

(No Model.)

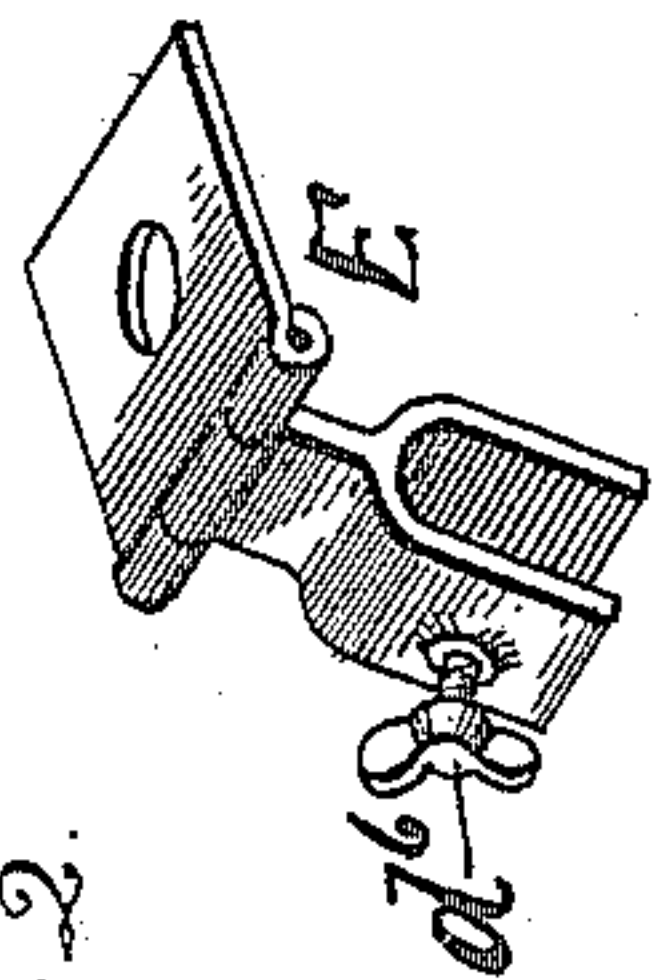
