

1,039,737.

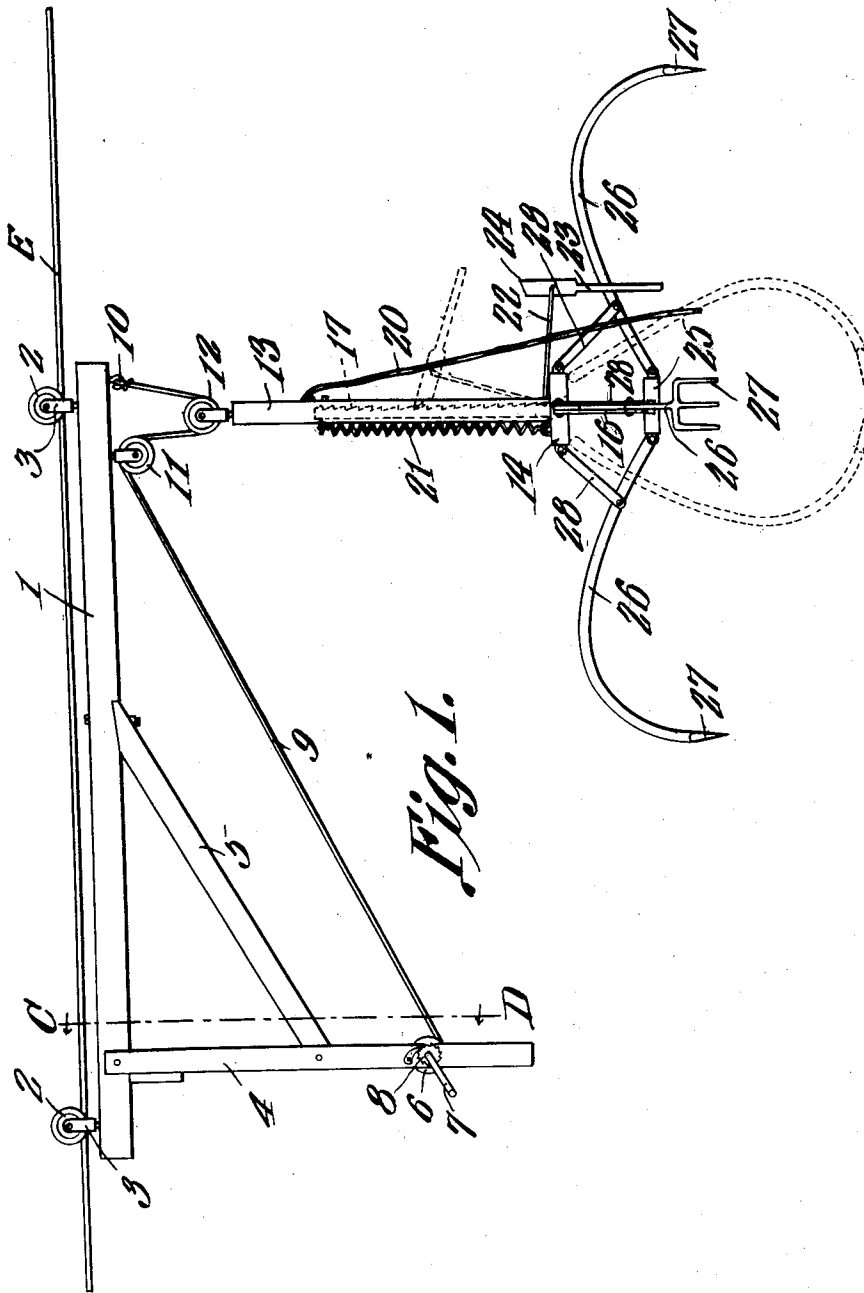


Fig. 1.

