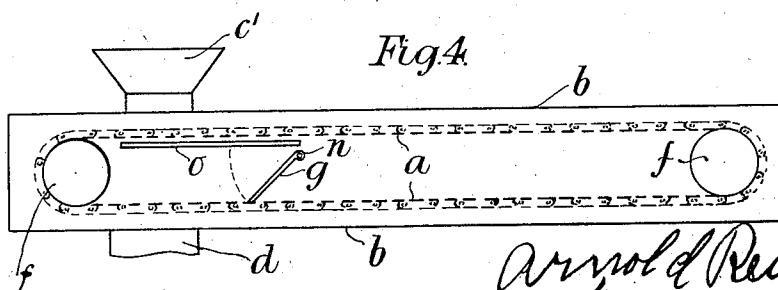
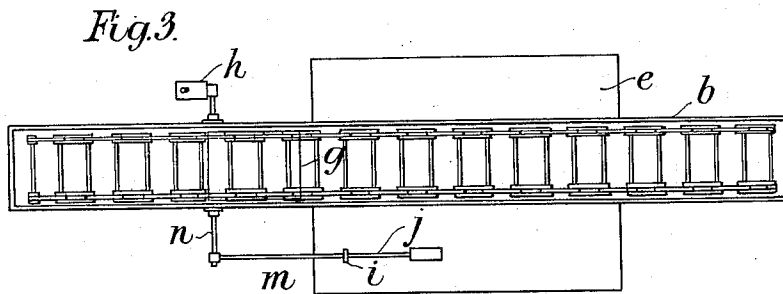
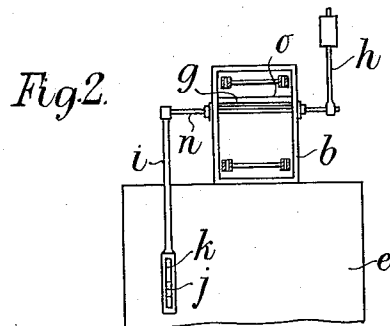
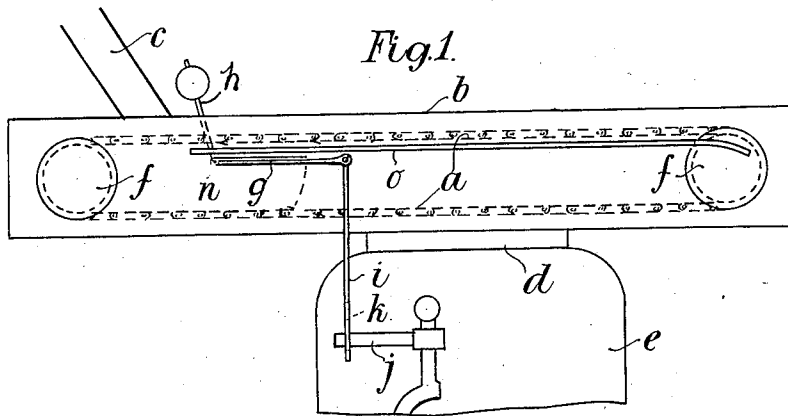


Jan. 21, 1930.

A. REDLER  
APPARATUS FOR CONTROLLABLY TRANSFERRING  
MATERIAL FROM ONE PLACE TO ANOTHER  
Filed May 27, 1925

1,744,676



Arnold Redler  
by  
Toulmin & Toulmin  
attorneys

## UNITED STATES PATENT OFFICE

ARNOLD REDLER, OF SHARPNESS, ENGLAND

## APPARATUS FOR CONTROLLABLY TRANSFERRING MATERIAL FROM ONE PLACE TO ANOTHER

Application filed May 27, 1925, Serial No. 33,269, and in Great Britain May 30, 1925.

In the specification of my Patent No. 1,475,596, I describe a conveyor, comprising a casing and a chain-like structure operating therein, according to which the material under transport coalesces in the openings of the links of the chain whereby the links and a part of the material composing the load jointly form or act as a continuous band supported by the bottom of the casing, the remainder of the load being carried by this improvised band en masse, i. e., in bulk, to a considerable depth.

The object of my present invention is to utilize and adapt this conveyor for controllably transferring material from one place to another, typifiable by feeding a machine or like object, or by discharging a bin or similar object, and to this end the invention resides in the combination with the conveyor, of means co-operating therewith for regulating the passage of the material.

These regulating means are, in general, adapted for automatic operation through the agency of a component of the apparatus or object with which the conveyor is associated, said component being subject to the reception of the material; but in some applications the operation may be manually accomplished.

The invention is capable of wide application, and of considerable variation in its constructive details as will be apparent from the example I will now describe with reference to the accompanying drawings which illustrate its application to the feeding of an automatic weighing machine, and whereof:—

Fig. 1 is a diagrammatic side elevation showing the conveyor with the complemental regulating means, and a fragment of the weighing machine; while

Fig. 2 is an end elevation thereof with the parts in open position; and

Fig. 3 is a corresponding plan.

Fig. 4 is a diagrammatic side elevation representing a modification of the construction depicted in the preceding figures.

