

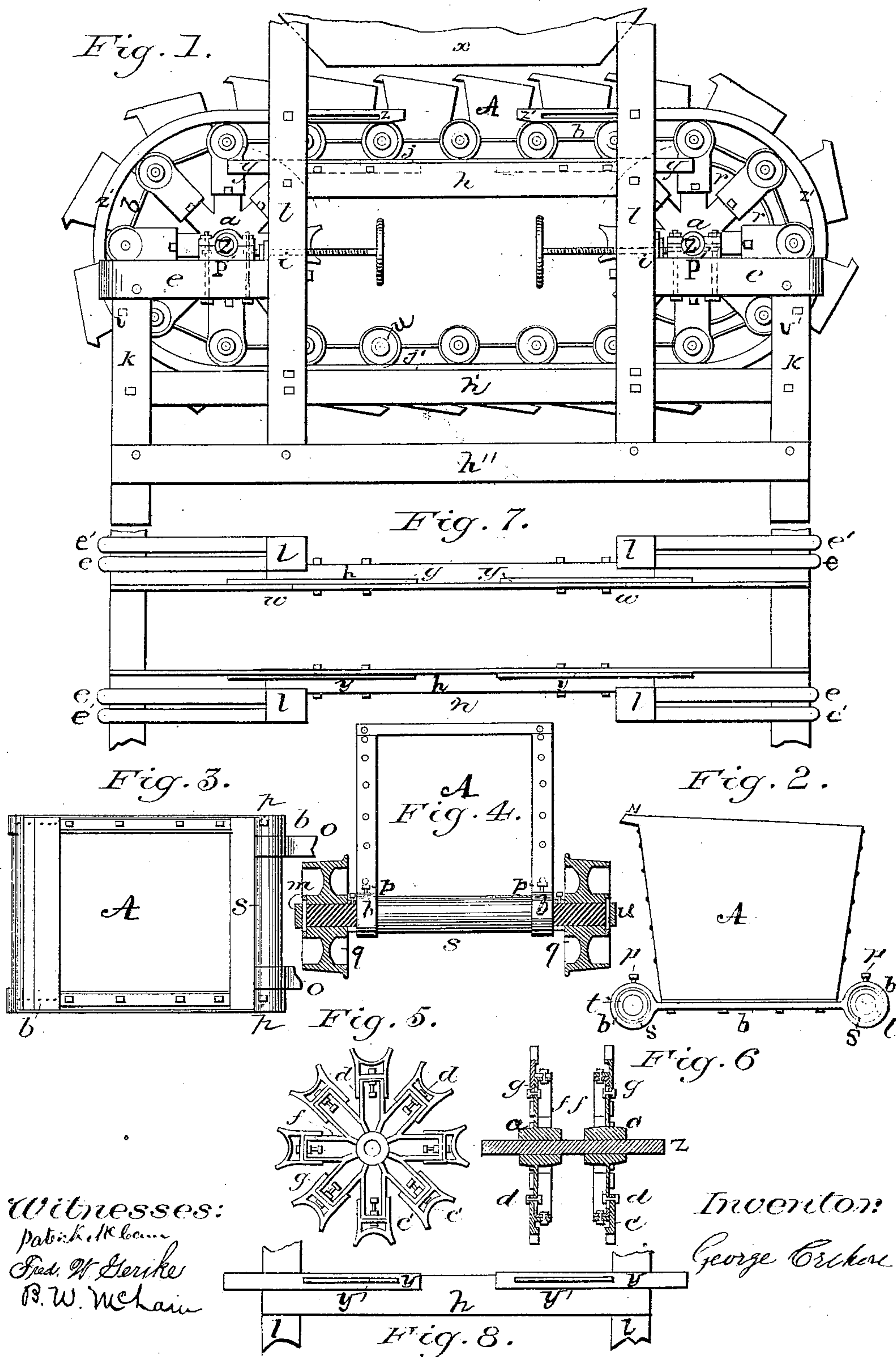
(No Model.)

G. CREHORE.

DEVICE FOR CONVEYING GRAIN, &c.

No. 262,376.

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DEVICE FOR CONVEYING GRAIN, &c.

