

No. 808,042.

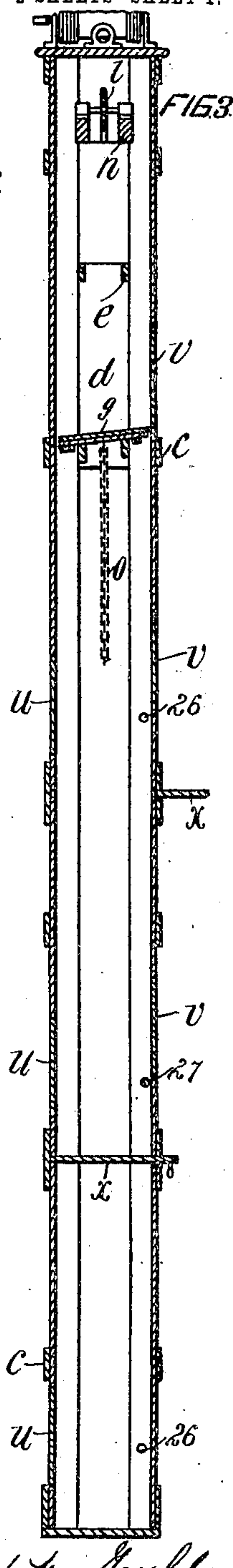
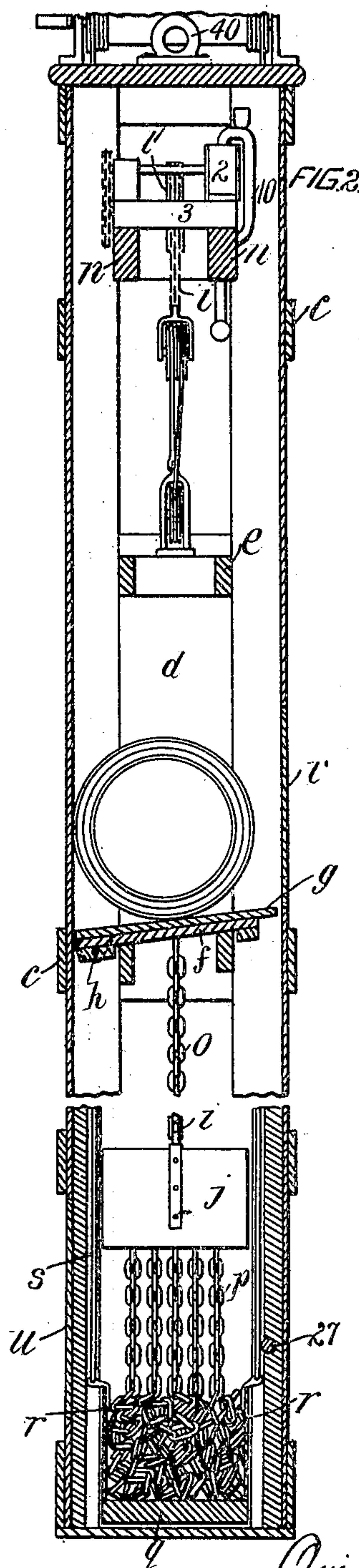
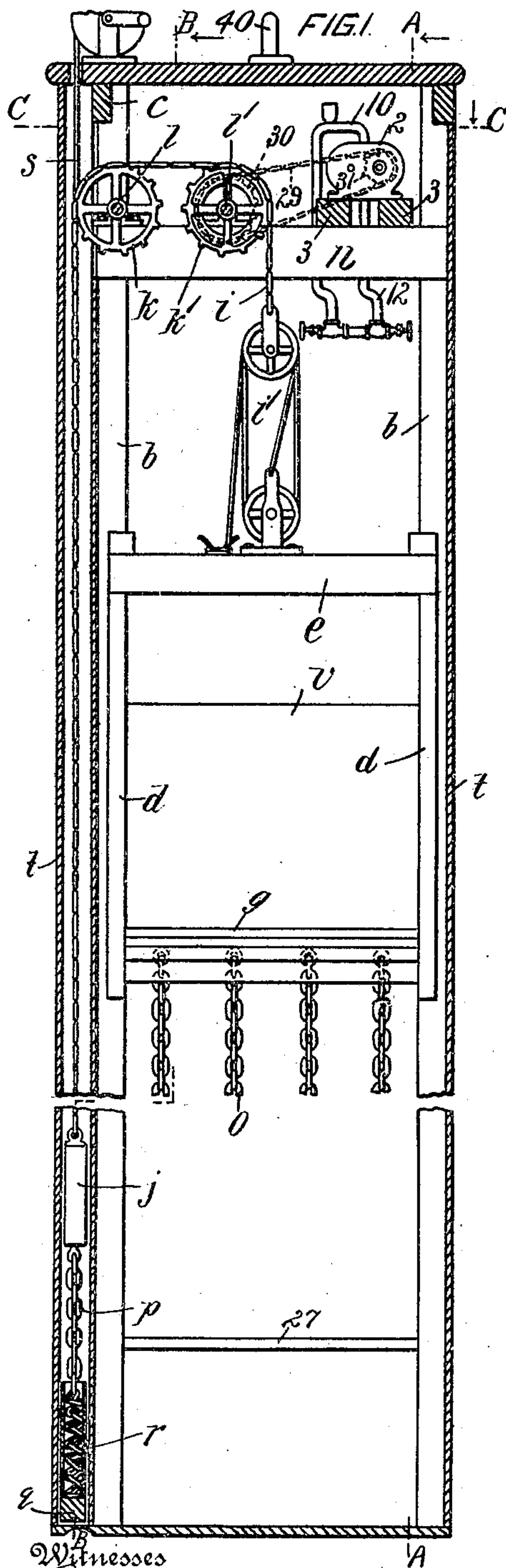
PATENTED DEC. 19, 1905.

