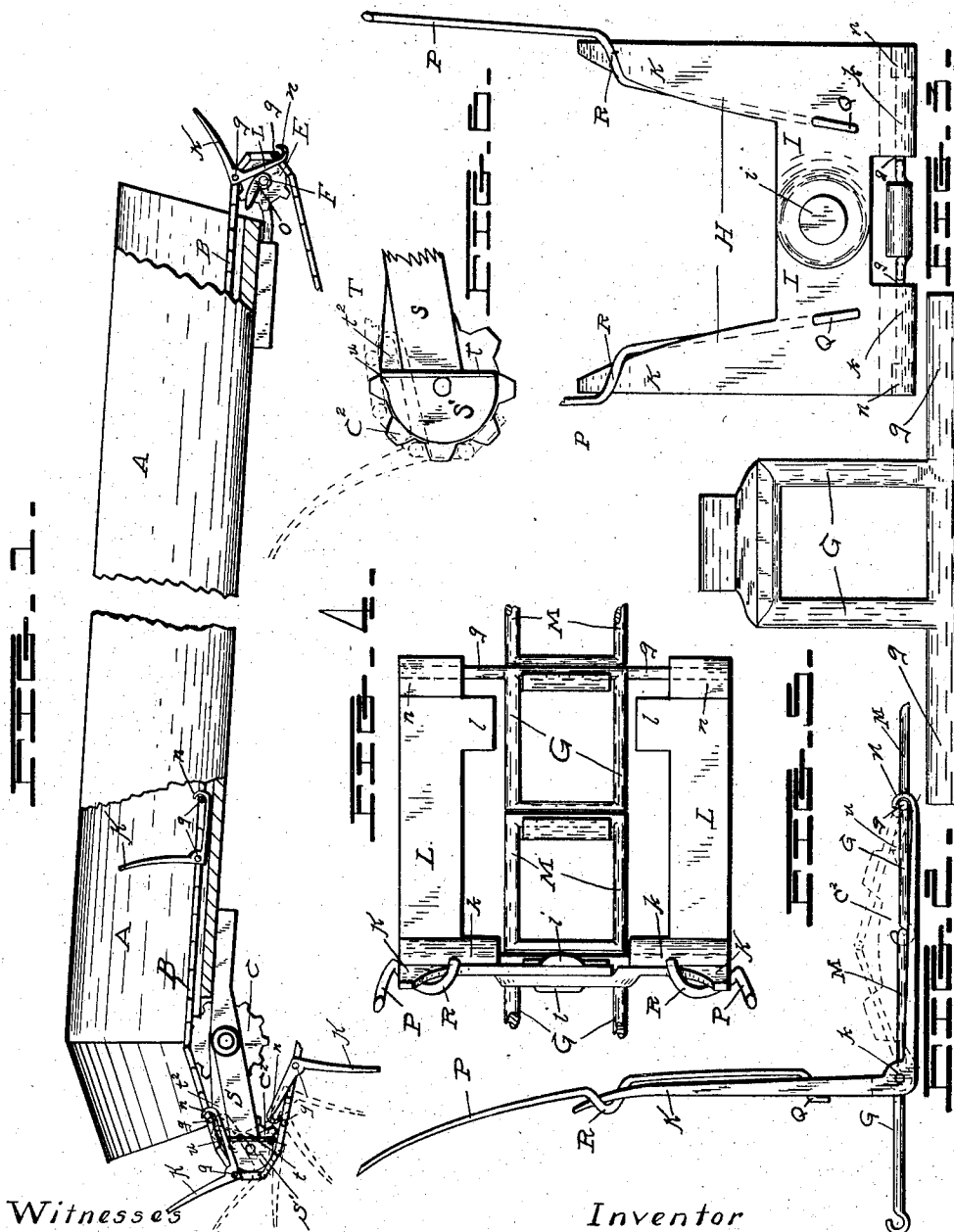


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WING CARRIER.
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UNITED STATES PATENT OFFICE.

WALTER F. BROWN, OF PEORIA, ILLINOIS.

WING-CARRIER.

1,025,367.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER F. BROWN, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Wing-Carriers, of which the following is a specification.

My invention relates to wing carriers adapted to be used on threshing machines to deliver bundles or loose grain to the feeder portion thereof.

My invention relates particularly to flight sections of the carrier chain and their relation to the latter, and to means at the receiving and discharge ends of the conveyer for controlling the position of the pivoted flight sections.

