Aug. 5, 1924. 1,503,936

W. J. BENOIT

CONVEYER

Filed July 19, 1921 2 Sheets-Sheet 1

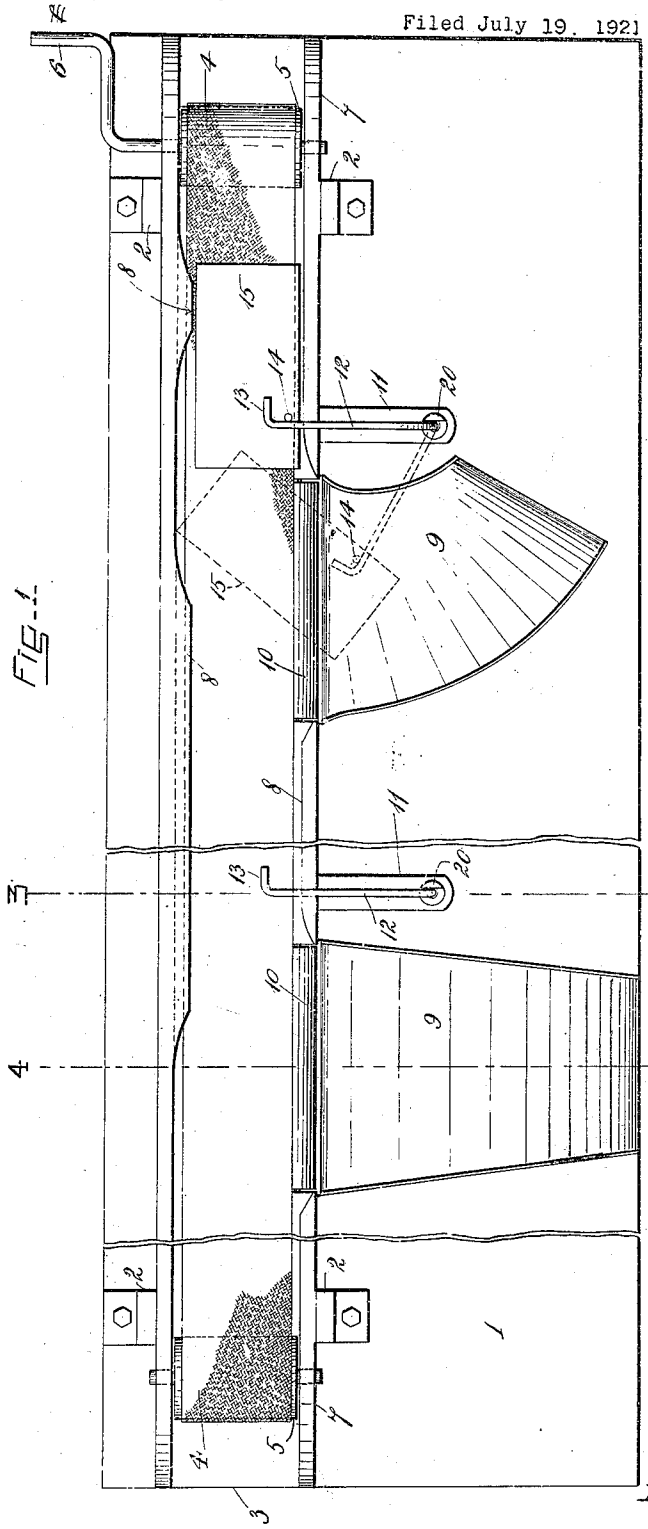

Fig. 1.

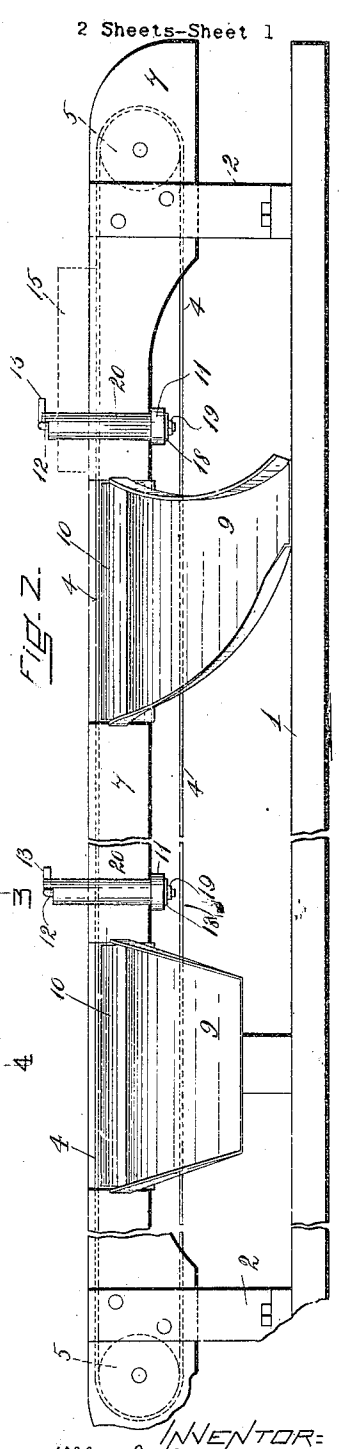

Fig. 2.

