(No Model.)

C. W. LEVALLEY.

CONVEYER.

No. 573,988. Patented Dec. 29, 1896.

Fig. 1

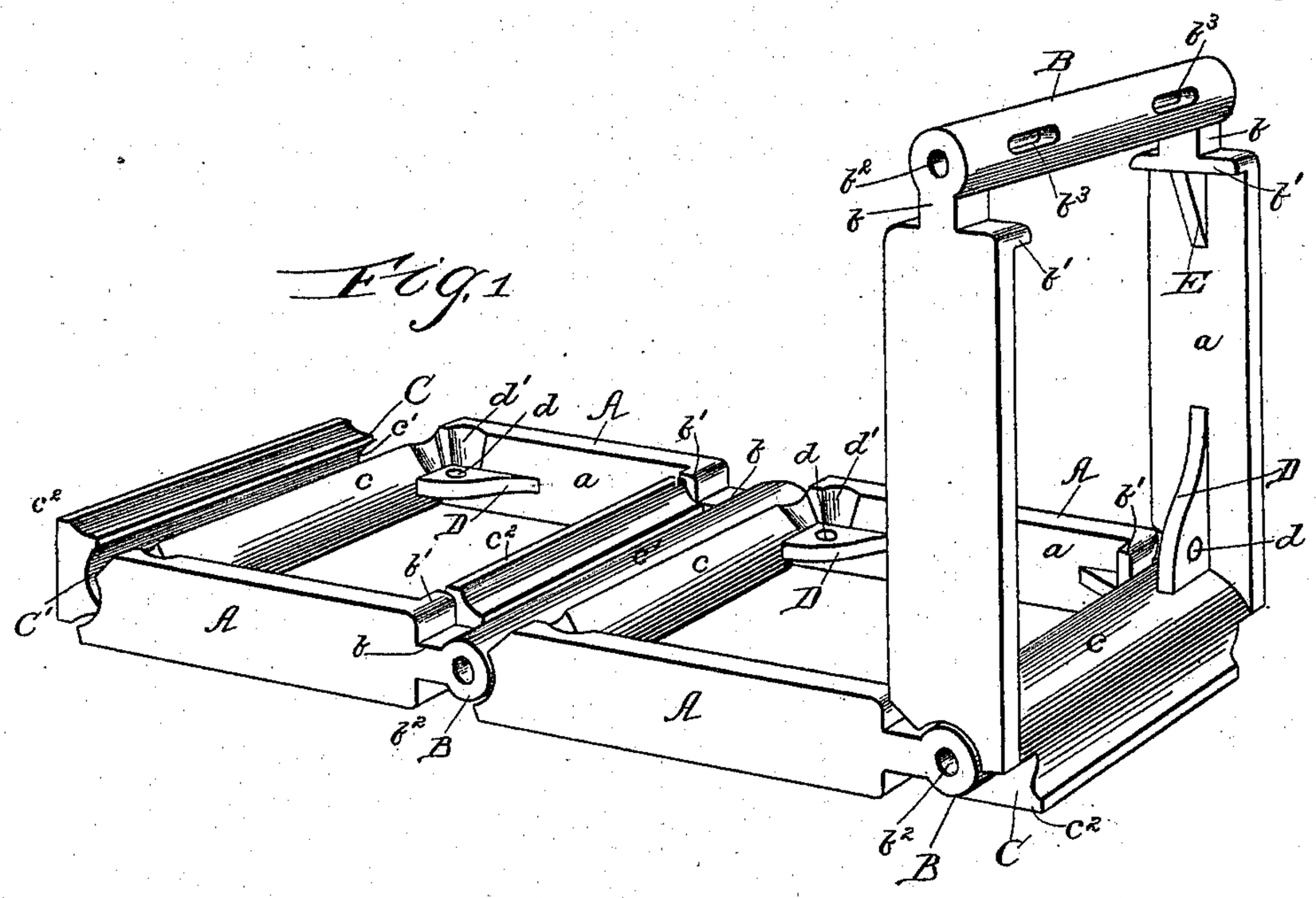


Fig. 2.