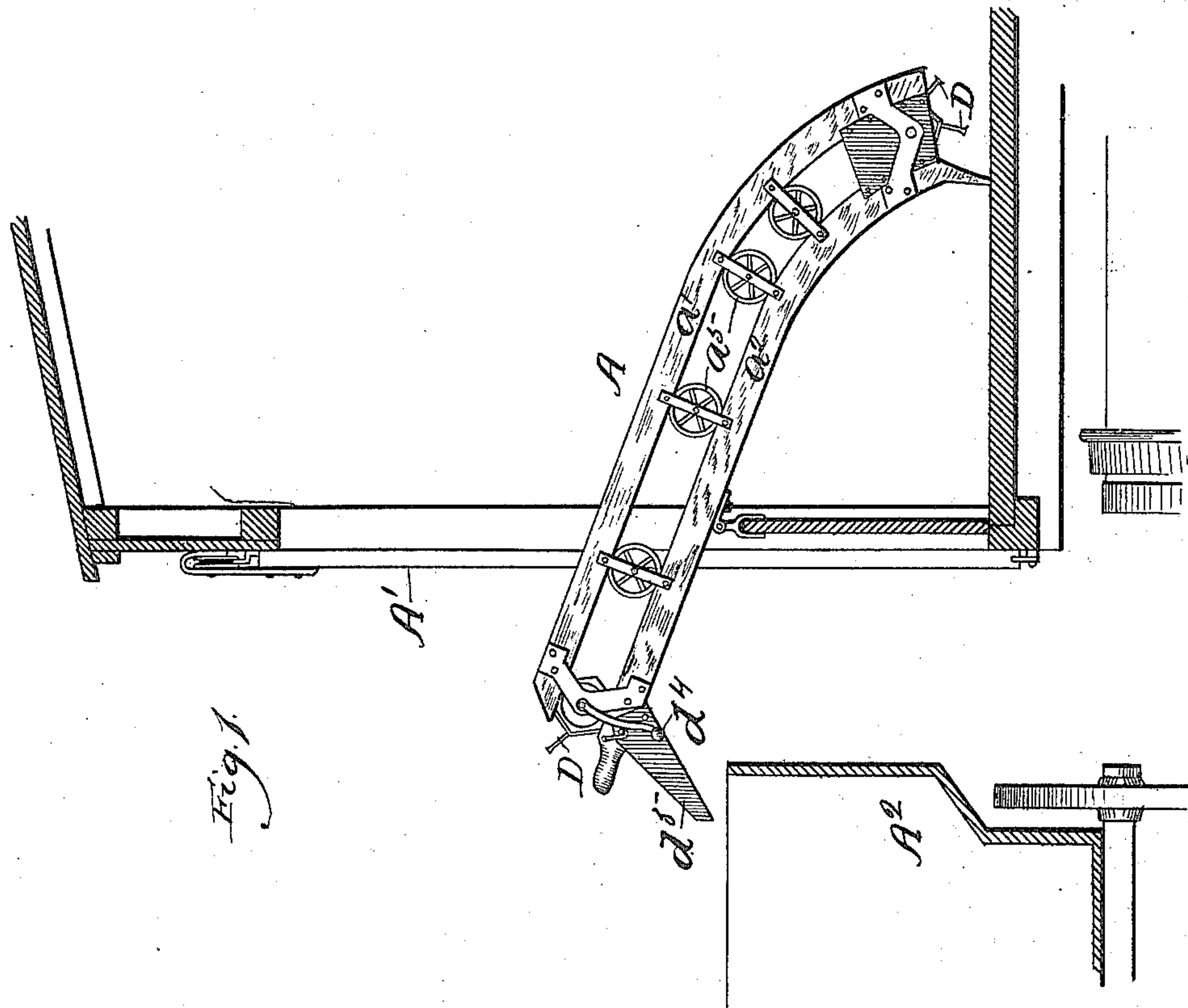
2 Sheets—Sheet 1.

