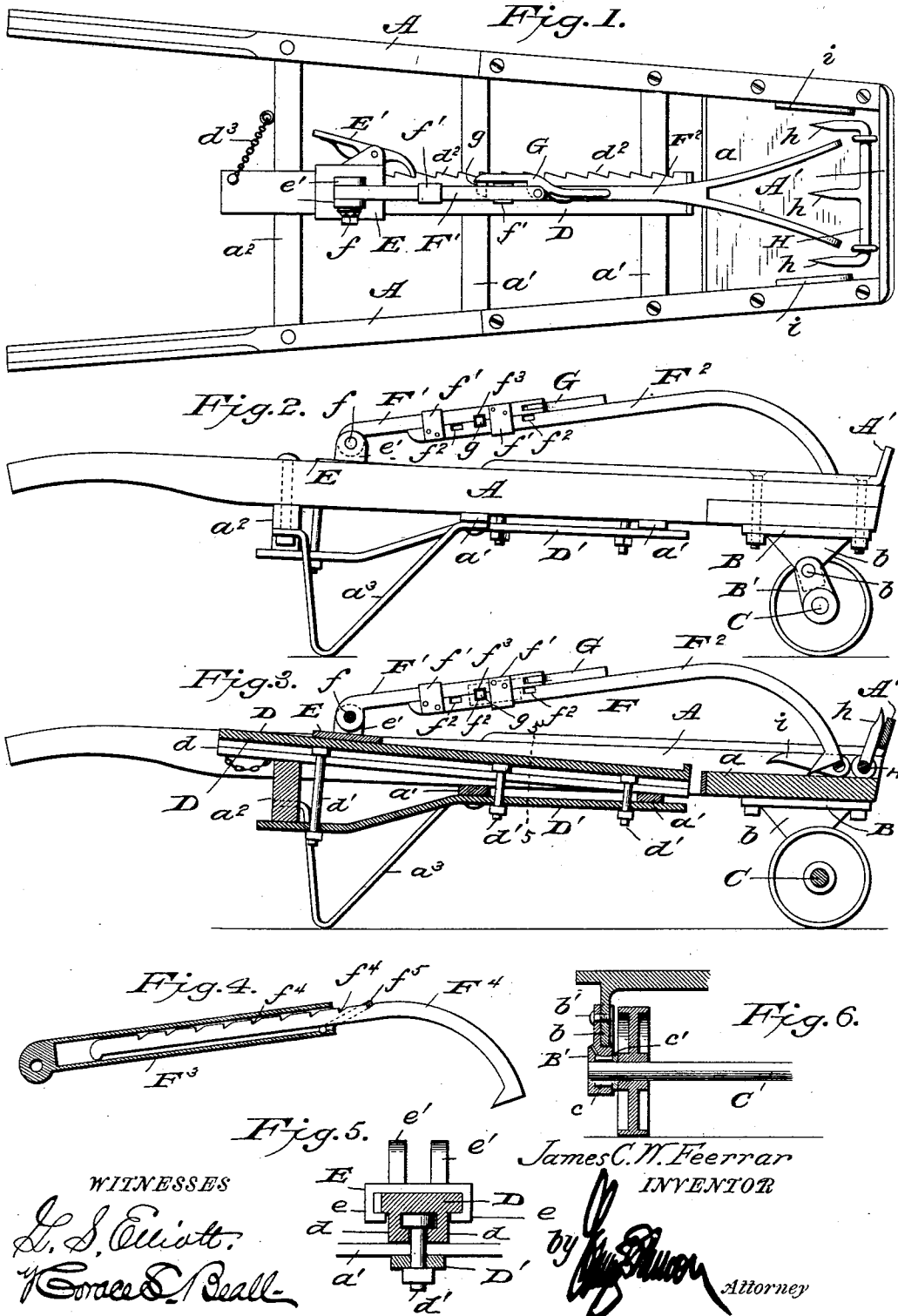


(No Model.)