O. M. GOULD.

PACKAGE CARRIER.

APPLICATION FILED FEB. 5, 1904.

2 SHEETS—SHEET 1.



Witnesses

Alfred G. Currie
Wm. J. Currie

Ovid M. Gould
Inventor

By Attorney

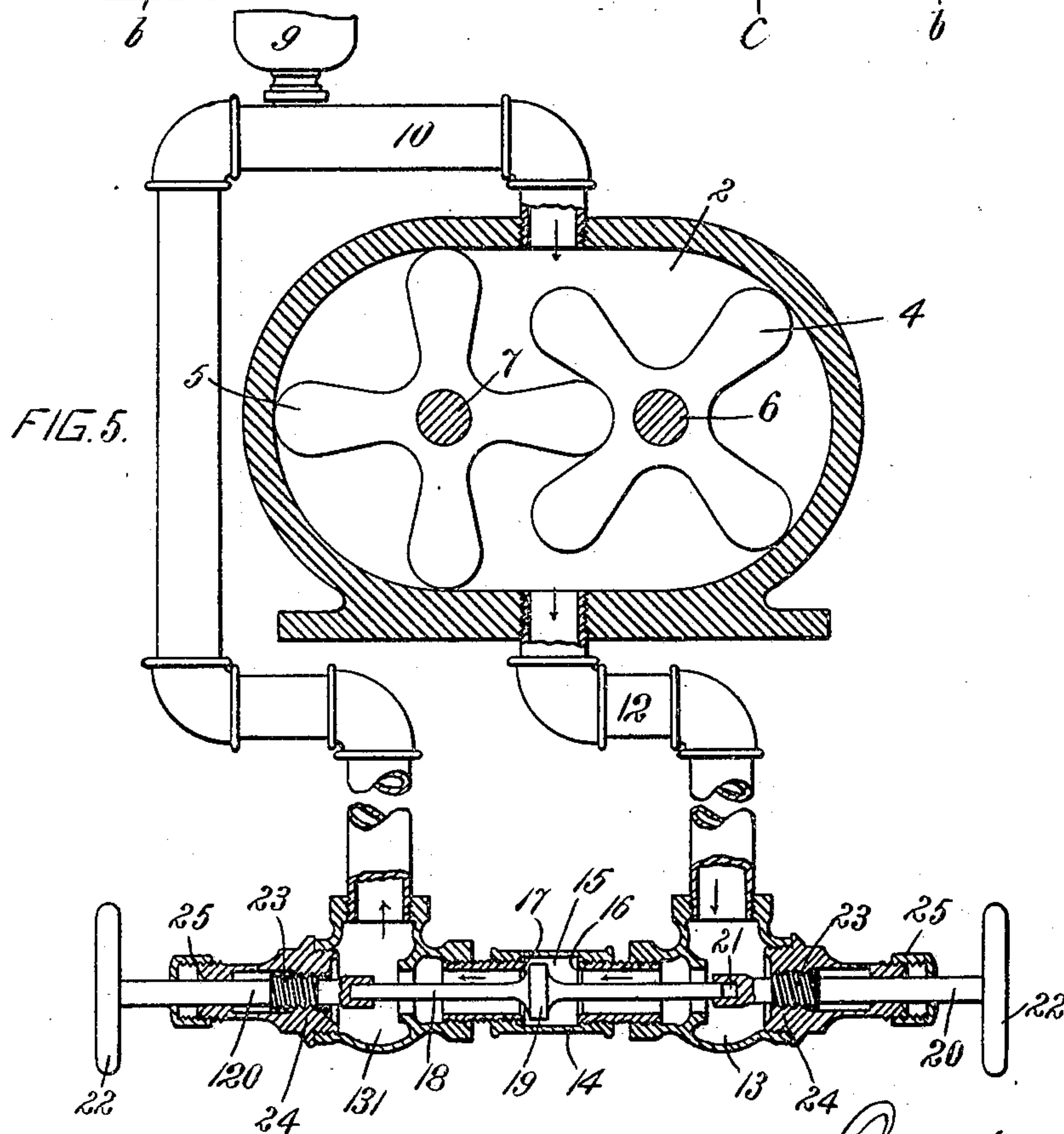
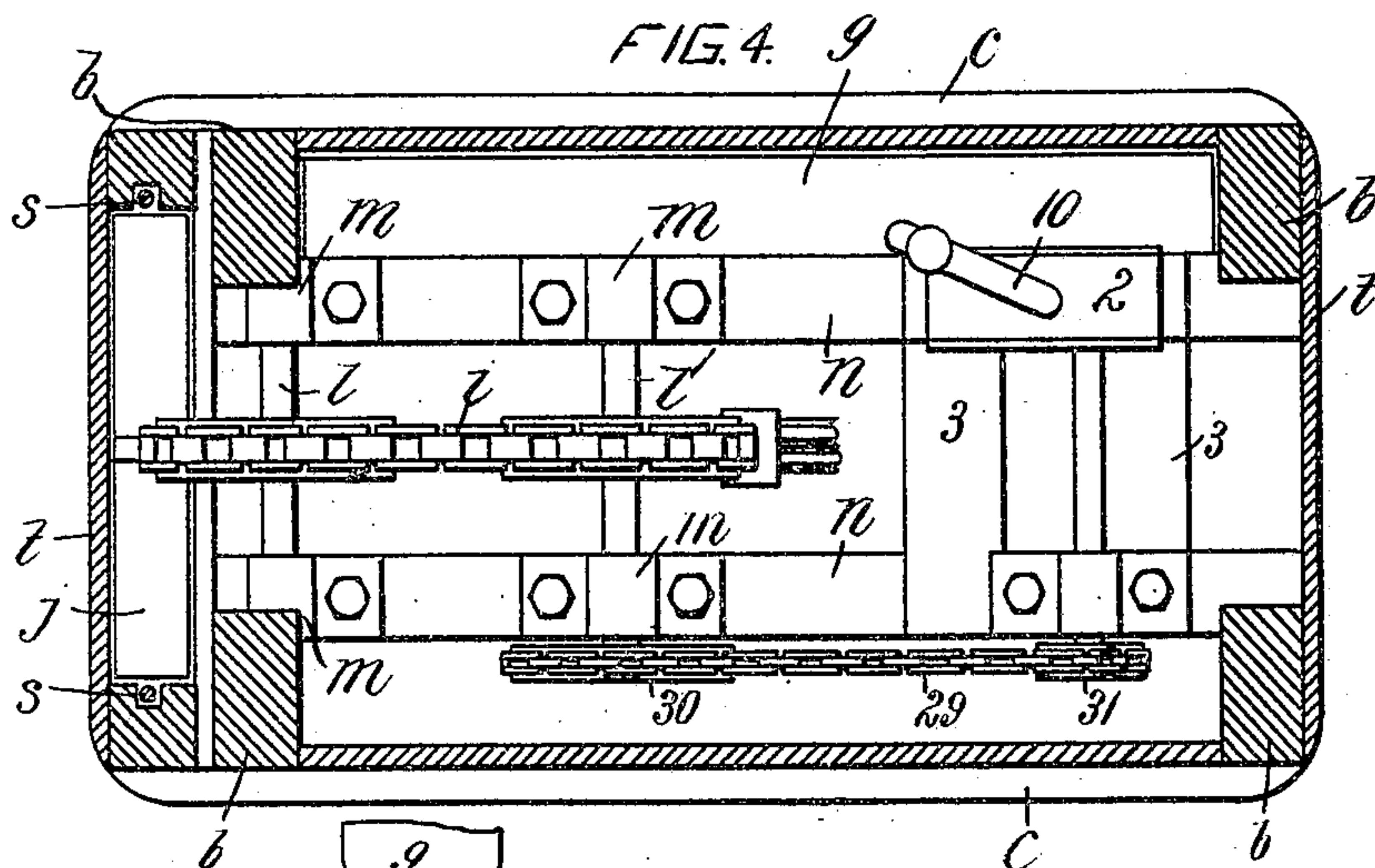
William F. McLean

