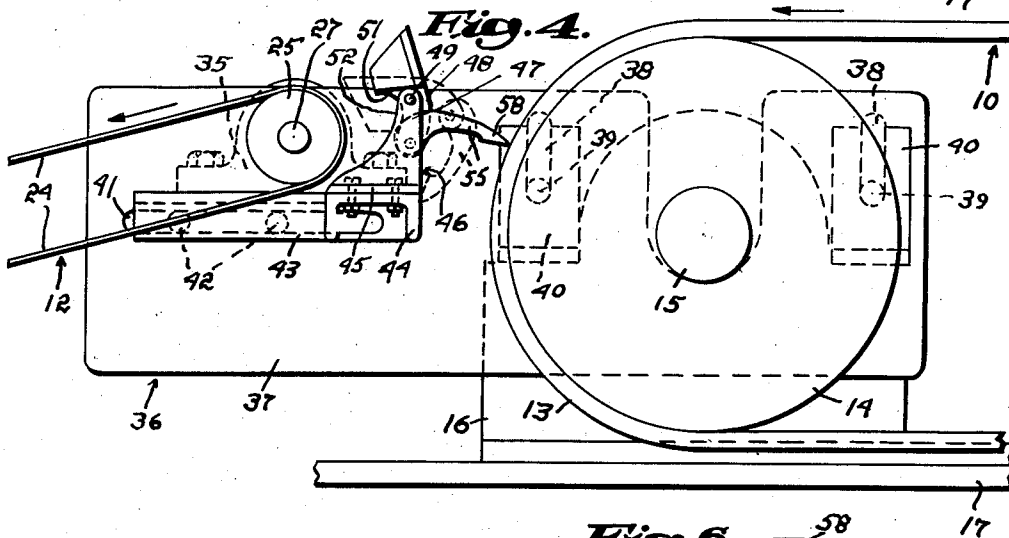
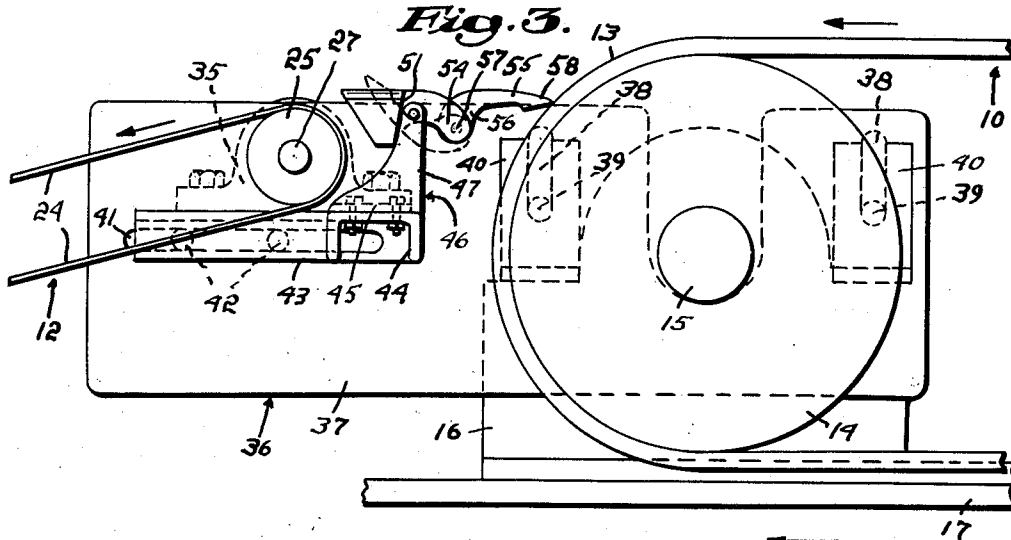
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APPARATUS FOR STRIPPING HIDES FROM CONVEYORS

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2 Sheets-Sheet 2



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3,073,430 APPARATUS FOR STRIPPING HIDES FROM CONVEYORS

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9 Claims. (Cl. 198—28)

The present invention relates to apparatus for use in stripping articles, such as hides, from a conveyor and to the finger units used therein.

