W. WEIS.

SIDE CARRIER.

APPLICATION FILED AUG. 25, 1911.

**1,031,749.**

Patented July 9, 1912.

2 SHEETS—SHEET 1.

*Fig. 1.*

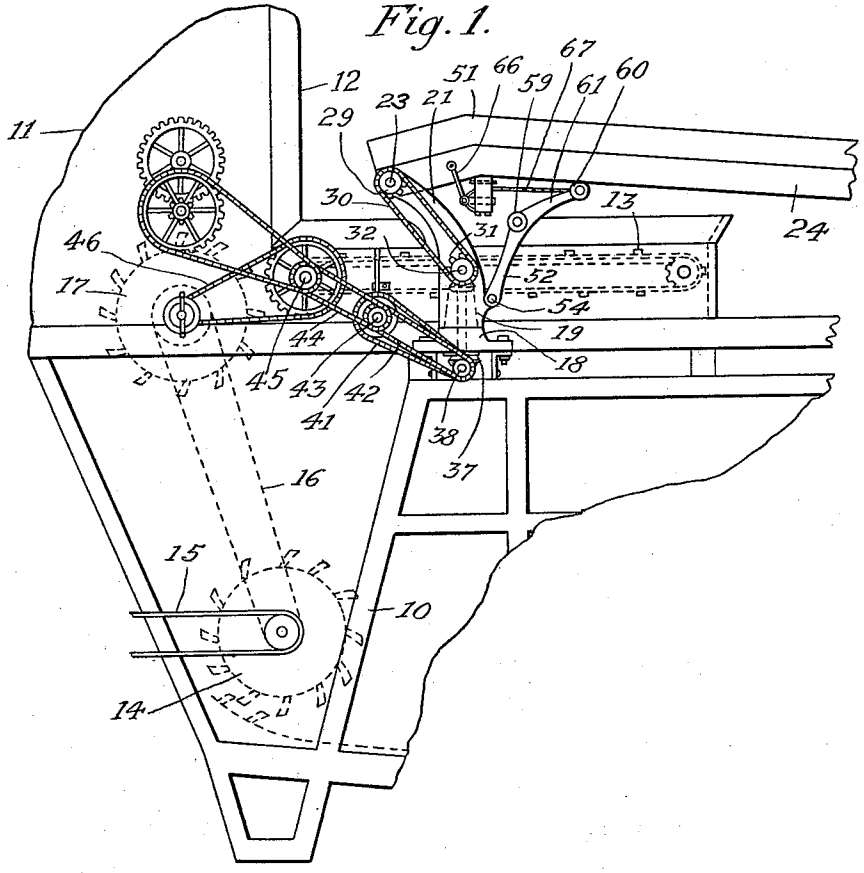
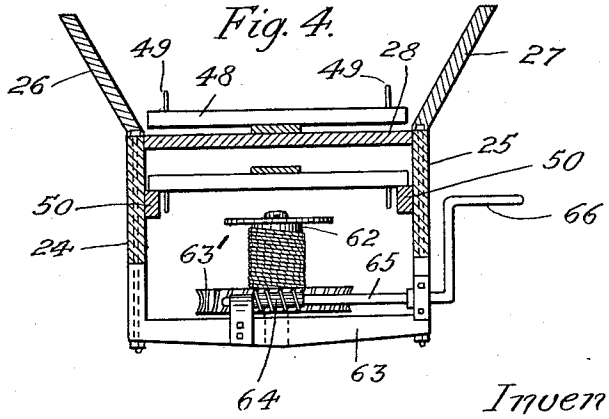



*Fig. 4.*

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2 SHEETS—SHEET 2.