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2 SHEETS—SHEET 2.



Witnesses
Alex. Currie
Fred. J. Lewis

O. M. Gould
Inventor
By Attorney
William F. Miller

UNITED STATES PATENT OFFICE.

OVID MINER GOULD, OF MONTREAL, CANADA.

PACKAGE-CARRIER.

No. 808,042.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed February 5, 1904. Serial No. 192,157.

To all whom it may concern:

Be it known that I, OVID MINER GOULD, of the city of Montreal, Province of Quebec, Dominion of Canada, have invented certain new and useful Improvements in Package-Carriers; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates particularly to carriers whereby packages are moved from one point to another within a limited distance and the carrier returned to the point of starting to be loaded.

The invention may be said briefly to consist of a carrier comprising a frame, a car, and a counterpoise guided in said frame and one suspended upon the other, a flexible weight suspended from the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise, and other features hereinafter set forth, and pointed out in the claims.

For full comprehension, however, of my invention reference must be had to the accompanying drawings, forming a part of this specification, in which similar reference characters indicate the same parts, and wherein—

Figure 1 is a front elevation of a carrier constructed according to my invention. Fig. 2 is a longitudinal vertical sectional view thereof taken on line A A, Fig. 1. Fig. 3 is a similar view to Fig. 2, but taken on line B B, Fig. 1. Fig. 4 is a horizontal sectional view taken on line C C, Fig. 1; and Fig. 5 is a detail elevation, partly in section, of my improved means for controlling the speed of the carrier.

The preferred embodiment of my invention consists of a rectangular frame comprising, preferably, four longitudinals *b*, connected together by cross-pieces *c* and formed to act as a guide for a car consisting of a pair of side members *d*, a transverse top timber *e*, and a floor-supporting frame *f*, to which latter an inclined platform *g* is pivotally connected, as at *h*, while the raising and lowering rope or chain *i* is connected at one end to the top of the car by a variable connection, (indicated at *i'*,) whereby the car is adjusted relatively to the counterpoise, and at its other end to a weighted block *j*, constituting a portion of the counterpoise, to be presently further alluded to, such chain *i* being supported upon a pair of pulleys *k k'*, mounted in the upper end of the chute-frame and supported upon shafts *l l'*, to which they are rigidly connected and which are in turn rota-

tably supported in bearings *m*, supported upon a pair of transverse timbers *n*, forming a part of the frame.

A series of chains *o* are suspended from the under side of the platform *g*, and a second series of chains *p* are suspended from the under side of the block *j*, the latter series of chains constituting a portion of the counterpoise. A movable platform or false bottom *q*, having inclosing sides *r*, carried thereby and projecting upwardly therefrom to constitute a receptacle, is adjustably supported at the lower end of the portions of the chute in which the counterpoise is located. This false bottom or receptacle is suspended upon the lower ends of ropes or chains *s*, the upper ends whereof are connected to a windlass or other means whereby such receptacle or false bottom may be raised or lowered and set in any position to which it may be adjusted. The sides of the chute are closed in, preferably with boards *t*, and the front and rear sides are provided with trap-doors *u* and *v*, respectively, for loading and discharge, while a series of removable platforms *x* are adapted to be placed across the chute at different levels.

