

F. B. CARPENTER, E. D. SWARTLEY & W. A. DERSTINE.
OVERHEAD CARRIER.

APPLICATION FILED MAY 27, 1910.

1,007,267.

Patented Oct. 31, 1911.

2 SHEETS-SHEET 1.

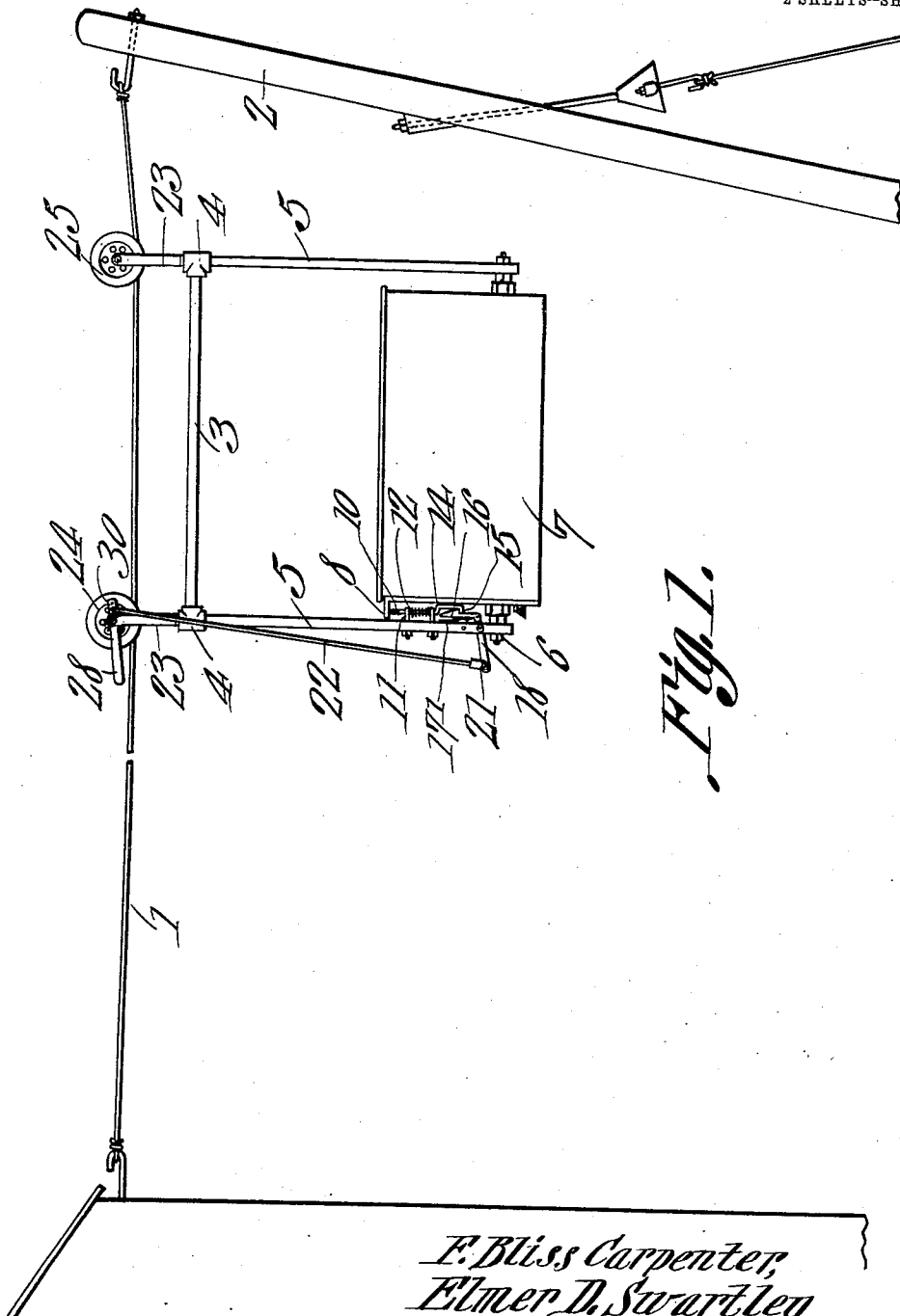


Fig. 1.