INVENTOR:
Wilfred J. Benoit
By Bowen & Adams
ATTORNEYS:

Aug. 5, 1924.

1,503,936

W. J. BENOIT

CONVEYER

Filed July 19, 1921 2 Sheets-Sheet 2

Fig. 3.

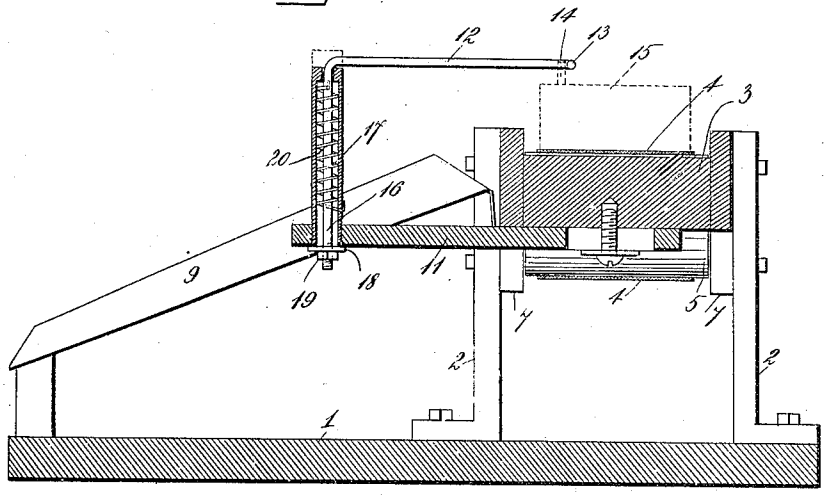

Fig. 5.

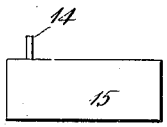

Fig. 4.

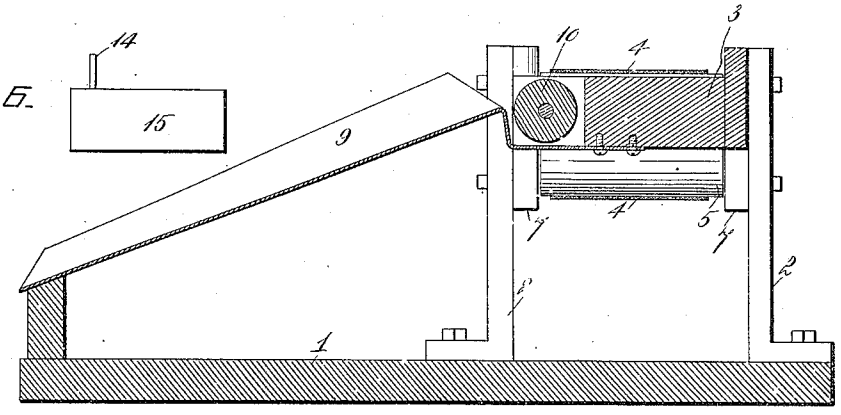

Fig. 6.

INVENTOR:
Wilfred J. Benoit
By Cromwell & Myers
ATTORNEYS:

Patented Aug. 5, 1924. 1,503,936

UNITED STATES PATENT OFFICE.

WILFRED J. BENOIT, OF DRACUT, MASSACHUSETTS.

CONVEYER.

Application filed July 19, 1921. Serial No. 485,897.

To all whom it may concern:

Be it known that I, WILFRED J. BENOIT, a resident of Dracut, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Conveyers, of which the following is a specification.

My invention relates particularly to a mean for distributing material in a mill, and has been satisfactorily applied in cotton mills where the product of a certain machine is to be distributed to various points or material from a storage room is to be distributed to various machines.

While it is well known that belt conveyers have been used for purposes of distribution, such conveyers have been more or less complicated so far as the mechanism is concerned for delivering the material at various stations, comprising switching mechanism of some kind.

My invention consists therefore in means, located above the conveyer by which the various packages may be distributed at the proper stations by being restrained and pulled off from the conveyer.