While the invention is adapted for other uses, it is herein discussed primarily in connection with the stripping of wet hides from a first conveyor as an essential part of their transfer to a second conveyor which is to carry them to a drier. As the wet hides tend to cling to the first conveyor, it is the usual practice to employ a transversely disposed series of stripping fingers. These are arranged and disposed to ride on the outfeed end of the first conveyor and under the leading edge of a hide carried thereon to force it over them until it becomes in contact with and picked to be pulled by the infeed end of a transfer conveyor which is forwardly and rearwardly inclined to deliver that hide to the second conveyor.

From time-to-time, the fingers or some of them become caught by a hide that refuses to be properly stripped. When that happens, the pull of the travelling hide usually causes the fingers to dig into the belt of the first conveyor, often necessitating its replacement with a consequential interruption in production and in addition to the cost of the new belt.

The principal objective of the present invention is to provide stripping apparatus that is operative to strip hides efficiently from a first conveyor and provided with finger units that jack-knife, when caught by a clinging hide, out of contact with the outfeed end of the belt of the first conveyor thus to avoid injury thereto.

In accordance with the invention, the finger units each have a base, a counterweighted arm pivoted thereto, and a finger pivoted at its rear end to the front end of the arm and provided with a belt contacting stripper head. Such units, when in use, have the pivots between their arms and fingers located outside a plane inclusive of the zone of contact of the heads with the conveyor belt and the pivots between the arms and their bases.

When positioned for use, the stripper heads engage the conveyor belt in a zone where it is passing downwardly and rearwardly over the roll at the outfeed end of the first conveyor. Should they become caught by a clinging hide, they jack-knife until the fingers are free to drop by that end of the conveyor. In order that such a position may be accurately established, a mount is provided, which may conveniently constitute the support for the bearing units of the transfer conveyor and which is adjustable vertically relative to the outfeed end of the first conveyor and which provides for adjustments of the finger units relative to that conveyor in horizontal directions.

In the accompanying drawings, there is shown an illustrative embodiment of the invention from which these and other of its objectives, novel features, and advantages will be readily apparent.

In the drawings:

FIG. 1 is a fragmentary plan view of a conveyor in accordance with the invention for effecting the transfer of hides from one conveyor to another;

FIG. 2 is a fragmentary and partly sectioned side view thereof;

FIG. 3 is a section, on a substantially increased scale, taken approximately along the indicated lines 3—3 of FIG. 1, showing a finger in its transfer position;

FIG. 4 is a similar view illustrating the yielding or jack-knifing of that finger with its inoperative position being shown in dotted lines;

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FIG. 5 is a top plan view of a finger unit, on a further increase or scale, with its finger folded rearwardly, and FIG. 6 is a front view thereof.

In the embodiment of the invention illustrated by the drawings, a conveyor generally indicated at 10 is provided to carry hides through a station, not shown, where they are treated as with a liquid. After such treatment, the hides are carried by a generally indicated conveyor 11, located below the outfeed end of the conveyor 10, to a drier, not shown. The hides are transferred from the conveyor 11 by a downwardly inclined transfer conveyor, generally indicated at 12.

The conveyor 10 is shown as comprising a belt 13 trained over rolls, such as the roll 14 at its outfeed end, and whose shaft 15 is journaled in bearing units 16 mounted on a table 17 adjacent one end thereof. The conveyor 11 may be similar and is shown as a belt 18 trained over rolls such as the roll 19 at its infeed end which has its shaft 20 journaled in bearing units 21 located on the end of a table 22 that is near the table 17. The table 22 is somewhat lower than the table 17 and it has a support 23 extending transversely of the belt 18 under its upper course.

In accordance with the invention, the conveyor 12 preferably consists of a series of transversely spaced belts 24 each trained over an infeed roll 25 and an outfeed roll 26 with shafts 27 and 28, respectively, extending through side members 29. The side members 29 are provided with bearing units 30 for the ends of the shaft 28 adjacent which each has a bracket 31 through which is threaded a set screw 32 for engagement with a metal plate 33 which is located on the exposed ends of the support 23. Each set screw 32 has a lock nut 34.