Witnesses

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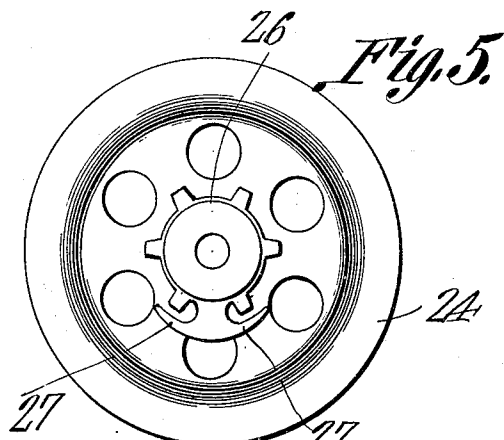
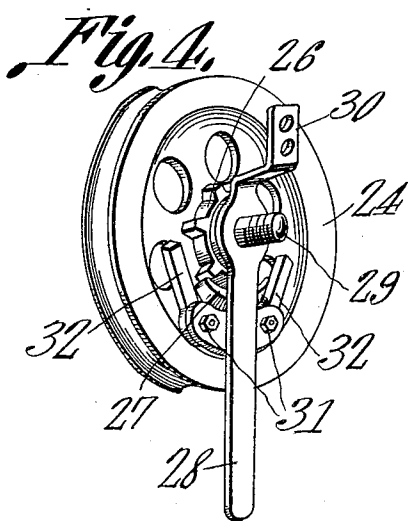
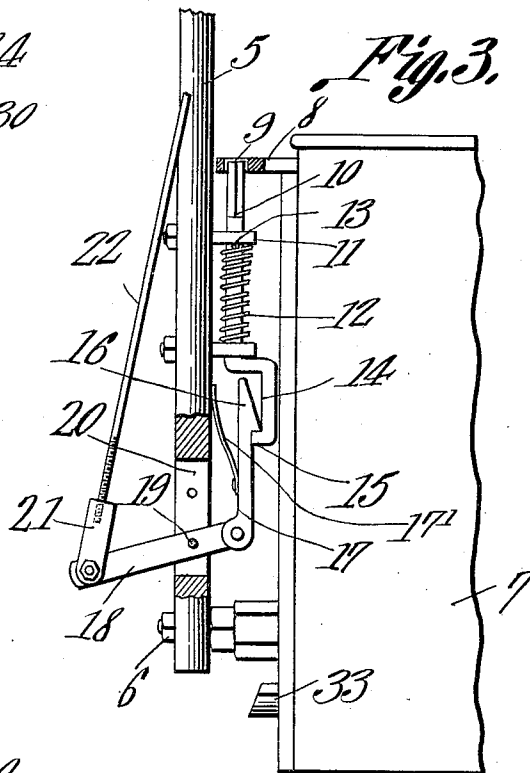
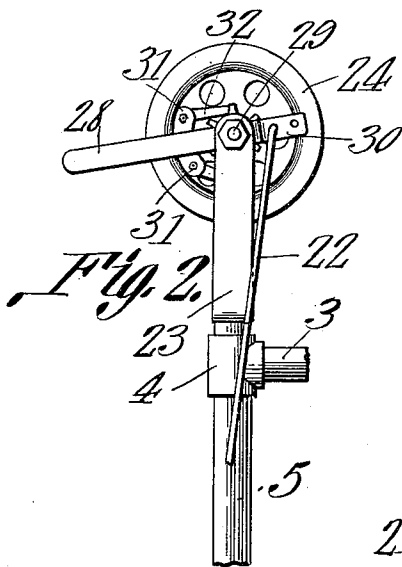
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

FRIEND BLISS CARPENTER, ELMER D. SWARTLEY, AND WILLIAM A. DERSTINE, OF
SELLERSVILLE, PENNSYLVANIA.

OVERHEAD CARRIER.

1,007,267.

Specification of Letters Patent.

Patented Oct. 31, 1911.

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To all whom it may concern:

Be it known that we, FRIEND BLISS CARPENTER, ELMER D. SWARTLEY, and WILLIAM A. DERSTINE, citizens of the United States,
5 residing at Sellersville, in the county of Bucks, State of Pennsylvania, have invented a new and useful Overhead Carrier, of which the following is a specification.

This invention relates to overhead carriers of that type employed for conveying
10 litter, etc., from barns.

One of the objects of the invention is to provide a device of this character which will dump automatically at a predetermined
15 point and without the necessity of utilizing any tripping device upon the supporting cable.

A further object is to provide novel means for locking the bucket or receptacle in
20 proper position to retain its contents, said locking mechanism being under the control of wheel-operated means adapted to release the bucket when the said wheel, which constitutes one of the supports of the carrier is
25 rotated in a predetermined direction.

A further object is to provide means whereby the wheel operated mechanism will be automatically disengaged from the locking
30 device during the tilting of the bucket or receptacle so as to thus release the operating wheel and permit it to travel freely along the supporting cable.

