



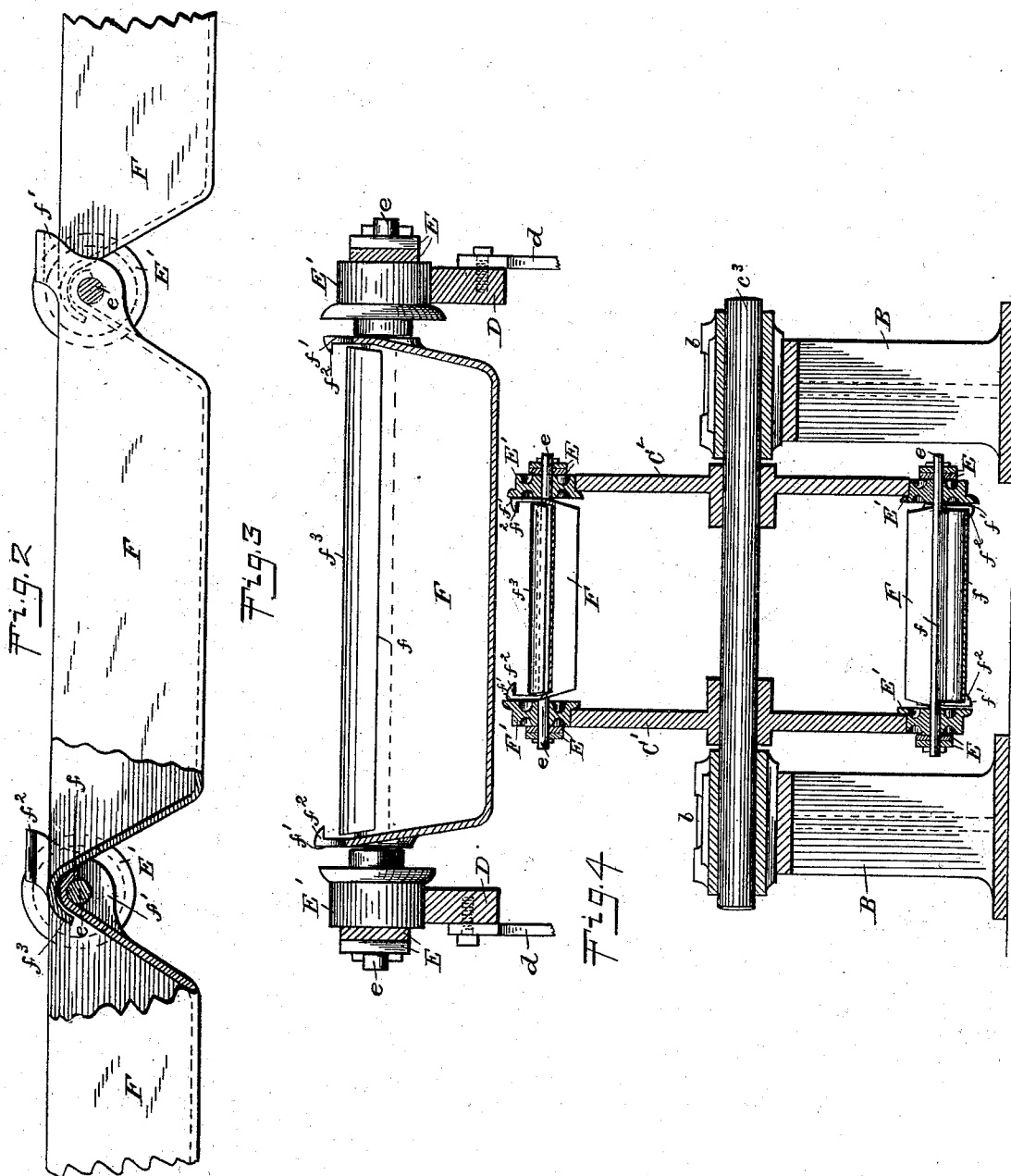
(No Model.)

2 Sheets—Sheet 2.

C. O. BARTLETT.  
CHAIN CONVEYER.

No. 505,431.

Patented Sept. 26, 1893.



WITNESSES:

J. C. Turner  
Wm. Lecher

INVENTOR

Chas. O. Bartlett,  
BY *Hall & Day*  
his ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES O. BARTLETT, OF CLEVELAND, OHIO.

## CHAIN CONVEYER.

SPECIFICATION forming part of Letters Patent No. 505,431, dated September 26, 1893.

Application filed February 6, 1891. Serial No. 380,446. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES O. BARTLETT, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Chain Conveyers, of which the following is a specification, the principles of the invention being herein explained and the best mode in which I have contemplated applying those principles, so as to distinguish it from other inventions.

In the accompanying drawings:—Figure 1 represents a side-elevation of my improved conveyer; Fig. 2, a side-view, partly in section, of the conveying-buckets; Fig. 3, a transverse section of the conveyer, and Fig. 4, a transverse, vertical section taken through the shaft of one of the wheels or pulleys at the ends of the conveyer.