*Fig. 2.*

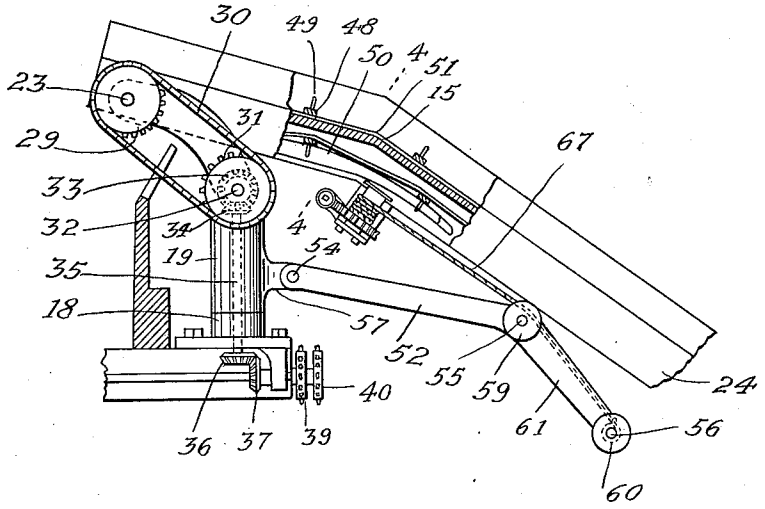
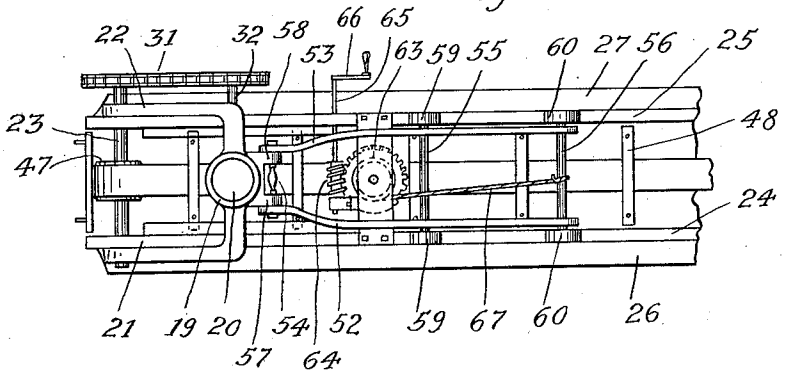



*Fig. 3.*

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*Inventor:*
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COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

WILLIAM WEIS, OF PERHAM, MINNESOTA.

## SIDE CARRIER.

1,031,749. Specification of Letters Patent. Patented July 9, 1912.

Application filed August 25, 1911. Serial No. 646,004.

*To all whom it may concern:*

Be it known that I, WILLIAM WEIS, a citizen of the United States, residing at Perham, in the county of Ottertail and State of Minnesota, have invented certain new and useful Improvements in Side Carriers, of which the following is a specification.

My invention relates to the side carriers for separators or threshing machines of the type in which the feeder is located at the front of the machine and opens toward the rear of the machine and the grain is conveyed into said feeder upon a horizontal conveyer located upon the top platform of the machine and moved from the rear toward the front of the machine.

It is an object of my invention to provide such side carriers conveniently arranged and simple and durable in construction and to provide means for readily and rapidly raising and lowering the said carriers to any extent desired.

It is an especial object to provide such means which shall be operable to lift the carrier no matter what position the carrier may occupy with respect to the vertical axis about which it is adapted to rotate.

In the drawings illustrating the application of my invention in one form,—

Figure 1 is a side elevation of a portion of a separator showing my improved carrier connected therewith. Fig. 2 is a fragmentary elevation partly in section of the carrier, mounting with the carrier shown positioned transversely to the separator. Fig. 3 is a plan of the carrier and supporting bracket removed from the machine and viewed from the under side. Fig. 4 is a transverse sectional view on line 4—4 of Fig. 2.

