M. FREEMAN.

CONVEYER FOR FEED CUTTERS.

APPLICATION FILED APR. 15, 1912.

1,067,514. Patented July 15, 1913.

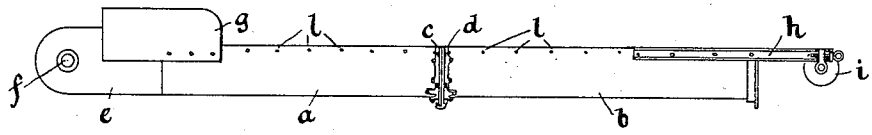


Fig. 1

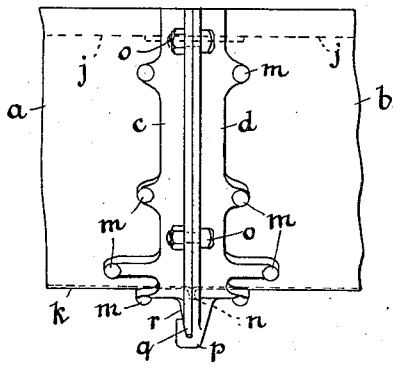


Fig. 2

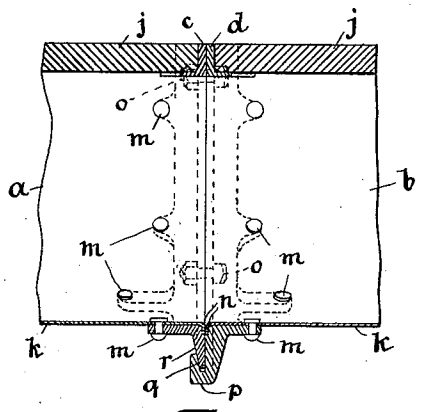


Fig. 3

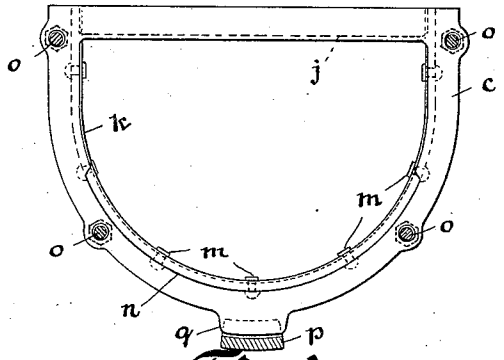


Fig. 4

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CONVEYER FOR FEED-CUTTERS.

1,067,514. Specification of Letters Patent. Patented July 15, 1913.

Application filed April 15, 1912. Serial No. 690,937.

To all whom it may concern:

Be it known that I, MICHAEL FREEMAN, of Racine, Wisconsin, have invented a Conveyer for Feed-Cutters, of which the following is a specification.

This invention relates to conveyers which are intended for carrying ensilage to the window or other elevated opening of the silo, although it is also adaptable for use in other relations. In particular the present invention relates to that type of conveyer illustrated for example in my former Patent No. 961,601, issued June 14, 1910. It is often necessary to use a very long conveyer for this purpose, which is accordingly made in two or more sections, united end to end. The conveyer as thus used is sometimes fifty feet long, and the transverse strain upon it is very considerable, which makes it necessary to provide a strong joint for the section-ends. This type of conveyer comprises a conveyer-box formed of a longitudinal plank on the upper side and a semi-cylindrical trough of sheet-metal whose upper edges are attached to the edges of said plank, and the abutting section-ends are formed by D-shaped flange-castings to which the sheet-metal is secured by rivets or otherwise. Now, in the case of very long conveyers, where the transverse strain is considerable, it has been found that breakage occurs at the joints, either by the breakage of the bolts which unite the flanges of said D-shaped castings, or by pulling out of the sheet-metal therefrom. To avoid this difficulty, it has been suggested to use a longitudinal truss-rod extending from end to end of the conveyer, but this again has the inconvenience that the conveyer-sections cannot readily be taken apart, and moreover the conveyer cannot be lengthened or shortened by the insertion or removal of an extra section.

It is the object of the present invention to provide a stronger design of joint between the conveyer-sections, whereby such truss-rod or other extraneous means of strengthening the joint becomes unnecessary; and to this end my invention comprises the constructions and combinations which will be hereinafter more particularly described and set forth in my claims.

Referring to the accompanying drawings illustrating my invention, Figure 1 is a side-elevation illustrating a conveyer-box constructed according to my invention; Figs. 2 and 3 are respectively a side-elevation and a longitudinal section on a larger scale of the adjoining ends of two connected sections; and Fig. 4 is a transverse section on the plane dividing the two sections, looking to the left.