In said drawings the letters A and B indicate the side-frames respectively at the discharge end and at the receiving-end of the conveyer. The side-frames A have longitudinal, horizontal slots, *a*, in which slide bearing-blocks, *a'*. Screw-rods, *a<sup>2</sup>*, turn in screw-threaded bores in the ends of the slots, are journaled with their rear or inner ends in the bearing-blocks, and have hand-wheels, *a<sup>3</sup>*, at their forward or outer ends. The bearing-blocks may be adjusted to increase or decrease the tension of the chain by means of said screws, and the screws may be connected to revolve in unison by means of sprocket-chains passed around sprocket-wheels, *a<sup>4</sup>*, upon the screws, or by means of any other suitable gearing. Two disks or wheels, C C, are secured upon the shaft, *c*, journaled in the bearing-blocks *a'* and are formed with equi-distant notches, *c'*, in their peripheries, said notches having their sides diverging from their segmental, inner portions. Similar disks, C' C', having similar notches, *c<sup>2</sup>*, in their peripheries are secured upon a shaft, *c<sup>3</sup>*, journaled in bearings, *b*, in the side-frame B. Horizontal rails, D, are secured in line with said disks or wheels, between the two pairs of disks or wheels, and are arranged slightly below the extreme upper and lower edges of the same. Said rails are suitably-supported and spaced, the upper pair in relation to the lower pair, by means of vertical rods or braces, *d*.

The conveyer-chains are composed of links, E, having their ends pivotally-secured to transverse rods, *e*, which form the cross-bars of the links. Flanged wheels or rollers, E', are journaled upon said transverse rods *e*, inside of the links E, and in line with the rails D, upon which they travel, and with the wheels or disks, into the notches of which they may enter; the lengths of the links being equal to the rectilinear distances between the centers of the notches in said wheels or disks.

The buckets F are rectangular and formed with flaring or inclined ends. The rear ends of the buckets have shorter, cylindrically-curved bearing-flanges, *f*, which rest and turn upon the transverse rods *e*, and rearwardly-inclined and upwardly-projecting lugs, *f'*, through which the transverse rods *e* pass and which are formed with inwardly-projecting lips, *f<sup>2</sup>*, at their outer ends, said lips serving to support the forward ends of the adjoining buckets when the buckets are traveling upon the lower rails, returning empty. The forward ends of the buckets are formed with longer cylindrically-curved bearing-flanges, *f<sup>3</sup>*, which rest and turn upon the upper, convex sides of the shorter bearing-flanges.

In practice the material to be conveyed—sand, gravel, coal, grain, or other material—is charged into the buckets at the receiving-end of the chain-conveyer or at any other point of the upper half of the chain and may be charged upon the same in a continuous stream on account of the overlapping, curved ends or bearing-flanges of the buckets which form a continuous, unbroken conveying-surface and prevent the material from dropping between the buckets. Said overlapping, curved bearing-flanges will also preserve an unbroken surface as the buckets pass around the wheels or disks at the discharge-end of the conveyer so that none of the material will drop through, between the buckets, into the space between the wheels or disks, but all the material will be delivered to the rear of the same. The chain will be prevented from sagging under its load by the upper rails and the wheels or rollers traveling upon the same, and the flaring notches in the peripheries of the wheels or disks, having their sides diverging from their segmental or semicircular,

inner portions, will freely receive and release the flanged wheels or rollers without any shocks to the chain and without any liability of the rollers being caught in the notches.

- 5 The lower half of the conveyer-chain will be supported by the flanged wheels or rollers traveling upon the lower guide-rails, and the forward, overlapping bearing-flanges and the forward ends of the buckets will be prevented  
10 from dropping down by the inwardly-projecting lips upon the ears of the adjoining buckets.

- The buckets may be easily removed from the chain on account of their being secured upon the cross-rods by their rear ends, only,  
15 so that one rod, only, will be required to be removed for the purpose of removing one bucket for repairs or other purposes.

- The foregoing description and accompanying drawings set forth, in detail, mechanism  
20 embodying my invention; change may be made therein provided the principles of construction respectively recited in the following claims are employed.

- I therefore particularly point out and dis-  
25 tinctly claim as my invention—

1. In a chain conveyer, the combination with a chain composed of links connected by cross bars, of buckets, each bucket having at

one end a curved end flange resting upon a cross bar of the chain and also having lugs  
30 pivoted upon said cross bars, having at the other end a curved end flange resting and turning upon the end flange of the adjoining bucket, and having lips upon one end adapted to engage and loosely confine the end of the  
35 adjoining bucket, substantially as set forth.

2. In a chain-conveyer, the combination with a chain, of buckets, each bucket having a curved, rear end-flange resting upon a cross-  
40 bar of a chain-link, and having at the same end upwardly-projecting lugs pivoted upon said cross-bar and forming inwardly-projecting lips, and each of said buckets formed with a curved, forward end-flange, resting  
45 and turning upon the rear end-flange of the adjoining bucket and retained and loosely confined upon the same by means of said lips, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand  
50 this 31st day of January, A. D. 1891.

C. O. BARTLETT.

Witnesses:

J. B. FAY,  
WM. SECTUR.