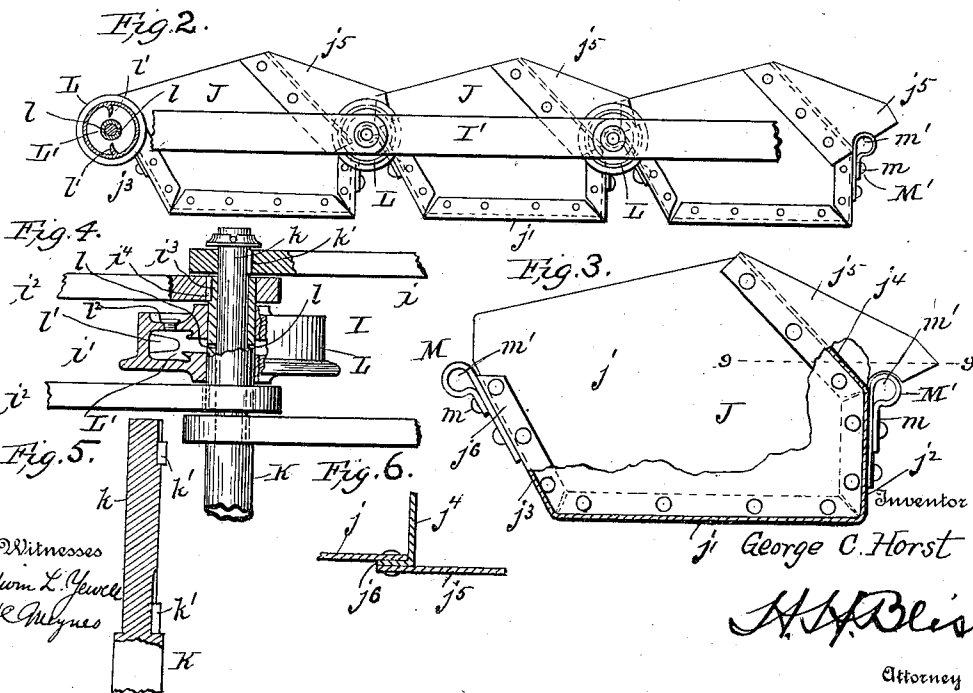
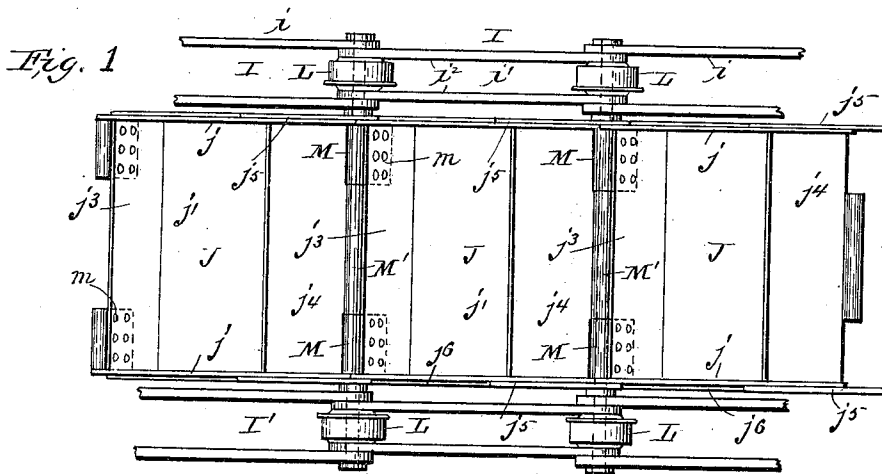


G. C. HORST.
CONVEYER.

APPLICATION FILED MAY 14, 1903.

1,052,253.

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UNITED STATES PATENT OFFICE.

GEORGE C. HORST, OF COLUMBUS, OHIO, ASSIGNOR TO JOSEPH A. JEFFREY, OF COLUMBUS, OHIO.

CONVEYER.

1,052,253.

Specification of Letters Patent.

Patented Feb. 4, 1913.

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To all whom it may concern:

Be it known that I, GEORGE C. HORST, 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 drawing.

This invention relates to a conveyer mechanism especially intended and adapted for the handling of coal or similar material.

The object of the invention is to provide an improved bucket construction together with improved means for connecting the buckets to each other and to the carrying mechanism.

