Sept. 14, 1943. M. F. WEEKS 2,329,312

CAN ARRANGING DEVICE

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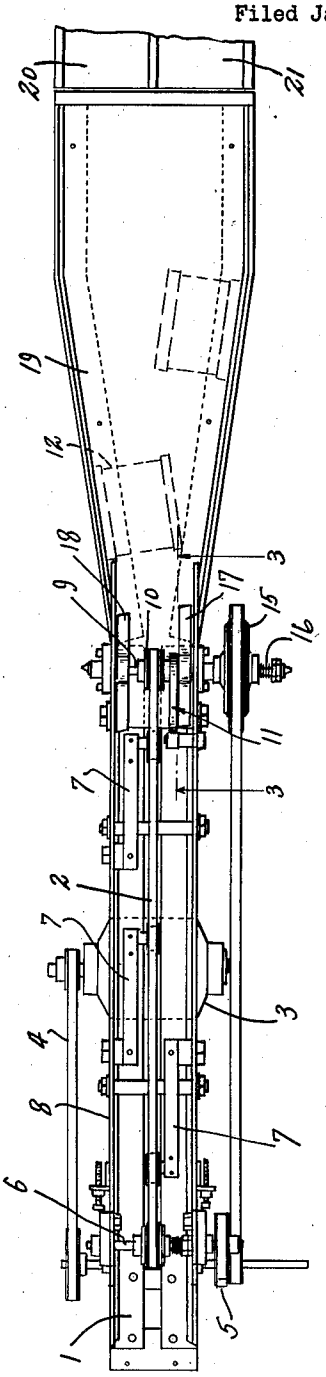


Fig. 1.

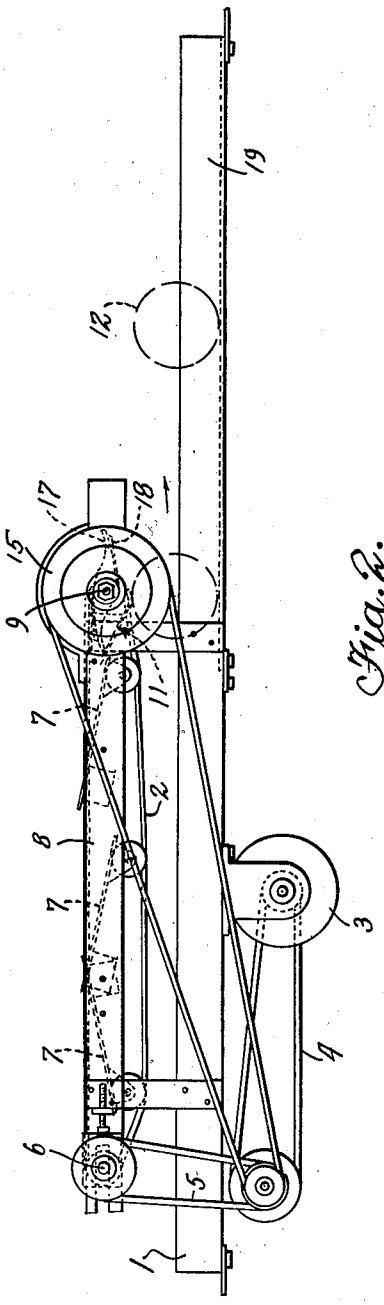


Fig. 2.

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Fig. 3.