A. F. CARLSON.

PORTABLE GRAIN CONVEYER.

No. 363,282.

Patented May 17, 1887.



Witnesses
Chas. Gaylord.
L. M. Freeman,

Inventor:
A. F. Carlson
By L. B. Coupland & Co.
Attys—

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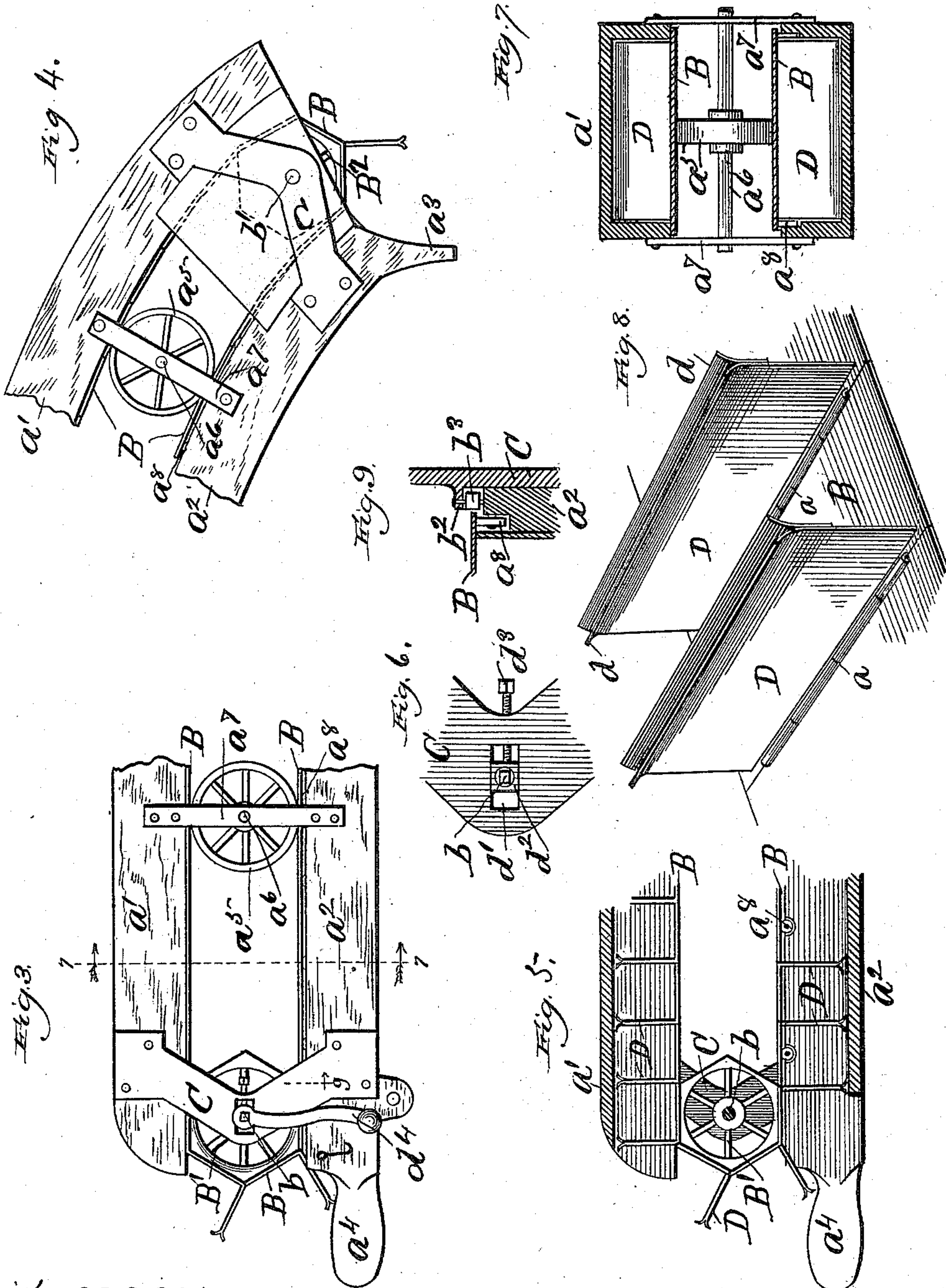
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UNITED STATES PATENT OFFICE.

AUGUST F. CARLSON, OF CHICAGO, ILLINOIS.

PORTABLE GRAIN-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 363,282, dated May 17, 1887.

Application filed February 24, 1887. Serial No. 228,641. (No model.)

To all whom it may concern:

Be it known that I, AUGUST F. CARLSON, of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Portable Grain-Conveyers, of which the following is a full, clear, and exact description, that will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of this invention is to provide an improved device for conveniently transferring grain from cars into vehicles.

The nature of the invention consists in the employment and application of a portable endless conveyer to be operated by hand, the same consisting of certain novel features in the construction, combination, and arrangement of the several parts, as will be hereinafter set forth.

Figure 1 is an elevation showing the application of my improvement; Fig. 2, a detached detail; Fig. 3, a broken-away side elevation of the discharging end; Fig. 4, a similar view of the opposite or receiving end; Fig. 5, a broken-away vertical longitudinal section of the discharging end; Fig. 6, an enlarged detail showing means for keeping the endless conveyer taut; Fig. 7, a transverse section in the plane 7, Fig. 3; Fig. 8, a view in perspective showing a portion of the endless carrying apron or belt and the position of the conveyer-flight relative thereto; and Fig. 9, a transverse sectional detail in the plane 9, Fig. 3.

Referring to the drawings, A represents the conveyer or elevator as a whole, A' the car, and A² the wagon, the apparatus being shown in proper relative position and ready for use. The endless traveling belt B in this case is composed of sheet metal and made up of a number of sections or plates, as shown in Fig. 8. These sections form the continuous carrier-belt, and are hinged together, as at *a*, making the metallic belt sufficiently flexible to readily pass over and conform to the periphery of the carrying-drums B' B², located at each end of the boxing *a'* *a*².