J. C. W. FEERRAR.
HAND TRUCK.

No. 587,719.

Patented Aug. 10, 1897.



UNITED STATES PATENT OFFICE.

JAMES C. W. FEERRAR, OF JOHNSONBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN A. CRAIG, OF SAME PLACE.

HAND-TRUCK.

SPECIFICATION forming part of Letters Patent No. 587,719, dated August 10, 1897.

Application filed September 10, 1896. Serial No. 605,387. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. W. FEERRAR, a citizen of the United States of America, residing at Johnsonburg, in the county of Elk and State of Pennsylvania, have invented certain new and useful Improvements in Hand-Trucks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a warehouse-truck with certain attachments that will assist in loading a box or other article upon the truck and act to hold the same thereon, said attachments being adjustable to accommodate articles of different sizes.

With the above ends in view the invention consists in the combination, with an ordinary hand-truck, of an adjustable frame mounted thereon, a support in sliding engagement with the frame, and an extensible grappling-bar pivoted to said support, the parts being constructed and arranged to provide a great range of adjustment.

The invention further consists in the details of construction hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a truck with my improved attachments applied thereto. Fig. 2 is a side view. Fig. 3 is a longitudinal sectional view. Fig. 4 is a sectional view showing a modification of the extensible grappling-hook. Fig. 5 is a sectional view on the line 5 5 of Fig. 3. Fig. 6 is a vertical sectional view through one of the supporting-wheels and adjacent parts of the truck, showing my improved journal-box.

The body of the truck consists of the side pieces A A, which are connected to each other by the end platform *a*, intermediate brace-bars *a' a'*, and cross-piece *a²*, the latter being of greater thickness than the brace-bars and is curved longitudinally. To the under side of the platform *a*, at each end thereof, is rigidly secured a bracket B, having a hanger *b* with a squared lower end, and with this

hanger engages a housing or journal-box B' for the transverse shaft, upon which the supporting-wheels of the truck are mounted. The journal-box is provided with a socket which corresponds with the configuration of the lower part of the hanger *b* to receive the same, and the parts are connected by a bolt or screw *b'*, said journal-box being also provided with a space which surrounds the transverse shaft or axle C and contains friction-rollers *c*, a hole communicating with the space or chamber for feeding oil thereto. This construction and arrangement provides for readily removing the journal-boxes in order to clean the same of any dirt or grit that may collect on the friction-rollers, dirt being excluded to a certain extent by a washer *c'*, interposed between the wheels and journal-boxes.

The truck is supported in substantially a horizontal position by bent straps *a³*, forming feet, as shown, and the rear end of the truck is provided with the usual toe-piece A', having forward extensions which reinforce the upper edges of the side pieces A.

Upon the brace-bars *a'* and cross-piece *a²* is mounted a longitudinal plate or frame D, constructed to present depending members *d d*, having inturned flanges, Fig. 5, which form a channel to receive the heads of bolts *d'*, that secure said plate or frame in an adjusted position upon the truck, the bolts passing through a longitudinal plate D', that bears against the under side of the brace-bars and cross-piece, the plate being properly bent for such engagement. Nuts are screwed upon the ends of the bolts to firmly clamp the plates D and D' in frictional engagement with the brace-bars and cross-piece of the truck. It will be here noted that by loosening the nuts the plate D can be adjusted longitudinally with respect to the truck and then held in such adjustment by tightening the nuts, for the purpose hereinafter explained.

E designates a bracket or support which is mounted upon the plate D in sliding engagement therewith, the construction of this bracket presenting depending side members *e*, which embrace the side edges of said plate and are turned under to hold the parts in positive engagement with each other. One edge

of the plate D is provided with ratchet-teeth d^2 , with which a spring-actuated pawl E' , pivoted to a projecting part of the bracket E, engages to permit a forward movement of said bracket upon the plate and prevent a backward movement thereof. The bracket is provided with ears e' , pierced to receive a pivot-pin f , which passes through the inner end of an extensible grappling-bar F and supports the same in swinging connection therewith.

