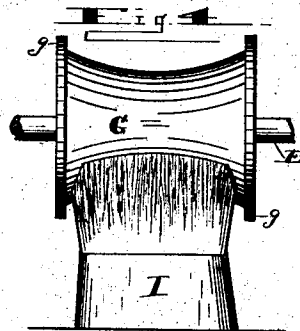
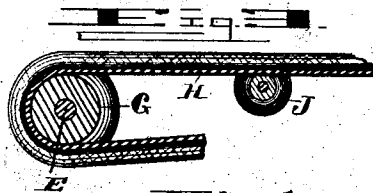
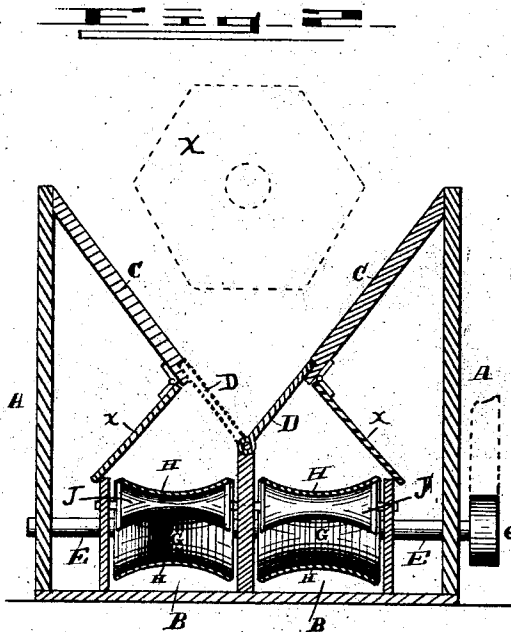
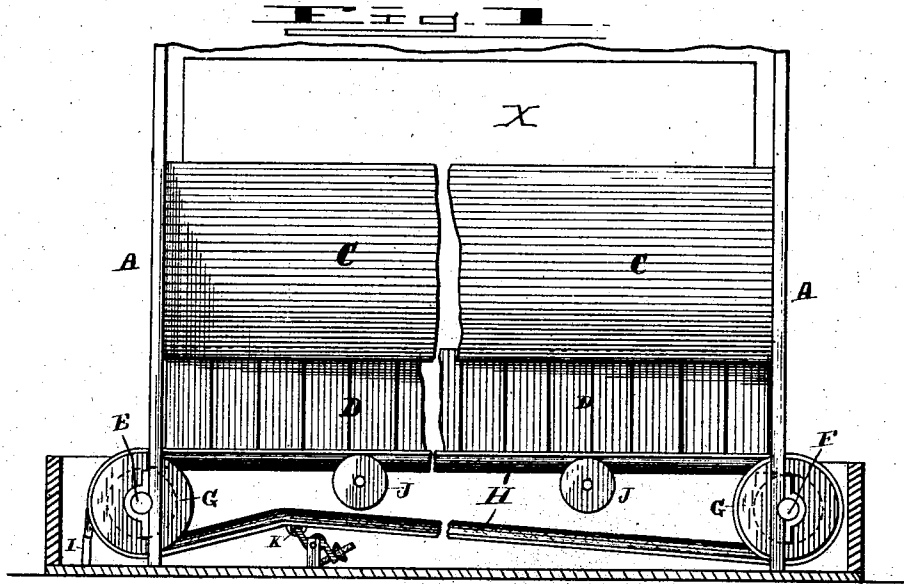


(No Model.)

C. ESPENSCHIED.
CONVEYER FOR FLOUR, &c.

No. 405,994.

Patented June 25, 1889.



Witnesses

P. L. Brooks
A. E. Towell

Inventor

Chas. Espenschied

By his Attorney W. Alexander

UNITED STATES PATENT OFFICE.

CHARLES ESPENSCHIED, OF HASTINGS, MINNESOTA, ASSIGNOR TO HIMSELF
AND OTTO J. A. DOEBLER, OF SAME PLACE.

CONVEYER FOR FLOUR, &c.