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To all whom it may concern:

Be it known that I, GEORGE CREHORE, of St. Louis city, in the State of Missouri, have invented a new and valuable Improvement in Grain-Conveyers; and I do hereby declare that the following is a full, clear, and exact description of the construction of the same.

This invention relates to grain-conveyers, &c.; and it consists in the improved features of construction and combination of mechanism fully described and particularly pointed out in this specification and claims.

The objects of my invention are, first, to construct a grain-conveyer which runs on railway-tracks; second, to embody in its construction capacity and rapidity of action with durability and economy of power and wear of parts; third, cheapness and simplicity of construction. I attain these objects by the mechanical combination of parts illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a conveyer in working order. Fig. 2 is a side elevation of one of the cars, showing how it rests on and is attached to one of its connecting-bars. Fig. 3 is a plan view, looking down from the top. Fig. 4 is a front end elevation of a car, also showing a section of the axle ends and wheels. Fig. 5 is an inside view of a spider, the opposite side of it being shown at *a*, Fig. 1. Fig. 6 is a sectional view of two spiders and an axle in position for work. Fig. 7 is a top plan of the railway-track and timbers upon which it rests, also of the timbers on which the boxes to the spider-shafts are. Fig. 8 shows the manner of placing pieces *y y* in the track-timber.

Similar letters refer to similar parts in each of the views.

The base and support of my invention is a frame-work of timbers of suitable sizes and lengths, which are framed and properly fastened together, of which Fig. 1 is a view of one side in which the vertical timbers *l l k k* and the horizontal timbers *h h' h'' e e'* are shown. Alongside of this, at as great a distance laterally as may be necessary, is placed a duplicate frame. The timbers of any building where this conveyer is to be placed may be made use of as part of the frames. This frame-work is constructed for the purpose of making two railway-tracks, *h h'*, Fig. 1, one track directly

above the other, on which iron rails *j j'* are laid, and a continuous series, consisting of small cars *A A* and their connections, are placed and caused to revolve around and return upon spider arms or drums *a a'*, which rest horizontally on axles or shafts *z z'*, having boxes *P P* resting upon and secured movably to the timbers *e e'*, in which these shafts turn. One of these drums is placed at each end of the double tracks between the rails, as shown. For the purpose of permitting the end of the spider-arms to pass up by the ends of the upper iron railway-track *j* without striking against it at the point *w*, Fig. 7, an offset piece of iron, *y y'*, is made use of. This is bolted to the side of the timber *h*, Fig. 1, and to the rail *j*, to extend it lengthwise to a point directly over the spider-arm shaft *z*. These extension-tracks *y y* have in them the slots *y' y'*, thereby permitting them to be moved in or out as necessary. The lower-track timber *h'* and iron rail *j'*, Fig. 7, are made the same as the upper track just described, excepting that this track has no offset-irons *y y* in it; but it has both ends of the iron track curved up around outside the treads of the car-wheels as they revolve and rest in the recesses to which they are fitted on the ends of the spider-arms. The curved rails extend to and past the posts *l l*, as shown. At *z' z'* they have extended slots in them for extending or shortening both above and below. The object of curving these iron tracks entirely around the spider is to prevent the car-wheels from being thrown off of the spider-arms at any time by high speed when running. This iron track is placed close to the flange of the car-wheels where they pass the post *l l*, to which they are bolted, and serve to hold the wheels in their proper place on the upper track while passing from the point *w* to the end of the track directly over the spider-shaft *z*, Fig. 1.

In Fig. 2, *A* is the body of one of the cars. It is made of any suitable material, preferably of sheet-iron, in similar form as shown. They may be of any shape or size and strength suited to the work. At the top front of the car is the angular-shaped projection *n*, the apex of the angle standing up roof-shaped to prevent grain or other material from lodging upon it. This projection is about three inches wide, and extends across the car from side to side. It is

intended to lap over the rear end of the car next in front of it for the purpose of preventing material from falling between them while they are being loaded through the spout of the hopper *x*, as shown in Fig. 1.