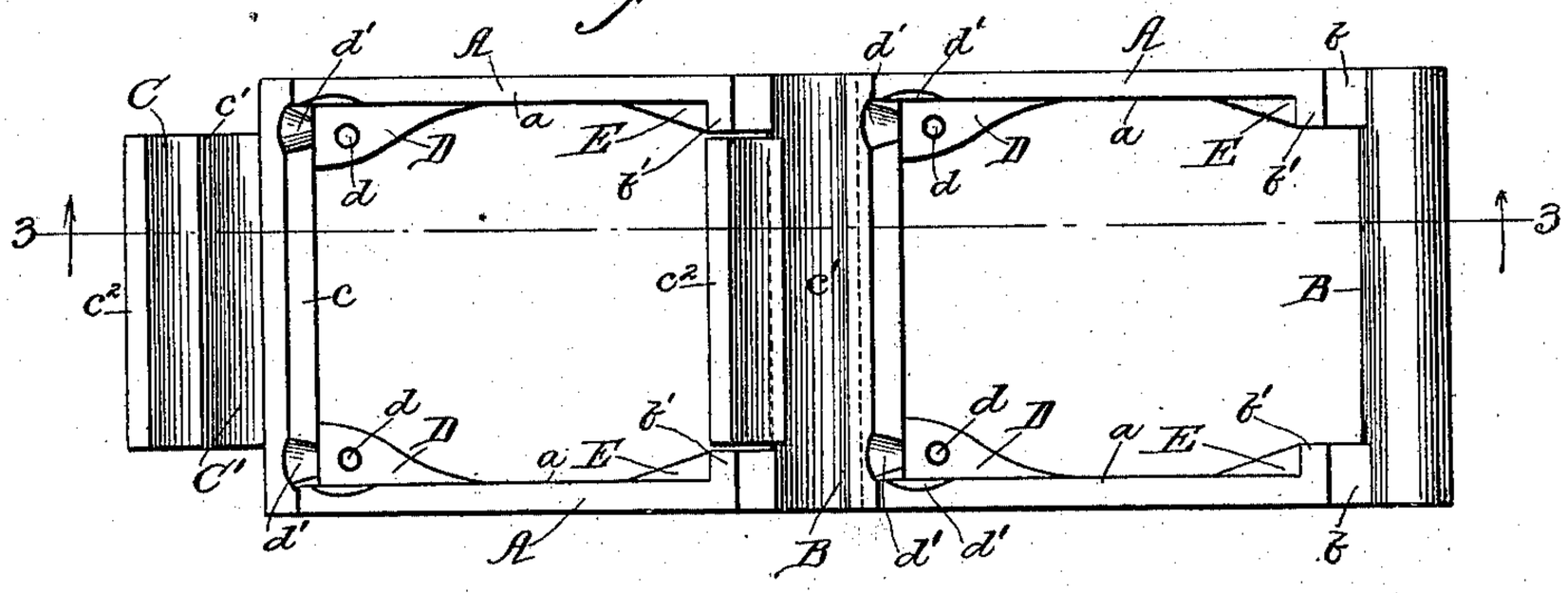
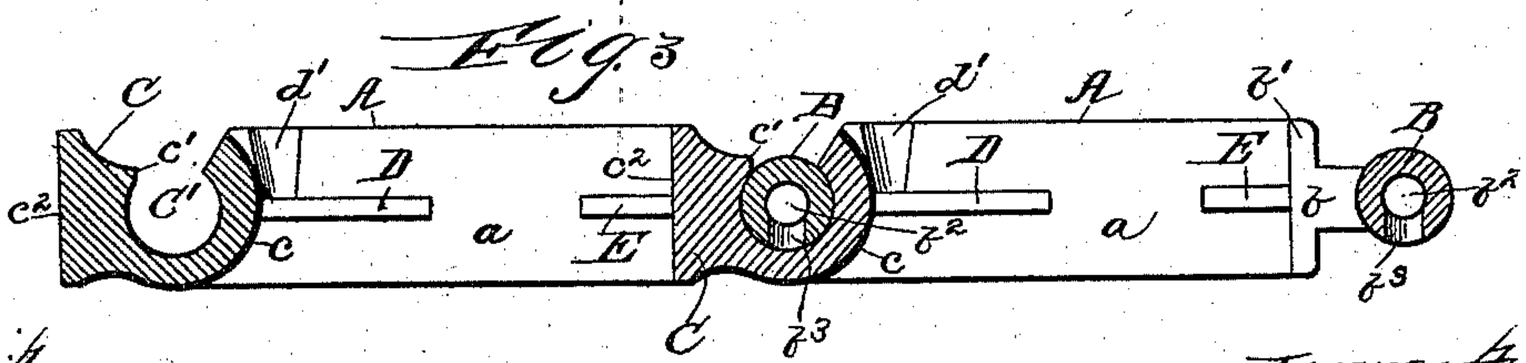


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

CHRISTOPHER W. LEVALLEY, OF MILWAUKEE, WISCONSIN.

CONVEYER.

SPECIFICATION forming part of Letters Patent No. 573,988, dated December 29, 1896.

Application filed March 7, 1893. Serial No. 465,018. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER W. LEVALLEY, a citizen of the United States of America, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Chain Belts or Conveyers, of which the following is a specification.

My invention relates, primarily, to belts composed of detachable metallic links and adapted to run in a trough or over an imperforate flooring and carry or sweep along sawdust, tanbark, or refuse material. In a broader sense, however, the invention is applicable in whole or in part to ice-elevators or conveyers for other material.

