

(No Model.)

J. CREAGER.
CONVEYER.

No. 373,389.

Patented Nov. 15, 1887.

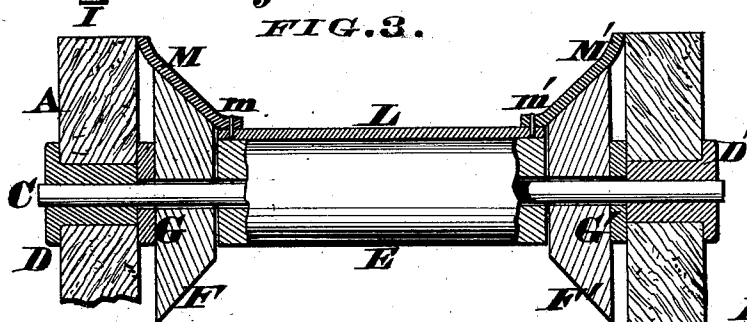
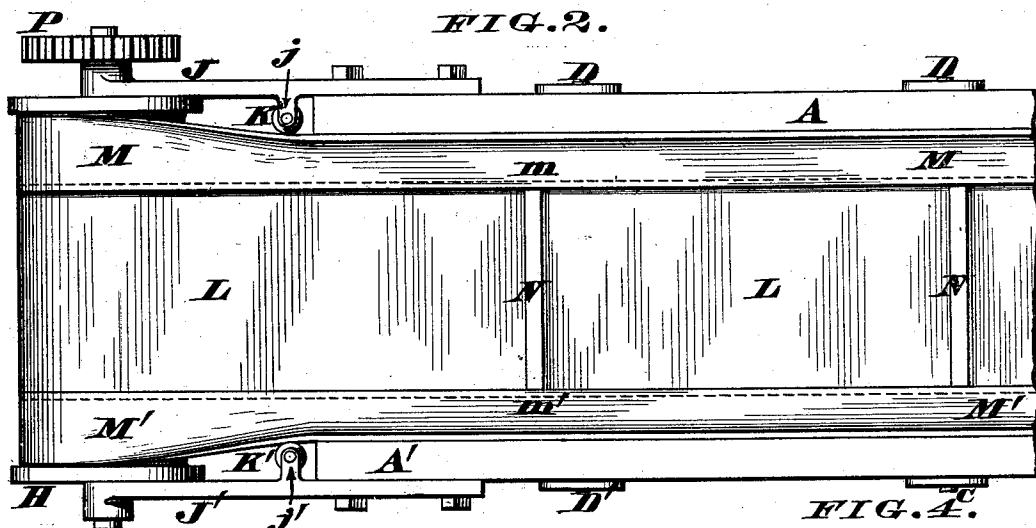
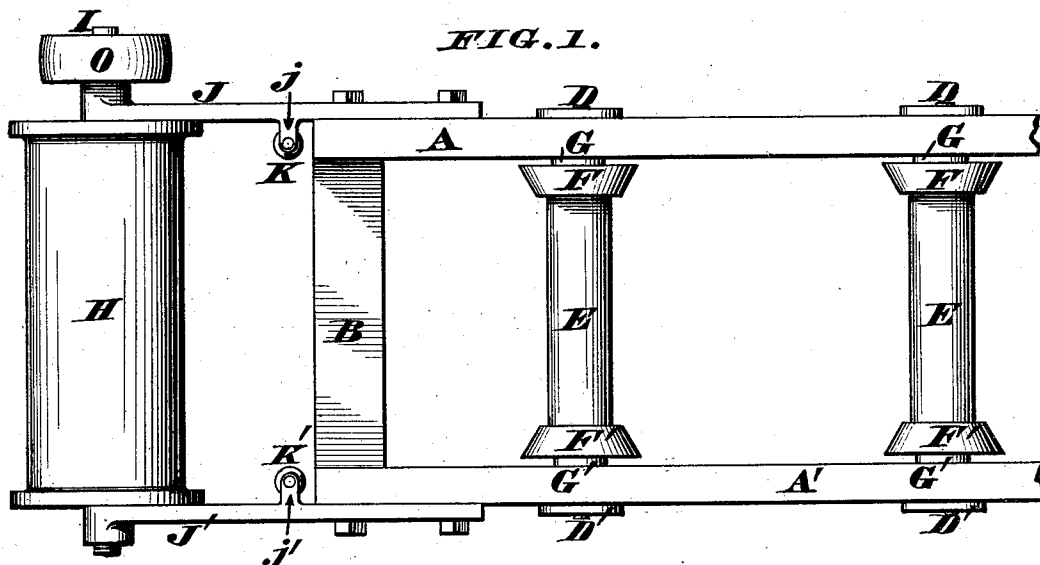
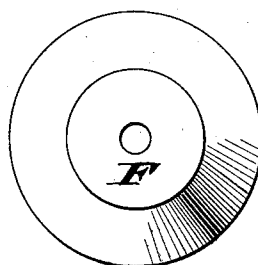


FIG. 4.