Referring to the drawings, Figure 1 is a side elevation of a wing carrier showing in broken section detail parts thereof; Fig. 2 is a side elevation of a section of the link chain and a pivoted flight section supported therein, and in dotted lines showing the effect of carrying the link chain over a sprocket wheel to cause the release of arms of the flights; Fig. 3 is a front view of one of the flights, showing the manner of joining two sections to produce a unitary whole and also the manner of supporting the flight section upon the sprocket chain; Fig. 4 is a plan view showing a section of the sprocket chain with one of the flights connected therewith; Fig. 5 is a detail view of a special link in the sprocket chain provided with laterally projecting lugs; and Fig. 6 is a detail view showing the form of a belt carrier support at the discharge end of the carrier.

In the drawings, A is intended to represent a wing carrier which is adapted to be supported in any suitable manner to cause it to deliver grain to the thresher feeder; B is a sprocket chain adapted to be supported to travel through the carrier body for the purpose of moving the grain deposited therein.

C is a sprocket wheel supported approximately at the delivery extremity of the carrier body and is adapted to serve as a support and guide for the chain B.

E is a sprocket wheel journaled on stud F at the rear or receiving end of the conveyer.

G G are links each formed with laterally extending pintles *g*.

H H are flights comprising sections I I adapted to be united to form a single flight

by overlapping and being secured together by rivets *z*. Each section of flights H, I prefer to make a single piece of metal, comprising upwardly extending fork portion K and a rearwardly extending foot portion L disposed relatively substantially at right angles, and perforations as *k* being provided at the meeting or angle point. The two sections I are united to form a single flight and are adapted to be supported upon pintles *g* of links G to provide a pivot point for the flights, as best shown in Fig. 3. In uniting the sections of the chain, two sections as G are adapted to coöperate as a support at times for flights H and they are arranged in practice as shown in Fig. 3, spaced apart and connected by means of link M. The foot pieces L are provided with upwardly turned hooks as *n* and inwardly extending lugs *l*. The foot pieces L are of the length extending from pintle to pintle between links G when the chain lies in the same horizontal plane with the foot pieces, whereby the hooks *n* of foot pieces L are adapted under certain conditions to engage pintles *g* of link G.

S' is a split head adapted to support sprocket wheel C², said head being supported from the carrier body by means of the arm S of which head S' may form an integral part.

t indicates a vertical shoulder on head S', there being a similar shoulder on the opposite side of the head.

*r*² is a rib on arm S serving as a guide or way for the carrier chain B.

u is an upwardly extending lug on head S' serving to buckle the links to cause hook *n* to be disengaged from pintles *g* and the shoulders *t* serve to engage lugs *l* on the flights to control the position of the flights as they pass around sprocket wheel C² and to prevent their reëngagement with pintles *g* as the chain is straightened out in its return movement.

In the practical operation of wing carriers with my device applied, the chain being moved forwardly through the bottom of the carrier, the fork portions K of the flights will be supported substantially in a vertical position as shown in Fig. 1, with the hooks *n* of foot portion L engaging pintles *g*. The flights thus held travel through the conveyer and by being so held, bundles of grain thrown against the forks K will not tip them as they are held by the

chain and the weight of the grain thereon. This connection of the flights with the chain and the forming of the flights into a frame, as distinguished from a single traveling flight, also resist any tendency to tip side-wise. The form of the flight frame and its connection with the chain is such that the forks are maintained in the proper position during their travel through the carrier body.

It is necessary that the flights be released from the carrier chain as they reach the delivery end of the carrier so as to prevent any tendency to carry the grain back. To accomplish this purpose, the chain is caused to buckle over stud or projection *u* at the beginning of its travel about sprocket wheel *C*². The buckling of the chain releases hooks *n* on foot pieces *L* from their engagement with pintles *g* of the links and lugs *l* engaging the shoulders *t* of head *S'* will cause the rear end of foot portions *L* to travel down along the side of the head *S'* as the flight passes around sprocket wheel *C*², the said flight occupying substantially the several positions shown in dotted lines in Fig. 1 as it travels about said sprocket wheel. When the chain straightens out for its return movement, the hook portion of the flights will rest upon pintles *g* as also shown in Fig. 1, leaving said flights free to turn upon their pivot in case of contact with some external object. As the flights of the carrier chain reach sprocket wheel *E* at the rear or receiving end of the conveyer and are carried thereabout, the buckling of the chain and the contact of the foot piece *L* with cam *O* fixed on stud *F* causes said foot piece to be thrown upwardly and into contact with pintles *g*, and as the carrier chain is straightened out in entering the rear end of the carrier *A*, the hook *n* of the foot pieces will be caused to engage pintles *g* so that the flight forks will be carried in a permanent and fixed position through the carrier body.

