April 19, 1932. E. F. CAMPBELL 1,854,883

CONVEYER

Filed Sept. 30, 1930 2 Sheets-Sheet 1

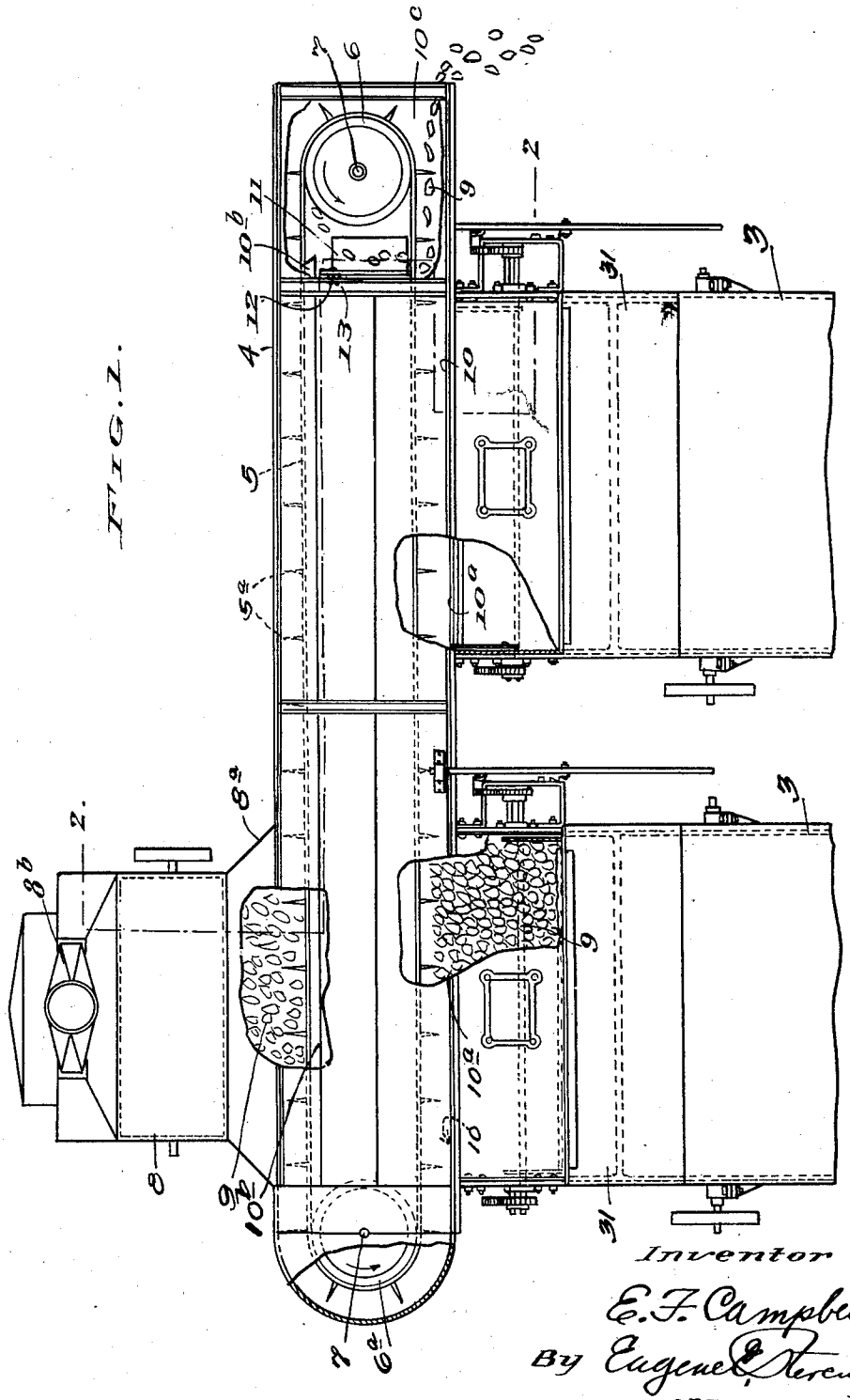

FIG. 2.