The peripheries of the drums B' B² are in the form of a regular hexagon, the plane or surface of each side being equal to that of the width of each section or plate entering into

the construction of the carrier-belt, so that in operation every plate of the belt will lie flat and have a full bearing on the drums, thus preventing all possibility of the belt slipping. The boxes *a'* *a*² each inclose three sides, the belt B closing the adjacent inner sides. The inner end of the lower box, *a*², is provided with the leg *a*³, which serves to steady the device in the grain, and also prevents the conveyer-flight from coming in contact with the floor of the car. The opposite end of the lower box is provided with the handle or handles *a*⁴, for convenience in handling or operating the device.

The series of friction-rollers *a*⁵ are mounted upon their respective shafts, *a*⁶, which are in turn journaled in the bearing-straps *a*⁷, secured to and connecting the boxes inclosing the belt and conveyer-flight. The rollers are distributed along at intervals, and have a frictional rolling contact with the adjacent surfaces of the carrier-belt, as shown in Fig. 7. These rollers assist in retaining the belt in its proper position and facilitate the travel of the same. A number of small friction-rollers, *a*⁸, are journaled in the lower box, *a*², (see Figs. 7 and 9,) and arranged to bear against the under side of the belt, near each edge, and ease the travel of the same.

The brackets C C, placed on each side of and bolted to the conveyer-boxes near the ends, serve to stiffen and strengthen the structure and support the journal-bearings for the shafts *b* *b'*, on which the drum-wheels B' B² are mounted. The inner sides of the brackets C are provided with the lugs *b*², (see Fig. 9,) in which is journaled the roller or rollers *b*³, which are placed at right angles to the rollers *a*⁸, and are adapted to have a rolling contact with the edges of the belt B, forming a guide for and lessening the friction.

The conveyer-flights D are set on the belt B at regular intervals, and are rigidly secured in place relative thereto. These flights are formed with the double curved edges *d* *d*, so as to be effective when traveling in either direction. The two bracket-plates C on the discharging end of the device are provided with the rectangular slots *d'*, in which are placed the adjustable journal-boxes *d*² for the shaft *b*, mounted

ing the drum B'. By means of the screw d^3 these boxes are adjusted so as to maintain the proper tension on the carrier-belt.

The conveyer is operated by means of the handle d^4 , the spout d^5 conducting the grain into the wagon.

One part of the hinge-bracket E (see Fig. 2) is bolted to the under side of the conveyer, while the bifurcated part is adapted to engage with the car structure, and is tightly secured in place by means of the hand-bolt d^6 , by which arrangement the conveyer is adjustably supported in a working position.

There is a large amount of grain transferred from cars to wagons, and the work is usually done by shoveling, first spreading a sheet of canvas between the car and wagon. This method is slow, however, and a great deal of grain is necessarily wasted.

By the arrangement herein set forth the grain may be transferred with the greatest facility and much valuable time and tedious labor saved.

The nature of the device is such that it is easily and quickly placed in position and then ready for instant use.

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

1. In a portable conveyer, the combination,

with an endless carrying-belt composed of a number of metal plates hinged together, of the series of conveyer-flights mounted upon and rigidly secured to and near the joining edges of said plates, the hexagonal drums B' B', mounted upon suitable rotating shafts, the boxing $a' a^2$, and the means described for keeping said carrying-belt taut, substantially as set forth.

2. In a conveyer of the character described, the combination, with the endless traveling belt, of the series of friction-rollers a^3 , the shafts a^6 , the straps a^7 , and the inclosing-boxes $a' a^2$, substantially as set forth.

3. The combination, with the brackets C C, provided on the inner side with the projecting lug b^2 , of the roller or rollers b^3 and the endless traveling belt B, substantially as set forth.

4. The combination, with the conveyer-belt B, of the series of carrying-flights D, provided with the double curved edges $d d$, as set forth.

5. The combination, with the bracket-plates C, provided with the rectangular slot d' , the adjustable journal-boxes d^2 , the screw d^3 , the drum B', and the endless conveyer-belt, substantially as and for the purpose set forth.

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Witnesses:

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