My improved carrier as thus far described may be used efficaciously where light-weight packages are to be lowered; but to prevent the car dropping with too great velocity under a heavy load I provide a variable controller which will act as a resistance to and retard the movement of the car to an extent variable in proportion to the speed desired.

My improved controller consists of a rotary brake which in itself constitutes no part of this invention, but has a novel and essential controlling device in connection therewith. The brake consists of a chamber 2, mounted upon a pair of timbers 3, extending transversely to and resting upon the timbers *n* and containing a pair of intermeshing gears or piston-wheels 4 and 5, mounted rigidly upon shafts 6 and 7, extending transversely through the casing, while a sprocket-chain 29 connects a sprocket-wheel 30, mounted on shaft *i'*, to a second sprocket-wheel 31, mounted on shaft 6. A pipe 10 leads from a port in the top of the casing midway between the centers of the piston-wheels to one end of the casing of my controller proper, (to be presently further alluded to,) while an oil-cup 9 is connected to the uppermost point of this pipe, and a second pipe 12 leads from the un-

der side of the casing in the same vertical plane as the point with which the first-mentioned pipe communicates to the opposite end of the casing of my controller. This controller proper consists of a pair of angle-chambers 13 and 131, coupled together by a valve-casing 14, having a valve-chamber 15 midway of its length and the opposite sides of said chamber being formed with valve-seats 16 and 17. A valve-spindle 18 is located movably in this valve-casing and projects from one angle-chamber through the casing to the other angle-chamber and has the valve proper, 19, carried rigidly thereon midway of its length and between the valve-seats 16 and 17. The valve is localized relatively to the seats and the extent of its movement adjusted by a pair of adjustable bearings constituted by a pair of spindles 20 and 120, having their inner ends chambered, as at 21, to receive the ends of the valve-spindle and their opposite ends provided with hand-wheels 22, while a portion of each near the inner end thereof is formed with a screw-thread 23, adapted to be screwed into the threaded interior of a pair of bearings 24, constituting one wall of the angle-chambers and having stuffing-boxes 25 upon their outer ends to prevent leakage around the spindle.

In order to facilitate the discharge of packages, I pivot the platform of the car, as before mentioned, and provide a series of sockets 26 in opposite sides of the chute and near the end of the platform opposite to that which is pivoted to the car-frame, and I further provide a bar 27, adapted to be inserted in the sockets in line with one another in the opposite sides of the chute and at the level at which it is desired to discharge the load.

Operation: The weighted block *j* and series of chains *p*, constituting the counterpoise, slightly exceed in weight the empty car and the series of chains *o*, depending from the bottom thereof, and consequently the car normally rests at the top of the chute. Upon a package—say a barrel—being rolled upon the platform *g* the counterpoise will at once be overcome and the car will commence to descend. When it reaches a point at which sufficient of the series of chains upon the under side thereof is received and supported by the receptacle or false bottom *q* to cause the weight acting upon the car to be in equilibrium with the counterpoise, such car will stop. In order to cause the car to stop at a predetermined trap-door *n*, the false bottom or receptacle *q* will be raised to the required distance below such trap-door. When the car has reached this predetermined trap-door, which will have previously been opened and allowed to remain so while unloading is being done at this level, the barrel will roll through such trap-door, and the car, being relieved of its load and having its weight reduced below that of the counterpoise, will

immediately commence to return to its normal position at the top of the chute. As before mentioned, under a comparatively heavy load the car would have a tendency to drop too quickly and would be liable to cause damage to the contents of the package or the package itself by being brought to too sudden a stop. To obviate this danger, I have provided my improved controller in connection with the rotary brake, and the action thereof is such as to retard the descent of the car, but allow it to return to its normal position under the full speed the counterpoise is capable of imparting to it. This is effected by the chain *i* rotating the pulley *k'* and that through its shaft *l'* sprocket-wheels 30 and 31, shaft 6 rotating the piston-wheels 4 and 5 and causing the oil to travel through pipe 12, angle-chamber 13, valve-casing 14, angle-chamber 131, and pipe 12 back to the brake-chamber 2, through which it moves with the rotation of the piston-wheels. By retarding the flow of the oil through this circuit the rotation of the piston-wheels, and consequently the travel of the car, is correspondingly retarded, and to effect this I screw the spindle 120 sufficiently far out of its end of the controller to allow the valve-spindle, and with it the valve, to move under pressure of the oil flowing in the direction indicated by the arrow in Fig. 5 to almost rest upon the seat 17 or assume a position in such adjacency to the said seat as to offer the required resistance, while the spindle 20 will be screwed into the controller to a position to prevent the valve moving past the center of the chamber 15 when the car is being raised under the influence of the counterpoise and the oil and piston-wheels are moving in an opposite manner to that just described, thereby allowing such oil perfect freedom to flow through the valve-seat 16 in the direction opposite to that indicated in Fig. 5, which will in turn allow the piston-wheels to rotate freely and the car to rise quickly to its normal position.