SPECIFICATION forming part of Letters Patent No. 405,994, dated June 25, 1889.

Application filed February 28, 1889. Serial No. 301,516. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ESPENSCHIED, of Hastings, in the county of Dakota and State of Minnesota, have invented certain new and useful Improvements in Conveyers for Flour, Middlings, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a detail side elevation, partly in section, of a flour-dressing machine having my improvements applied. Fig. 2 is a vertical cross-sectional view thereof. Fig. 3 is a detail longitudinal section; Fig. 4, a detail view of a drum.

My present invention is an improvement in middlings-purifiers, bolting-reels, and other machines for dressing flour or meal; and it has especial reference to the means for conveying or delivering the material from the machine without subjecting it to any attrition or rubbing during the conveyance thereof. In the ordinary forms of such machines conveyers are employed which force the material out of the machine by pushing or dragging it through the delivery trunks and the blades or buckets grind the material somewhat, rendering it dusty, and as dust is injurious to the product it must be removed, this removal involving additional treatment and loss of material. To obviate this difficulty I employ an endless concave carrier-trough, which receives the material and carries it directly from the machine without any attrition thereof, so that the most delicate grades of material can be handled without deterioration; and my invention consists in the employment of an endless concave flexible and non-sectional conveyer-trough, and in certain novel details of parts, whereby the trough is concaved and operated, all of which are hereinafter clearly set forth.

Referring to the drawings by letter, A designates the frame of a bolting-reel, purifier, or similar machine for dressing ground grain, having two parallel longitudinal delivery-trunks B B at bottom, above which are the chute-boards C and the adjustable shunt-boards D D, by which the material falling

upon and from boards C may be directed into either trunk B, as usual.

X indicates a bolting-reel.

xx are the covers of the trunks B B.

E designates a transverse shaft journaled in proper bearings at one end of the machine; and *e* is a driving-pulley on the end thereof. F is a similar shaft journaled in bearings at the opposite end of the machine.

G G designate drums mounted on said shafts in the ends of trunks B, the peripheries of which are concaved, as shown, or the drums may be provided with peripheral flanges *g* at their edges.

H H designate endless conveyer-belts—one in each compartment B—mounted on drums G, as indicated. These belts form the endless-carrier trunks, and are preferably made of canvas, but may be of other flexible material having a close texture, and are not sectional, being flexible enough to turn round the drums. The concave peripheries of the drums keep the belt from slipping laterally therefrom, and at the same time perform a more important office, which is to upturn the edges of the belt, so that it becomes concave also, or presents a semi-tubular appearance in cross-section, and its upper portion constitutes an endless non-sectional moving trunk or receiver, as is evident. The flanges *g* would serve to turn up the sides of the endless belt also. The endless belts run parallel within compartments B and below shunt-boards D, so that material falling from said boards is received thereon, and when motion is imparted to the belts by belting on pulley *e* or other suitable means the material will be carried out of the machine.

I I designate scrapers or brushes placed at the lower side of drums G, at the delivery end of the machine, and convexed so as to readily brush the belt as it revolves and clear material therefrom.

Where long belts are employed, I use concave supporting-rollers J, mounted in suitable bearings at proper intervals apart below the receiving portion of the belt, and a convex pulley K, mounted in adjustable bearings, may be employed to tighten the carrier; or the shaft F might be made adjustable for this purpose. By the use of these concaved

rollers the material is kept from falling off into the trunks B, and is carried directly from the machine just as it first falls upon the trunk. Obviously, therefore, there is no grinding of the material, and it is delivered from the machine clean and pure.

What I therefore claim as new is—

The apparatus comprising the main frame A, having trunks B B, chute-boards C, and shunt-boards D, and the drums G G, having concave peripheries and mounted on hori-

zontal shafts at the ends of said trunks B, the endless flexible belt H, the supporting-rollers J J, convex tightener-pulley K, and brush I, all substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

CHAS. ESPENSCHIED.

Witnesses:

FRED. S. GARDEN

GEO. W. HEATH.