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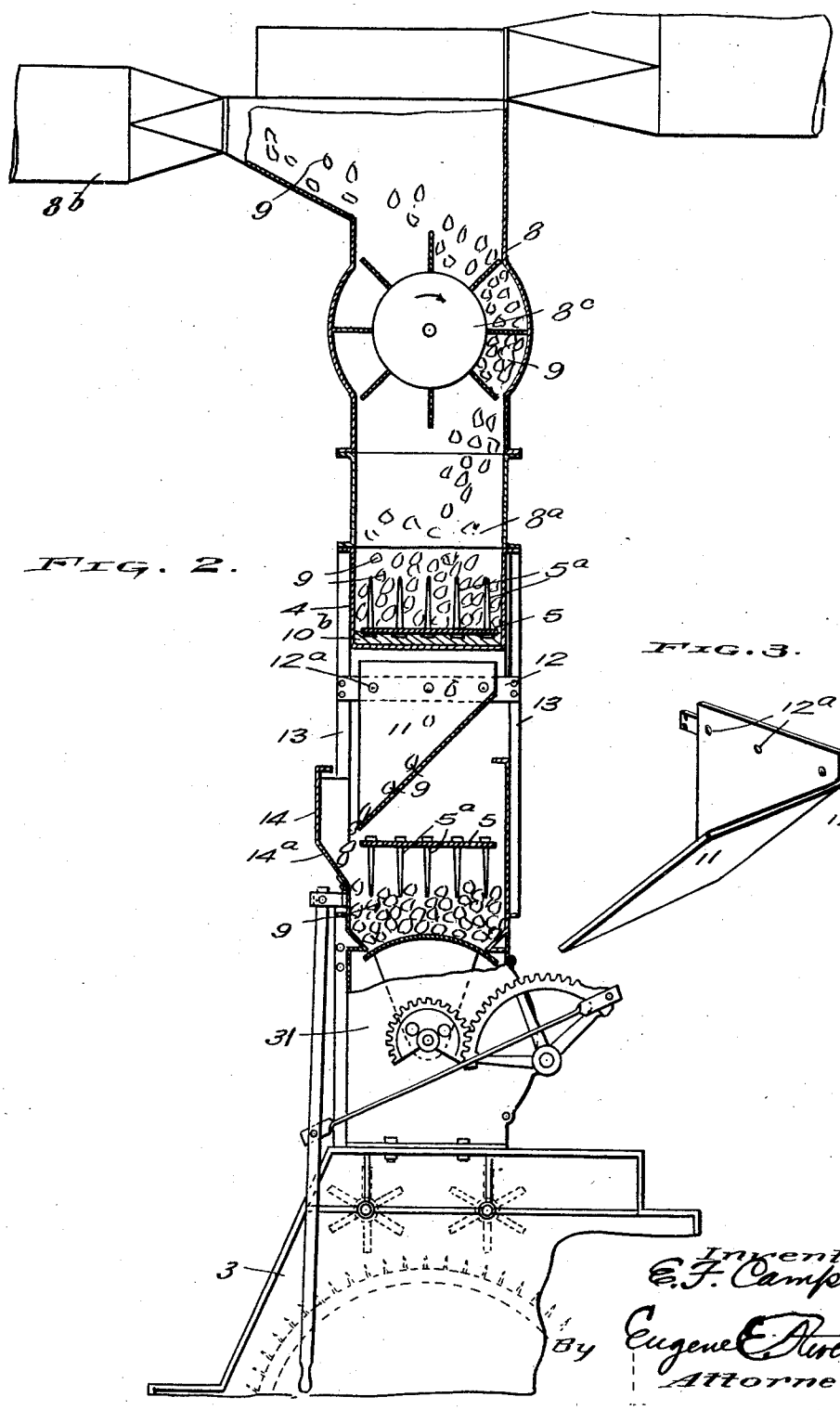

FIG. 2.

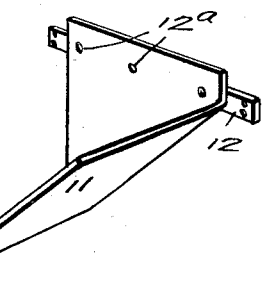

FIG. 3.

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Patented Apr. 19, 1932 1,854,883

UNITED STATES PATENT OFFICE

ERNEST F. CAMPBELL, OF COLUMBUS, GEORGIA, ASSIGNOR TO LUMMUS COTTON GIN COMPANY, OF COLUMBUS, GEORGIA, A CORPORATION OF GEORGIA

CONVEYER

Application filed September 30, 1930. Serial No. 485,450.

My invention relates to improvements in conveyers broadly and has special reference to belt distributors such as are used in connection with cotton handling machinery and the like.

The main difficulty experienced in the use of the belt distributor for supplying gin feeders, is that seed cotton works up between the belt and trough and accumulates upon the upper side of the lower run of the belt. Such progressively increasing accumulation is carried around the belt carrying pulley at one end of the machine and again drops on the lower run of the belt. Obviously, this cycle will be repeated again and again and in time the quantity of cotton so accumulated is sufficient to cause the belt to run unevenly on the pulley and sometimes causes the travel of the belt to cease altogether. There are also other objections as will be manifest, and the distributor must be stopped periodically and the cotton cleaned off the lower belt run.

It is, therefore, the primary object of my invention to overcome the objections aforenoted and to provide, in connection with a belt distributor, for cotton gin feeders or the like, novel means for preventing the accumulation of cotton upon the upper side of the lower run of the belt.

A further and more specific object of the invention is to provide, in a device of the character set forth, means for carrying off such material as may find its way to the upper surface of the lower belt run and which will be operative for this purpose while the machine is running.

A still further object of the invention is to furnish cotton discharge means for removing accumulations of cotton from the lower run of a belt distributor, and which includes one of the standard pulleys about which the belt is trained.

A further object of the invention is to provide novel means whereby the accumulation of cotton or other material, between the distributor belt and its carrying pulleys or guides, may be automatically carried off without necessitating the stopping of the machine,—the invention being readily applicable to standard belt distributor constructions at small expense and without substantial modification.