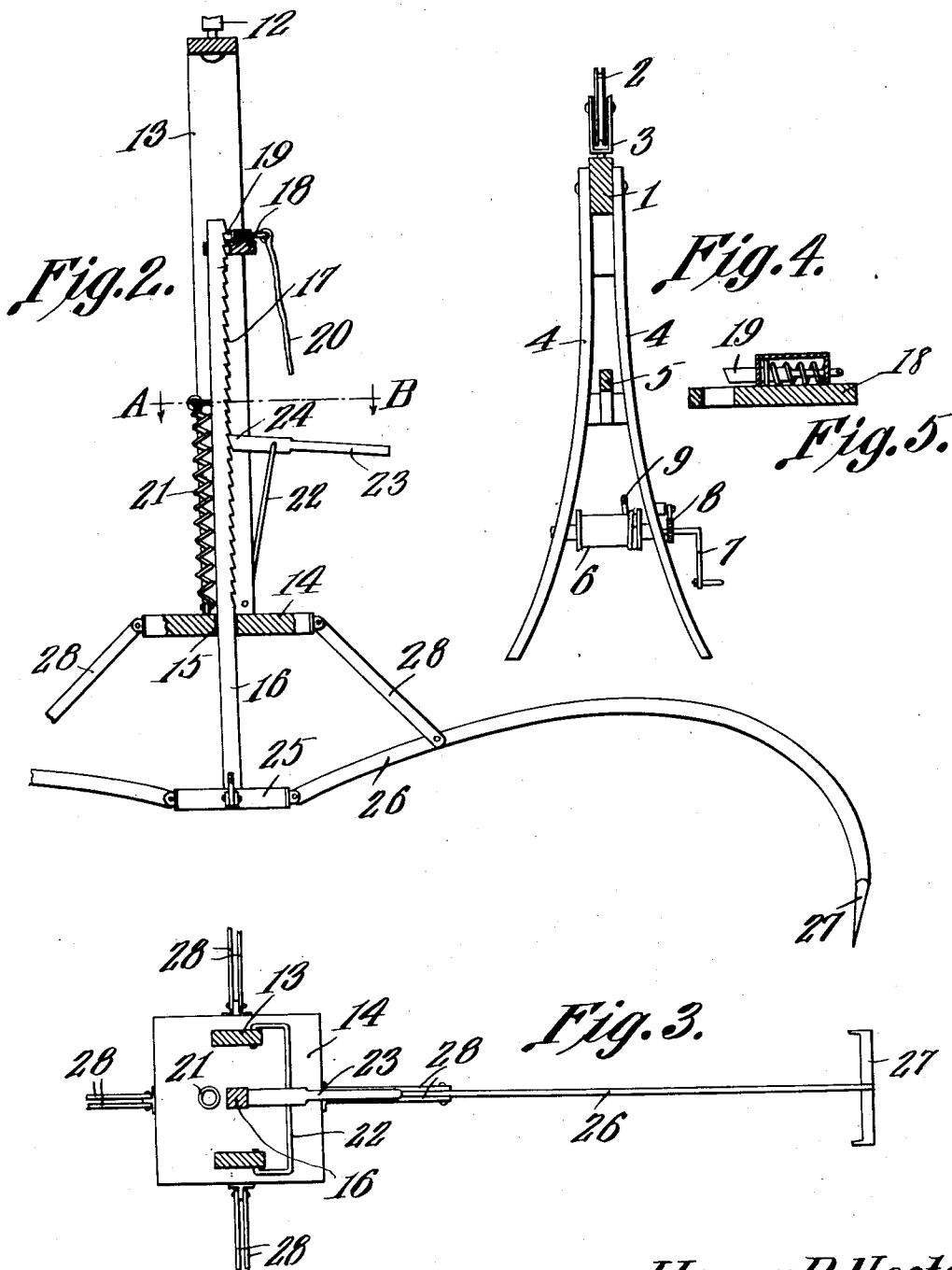
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UNITED STATES PATENT OFFICE.

HENRY B. HESTER, OF GALESBURG, ILLINOIS.

LITTER-CARRIER.

1,039,737.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed December 30, 1911. Serial No. 668,725.

To all whom it may concern:

Be it known that I, HENRY B. HESTER, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented a new and useful Litter-Carrier, of which the following is a specification.

This invention relates to hoisting apparatus such as litter carriers, hay loaders, etc., its principal object being to provide a structure of this type which may travel along a supporting cable and which has improved means whereby the same can be brought into engagement with the material to be conveyed, there being means for discharging said material when it is desired to drop it.

A further object is to provide apparatus including adjusting means whereby the load engaging apparatus can be raised or lowered as desired.

A further object is to provide apparatus which is simple in construction and the parts of which will not readily get out of order.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a side elevation of a litter carrier, one of the positions thereof being shown by dotted lines. Fig. 2 is an enlarged view partly in section and partly in elevation of a portion of the carrier, and showing the positions of the parts prior to closing the arms upon the load. Fig. 3 is a section on line A—B Fig. 2. Fig. 4 is a section on line C—D Fig. 1, the supporting cable being removed. Fig. 5 is an enlarged longitudinal section through the spring catch used in connection with the apparatus.

Referring to the figures by characters of reference E designates a supporting cable on which the carrier is adapted to travel,

said carrier including a top beam 1 having supporting wheels 2 mounted in brackets 3 upstanding from and swiveled upon the end portions of the beam, these wheels bearing downwardly on the cable E.

Downwardly diverging hangers 4 extend from one end portion of the beam and are reinforced by means of a brace 5. A winding drum or spool 6 is journaled between the lower portions of these hangers and is adapted to be rotated means of a crank 7 or the like, there being pawl and ratchet mechanism 8 for preventing the spool from rotating in one direction. An adjusting cable 9 is secured at one end to the spool and is adapted to be wound thereon, the other end of said cable being secured, as at 10, to one end of the beam 1. Said cable extends over a guide sheave 11 suspended from the beam 1 and that portion of the cable between said sheave and the point of connection, 10, supports a sheave 12 swiveled upon the upper end of a frame 13 suspended therefrom. This frame has an enlarged base 14 provided with a central opening 15 in which a bar 16 is mounted to slide, said bar having ratchet teeth 17 on one face thereof. An apertured guide strip 18 is secured within the frame and the bar 16 is slidably mounted therein, said guide strip serving to support a spring catch 19 of any desired form and which normally engages one of the teeth on the bar 16 so as to prevent the bar from moving downwardly. A releasing cord 20 may be connected to the spring catch so that, by pulling on the cord, this catch may be withdrawn from engagement with the bar 16. A spring 21 is secured at its lower end to the base 14 and at its upper end to the upper portion of the bar 16. When the bar is raised upwardly to its greatest extent, this spring 21 is elongated.