P are auxiliary fork arms which are adapted to be applied to the normal fork portions *K* of flights *H* for use when the carrier is handling loose grain, as such forks serve to extend the normal fork length, and being of rather small wires, serve to penetrate the grain readily. The auxiliary forks *P* are formed with an inwardly turned and downwardly hooked portion *Q*, and with a laterally bent and curved portion *R* at about their middle part. The forks are applied by inserting the hooked portions *Q* through perforations in the body of flights *H* and are then hooked about the upper slightly curved ends of forks *K* and then held under spring tension of the wires securely in position for service.

In the drawings, and in the specification, I have described my preferred form of em-

bodiment of my invention, but I desire to claim every form that falls within the functional purpose and principle herein disclosed.

What I claim is:

1. In an endless conveyer chain for wing carriers, the combination of links therein, carrier forks comprising sections adapted to be joined in pairs and pivoted upon the links laterally extending means at the base of each set of carrier forks for bearing relation with the bottom of the carrier body to sustain the forks in an upright position while traveling through the carrier body, and auxiliary extensions detachably secured to the carrier forks.

2. In a device of the class described, a carrier body, chain carrying wheels at the receiving and delivery ends thereof, a cam disposed between the axis and the periphery of the carrier wheel at the receiving end of the carrier, a carrier chain comprising links therein provided with laterally extending pintles, carrier forks pivoted to the conveyer chain and comprising vertically and horizontally disposed parts, and hooks upon the horizontally extending parts of the carrier forks adapted, when the chain is flexed by its carrier at the delivery end of the carrier body, to be released from engagement with the link pintles and when flexed about the chain carrier at the receiving end of the conveyer body, the hooks through the action of the cam upon the carrier forks will be brought into position to engage the link pintles and will engage the same as the chain is straightened out to travel through the carrier.

3. In an endless conveyer chain for wing carriers, the combination with links therein provided with pintles extending from each of the sides thereof, of carrier forks pivoted on link pintles comprising each two sections adapted to be supported one on each side of the conveyer chain having portions extending across the chain and overlapping, and adapted to be united by a rivet, and each carrier fork being provided with a relatively angularly disposed and rearwardly extending foot portion.

4. In an endless conveyer chain for wing carriers, the combination with links therein provided with pintles extending from each of the sides thereof, of carrier forks pivoted on link pintles comprising each two sections adapted to be supported one on each side of the conveyer chain having portions extending across the chain and overlapping, and adapted to be united by a rivet, and each carrier fork being provided with a relatively angularly disposed and rearwardly extending foot portion formed with a hook at its outer end adapted to engage link pintles to aid in maintaining the carrier forks in substantially vertical position.

5. In an endless conveyer chain for wing carriers, in combination, links provided with pintles extending from each side thereof, carrier forks pivoted on the pintles and
5 auxiliary extension forks detachably supported in connection with the carrier forks.

6. In an endless conveyer chain for wing carriers, in combination, links therein provided with pintles extending from the sides
10 thereof, carrier forks pivoted on link pintles, auxiliary extension carrier forks comprising wire prongs hooked upon and about the main carrier forks and in a detachable relation therewith.

15 7. In a device of the class described, in combination, an endless conveyer chain, angularly formed flight portions pivoted to the links at angle points, one arm adapted for a carrier or impaling fork and the other
20 portion extending rearwardly substantially in parallel relation with the chain provided with hooked portions engageable with the chain and with inwardly extending lug portions, a sprocket carrying head about which
25 the chain is adapted to travel provided with a shoulder portion adapted to engage the lateral projections from the rearwardly extending arms of the flights to control the position of the flight as it is passed about
30 the sprocket wheel, and means for support-

ing and driving the chain in connection with the carrier body.

8. In a device of the class described, in combination, an endless conveyer chain, angularly formed flight portions pivoted to
35 the links at angle points, one arm adapted for a carrier or impaling fork and the other portion extending rearwardly substantially in parallel relation with the chain provided with hooked portions engageable with the
40 chain and with inwardly extending lug portions, a sprocket carrying head about which the chain is adapted to travel provided with a shoulder portion adapted to engage the lateral projections from the rearwardly extending
45 arms of the flights to control the position of the flight as it is passed about the sprocket wheel, and a lug on the head upon the chain traveling surface thereof adapted to buckle the links to cause the
50 hooks upon the flights to be disengaged from the chain, and means for supporting and driving the chain in connection with the carrier body.

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

WALTER F. BROWN.

Witnesses:

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W. V. TEFFT.