Of the drawings, Figure 1 is a plan view of a section of conveyer embodying my invention. Fig. 2 is a side elevation. Fig. 3 is a side elevation of one of the buckets partly in cross section. Fig. 4 is a plan view, partly in section, of the chain and the supporting mechanism for the buckets. Fig. 5 is a view, partly in section, of one of the pintles of the conveyer. Fig. 6 is a fragmentary cross sectional view taken along the line 6—6 of Fig. 3.

The conveyer is formed of chains I, I' and buckets J J. The chains are each built up of bars so as to form the outside links i and the inside links i' . The bars i^2 of the inner links i' are connected together by tubular end bars or pintle bearings i^3 . The pintles K extend from chain I to chain I' and connect together the links i and i' of each chain. Each pintle is preferably shouldered, and has the reduced end part passed through the tubular end bar or bearing i^3 of a link i' and the side bars of a link i .

At each end of each inner link i' there is a wheel L adapted to ride upon a track, and also to serve as the power-receiving element of the conveyer. Each wheel is mounted loosely upon the central part of the tubular bearing or end bar i^3 of the link. The buckets are supported and articulated upon the central part of the pintle K. Each bucket comprises side walls j , the bottom j' , the end wall j^2 substantially perpendicular to the bottom j' , the end wall j^3 inclined to the bottom j' , and the inclined wall j^4 also situated at an inclination but being above the

wall j^2 . At j^5 wings or guard plates are provided, these being secured to the outer faces of the side walls j .

The walls j' , j^2 , j^3 , j^4 of the bucket are all formed in one piece of sheet metal. And at the ends of each of these sections of the sheet, the metal is turned up, as shown at j^6 to form flanges by which the side walls j can be held in place by riveting.

As a means of mounting the buckets, each is provided at each end with hinge eyes. At the front end there are two eyes M M at the edges of the bucket, and at the rear edge there is a hinge eye M' of a length approximately equal to the distance between the hinge eyes M M at the front. These hinge elements are formed by bending sheet metal into the shape illustrated, and riveting them to the sheet metal of the bucket, as shown at m . The passages m' are adapted to receive the pintle rods K above described; and when one of the rods is in place in the hinges, it will be seen that two neighboring buckets are respectively supported partly therefrom, each having an edge articulating upon said pintle rod. It will also be seen that the hinging parts are so arranged as that they form a complete cut-off or closing means for the spaces between the buckets. A continuous receptacle is thus produced without any vertical passageways through which material moving downward toward the buckets can escape or spill.

When the buckets reach the place of discharge, they are in an inverted position, and the angle of inclination of the wall j^4 of each bucket is such as to permit the ready escape of the load at the desired point. But prior to complete inversion, as when the bucket is traveling upward in a vertical line, the load in each bucket is prevented by this wall j^4 from escaping therefrom.

I prefer to construct the links and connecting devices in the neighborhood of the axes of articulation in the manner illustrated in Figs. 4 and 5. The side bars i^2 of each of the inner links are locked to the tubes or sleeves i^3 as by pins or keys i^4 . The side bars of each of the intermediate outer links are locked to the pintle part k of the connecting bar as by pins or keys k' . In consequence of this the pintle part k is compelled at its articulating movement to

rock in this swinging sleeve i^3 and thus an enlarged wearing area is provided as contrasted with what would be the case if the pintle was free to rock in the short eyes or apertures in the outer link side bars.

The track wheels or anti-friction supports L are each formed with a hollow interior chamber L' adapted to carry a relatively large quantity of lubricant. At l there is a passageway leading the lubricant to the surface of the pintle. At l' there is a lifting finger for the oil or lubricant, acting to pick it up drop by drop and deliver it to the journal surface. At l² there is a filling aperture closed by a threaded screw plug.

What I claim is:

1. In a conveyer, a series of buckets each formed to have the end wall j^3 , the bottom j' , the end wall j^2 , the inclined wall j^4 , the hinge element M adjacent to the wall j^3 ,

and the hinge element M' outside of the walls j^4 and j^2 , substantially as set forth.

2. In an elevator, a series of buckets each arranged adjacent to the next and hinged thereto, and each composed of sheet metal and having the bottom j' , an end wall j^3 , an opposite end wall j^2 , an inclined wall j^4 above the wall j^2 , side walls j , the hinge elements on the buckets being in planes between the planes of the end walls of the connected buckets, and the side plates or flanges j^5 , adjacent to and behind the walls j^4 and constituting extensions of the side walls j , substantially as set forth.

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

GEORGE C. HORST.

Witnesses:

W. S. CAUGHEY,
C. H. ANTHONY.

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