In its preferred form my invention is shown in the drawings, in which—

Figure 1 is a plan of such conveyer, two stations only being shown.

Fig. 2 is a side elevation.

Fig. 3 is a section on line 3—3 of Fig. 1.

Fig. 4 is a section on line 4—4 of Fig. 1.

Figs. 5 and 6 are side elevations of carriers.

In these drawings 1 represents the base. 2, 2 are supports for the flooring 3 on which the conveyer belt rests and over which it moves. 4 is a conveyer belt which may be of any construction and as shown is of canvas and passes over rolls 5, 5, to one of which power is applied as indicated by the crank handle 6. It will of course be understood that the belt may be operated either by electricity, steam or other power as seems desirable. These rolls are mounted in side bars 7 which are mounted on the uprights 2, which serve not only as mountings for the rolls 5 but also as side walls to direct or guide the conveyer belt. Flanges 8 may also be provided, if desired, to assist in maintaining the package as it moves in proper position on the belt 4.

The delivery stations are represented by troughs 9 arranged at proper positions at the sides of the frame. At such points the flanges 8 are cut away so as to allow the package to be withdrawn from the belt and preferably also rolls 10 are mounted in the edge of the flooring 3 so as to allow the packages to be readily pulled off from the belt.

To engage the packages and cause them to be removed from the conveyer I provide brackets 11 located in proximity to the troughs 9 and on each bracket 11 I mount a spring-controlled arm 12 which has a reach over the conveyer and is provided at its outer end with a hook 13 such that it may catch a pin or other projection 14 on the package 15 (see Figs. 5 and 6) and restrain the package from being carried along by the conveyer and guide it to the proper trough. This arm 12 is mounted on top, and preferably forms part, of a vertical shaft or heavy wire 16 the lower end of which is supported in the bracket 11 in such a way that it may be rotated. As shown a vertical tube 17 is mounted in the bracket 11 near its end, and the shaft 16 passes down through this tube and through a washer 18, and a nut 19 screws onto the threaded end of the shaft against the washer. The upper end of this member where the shaft is bent to form the arm 12 rests on the top of the tube 17, the tube serving to steady it. A spiral spring 20 surrounds the shaft 16, one end of this spring being attached to the tube 17 and the other end being attached to the shaft 16, these parts being so adjusted that the arm 12 will be maintained normally in a position at right angles to the movement of the conveyer.

The operation of the device is indicated in Fig. 1 where the package 15 is shown as having been moved along by the conveyer until its pin 14 engages the hook 13. The continuous movement of the conveyer carries the package along, but at the same moment the spring-controlled arm 12 which is turned by it restrains it and gradually draws it off and guides it into the trough 9 so that the package slides off down this trough, which is inclined, and as it moves down the pin 14 disengages from the hook 13 and the arm 12, under control of the spring 20, is brought back into its normal position.

In the practical construction of this device the pins or other projections 14 on the packages bear a certain relation to the level of the hooks, the height of the hooks above the conveyer being such that certain of the packages have projections which will pass

under certain of the hooks and yet be engaged by other hooks. In Figs. 5 and 6 two packages 15 are shown. In Fig. 6 the pin 14 is higher than the pin 14 in Fig. 5. In this way each package (which may be a basket filled with goods of a particular kind) on being placed on the conveyer will move with the conveyer until it reaches a hook the height or other characteristic of which is such that it will engage the projection on this particular package, and this relation may be caused by the relative heights of the various projections above the packages and of the arms above the level of the conveyer or the reach of the arm over the conveyer and the corresponding location of the projections on the packages.

I do not mean to limit myself to any exact relation between the arms and the pins, as so far as I know this general arrangement is new, nor do I mean to limit myself to any other precise detail of construction above described and shown in the drawings.

What I claim as my invention is:—

1. A machine of the kind described comprising a conveyer belt, means for moving it, and yielding means located normally to engage packages resting on said belt and draw them therefrom.

2. A machine of the kind described comprising a conveyer belt, means for moving it, and yielding means located in fixed position in relation to said belt and adapted to engage packages resting on said belt and draw them therefrom, said yielding means comprising a spring-controlled arm normally located above and overlapping said belt, said arm being adapted to be engaged by a package located on said moving belt and withdraw it therefrom.

3. A machine of the kind described comprising a conveyer belt, means for moving it, a plurality of yielding means located in fixed position at intervals along said belt, each having an arm normally overlapping said belt, in combination with a plurality of packages adapted when resting on said conveyer belt to pass under said arms, each package having individual means adapted to co-operate with one only of said arms whereby when said package and said arm are in engagement said arm will draw said package from said conveyer.

WILFRED J. BENOIT.