The grappling-bar consists of two sections in sliding engagement with each other, and in the preferred form (illustrated in Figs. 1, 2, and 3) the section F' , which is pivoted to the bracket E, as hereinbefore described, is provided at its outer end with a pivoted catch G, having an inwardly-projecting stud g , rectangular in cross-section. The outer section F^2 is held in sliding engagement with the section F' by straps $f' f'$, one being secured to the section F' to embrace the section F^2 and the other vice versa. The inner portion of the outer section F^2 is provided in its upper side with a series of transverse recesses f^2 , which register with a similar recess f^3 in the section F' to present a rectangular aperture in which the stud g of the catch G passes to hold the section F^2 in engagement with the section F' after being adjusted thereon.

In the modified form of grappling-hook, as shown in Fig. 4, the inner section F^3 is hollow to receive the outer section F^4 , and in the upper side of said outer section are a number of notches f^4 , with which engages a bail f^5 , pivoted to the outer end of the said inner section. This arrangement provides for a greater range of adjustment between the sections of the grappling-hook.

Upon the platform a of the truck, adjoining the toe-piece A' , is mounted a rock-bar H, having prongs h , which when thrown against said toe-piece project slightly above the same, as shown in Fig. 3, and to the inner side of the side pieces A of the truck are pivoted additional prongs i , which also project above the toe-piece when thrown back against the same. The prongs h are used for catching into bags or small boxes, while the prongs i are used to engage larger boxes.

The truck is used after the manner of warehouse-trucks of similar construction; but it will be observed that by embodying my improved attachments a greater range of adjustment can be secured than has heretofore been had, and that such adjustments can be quickly made to accommodate boxes or other articles of different sizes. The parts are also firmly secured to the truck to enable the handling of goods of a heavy nature. When a very large box is to be placed upon the truck, the longitudinal plate D can be slid rearward upon the truck, as hereinbefore explained,

and the bracket or support E moved to engage the last tooth of said plate. A chain d^3 is provided to limit the rearward movement of the plate D.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a hand-truck, of a plate D adjustable longitudinally upon the frame of the truck, a bracket or support held in sliding engagement with the plate, and an extensible bar pivoted to said bracket or support, substantially as shown and for the purpose set forth.

2. In combination with a hand-truck having transverse brace-bars, a plate D mounted thereon and provided with a channel in its under side, bolts with heads which engage said channel, a longitudinal plate D' , bearing against the under side of the cross-bars and provided with apertures through which the bolts pass, and nuts for clamping the parts together; together with a bracket or support held in sliding engagement with the plate D, and an extensible grappling-bar pivoted to said bracket or support, substantially as shown and for the purpose set forth.

3. In combination with a hand-truck, of a plate D adjustable longitudinally thereon and provided with ratchet-teeth at one edge, a bracket or support E held in sliding engagement with the plate by means of depending side members which are bent around the edges of said plate, and a pawl pivoted to the bracket to engage the ratchet-teeth of the plate; together with an extensible grappling-bar pivoted to said bracket or support, substantially as shown and for the purpose set forth.

4. The combination with a hand-truck, of an extensible grappling-bar consisting of an inner section pivoted to the truck, a bail pivoted to the outer end of said section, and an outer section held in sliding engagement with the other section and provided with notches in its upper edge which are engaged by the bail, substantially as shown and for the purpose set forth.

5. The combination with a hand-truck having the usual toe-piece at the end thereof, a rock-bar mounted upon the truck adjoining the inner side of said toe-piece and provided with three prongs adapted to be projected beyond said toe-piece; together with a set of additional prongs pivoted to the inner side of the side pieces of the truck, substantially as shown and for the purpose set forth.

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

JAMES C. W. FEERRAR.

Witnesses:

WILLIAM B. ARMSTRONG,
EDWARD F. CUMMINGS.