A bail 22 is pivotally connected to the lower portion of frame 13 and a lever 23 is pivotally connected thereto and has a beveled end 24 adapted to engage the toothed face of the bar 16. Thus it will be seen that, by bringing said end into engagement with the bar 16 and oscillating the lever, said bar will be elevated so that its teeth will slip past the catch 19. It will be apparent

that by oscillating lever 23 several times the bar 16 will be shifted longitudinally to its uppermost position, spring 21 being at the same time elongated.

5 A block 25 is secured to the lower end of the bar 16 and pivotally connected to the sides of this block are curved arms 26 each of which is provided, at its free end, with a fork 27. Links 28 connect the sides of the
10 base 14 to the arms 26 at intermediate points so that, when bar 16 is pushed downwardly, these links will support the arms 26 and cause the forked ends 27 thereof to move laterally and upwardly away from each
15 other. When, however, the bar 16 is moved upwardly relative to the frame 13, the forked ends 27 of the arms 26 will be moved downwardly toward each other.

20 Assuming that the arms 26 are in the positions shown in full lines in Figs. 1 and 2 and it is desired to engage litter and convey it to some point for use, the carriage made up of the beam 1 and the parts connected thereto is shifted to a point above the litter
25 after which the cable 9 is unwound from spool 6 so as to lower the frame 13. When the arms 26 have been brought close to the litter, the bar 16 is shifted upwardly into frame 13 by means of lever 23, the spring
30 catch 19 serving to prevent the bar from moving downwardly under the action of the elongated spring 21. As soon as lever 23 is released it falls downwardly out of engagement with the toothed bar 16 and is supported by the base 14 as indicated in full
35 lines in Fig. 1. During the upward movement of bar 16, arms 26 swing downwardly toward each other, the forks 27 engaging and passing under the litter. As preferably
40 four of these arms and forks are employed it will be apparent the litter will be firmly engaged thereby. The frame 13 and the load carried thereby can now be raised by winding cable 9 on spool 6 after which the
45 carriage can be shifted to the point of discharge. Upon reaching this point the operator pulls on the cord 20. Catch 19 is therefore disengaged from the toothed bar 16 and as the spring 21 is thus released, it shifts the
50 bar downwardly relative to the frame 13 and causes the arms 26 to swing laterally and upwardly, thereby releasing the load and permitting it to fall.

55 While the structure herein described has been described as a litter carrier it is to be understood that the same can be used equally as well for various other purposes such, for example, for loading and unloading sand, coal, grain, hay and straw, etc., and for use
60 in excavating, it merely being necessary to change the forks 27 for any other suitable implements such as shovel blades, bucket sections or the like. These applications of the structure appear so obvious that it is not

deemed necessary to illustrate or describe in 65 detail the various implements which might be substituted for the forks 27, in view of the fact that the operation of the structures will remain the same as has been heretofore described. 70

While the structure is preferably used in connection with a supporting cable E, the same can, if preferred, be used in combination with an ordinary derrick in lieu of the cable E as a supporting means. 75

What is claimed is:—

1. A device of the class described, including a frame, means for raising the same, a load gripping element, means mounted on the frame for raising and lowering said element relative to the frame, manually operated means separate from said raising means for shifting said element into load engaging position, means for releasing the load gripping members, and spring means for automatically shifting the released element to free the load engaged by the element. 80

2. A device of the class described, including a series of load gripping elements, means for raising and lowering the same, spring means for holding said elements normally spread apart, manually operated means separate from said raising means for shifting the elements to load engaging position, means for holding said elements in such position, said spring means serving to automatically shift said elements to their initial positions when released. 85

3. A device of the class described including load engaging members movably mounted, manually operated means for shifting said members toward each other to engage and hold a load, means for locking said members in holding position, means for unlocking the members, and means for automatically shifting the members away from the load when unlocked. 90

4. A device of the class described including a movable element, arms pivotally connected thereto, a structure adjacent said element, means for raising said structure, link connections between the arms and said structure, means operable independently of said raising means for shifting said element in one direction to move the arms toward each other into load engaging position, means for locking said element against return movement, means for releasing said element, and means for automatically shifting said arms and element to their initial positions when released. 100

5. A device of the class described including a frame, a toothed bar mounted for sliding movement therein, load engaging members pivotally mounted relative to the bar, link connections between said members and the frame, manually operated means for engaging the bar to shift it in one direction 105

and to move the members into load engaging position, means for automatically engaging the bar to hold it against movement in the opposite direction, means for releasing the bar, and means for automatically returning the bar and members to their initial positions when released.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY B. HESTER.

Witnesses:

JOHN W. SCOTT,
IRENE B. MEADOWS.