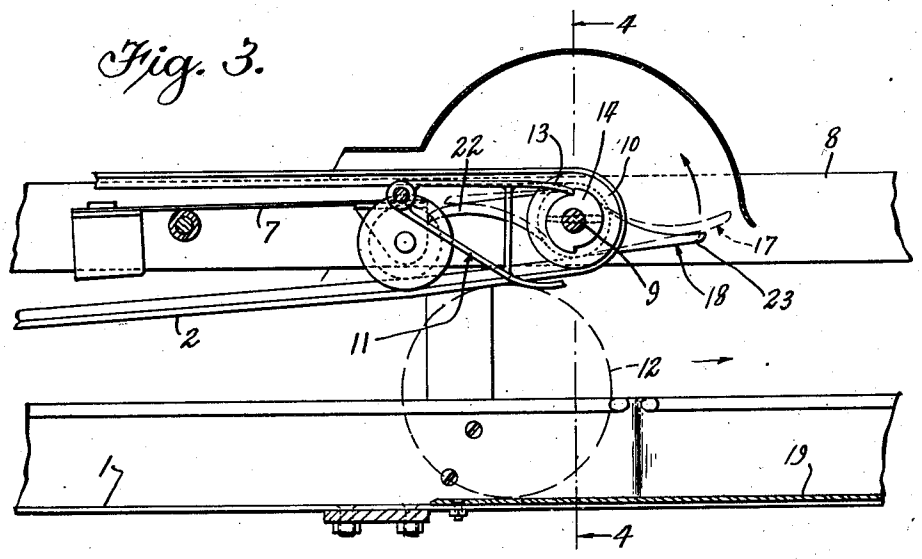
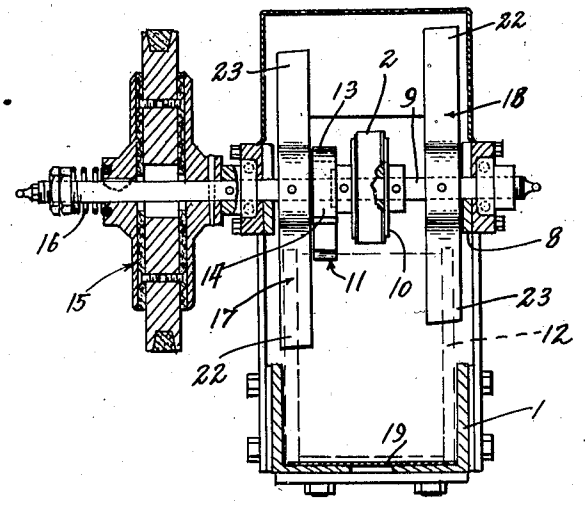


Fig. 4.



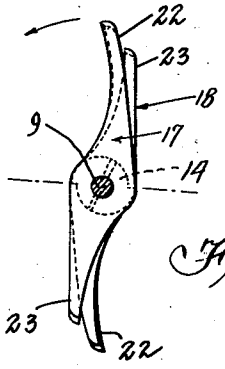


Fig. 5.

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2,329,312

UNITED STATES PATENT OFFICE

2,329,312

CAN-ARRANGING DEVICE

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Application January 14, 1942, Serial No. 426,773

5 Claims. (Cl. 193—39)

This invention relates to can splitting devices, and more particularly to a device adaptable for dividing or splitting a single line of cans into two lines.

It is an object of this invention to provide a simple, rugged and dependable mechanism for dividing or splitting a single line of moving or rolling cans into two lines.

Another object of this invention is to provide a device applicable for use in dividing a single stream of moving objects into two streams, each of which has a proportion of the number of devices or objects of the original stream.

Other objects and advantages of this invention it is believed will be apparent from the following detailed description of a preferred embodiment thereof as illustrated in the accompanying drawings.

In the drawings:

Figure 1 is a top plan view of the can splitting device embodying my invention.

Figure 2 is a side elevation thereof.

Figure 3 is a fragmental side elevation partly in vertical section and upon a larger scale of the can splitting device embodying my invention.

Figure 4 is an end view taken substantially on the line 4—4 of Figure 3.

Figure 5 is a large detached elevation of the can splitter paddles embodying my invention.

In the preferred embodiment of my invention as illustrated in the accompanying drawings, 1 indicates a runway along which cans are rolled under a yielding snubber belt 2 located over the runway. The belt 2 engages the cans and causes the same to roll along the runway 1.

The belt 2 is driven in any suitable manner as, for example, from a motor 3 through a drive belt connection indicated at 4 and 5 for driving a shaft 6 upon which the belt pulley is secured. A plurality of yieldably disposed belt tighteners 7 are carried from the frame 8 to yieldably urge the lower run of the belt 2 in position to engage the cans upon the runway 1.