It consists in forming the end bar of each link hollow, with openings leading to the inside of the coupling-hook of the succeeding link, so that graphite or plumbago or other lubricating material may be introduced and stored in such hollow portions and fed therefrom to the joints; in so constructing the links that when coupled together and straightened out a series of rectangular frames are formed, which, in connection with the flooring over which they pass, afford boxes for the material to be conveyed; in forming the coupling-hooks of said links with faces perpendicular, or practically so, to the plane of the link to provide the rear wall of the box, to which the lateral bars and hook-bars of the preceding link form the other sides; in forming such rectangular links with internal angle-braces beveled to properly direct the sprocket-teeth and affording, if desired, means for the attachment of metallic or wooden flights or extension-plates to adapt the chain for service as an elevator or to increase the capacity of the boxes, and in the various combinations and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of part of a chain embracing three links constructed according to my invention and coupled together. Fig. 2 is a top plan view of two links embodying said invention coupled together, and Fig. 3 is a vertical longitudinal section on the correspondingly-numbered line in the preceding figure.

Each link is formed with side bars A, which in the preferable construction have both inner and outer faces perpendicular or flattened, although this is immaterial as to the outer faces unless to conform to the shape of the trough through which they pass, and is material as to the inner faces *a* only so far as to give suitable outline and capacity to the box or pocket which the link is intended to provide in connection with the adjacent link.

B is the end bar of the link, round in cross-section and joined to the side bars by narrowed or flattened necks *b*, intended to pass through the throat of the hook-bar of the succeeding link in coupling together. For additional strength, and also to afford a more perfect box or receptacle, these necks are broadened into webs extending from the outer face of the side bars to the ends of insetting shoulders *b'* from said side bars, which shoulders form part of the rear wall of the box or pocket. Each end bar is advisably made tubular or is bored centrally, as at b^2, from the ends, and openings b^3 communicate from the central bore to the exterior of the bar, so that lubricating material, such as graphite or soapstone or other equivalent substance, may be filled into the chamber of the bore and confined therein by plugging the ends, to work out through the peripheral openings and lubricate the joint.

The hook-bar C of each link is made with a rounded rear face or periphery *c* for contact of the driving-sprocket, a cylindrical bearing C' to receive the end bar of the preceding link, and a narrowed throat *c'* to admit the neck of the end bar of said preceding link and allow the two links to be coupled together by a lateral or sidewise movement, the position for coupling being shown at the right hand of Fig. 1, wherein the last link of the series is just connected to the preceding one and is ready to be straightened out in line therewith. The advancing face c^2 of the hook-bar is, however, flattened or made perpendicular and of the same depth as the side bars of the link and of length sufficient to extend from one side bar to the other or from the inner vertical edge of one of the insetting shoulders from said side bars to the inner vertical edge of the opposite shoulder, so that when the links are straightened out or in line, as they will be in action, the advancing face of this coupling-bar will form

with said insetting shoulders the entire rear wall of the box, to which the lateral bars of the preceding link afford the sides and the coupling-bar the front.

The rear face of the end bar is made rounding not only because the sprocket-tooth will work smoother against it and apply the power better than it would if made square or angular, but also to permit the bar to be turned over and work with either side of the coupling-hook to the wheels without affecting the operation of the belt as a drag or carrier.

D represents braces at the front inner corners of the links, extending from the rear face of the coupling-bar to the inner wall or walls of the lateral bars and having oblique edges directing the sprocket-teeth toward the coupling-bar and centering the link over the chain-wheel. Each of these braces is perforated or has a hole, as at *d*, in order to bolt an additional plate or carrier to the link to increase the conveying capacity when required. The corners of the link may be recessed, as at *d'*, above these braces to afford seats for corresponding projections on the supplemental plates or pockets.

E represents other braces at the rear inner corners of the link, extending from the lateral bars to their insetting flanges, inside of and practically continuations of the webs connecting said flanges with the end bar, thus bracing the flanges and the webs at once.

In operation a series of these links being coupled together, the lower straight edges of the links running upon a smooth imperforate flooring, a series of traveling boxes or pockets will be formed, which will carry forward any material directed therein and deliver it at its destination, the upright face of the hook-bar serving as the rear wall of the box and its lower edge scraping upon the flooring, which is in effect the bottom of the box.

I claim—

1. A detachable chain-link having a round end bar, upright side bars with insetting flanges adjacent to the end bar, necks or webs connecting the end bar and flanges, and a hook-bar with upright front face adapted to register with the flanges of the preceding link of like construction.

2. A detachable chain-link having a round end bar, upright side bars, hook-bar with upright front face, and corner-braces connecting the side bars with the rear face of the hook-bar and oblique as to the edges to direct the sprocket-tooth.

3. A detachable chain-link constructed with a round end bar, upright side bars with insetting flanges adjacent to the end bar, necks or webs connecting said flanges with the end bar, braces between the side bars and flanges in continuation of the webs, and a hook-bar with contracted throat and upright front face.

4. A detachable chain-link formed with a hook-bar with upright front face, and side bars connected with said hook-bar by braces perforated to serve as a means of attachment for extension-plates.

5. A detachable chain-link formed with upright side bars, rounded end bar, hook-bar having upright front face, perforated corner-braces between the side bars and end bars, and recesses or seats at the corners adjacent to said braces.

6. The combination to form a detachable chain-link, of the upright side bars, having insetting flanges, the rounded end bar, the necks between said end bar and flanges, the corner-braces between the flanges and side bars, the hook-bar having upright front face, and corner-braces between said hook-bar and side bars.

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