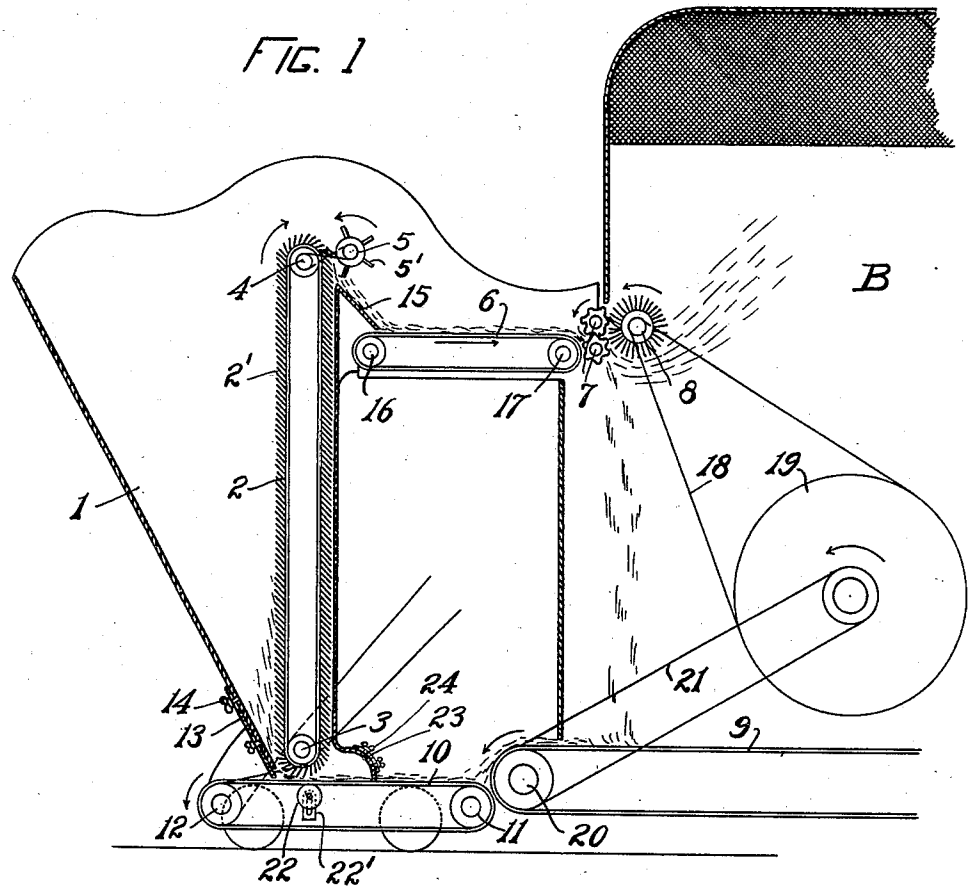
M. E. RYAN.

AUTOMATIC FEED FOR FIBERS AND THE LIKE.

APPLICATION FILED MAR. 18, 1912.

1,074,468. Patented Sept. 30, 1913.

FIG. 1



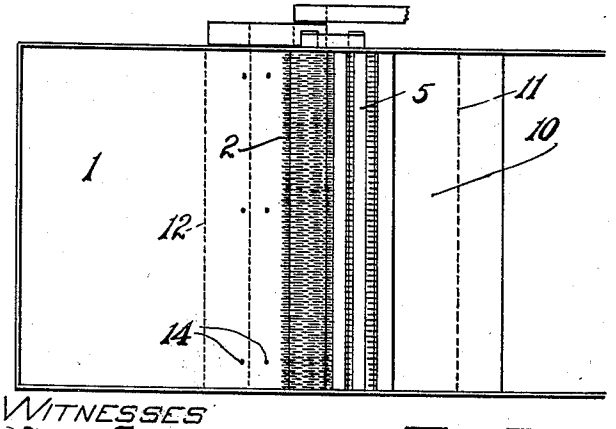


FIG. 2

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MICHAEL EMMET RYAN, OF FALL RIVER, MASSACHUSETTS.

AUTOMATIC FEED FOR FIBERS AND THE LIKE.

1,074,468. Specification of Letters Patent. Patented Sept. 30, 1913.

Application filed March 18, 1912. Serial No. 684,596.

To all whom it may concern:

Be it known that I, MICHAEL EMMET RYAN, a citizen of the United States, residing at Fall River, county of Bristol, Commonwealth of Massachusetts, have invented certain new and useful Improvements in Automatic Feeds for Fibers and the like, of which the following is a specification.

This invention relates to machines for conveying finely divided material, and especially material of a fibrous nature, such as hair, fur, fur fiber, lint, and the like. In handling such material by almost any device, there is apt to be a certain amount of loose fiber which is dropped on the way through the machine to the point of final destination.

It is the object of my present invention, therefore, to provide a machine in which the conveying of the material will be accomplished in such a manner that the dropping tendency will be eliminated as far as possible and wholly corrected so that all material will be ultimately delivered at the point desired.