The ends of the shaft 27 are supported by bearing units 35 carried by a generally indicated mount 36. The mount 36, as may best be seen in FIGS. 3 and 4, comprises sides 37 each having a longitudinally spaced pair of vertically disposed slots 38 through which extend studs 39 carried by brackets 40 secured to the bearing units 16, thus to enable the mount 36 to be adjusted vertically relative to the conveyor 10. The sides 37 have transversely aligned, horizontal slots through each of which extends a pair of studs 42 carried by slides 43 to which the bearing units 35 are attached and which are interconnected by a transverse member 44 located forwardly of the bearing units 35. By this arrangement, the infeed end of the conveyor 12 may be spaced closer to or further from the outfeed end of the conveyor 10.

Bolted to the transverse member 44, in laterally spaced relationship, are the bases 45 of the generally indicated finger units 46. Each base 45 has side walls 47 spaced to receive between them an arm 48 connected thereto by pivots 49. The rear part 50 of each arm 48 is a counterweight and projects laterally to provide shoulders 51 for engagement with the upwardly and forwardly inclined rear faces 52 of the walls 47.

The forward part of each arm 48 is vertically slotted as at 53 and terminates in a downwardly curved end 54, see FIG. 3. A finger 55 fits within the slot 53 and has a downwardly curved rear end 56 connected to the downwardly curved end 54 of the arm 48 by a pivot 57 and a stripper head 58 engageable with the belt 13.

It will be noted that the pivots 57 are below a plane inclusive of the pivots 49 and the line of engagement of the stripper heads 58 with the belt 13 so that the arms and fingers will jack-knife on a downward and rearward thrust and that the mount 36 is adjusted relative to the roll 14 and the transverse member 44 is adjusted relative to the sides 37 so that the stripping heads 58 engage the belt 13 in a transverse zone wherein short, rearward movement of the pivots 57 will enable each finger to swing

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downwardly past the belt 13 without injury thereto. It will also be noted that each finger can swing rearwardly over its base 45 with its head 58 so disposed that a hide passing over it will not catch thereon.

I claim:

1. A unit for use in stripping hides from the outfeed end of a conveyor, said unit including a base, an arm transversely pivoted between its ends to said base, the rear end of said arm being counterweighted, a finger pivoted to the front end of said arm and including a stripper head for engagement with said outfeed conveyor end whereby the finger and arm can jack-knife when said head engages said conveyor end in the zone of downward and rearward travel and the pivot between the arm and finger is vertically spaced from a plane inclusive of said zone and the pivot between the arm and its base.

2. A unit for use in stripping hides from the outfeed end of a conveyor, said unit including a base, an arm transversely pivoted between its ends to said base, the rear end of said arm being counterweighted, a finger pivoted to the front end of said arm and including a stripper head for engagement with said outfeed conveyor end in the zone of downward and rearward travel with said arm and finger being in a first position relative to each other, the pivot between the arm and finger being spaced vertically from a plane inclusive of the head and the pivot between the arm and its base in said first position.

3. A unit for use in stripping hides from the outfeed end of a conveyor, said unit including a base, an arm, the proximate ends of said arm and base being downturned and transversely pivoted, the rear end of said arm being counterweighted, a finger pivoted to the front end of said arm and including a stripper head for engagement with said outfeed conveyor end in the zone of downward and rearward travel, with said arm and finger being in a first position relative to each other, the pivotally interconnected ends of said arm and finger being below a plane inclusive of the head and the pivot between the arm and its base in said first position.

4. A unit for use in stripping hides from the outfeed end of a conveyor, said unit including a base, an arm transversely pivoted between its ends to said base, the rear end of said arm being counterweighted and including a portion engageable with said base to hold said arm in a predetermined position, a finger pivoted to the front end of said arm and including a stripper head for engagement with said outfeed conveyor end in the zone of downward and rearward travel, with said arm and finger being in a first position relative to each other, the pivot between the arm and finger being spaced vertically from a plane inclusive of the head and the pivot between the arm and its base in said first position.