The reference letters refer each to the same part in each figure of the drawings.

In Fig. 1 the conveyer is shown as comprising two sections *a* and *b* having mounted on their ends the D-shaped castings *c* and *d* respectively, which are united thereto in the manner presently to be described. The left-hand end of the section *a* is connected with the boot *e* of the conveyer, in which is mounted the shaft *f*, which drives the conveyer-chain (omitted from the drawing), and *g* represents the hopper into which the shredded fodder or ensilage is delivered. The other section *b* carries on its right-hand end a pair of bars *h* which extend beyond the end of the conveyer-box proper, and carry a pulley or roller *i* for the conveyer-chain; but it will be understood that the special construction of these features shown is immaterial to my invention.

Each of the sections *a* and *b* comprises a longitudinal plank *j*, and a semi-cylindrical trough *k* of sheet-metal which is secured thereto at the edges, as for example by nails *l*. The D-shaped castings *c* and *d* are secured to the abutting-ends by means of rivets *m*, some of which are preferably set farther back than others, as shown, for the sake of greater strength. Now, one of the essential elements of my invention consists in turning down the edge of the sheet-metal *k* over the flanged edge of the casting *c* or *d*, as shown at *n*; and the castings *c* and *d* are preferably slightly recessed or rabbeted to receive the down-turned flanges thus formed. Furthermore, in addition to the bolts *o*, which pass through the flanges of the castings, and instead of a bolt at the bottom, which is the point subjected to the greatest strain, I form upon one of the castings *d* a hooked lug *p*, which engages over the edge of the flange of the adjacent castings *c*; and the latter is preferably extended downwardly as shown at *q*, so as to bring the engagement to a point farther from the neutral axis, and its outer face is tapered as shown at *r*, to engage the similarly tapered inner face of the hooked lug *p*, thus bringing the faces of the two flanges into close abutment when they are in place. It will

be seen that the flange *n* of the sheet-metal is so designed as to be doubly strengthened against pulling out; first by its curved form which keeps it from unbending; and secondly by the abutment of the two flanges *n* and their compression between the two abutting faces of the castings *c* and *d*, which compression is effected by the bolts *o* and by the tapered faces of the lugs *p* and *q*, as hereinabove described. I have found by experience that this joint is free from the difficulties previously encountered, and provides ample strength to sustain any ordinary load of which the sheet-metal itself is capable.

It will be understood of course that while the drawing shows but two sections, a third section or any number of sections may be intercalated between them, each provided with similar joints upon their abutting ends, where the conveyer is to be lengthened.

I wish it understood that my invention is not limited to the use of all the above described features and constructions, for some may be omitted and others may be varied or modified in various ways, as will readily occur to those skilled in the art.

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

1. In a conveyer of the type described, the combination of two abutting sections each having secured to its end adjoining the other a flanged member and means for securing the abutting flanges of said member together, one of said members having a hooked lug which extends around and engages the flange of the other member.

2. In a conveyer of the type described, the combination of two abutting sections each having secured to its end adjoining the other a flanged member, and means for securing the abutting flanges of said member together, one of said members having a hooked lug which extends around and engages the flange of the other member, the outer face of said flange and corresponding inner face of said lug being tapered.

3. In a conveyer of the type described, the combination of two conveyer-sections, each comprising a longitudinal plank and a semi-cylindrical sheet-metal trough the edges of which are secured to said plank, and a pair of D-shaped members mounted on the adjoining edges of said sections, said members having means for securing them together, and one of said members having a transverse flange at the bottom and the other member a hooked lug extending thereover so as to engage it; the sheet-metal of the sections extending within the respective members, and the sheet-metal edges being flanged over the abutting faces of said members so as to form abutting flanges on the ends of said sheet-metal troughs which are disposed between said members when the latter are united.

4. In a conveyer of the type described, trough sections, the abutting section ends of which are formed by D-shaped flange-castings, means securing said castings together, one of said castings being formed with a hooked lug engaging over the edge of the flange of the adjacent casting, the adjacent faces of the lug and coöperating member being tapered.

5. A conveyer of the type described comprising separately dismountable and separable sections, said sections comprising a longitudinal plank at the top and a semi-cylindrical portion forming the bottom, abutting D-shaped members, said D-shaped members being rabbeted and the edges of said portion being turned down over the flanged edges of the D-shaped members and received within the rabbets thereof, one of said D-shaped members being formed with a hooked lug, and a downwardly extended flange on the adjacent D-shaped member cooperating with said hooked lug.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

MICHAEL FREEMAN.

Witnesses:
JAMES P. GARVEY,
HARVEY S. NELSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."