The principles of my invention will be more fully described in the specification which follows. As illustrative thereof, I have shown in the drawings and shall describe in the specification a form of device which I have found well adapted to practical use.

Throughout specification and drawings like reference numerals are employed to indicate corresponding parts, and in the drawings:—

Figure 1 is a central section of a machine embodying the principles of my invention, and Fig. 2 is a plan view of that portion particularly relating to my improvements.

My machine, as illustrated, comprises a hopper 1, the upper part of which is of usual form, in which the material, such as clipped fur, is deposited. The hopper is so shaped as to deliver the material against an endless picker belt 2 which runs on rolls 3 and 4 which are suitably operated to run the belt in the direction of the arrow up through the hopper 1.

The belt is provided with inclined teeth 2^1 which engage the material to carry it over the upper roll 4 from which it is doffed by a stripper 5 having suitable teeth 5^1. From this stripper the material falls down over an inclined shelf 15 on to a conveyer 6. This conveyer comprises an endless belt running on rolls 16 and 17 which are suitably driven to operate the belt in the direction of the arrow.

The conveyer 6 delivers the material to a pair of corrugated rolls 7 under which is a brush 8 which is rapidly revolved by a belt 18 driven by a drum 19. This brush 8 runs at high speed and throws out by centrifugal action the clipped fur fibers or hairs so as to distribute them well within the action of the blower B which may be of any suitable type.

The brush 8 in practice does not deliver all of the material from the rolls 7 to the blower B. In fact, it is not altogether desirable that it should do this at all times as the feed is not always uniform and even. A considerable amount of the material, therefore, falls by gravity toward the bottom of the blower B and away from the conveying action thereof.

The material upon which this class of machine is particularly adapted to run is a mixture such as is used for hats. This mixture is composed of a variety of grades of fiber. Some or all of these grades contain imperfections in the way of master hairs, pieces of pelt, dirt and other matter which must be eliminated from the ultimate fiber mixture which is to be used in hatting. A considerable part, however, of these lighter fibers fall with the imperfections in the way described and the process of feeding has to be repeated in order that all of the fibers of finer grade may be secured.

In my device, the bottom of the blower B is formed as an endless conveyer 9 running over a roll 20 and suitably driven by a belt 21, from the drum 19. This conveyer in my present invention deposits the material upon a second conveyer 10 running on rolls 11 and 12 mounted in any suitable frame and adapted to return the material thus delivered to the open bottom of the hopper 1. In passing the open bottom of a hopper 1 the conveyer 10 runs against an apron 13 adjustably controlled by thumb bolts 14.

The conveyer 10 which refeeds the dropped material back into the open bottom of the hopper 1 is made adjustable through the medium of a roll 22 adjustable in a slot in a bracket 22^1 so that the conveyer 10 may be raised or lowered in relation to the teeth 2^1 of the conveyer 2 as it passes under the lower roller 3. This allows the belt 10 to present the shortest of the fibers or

to be adjusted to take care of coarser material. At the end of the run after the finer fibers have been extracted it is desirable to intercept the imperfections and prevent their return to the hopper 1. I accomplish this by means of a slide 23 set on the back of the hopper 1 adjustable by thumb nuts 24. When it is desired to intercept the material and prevent its return the slide 23 is dropped down into contact with the surface of the conveyer 10 and the material is packed up and removed.

In the drawings I have shown the hopper 1 and picker belt 2 as being separately mounted in front of the blower B. This construction is advantageous for the requirements of the several operations, but I do not limit myself to this separated form, as it is apparent that the conveyer 2 may be extended and arranged at a proper level to deliver direct to the blower. My conveyer 9 may be constructed to deliver direct to the bottom of the hopper 1 if desired.

In operation my device is particularly efficient on account of its continuous operation in returning the heavier particles dropped by the brush 8 in the blower to the hopper 1. It will be seen that this separation is due to the action of the blower on the lighter particles in preference to the heavier particles. In order, therefore, to keep the mixture of the different grades of material more uniform my continuous return has a decided advantage over any method of handling in which the heavier material dropped in the blower B might be returned intermittently and in quantity to the hopper 1.

Various modifications in the construction and operation of my device may obviously be made, all without departing from the spirit of my invention if within the limits of the appended claim.

What I, therefore, claim and desire to secure by Letters Patent is:—

A feeding device for hair, fiber and the like comprising an open bottom receptacle, a vertical picker therein, a feeding conveyer in receptive relation to said picker and a return conveyer effectively disposed beneath said feeding conveyer and set across the open bottom of said receptacle to receive any material dropped from said feeding conveyer and present the same to the open bottom of said receptacle, and a slide disposed in front of said picker and adjustable relative to said return conveyer for regulating the feed of the return conveyer to said picker.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL EMMET RYAN.

Witnesses:
JOSEPH W. DOWNS,
RUTH B. ELLMS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."