In order to use this device as a movable chute, I secure a hanger 40 to the top of the frame and to which any suitable raising or lowering gear operated by a weight on board the vessel may be connected.

I do not herein claim the means whereby the speed of the car is retarded, as same forms the subject-matter of a separate application filed by me on the 19th of January, 1905, under Serial No. 241,870.

What I claim is as follows:

1. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise.

2. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

3. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for retarding the descent of the car.

4. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and adjustable means for controlling the speed of movement of the car.

5. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

6. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of

said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop, and means for retarding the descent of the car.

7. In a carrier comprising a portable frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

8. In a carrier comprising a portable frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for retarding the descent of the car.

9. In a carrier comprising a portable frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, adjustable means for retarding the descent of the car, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

10. In a carrier comprising a frame closed in to form a chute and having an intake-port at one side of its upper end, and outlet-port at the opposite side of its lower end, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and sup-

porting said flexible weights when said car or counterpoise reaches the end of its downward travel.

11. In a carrier comprising a frame closed in to form a chute and having an intake-port at one side of its upper end, and an outlet-port at the opposite side of its lower end, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

12. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a series of chains suspended from the under side of the car, a second series of chains suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said chains when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

13. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a series of chains suspended from the under side of the car, and a second series of chains suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said chains when said car or counterpoise reaches the end of its downward travel, and means for retarding the descent of the car.

14. In a carrier comprising a frame, a car, and a counterpoise, said car and counterpoise being guided in said frame, and one being suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended upon the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise, a platform extending across the lower portion of the frame and in the paths of the flexible weights upon said car and counterpoise and adapted to receive and support said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said platform to different levels for the purpose of varying the level at which the car will stop.

15. In a carrier comprising a frame, a car, and a counterpoise, said car and counterpoise being guided in said frame, and one being suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended upon the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise, a platform extending across the lower portion of the frame and in the paths of the flexible weights upon said car and counterpoise and adapted to receive and support said flexible weights when said car or counterpoise reaches the end of its downward travel said platform having sides to constitute a receptacle and means for adjusting said platform to different levels for the purpose of varying the level at which the car will stop.

16. In a carrier comprising a frame, a car, and a counterpoise, said car and counterpoise being guided in said frame, and one being suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended upon the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise, a platform extending across the lower portion of the frame and in the paths of the flexible weights upon said car and counterpoise and adapted to receive and support said flexible weights when said car or counterpoise reaches the end of its downward travel, a windlass at the top of the chute and a series of ropes connecting said windlass to said receptacle for adjusting said platform to different levels for the purpose of varying the level at which the car will stop.

17. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other by means of a flexible connection variable in length the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise.

18. In a carrier comprising a frame closed in to form a chute and having an intake-port at one side of its upper end, and outlet-port at the opposite side of its lower end, a car and a counterpoise guided in said frame and one suspended upon the other by means of a flexible connection variable in length, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel.

19. In a carrier comprising a frame, a car, and a counterpoise, said car and counterpoise being guided in said frame, and one be-

ing suspended upon the other by means of a flexible connection variable in length, the combination with said car and counterpoise, of a flexible weight suspended upon the under
5 side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise, a platform extending across the lower portion of the frame and in the paths of the flexible weights upon said car
o and counterpoise and adapted to receive and support said flexible weights when said car or counterpoise reaches the end of its downward

travel, a windlass at the top of the chute and a series of ropes connecting said windlass to said platform for adjusting the latter to dif- 15
ferent levels for the purpose of varying the level at which the car will stop.

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

OVID MINER GOULD.

Witnesses:

WILLIAM P. McFEAT,
FRED J. SEARS.