The bodies of the cars are rigidly secured at their bottom to and rest upon the connecting-bars *b*, Fig. 2, one of which is on each side of it, as shown in Fig. 3, and 4 also. These connecting-bars *b* are made of bar-iron, of suitable size and length. At each end they have an eye, as shown in Fig. 2. Within these the sleeve *s*, Fig. 4, is placed, and extends the width of a car. It is made of tubing. Inside of this sleeve *s*, at each end thereof, short pieces of smaller tube *t* are placed, in which the axle *u*, Fig. 4, revolves. The several parts, *b*, *s*, and *t*, are held in place by the set-screw *p*, the hole for which is drilled entirely through the eye, sleeve, and tube, the lower part of this hole answering the purpose of an oil-hole.

In Fig. 4, *u* shows a section of an axle, to which the flanged car-wheels *q q* are rigidly attached by set-screws or otherwise. The tread of the car-wheel is purposely made wide, so as to give ample room for running upon the iron tracks *j* and striking squarely into the scalloped ends of the spider-arms. In this figure *b b* show two connecting-bars and the sleeve *s* in position in them upon the axle *u*. These connecting-bars and sleeve are placed upon the axle *u*, after they are attached to the bottom of the car, by removing one of the wheels and running the axle through them, inside of which the axle turns in the connecting-bars. These bars are connected to each axle in the same manner, those upon every alternate car being placed nearer together, parallel the width of each bar, as shown at *o o*, Fig. 3. By this mechanism I am enabled to rest each car with its load mainly upon one axle to a car, and thus dispense with one-half of the axles and one-half of the wheels which would otherwise be required in constructing such a train. Each axle in the eyes of the bars *b b* serves as the axis of a hinge, and also as the axis of a coupling continuously throughout the entire train, however long it may be made.

Fig. 5 represents the inside of a spider, *a*, Fig. 1 showing its expansive parts. The opposite side is shown at *a*. The object of the expansive arms is to allow of widening the space between the scallops in the end of the arms, so as to accommodate the widening of the space between the axles to the cars, which arises from the wear of the sleeves of the coupling-bars and the axles. Upon the inside of the spider-arms are flanges *f f* and the scal-

loped cap *c'*, Fig. 5, which is closely fitted, movable upon their ends, and fastened to the body of the arm with bolts *d*. The outer end of the cap *c* is scalloped to fit the tread of the wheel, and must not be thicker laterally than about one-half of the width of the tread of the car-wheel, so that the cap may pass up between the flange of the car-wheel and the offset *y y* of the track, which offset is made for that special purpose. The spider-arms are lengthened by loosening the bolts *d* and placing pieces of iron between the head of the body of the arm and the cap. The boxes for the shafts *p p* are movable outwardly and the reverse by the wheeled screws *i i*, Fig. 1. Power to drive this mechanism is applied to the pulley *r r*, Fig. 1, which is attached to one of the shafts *z*.

The connecting-bars *b b* may be used with or without the sleeve *s* or tube *t* by fastening it directly upon the axle, and the wheels may turn on the axle instead of the axle turning with them. These conveyers may be made of any capacity.

I claim as my invention and desire to secure Letters Patent for—

1. In an endless train-conveyer, the coupling-bar *b*, in combination with a car, *A*, axles *u*, wheels *q q*, tracks *j j' z'*, spider *a*, shafts *z*, and offset-track *y*, as and for the purposes specified.

2. In an endless train-conveyer, the cars *A*, having the angular projection *n*, in combination with the connecting-bars *b*, with the sleeve *s* or tube *t*, the axle *u*, wheels *q*, tracks *j j' z'*, spiders *a*, shaft *z*, hopper *x*, pulley *r*, and boxes *P*, as and for the purposes shown.

3. In an endless train-carrier, the spider *a*, with or without the adjusting parts, in combination with the shaft *z*, box *P*, screws *i*, tracks *j j'*, curved iron *z' z'*, connecting-bars *b*, cars *A*, axles *u*, and wheels *q*, as and for the purposes named.

4. In an endless train-conveyer, the offset *y* in the upper track having the slots *y'*, in combination with the tracks *j j'*, spider-arms *a*, shafts *z*, boxes *P*, connecting-bars *b*, axles *u*, wheels *q*, car *A*, hopper *x*, and pulley *r*, as and for the purposes specified.

5. The arrangement of the axle *u* between two cars for forming a coupling or a hinge-axis, the front end of one car and the rear end of another car resting thereon, whereby only one axle to each car is made use of, as and for the purposes set forth.

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