To the usual frame 10 of the separator a hood-like feeder casing 11 is secured, opening, as indicated at 12, toward the rear of the machine, into which a horizontal conveyer 13 moves the bundles from front to rear. The threshing cylinder 14 is driven by means of a belt 15. From the shaft of cylinder 14 by means of belt 16 power is transmitted to a feeding and band-cutting cylinder 17 within the casing 11. Mounted upon the frame of the machine adjacent the casing 11 and the horizontal conveyer 13 is an upright standard 18 of substantially cylindrical form. A bracket 19 is provided with a cylindrical opening 20 which registers over the standard 18 so that said bracket has freedom for movement about a vertical axis. The bracket 19 is provided with a pair of arms 21 and 22, respectively, between which is journaled a shaft 23, said shaft also providing fulcrum supports for longitudinal frame members 24 and 25 which, together with wings 26 and 27 and a connecting floor 28, comprises the body portion of the carrier. The shaft 23 has on one end thereof a sprocket 29 connected by sprocket chain 30 with a sprocket 31 on a short shaft 32 journaled in the bracket 19, said shaft having on the inner end thereof a bevel gear 33 meshing with a bevel gear 34 on a vertical shaft 35 journaled within the center of standard 18, the lower end of shaft 35 being provided with a bevel gear 36 meshing with a bevel gear 37 on a shaft 38 provided with a pair of sprockets 39 and 40 by which said shaft is driven at a higher or lower speed through either one or the other of chains 41 and 42, respectively, extending from sprockets adapted to be alternatively clutched to shaft 43 driven by chain 44 from a sprocket on shaft 45, which in turn is driven by chain 46 connected with a sprocket on the shaft of band-cutting and feeding cylinder 17. The shaft 23 is provided with a roller or sprocket wheel 47 over which passes an endless conveyer belt 15, said belt being supported at the lower end of the conveyer frame by a similar roller, not shown. The belt is provided with cross bars 48 having thereon pins 49 and the ends of these cross bars pass above guides 50 adjacent a point 51 where the carrier frame is somewhat bent out of a straight line.

The arms 21 and 22 are curved away from the bracket 19 so that when the carrier is swung transversely of the machine said arms will project above the horizontal conveyer belt 13 so that the bundles will be dropped upon the same from the carriers, which in practice will be located on each side of the machine and will convey bundles simultaneously to the said horizontal conveyer. It will be apparent that the conveyer when in lowered position may be swung on the standard 18 as a vertical axis so that said conveyer may be directed either forwardly or rearwardly of the machine, and the aforesaid curving of arms 21 and 22 will be sufficient to bring the discharge

end of the carrier above the horizontal conveyer whatever position the carrier may occupy relative to the machine when the carrier is lowered and in operation.

For raising and lowering the carrier a pair of arms 52 and 53 are rigidly secured together by means of cross bars 54, 55 and 56, cross bar 54 extending through apertures in lugs 57 and 58 on the bracket 19, the arms 52 and 53 being positioned outside of said lugs and in this manner pivotally secured to the bracket 19 so as to move freely in a vertical plane. Each of cross bars 55 and 56 is extended beyond arms 52 and 53, there being mounted on said extensions a series of rollers 59 and 60, respectively, the rollers outside of arm 52 being positioned to come beneath frame member 24 and the rollers outside of arm 53 being positioned to come beneath frame member 25. The arms 52 are bent where the bars 55 extend therethrough so as to be provided with short angularly disposed extensions 61. This arrangement is such that as the arms 52 are swung in a vertical plane one or the other of the sets of rollers 59 and 60 will engage the lower edges of frame members 24 and 25, thereby swinging the carrier in a vertical plane about its axis 23. The arms 52 and 53 may, if desired, be additionally bent so as to provide other portions angularly disposed with respect to the preceding portion, the purpose being to mount in said arms a series of rollers to engage a portion of the frame pieces 24 and 25, said rollers being out of line with one another and with the pivot point 23 so that said engagement will take place successively. To effect this swinging movement and at the same time positively lock the carriers in any position where set, a drum 62 is secured to a frame 63 bolted to frame members 24 and 25, said drum being journaled in said frame so as to extend inwardly toward the carrier but not to contact therewith, as clearly shown in Fig. 4. Upon the drum 62 is a worm gear 63′ with which coöperates a worm 64 upon a shaft 65 formed with a crank handle 66, said shaft being journaled in bearings on frame 63. A cable 67 extends about drum 62 and from there to cross bar 56 to which the cable is secured. By turning the crank 66 drum 62 will be rotated which through cable 67 will rock arms 52 upon shaft 54 pivoted in lugs 57 and 58. Rollers 59 will travel along frame members 24 and 25 and will operate to lift the carriers until the short angularly disposed extensions 61 come into the plane of the lower edges of said frame members, when rollers 60 will travel along the same and the carriers will be further lifted to any extent desired. In practice, when the carriers have been raised above the top platform of the machine they will be swung inwardly above the same where they will be out of the way until the machine is set up and ready for work. The carriers may then be swung out into position and quickly lowered to the extent desired. Owing to the coaction of the worm 64 and worm wheel 63 the carriers will be locked in position wherever set.

