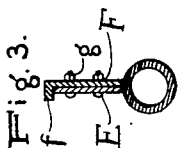
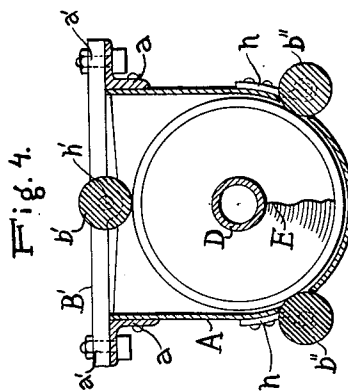
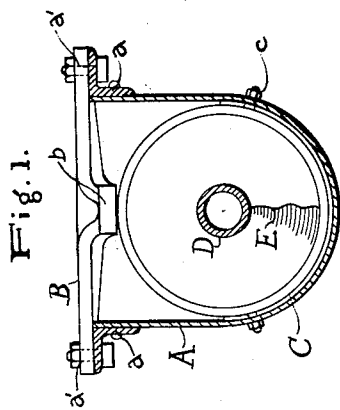
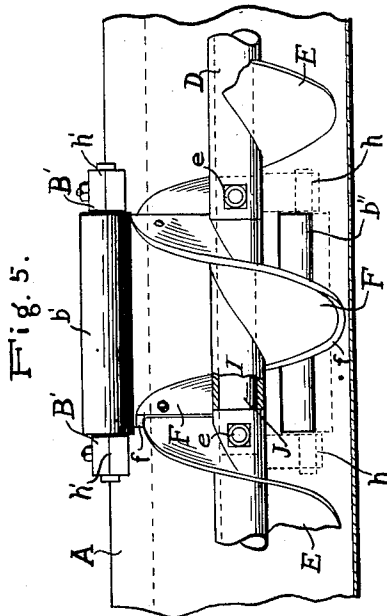
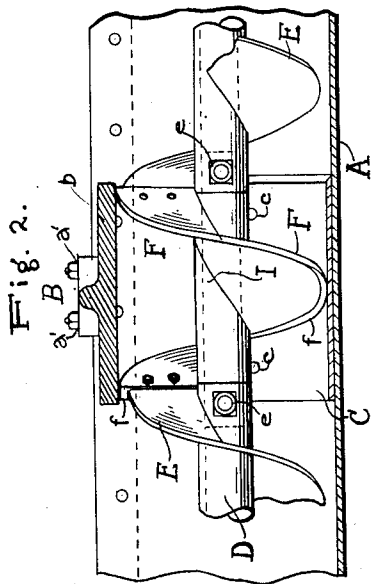


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C. O. GUSTAVSEN.
CONVEYER.

APPLICATION FILED APR. 27, 1906.



Witnesses

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CONVEYER.

No. 843,676.

Specification of Letters Patent.

Patented Feb. 12, 1907.

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To all whom it may concern.

Be it known that I, CHARLES O. GUSTAVSEN, a citizen of the United States, residing at Columbus, in the county of Franklin and 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.

10 This invention relates to screw conveyers for granular and other material.

The object of my invention is to provide a simple and effective spiral flight-bearing and coupling device for screw conveyers by means of which the continuity of the screw is preserved and the conveyer may be set up at any desired height from the bottom of the conveyer-trough.

20 The matter constituting my invention will be defined in the claims.

I will now describe the details of construction and operation of my invention by reference to the accompanying drawings, in which—

25 Figure 1 represents a transverse section of a conveyer-trough with parts including my improvements in end elevation. Fig. 2 represents a longitudinal section with parts in side elevation. Fig. 3 represents a vertical section showing the union of the spiral flight-bearing and the ordinary spiral of the screw conveyer. Fig. 4 represents a cross-sectional view of a modification. Fig. 5 represents a longitudinal section thereof.

35 The conveyer-trough A is of the usual construction and is supported in a well-known manner. At the place where two lengths of conveyer-screws are to be coupled together or at any other place where a bearing is desired there is secured to the angle-irons a at the edges of the trough a transverse clamping-bar B by bolts a' and nuts, said bar having a middle longitudinal wearing-block b, as shown in Figs. 1 and 2. This wearing-block 45 projects slightly downward centrally into the trough and is adapted to bear upon the spiral flight-bearing directly below. In the lower part of the trough below the block b is secured a semicircular trough-liner C by means of the bolts c and suitable nuts, as shown in Figs. 1 and 2. This trough-liner 50 will be made of any desired thickness for the purpose of setting up the conveyer at any desired height from the bottom of the trough.