Referring, first, to Figs. 1, 2 and 3, the conveyor consists of the chain *a* transversally mounted on the sprockets *f, f* positioned within the casing *b* having the inlet *c* for the material and the outlet *d* therefor, the lower run

of the chain *a* co-acting with the floor of the casing *b* and the upper run with a platform *o* likewise arranged within the casing *b*, all these parts being constructed, arranged and adapted for use and operation as, or substantially as, described in my aforesaid specification, hence further description is unnecessary.

The reference *e* denotes the weighing machine which is in direct communication with the outlet *d* of the conveyor, and has its weighing-hopper operatively associated with an arm *j* for actuating the regulating means co-operating with the conveyor chain *a*, said means consisting of a flap *g* fixed to a shaft *n* rotatably mounted on the casing *b* and carrying also a weighted-lever *h*. The arm *j* operates the flap *g* through the agency of a rod *i* having its end *k* slotted to slidably embrace the arm *j*, and its other end pivoted to one extremity of a lever *m* whose other extremity is secured to the shaft *n*.

The operation is as follows:—

The material to be weighed enters the conveyor casing *b* at *c* and falls through the immediately-adjacent portion of the upper run of the chain *a* to the lower run which conveys it to the outlet *d* whereupon it enters the machine *e* by dropping through the chain when the latter is over the aperture. The material is carried en masse on the chain *a*, the height being subject to the regulator flap *g* and, accordingly, the quantity of the discharge at the outlet *d*. The action of the regulator means is such that the downward movement of the arm *j*, under the influence of the loaded weighing-hopper of the machine *e*, causes the rod *i* to swing the lever *m* and so turn the spindle *n* sufficiently to bring the weighted-lever *h* to the other side of the vertical relatively to that shown in Fig. 1, and, therefore, the flap *g* to its extreme lower or closed position. When the load on the weighing-hopper is released or discharged, the arm *j* rises to the position shown in Fig. 1, thereby raising rod *i* and lever *m* and so turning spindle *n* sufficiently to bring lever *h* to the position shown in Fig. 1.

It will now be evident that the flap *g* operates with wiping and blocking actions rela-

tively to the mass of material on the chain *a*, and, consequently, readily provides for a dribble feed, such a feed also incidentally resulting from the detachment of the coalescing material when the chain *a* is over the inlet to the weighing machine *e* as indicated by the outlet *d*.

When the weighing-hopper, through the agency of the flap *g*, cuts off the supply to the weighing machine, and the receiving space in connection therewith becomes full, the platform *o* and chain *a* jointly function to re-transfer the material to the receiving side of the flap *g*.

I will now refer to Fig. 4 which, as already mentioned, shows a modification of the construction represented in the preceding figures, the same reference letters being used and denoting the same parts as in such figures. Now, the inlet to the trough *b* is in the form of a container or storage hopper *c* which is or may be fed with material in the same way as the trough *b* in the other example, and the upper run of the chain *a*, which travels in the direction depicted by the arrow, passes beneath the outlet of the container or hopper and conveys the material over and past the end of the platform *o* which, in this instance, is shortened as compared with that shown in Fig. 1. When the material passes the end of the platform *o*, it falls through the upper run of the chain *a* to the under run which conveys it to the outlet *d*, subject to the control of the flap *g* which is actuated as explained with regard to Figs. 1, 2 and 3, the position of the flap *g* and its allied parts being reversed, as compared with the first-described arrangement, to meet the travel of the chain *a* which is in the opposite direction to that adopted in such arrangement.

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

1. In an apparatus for feeding material comprising a conveyor having cross members adapted to convey the material in one continuous mass, separate means supporting said material while being conveyed by said conveyor, and regulator means located above the cross members of said conveyor for causing said conveyor to convey a predetermined number of cubic inches of material above any definite portion of the conveyor after passing the regulator.

2. In an apparatus for feeding material comprising a conveyor having cross members adapted to convey the material in one continuous mass, separate means supporting said material while being conveyed by said conveyor, regulator means located above the cross members of said conveyor for causing said conveyor to convey a predetermined number of cubic inches of material above any definite portion of the conveyor after pass-

ing the regulator and adjustable means for setting the regulator means.

3. In an apparatus for feeding material comprising a conveyor having cross members adapted to convey the material in one continuous mass, separate means supporting said material while being conveyed by said conveyor, regulator means located above the cross members of said conveyor for causing said conveyor to convey a predetermined number of cubic inches of material above any definite portion of the conveyor after passing the regulator and automatic adjustable means acting in response to other mechanism for setting the regulator means.

4. In an apparatus for feeding material comprising a conveyor having upper and lower runs and having cross members to convey the material in one continuous mass and regulator means located between the upper and lower runs of said conveyor for regulating the depth of said material while being conveyed by said conveyor at at least one point along the length of said conveyor.

5. In an apparatus for feeding material comprising a conveyor having upper and lower runs and having cross members to convey the material in one continuous mass and regulator means located between the upper and lower runs of said conveyor for regulating the depth of said material while being conveyed by said conveyor at at least one point along the length of said conveyor and adjustable means for setting the regulator means.

6. In an apparatus for feeding material comprising a conveyor having upper and lower runs and having cross members to convey the material in one continuous mass, separate means supporting said material while being conveyed by said conveyor and regulator means located between the upper and lower runs of said conveyor for regulating the depth of said material while being conveyed by said conveyor at at least one point along the length of said conveyor.

In testimony whereof, I affix my signature.

ARNOLD REDLER.