5. A unit for use in stripping hides from the outfeed end of a conveyor, said unit including a base having spaced sides, an arm between said sides and transversely pivoted between its ends thereto, the rear end of said arm being counterweighted and the front end thereof being vertically slotted, a finger whose rear end is entrant of said slot and pivoted to the front end of said arm and whose front end includes a stripper head for engagement with said outfeed conveyor end in the zone of downward and rearward travel with said arm and finger being in a first position relative to each other, the pivot between the arm and finger being spaced vertically from a plane inclusive of the head and the pivot between the arm and its base in said first position.

6. In apparatus for stripping hides from the outfeed end of a conveyor, a member extending transversely of the direction of conveyor travel but spaced rearwardly from the outfeed end of said conveyor, and a series of transversely spaced finger units, each unit including a base attached to said member, an arm extending towards said conveyor end and pivoted between its ends to said base transversely of the direction of conveyor travel, the rear end of said arm being counterweighted and yieldably

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holding said arm in a predetermined position, a finger pivoted to the front end of said arm and including a stripper head for engagement with said outfeed conveyor end in the zone of its downward and rearward travel, the pivots between the arms and fingers being spaced vertically from a plane inclusive of the zone of engagement of the heads with the conveyor and the pivots between the arms and their bases whereby, on a rearward and downward thrust on the fingers, said finger and arms can jack-knife to enable said fingers to swing downwardly and out of contact with said outfeed end.

7. In apparatus for stripping hides from the outfeed end of a conveyor, a member extending transversely of the direction of conveyor travel but spaced rearwardly from the outfeed end of said conveyor, and a series of transversely spaced finger units, each unit including a base attached to said member, an arm extending towards said conveyor end and pivoted between its ends to said base transversely of the direction of conveyor travel, the rear end of said arm being counterweighted and yieldably holding said arm in a predetermined position, a finger pivoted to the front end of said arm and including a stripper head for engagement with said outfeed conveyor end in the zone of its downward and rearward travel, the pivots between the arms and fingers being below a plane inclusive of the zone of engagement of the heads with the conveyor and the pivots between the arms and their bases whereby, on a rearward and downward thrust on the fingers, said finger and arms can jack-knife to enable said fingers to swing downwardly and out of contact with said outfeed end.

8. In apparatus for stripping hides from the outfeed end of a conveyor, a second conveyor, a mount for positioning the infeed end of said second conveyor in a selected position relative to said outfeed end, said mount including a member extending transversely of the direction of conveyor travel but spaced rearwardly from said outfeed end and adjusted lengthwise of said mount, and a series of units, each unit including a base attached to said member, an arm extending towards said conveyor end and pivoted between its ends to said base transversely of the direction of conveyor travel, the rear end of said arm being counterweighted, a finger pivoted to the front end of said arm and including a stripper head for engagement with said outfeed conveyor end in the zone of downward and rearward travel, the pivot between the arms and fingers being below a plane inclusive of the zone of engagement of the heads with the conveyor and the pivots between the arms and the bases whereby the arms and fingers of the units can jack-knife to permit the fingers to swing down past said conveyor end.

9. In apparatus for stripping hides from the outfeed end of a conveyor, a second conveyor, a vertically adjustable mount for positioning the infeed end of said conveyor in a selected position relative to said outfeed end, said mount including a member extending transversely of the direction of conveyor travel but spaced rearwardly from said outfeed end and adjustable lengthwise of said mount, and a series of units, each unit including a base attached to said member, an arm extending towards said conveyor end and pivoted between its ends to said base transversely of the direction of conveyor travel, the rear end of said arm being counterweighted, a finger pivoted to the front end of said arm and including a stripper head for engagement with said outfeed conveyor end in the zone of downward and rearward travel, the pivot between the arms and fingers being below a plane inclusive of the zone of engagement of the heads with the conveyor and the pivots between the arms and the bases, whereby the arms and fingers of the units can jack-knife to permit the fingers to swing down past said conveyor end.

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