With these and other objects in view the invention consists of certain novel details
35 of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown:
40 In said drawings:—Figure 1 is a side elevation of a carrier constructed in accordance with the present invention. Fig. 2 is an enlarged elevation of one of the supporting wheels and of the mechanism adjacent
45 thereto. Fig. 3 is a view partly in elevation and partly in section of the bucket lock and the adjacent mechanism. Fig. 4 is a perspective view of the controlling supporting wheels and of the pawl and ratchet mechanism coöperating therewith. Fig. 5 is an
50 enlarged side elevation of the controlling wheel.

Referring to the figures by characters of reference 1 designates a supporting cable
55 which may be extended any desired distance

to a standard 2, the said cable being normally inclined upwardly toward the standard but so mounted as to sag when subjected to the weight of a loaded carrier and cause
said carrier to travel by gravity in the direction of the standard 2 until a predetermined point has been reached whereupon,
60 when the carrier is dumped, the supporting cable, relieved of the load, will automatically elevate the said carrier so as to cause
65 it to return by gravity to its initial position.

The carrier constituting the present invention includes a longitudinally extending
top rail 3 connected, by means of joints 4, with hangers 5. Gudgeons 6 are journaled
70 within the lower end portions of these hangers and extend from the ends of a bucket or receptacle 7, the said gudgeons being located off center so that, under normal conditions,
the bucket will hang in an inverted position.

A plate 8 extends outwardly from one end of the bucket adjacent the open top thereof
and this plate constitutes a keeper, there being an opening 9 therein for the reception of a locking bolt 10. This bolt is slid-
80 ably mounted within guide ears 11 extending from one of the hangers 5 and a spring 12 is arranged upon the bolt and between the ears and bears upwardly upon a pin 13
85 or the like extending through the bolt, this spring thus acting to hold the bolt normally projected into the opening 9. An off-set
arm or extension 14 is formed at the lower end of the bolt and has a terminal lug 15
90 adapted to be engaged by the head 16 of a catch 17. This catch is pivotally connected to one end of the lever 18 and the said lever is fulcrumed, as at 19, within a slot 20
95 formed within the hanger 5 from which the ears 11 extend. The other end of lever 18 has a yoke 21 pivotally connected to it and this yoke is adjustably engaged by the threaded end of a connecting rod 22.

Yokes 23 are swiveled within the couplings 4 and extend upwardly therefrom,
100 these yokes carrying supporting wheels 24 and 25 respectively. Ball bearings are preferably used between these yokes and the couplings so that the parts will more readily operate. The wheels 24 and 25 preferably
105 bear on rollers. Both of the wheels are formed with peripheral grooves for the reception of the supporting cable 1. The wheel 24 has a ratchet wheel 26 formed upon one side thereof and revoluble there-
110

with and an arcuate deflecting plate 27 is formed integral with said wheel 26 and is adapted to rotate therewith, the terminals of this plate extending across the adjacent
5 teeth of the ratchet wheel 26.

A lever 28 is pivotally mounted upon the axle 29 of the wheel 24 and this lever is provided at one end with an off-set portion 30 to which the rod 22 is adjustably connected.
10 An arcuate plate 31 is arranged transversely of and is secured to the lever 28 and is adapted to lie in the same plane with the ratchet wheel 26, there being diverging dogs 32 pivotally connected to the end portions
15 of the strip 31 and adapted to contact with the ratchet wheel at diametrically opposed points.

In setting up the apparatus for use, the cable 1 is left sufficiently slack to enable the carrier to travel downwardly thereon to the point of discharge which point is located where the carrier will begin to travel upwardly upon the slack cable. Before starting the carrier along the cable upon its delivery trip, the lever 28 is shifted into a substantially horizontal position and with its long arm pointed in a direction opposite to that in which the carrier is traveling. As the ratchet wheel 26 rotates with the wheel
20 24, while the parts are positioned as in Fig. 2, it will be apparent that the teeth on the ratchet wheel will slide under the uppermost dog 32 which rests thereon and the lowermost dog will, of course, be suspended
25 below and out of contact with the ratchet wheel.