Carried by the frame 8 is a paddle shaft 9 upon which the idler roller 10 of the snubber belt 2 is journaled. In the illustration of my invention herein set forth, the can dividing mechanism is operated upon the paddle shaft 9 and includes a trigger 11 which is engaged by the leading can indicated at 12 (Figure 3). As the trigger 11 is raised, it releases the pawl 13 of the ratchet 14 secured to the paddle shaft 9. The release of the pawl 13 from the ratchet 14 permits the friction clutch 15 to engage under the influence of a spring 16, causing the paddle shaft 9 to make one-half revolution.

Secured to the paddle shaft 9 are paddles 17 and 18 which engage the can 12 as will hereinafter be set forth to divert the same to the opposite sides of the divider plate 19 so that they may be delivered upon suitable conveyers 20 and 21 to form the divided stream. The paddles 17 and 18 are of like construction and each includes an advanced long angled leg 22 and a short angled leg 23.

The paddles 17 and 18 are mounted upon the shaft 9 (Figure 5) so that the long advanced angled leg 22 of one paddle is advanced in the direction of rotation ahead of the short leg 23 of the opposite paddle. The paddles are positioned at the opposite sides of the runway 1 in such manner as to engage the opposed ends of the can. In this manner when the long advanced leg 22 engages one end of the can, it does so before engagement with the short leg 23. This turns the can on the divider plate 19 toward one side thereof. As the paddle arrangement is alternate in construction, that is, the advanced long leg 22 of one of the paddles 17 lies on one side of the conveyer 1, while the advanced long leg 22 of the paddle 18 lies upon the opposite side of the runway 1, the effect is that alternate cans engaging the trigger 11 will be diverted to opposite sides of the divider plate 19.

The faces of the leg 22 are angled in the direction of diversion of the cans with respect to the line of travel of the cans on the conveyer 1. As the longer leg 22 engages one end of the can, it speeds ahead that end of the can as it turns the can in the direction of the shorter paddle 23.

Having fully described my invention, it is to be understood that I do not wish to be limited to the details herein set forth, but my invention is of the full scope of the appended claims.

I claim:

1. In a device for dividing a stream of articles into two streams on a runway over which a stream of cans is moved, a dividing means including a pair of edge paddles, means for driving the edge paddles, means for normally holding the paddle driving means inoperative, means adapted to be engaged by the cans on the runway to release the said holding means to permit the edge paddles to be rotated through a portion of a revolution, the edge paddles including an advanced leg adapted to engage one end of a can on said runway to speed that end of the can and to turn the can in the direction toward one side of the divider means.

2. In a device for dividing a stream of articles into two streams, the combination of a runway, means for propelling cans along the runway, a can dividing means positioned over the runway, means for operating the can dividing means in timed relation with the movement of the cans along the runway, and the can dividing means including a pair of edge paddles each of which includes a long angled advanced leg and a short angled leg, wherein the long advanced leg of the paddles and the short leg of the other paddles cooperate to divide the cans into two streams.

3. In a device for dividing a stream of articles into two streams, of a dividing means including a pair of edge paddle members, means for driving the edge paddle members, means for normally holding the paddle driving means inoperative, means adapted to be engaged by the articles in the stream to release the said holding means to permit the edge paddles to be driven to engage the edge of the articles and to turn alternate of said articles in different directions to form two streams.

4. In a device for dividing a stream of articles into two streams, the combination of a runway along which articles are rolled in a stream with their longitudinal axes parallel with, but transverse to, the said runway, a dividing means positioned over the runway, means for driving the dividing means in timed relation with the movement of cans along the runway, the can dividing means including edge paddles adapted to engage the edges of the cans on said runway to thereby angle their longitudinal axis with relation to their direction of movement along the runway so as to alternately form two streams.

5. In a device for dividing a stream of articles into two streams, the combination of a runway, means for propelling the cans along the runway, a can dividing means positioned over the runway, means for driving the can dividing means, means for holding the driving means inoperative, trigger means located in the runway and adapted to be engaged by the cans to release the holding means and the can dividing means, including a pair of edge paddles each of which includes a long angled advanced leg and a short angled leg, wherein the long advanced leg of the paddles and the short leg of the other paddles cooperate to engage alternate cans to divert the same to form two streams thereof.

MAX F. WEEKS.