The invention also resides in certain novel features of construction, combination and arrangement of the various parts and in modes of operation,—all of which will be readily apparent to those skilled in the art upon reference to the accompanying drawings in connection with the detailed descriptive matter appearing hereinafter.

In the drawings,

Figure 1 is a side elevational view, partly broken and partly in sections and illustrating the application of my invention to adjacent cotton gin feeders; and

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a perspective view of the deflector chute.

Referring specifically to the drawings wherein the same reference characters have been used to designate the same parts in all views, numeral 3 denotes a pair of cotton gin feeders which support the casing 4 of the belt distributor 5, which is trained over the pulleys 6, 6ª shown journalled upon shafts 7. The belt 5 has the usual conveying spikes 5ª and receives the cotton from the pneumatic conveyor pipe 8ᵇ through the separator 8 discharging through the opening 8ª in the casing 4. The separator has the driven discharge element 8ᶜ as shown. For purposes of convenience numeral 9 is used to designate the cotton.

Of course, there may be any number of feeders 3, in battery, and supplied by the distributor 5 through the registering openings 10ª in its bottom trough portion 10.

The lineal transverse partitioning member 10ᵇ beneath the upper run of belt 5 supports such run and provides, with the sides of the casing 4, an upper trough receiving the cotton from the separator 8. The belt 5 carries the cotton in the direction of the arrows (Figure 1) toward the closed end of the casing 4 and down into the trough 10 from the upper trough.

If the belt supplies the cotton faster than it is being ginned the surplus will be dis-

charged through the opening 10c at the discharge end of the casing 4.

Ordinarily, a substantial mass of cotton 9 will be progressively accumulated upon the lower side of the belt run to be carried around the pulley 6 again and again,—such cotton leaving the pulley at the point where the top run of the belt parts and dropping again upon the lower run. The manifest objections to this have already been pointed out, and as has been stated, the machine must be frequently stopped and cleaned to assure proper travel of the belt 5.

As shown, I overcome this difficulty by the use of the deflector chute 11 disposed adjacent to, and receiving the cotton from the pulley 6 as shown in Figure 1,—such chute 11 being open at the side toward the pulley and having its sloping bottom discharging laterally of the belt 5 into a companion chute 14 whose discharge end 14a communicates with the trough 10 beneath the belt 5 as shown in Figure 2.

The deflector chute 11 is secured as at 12a to a cross bar 12 which in turn is carried by two uprights 13,—one at each side of the casing 4. The deflector chute 11 is preferably of sheet metal as is the companion chute 14. As to the companion chute 14,—this is suitably secured to the casing 4 and may be fastened to one of the uprights 13 (Figure 2).

The companion chute 14 may be readily applied to standard belt conveyer casings by simply cutting an opening in the side wall thereof. It is a very simple matter to apply both chutes 11, 14 as the installation thereof in no way interferes with the usual operation of the distributor and necessitates no changes in the location of any of the parts entering thereinto.

It is to be understood that the foregoing is to be taken merely as the now preferred mechanical expression of my invention which is obviously susceptible of considerable change and modification within the spirit and scope of the subject matter claimed hereinafter.

The valve or cutoff unit 31 above the feeders 3 has been made the subject of a separate application for patent, as has also the separator unit 8.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A material supply distributor comprising an elongated casing closed at one end and open at the other and providing upper and lower trough portions, an endless belt distributor having material engaging elements and working in said troughs, said belt receiving material from above said upper trough and carrying it toward said closed end and into said lower trough, rotatable pulleys supporting said belt at each end and about which the same is trained, the bottom of the lower trough having discharge openings intermediate its ends, a chute member between said troughs and adjacent the pulley at the discharge end of said casing and discharging laterally of the lower run of said belt, said chute member receiving from between said aforementioned pulley and the upper run of said belt such material as has reached the upper side of the lower run of the belt, a second chute member carried by said casing and receiving material from said first mentioned chute, and said second chute member discharging into said lower trough beneath the lower run of said belt.

2. In a conveyer of the class described including a trough like casing, an endless conveyer belt in said casing supporting means for said belt and including a rotatable member at one loop thereof, a deflector adjacent said rotatable member and receiving material from between said member and the top flight of said belt, said deflector discharging laterally of the lower run of said belt, a chute at one side of said casing opposite said deflector and receiving material therefrom, and said chute discharging into said trough beneath said lower conveyer run.

3. In a conveyer of the class described including a trough like casing, an endless conveyer belt in said casing supporting means for said belt and including a rotatable member at one loop thereof, a deflector adjacent said rotatable member and receiving material from between said member and the top flight of said belt, said deflector discharging laterally of the lower run of said belt, a chute at one side of said casing opposite said deflector and receiving material therefrom, said chute discharging into said trough beneath said lower conveyer run, supporting means for said deflector and chute and including vertical posts carried by said casing, and a carrier for said deflector comprising a cross member secured to said posts between the upper and lower runs of said belt.

In testimony whereof I affix my signature.

ERNEST F. CAMPBELL.