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UNITED STATES PATENT OFFICE.

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CONVEYER.

SPECIFICATION forming part of Letters Patent No. 373,389, dated November 15, 1887.

Application filed August 10, 1887. Serial No. 246,638. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN CREAGER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Conveyers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to those conveyers which consist of an endless belt, band, or carrier passed around drums at the opposite ends of a supporting-frame; and my improvement comprises a novel combination of devices which prevents lateral spreading and a consequent loss of materials placed upon the belt, the details of said devices and their peculiar mode of operation being hereinafter more fully described.

In the annexed drawings, Figure 1 is a plan of one end of the main frame of my improved conveyer. Fig. 2 is a similar plan, but showing the endless belt applied to the frame. Fig. 3 is an enlarged transverse section of the frame, taken in the plane of one of its rollers. Fig. 4 is an elevation of one of the conical heads.

A A' represent a pair of side beams or guides of the main frame, which structure may be of any desired length and width, and may be either horizontal or inclined, according to the duty required of the conveyer.

B represents one of a number of cross-beams employed for retaining the guides A A' in their proper parallel position.

C represents one of a series of transverse shafts, whose ends enter boxes or bearings D D', fitted within the guides A A', each of said shafts being provided with a roller, E, and a pair of conical heads, F F', the smaller ends of which are somewhat larger in diameter than the rollers. Interposed between these conical heads and the guides A A', and mounted upon the shafts C, are anti-friction washers G G'.

H represents one of the large drums applied to the opposite ends of a conveyer-frame, said drum being here shown as attached to a transverse shaft, I, journaled in brackets J J', secured to the main frame, said brackets being provided with lugs j j', carrying small vertical rollers K K', for a purpose that will presently appear.

L represents the endless carrier, which may be composed either of leather, rubber cloth, wire, or woven fabric, or other suitable flexible material, the width of said carrier or belt being about equal to the length of roller E, as seen in Fig. 3.

m m' represent rows of stitching, rivets, or other attachments wherewith a pair of flexible wings, M M', are secured upon the carrier L and near the opposite margins thereof. These wings extend the entire length of the carrier, and are sufficiently wide to rest upon the conical peripheries of the heads F F', and then extend up about to the top of the side beams, A A'.

N represents transverse cleats or other conductors, which may be secured to the band L; but these devices must not be attached to the wings M M', as such an attachment would destroy the flexibility of the latter.

The operation of my conveyer is as follows: The wings M M' are first secured to the opposite margins of the band L, and the latter is then passed around the drums at the ends of the frame, the extremities of said wings and band being subsequently united to form an endless carrier, to which power is applied either at the pulley O or gear-wheel P. As the band proper, L, rests upon the rollers E, it is kept perfectly level in the direction of said rollers; but the wings M M', being carried by the conical heads F F', are necessarily inclined at the same angle, and by extending them up to the top of frame A A' said wings serve as fenders, that prevent dirt or other material falling off at the sides of said band, and thus clogging up the operative parts of the conveyer. The flexible wings maintain this inclined position until they reach the end of the frame, at which time the tension or strain exerted by the drum H against the carrier causes said wings to gradually bend over to a horizontal position, as clearly shown in Fig. 2, the small vertical rollers K K' being so located as to prevent chafing of said wings against the ends of the guides A A' when the wings first begin to turn down. It will thus be seen that the changing of the wings from an inclined to a horizontal position, or vice versa, is done so gradually as not to injure the materials of which they are composed, and on this account the conveyer will last for a long time.

The cleats N or equivalent devices prevent the material slipping along the belt when the frame is pitched at a steep angle. Finally, in some cases the heads F F' may be integral with the rollers E; but it is preferred to make them separate, in order that each head may revolve independently.

I claim as my invention—

1. In a conveyer, a supporting-frame, a shaft, C, and a roller, E, and independently-revolving conical heads F F', journaled on said shaft, one head at each end of said roller, in combination with an endless carrier, L, having flexible side wings, M M', as herein described.
2. The combination, in a conveyer, of frame

A A', shafts C, rollers E, separate conical heads F F', washers G, driving-drum H, and endless carrier L, which carrier has flexible side wings, M M', for the purpose described.

3. A conveyer-frame provided with horizontal rollers E, separate conical heads F F', driving-drum H, and vertical rollers K K', for the purpose described.

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

JONATHAN CREAGER.

Witnesses:

JAMES H. LAYMAN,
SAM'L S. CARPENTER.