When the carrier reaches the lowest point upon the sagging cable 1, it will be carried by momentum a short distance along the upwardly inclined portion of said cable and thus brought to a standstill. The carrier will then begin to move backward by gravity down the inclined portion upon its return trip and the wheel 24 will, obviously, be rotated in a direction to bring one of the teeth of the ratchet wheel 26 against the upper dog 32. Said dog will therefore be moved with the ratchet wheel and as the lever 28 is connected to the dogs, it will also be swung
30 about its fulcrum and will pull upon the rod 22. Lever 28 will thus draw downwardly on the catch 17 which, in turn, will withdraw the bolt 10 from the opening 9. The bucket 7 will be promptly released and will swing into an inverted position so as to permit its contents to fall therefrom. During the first portion of this swinging movement of the bucket, a cam plate, which has been indicated at 33, will move against the catch 17 and disengage it from the projection 15.
35 Levers 18 and 28 will thus be released and the dog 32 will be free to drop out of engagement with the ratchet wheel as soon as said dog assumes a position under the
40 ratchet wheel. The wheel 24 can therefore

freely rotate and the carrier can move back by gravity to its initial position, it being understood that, as soon as the carrier is relieved of its load, the cable 1 will elevate the carrier to a sufficient height to enable it to travel downwardly to the starting point.
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The plate 27 serves to positively hold the dogs 32 out of engagement with the ratchet wheel after they have once been disengaged therefrom, this plate, as will be obvious, rotating in a circle extending between the ratchet wheel and the ends of the dogs.
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When the bolt 10 is released in the manner described, the spring 12 will elevate it to its normal position and, when the bucket is swung back by the operator so as to bring its open top uppermost, said bolt will automatically swing into the opening 9 and thus lock the bucket in position to receive another load. The catch 17 is preferably provided with a spring 17' which serves to hold it in engagement with the lug 15. This spring is secured to the catch 17 and bears against the hanger 5.
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It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.
85 90 95

What is claimed is:

1. An overhead carrier including a supporting wheel, a tiltable receptacle, a connection between the receptacle and the supporting wheel, means for locking the receptacle against tilting movement during the delivery trip of the carrier, and means under the control of said supporting wheel for unlocking the receptacle during the initial portion of the return trip of the carrier.
100 105

2. An overhead carrier including a tiltable receptacle, a supporting wheel therefor, means for locking the receptacle against tilting movement during the delivery trip of the carrier and means operated by the supporting wheel for unlocking the receptacle during the initial portion of the return trip of the carrier.
110

3. An overhead carrier including a tiltable receptacle, a supporting wheel therefor, means for locking the receptacle against tilting movement during the delivery trip of the carrier, and means operated by the supporting wheel during the initial portion of the return trip of the carrier for unlocking the receptacle.
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4. An overhead carrier including a dumping receptacle, a supporting wheel therefor, means for locking the receptacle in position to retain its contents during the delivery trip of the carrier, and means under the control of the supporting wheel for releasing said locking means during the initial portion of the return trip of the carrier.
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5. An overhead carrier including a dump-
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ing receptacle, a supporting wheel therefor, means for locking the receptacle against dumping movement, and mechanism for actuating said means to unlock the receptacle, 5 said mechanism including a ratchet wheel revoluble with the supporting wheel, and a dog shiftable by the ratchet wheel when said wheel is rotated in one direction.

6. An overhead carrier including a tilting 10 receptacle, a supporting wheel therefor, means for holding the receptacle against tilting movement, a ratchet wheel revoluble with the supporting wheel, a lever fulcrumed adjacent thereto, a dog carried by 15 the lever and normally contacting with the ratchet wheel, and means operated by said lever for unlocking the receptacle, said ratchet wheel being adapted to engage and actuate the dog when the supporting wheel 20 is rotated in one direction.

7. An overhead carrier including a tilting receptacle, a keeper thereon, a spring controlled locking bolt normally engaging the keeper, a catch detachably engaging the 25 said bolt, a supporting wheel, means operated by said wheel when rotated in one direction for actuating the catch to disengage the bolt from its keeper, and means

upon the receptacle and movable therewith for disengaging the catch from the bolt during the tilting of the receptacle. 30

8. An overhead carrier including a tiltable receptacle, means for locking the receptacle against tilting movement, a supporting wheel, a ratchet wheel revoluble 35 with the supporting wheel, a lever fulcrumed adjacent said ratchet wheel, oppositely extending dogs connected with the lever and adapted to contact with the ratchet wheel, either of said dogs being shiftable to 40 ride upon the ratchet wheel when the supporting wheel is rotating in one direction and to be engaged and actuated by the ratchet wheel when the supporting wheel is rotated in the opposite direction, and means 45 operated by the lever for releasing the receptacle.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

F. BLISS CARPENTER.

ELMER D. SWARTLEY.

WM. A. DERSTINE.

Witnesses:

ELMER T. CRESSMAN,

Mrs. WM. A. DERSTINE.