I claim:

1. In a grain separator, a two-armed bracket mounted to swing on a vertical axis, a carrier pivoted at one end between said arms to swing in a vertical plane, an arm pivoted to said bracket provided with a roller engaging a portion of said carrier, and means mounted directly on and movable with the carrier to swing said arm on its pivot to cause said roller to move along said portion and thereby lift the carrier.

2. In a grain separator, a two-armed bracket mounted to swing on a vertical axis, a carrier pivoted at one end between said arms to swing in a vertical plane, an arm pivoted to said bracket provided with a roller engaging a portion of said carrier, a drum mounted directly on the carrier to rotate about an axis vertical to the plane thereof and a flexible connection from the drum to said arm, and means to revolve said drum to wind up said connection and thereby lift the carrier.

3. In a grain separator, a two-armed bracket mounted to swing on a vertical axis, a carrier pivoted at one end between said arms to swing in a vertical plane, an arm pivoted to said bracket provided with a roller engaging a portion of said carrier, means on the carrier to swing said arm on its pivot to cause said roller to move along said portion and thereby lift the carrier, including means to hold the arm locked where set.

4. In a grain separator, a two-armed bracket mounted to swing on a vertical axis, a carrier pivoted at one end between said arms to swing in a vertical plane, an arm pivoted to said bracket provided with a roller engaging a portion of said carrier, a drum mounted directly on the carrier to rotate about an axis vertical to the plane thereof and a flexible connection from the drum to said arm, a worm wheel on said drum, and a crank shaft provided with a worm coöperating with said worm wheel, whereby said drum may be revolved and is locked where set.

5. In a grain separator, a two-armed bracket mounted to swing on a vertical axis, a carrier pivoted at one end between said arms to swing in a vertical plane, a frame pivoted to said bracket to swing in a vertical plane, a plurality of sets of rollers journaled in said frame and adapted to engage the underside of said carrier, and means to swing said frame on its pivot to

cause said rollers to move along said under side and thereby lift the carrier.

6. In a grain separator, a two-armed bracket mounted to swing on a vertical axis, a carrier pivoted at one end between said arms to swing in a vertical plane, an arm pivoted to said bracket, said arm being formed with a plurality of angularly disposed portions, a plurality of rollers journaled in said portions so as to be successively out of a line extending through the preceding roller and the point of pivotal attachment of the carrier, and means to swing said arm on its pivot to cause said rollers to engage the carrier successively and thereby lift the same.

7. In a grain separator, a supporting member rotatable about a vertical axis, a carrier pivoted at one end to said supporting member, a frame also pivoted to said supporting member, comprising a plurality of angularly disposed portions, a set of rollers in each of said portions, one of said sets engaging beneath and sustaining said carrier, and means to rock the frame on its pivot whereby said engaging rollers are caused to move along said carrier, and another set of rollers is successively caused to engage and move along said carrier to change the elevation of the same.

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

WILLIAM WEIS.

Witnesses:
A. SHANNON,
B. A. LUCKING.