The spiral flight-bearing F, which is interposed between the ends of two sections of the spiral conveyer E, is itself a section of a spiral conveyer of a length to form one complete circumferential revolution, as represented in Figs. 2 and 5. It is provided with a right-angle peripheral flange or edge f. The ends of the spiral bearing-section F are preferably secured to the ends of the spiral blades E at either side, which it serves to unite, by bolts or rivets g, as indicated in Figs. 2, 3, and 5.

65 The screw-flight from which the spiral bearings F are formed is produced by rolling or otherwise in long sections the same as the regular spiral conveyers (with the difference above noted, that its outer edge is turned over or provided with an angular flange) and is then divided into lengths each comprising a single revolution of the spiral, which are then ready to be put in place between the blades E. The flight-bearing may or may not be mounted upon a central sleeve or hub I, formed of a short section of pipe arranged to aline with the hollow shafts D, that carry the conveyer-flights E. In the accompanying drawings I have represented the conveyer as provided with such a hub. The ends of the contiguous shafts D are securely united, as by means of a coupling-piece J, that fits within the ends of the hollow shafts D and extends through the sleeve I, if that be used, and the bolts e. The flight-bearing being thus interposed between two spiral conveyer-sections serves both to unite and to support them, thus making it possible to build up a continuous spiral conveyer of any desired length. This flight-bearing revolves on the trough-liner C and is held in place by the clamp and wearing-block over the top of the trough. The flight-bearing above described and illustrated in Figs. 1 and 2 serves 95 for conveying material of a granular or gritty nature.

When it is desired to convey material which is not of a granular or gritty nature, I may modify the construction as shown in Figs. 4 and 5. In this modification the liner C is omitted, and in its place are substituted rollers which project slightly through the trough, as shown in Figs. 4 and 5. The clamp-bars P' are provided centrally with journal-boxes h', as shown in Fig. 5, and the top bearing-roller b' is mounted by its axle in said bearings, so as to bear upon the spiral 105

flight-bearing F. Near the bottom of the trough and at each side is mounted a roller b'' , which are supported by their shafts in brackets h , having suitable eyes for the axles and the rollers, as shown in Fig. 4. These rollers are of the same length as the spiral flight-bearing F. Of course rollers of larger or smaller diameter may be used for varying the height at which the flight-bearing is supported above the bottom of the trough. The parts of my bearing device may be readily assembled and are very effective and durable in operation.

What I claim is--

1. In a screw conveyor, the combination with a trough of a spiral flight-bearing attached to the ends of sections of conveyor-screws and to the shafts thereof, means projecting inward or upward from the surface of the trough for supporting said spiral flight-bearing above the bottom of the trough, and a clamp-bar and wearing device at the top of the trough for holding the spiral flight-bearing in place, substantially as described.

2. In a screw conveyor, the combination with a trough and adjacent screw-sections, of a spiral flight-bearing of greater diameter than the screw-sections and forming one complete revolution, attached to the ends of the screw-sections and shaft, means projecting inward from the trough and supporting said spiral flight-bearing and a clamping and wearing device at the top of the trough, serving to hold the spiral flight-bearing in place, substantially as described.

3. In a screw conveyor, the combination with a trough and adjacent screw-sections, of a spiral flight-bearing of greater diameter than the screws and having a right-angle peripheral flange and attached to the ends of the screw-sections and shafts, a trough liner

of suitable thickness supporting said spiral flight-bearing and clamp-bar and wearing-bar secured to the top of the trough above the spiral flight-bearing, substantially as described.

4. In a screw conveyor, the combination with two alining flight-sections and a trough in which they are mounted, of a spiral flight-bearing interposed between the ends of the said flight-sections and comprising a section of a spiral conveyor, a bearing carried by the trough upon which the said spiral flight-bearing rests, and a bearing arranged above the said spiral flight-bearing and engaging therewith for holding it down and in place in the trough, substantially as set forth.

5. In a screw conveyor, the combination with two alining spiral flight-sections, E, of a spiral flight-bearing interposed between the ends of the said flight-sections, and comprising a section of a spiral conveyor provided at its edge with a peripheral bearing-flange, and means for uniting the spiral flight-bearing with the ends of the spiral flight-sections, substantially as set forth.

6. In a screw conveyor, the combination with a trough and two alining spiral flight-sections E, arranged therein, of a spiral flight-bearing interposed between the ends of the said flight-sections, and comprising a section of a spiral conveyor provided at its edge with a bearing-flange, means for uniting the spiral bearing-flight with the ends of the flight-sections E, and a bearing supported by the trough upon which the flanged edge of the spiral flight-bearing rests.

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

CHARLES O. GUSTAVSEN.

Witnesses:

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