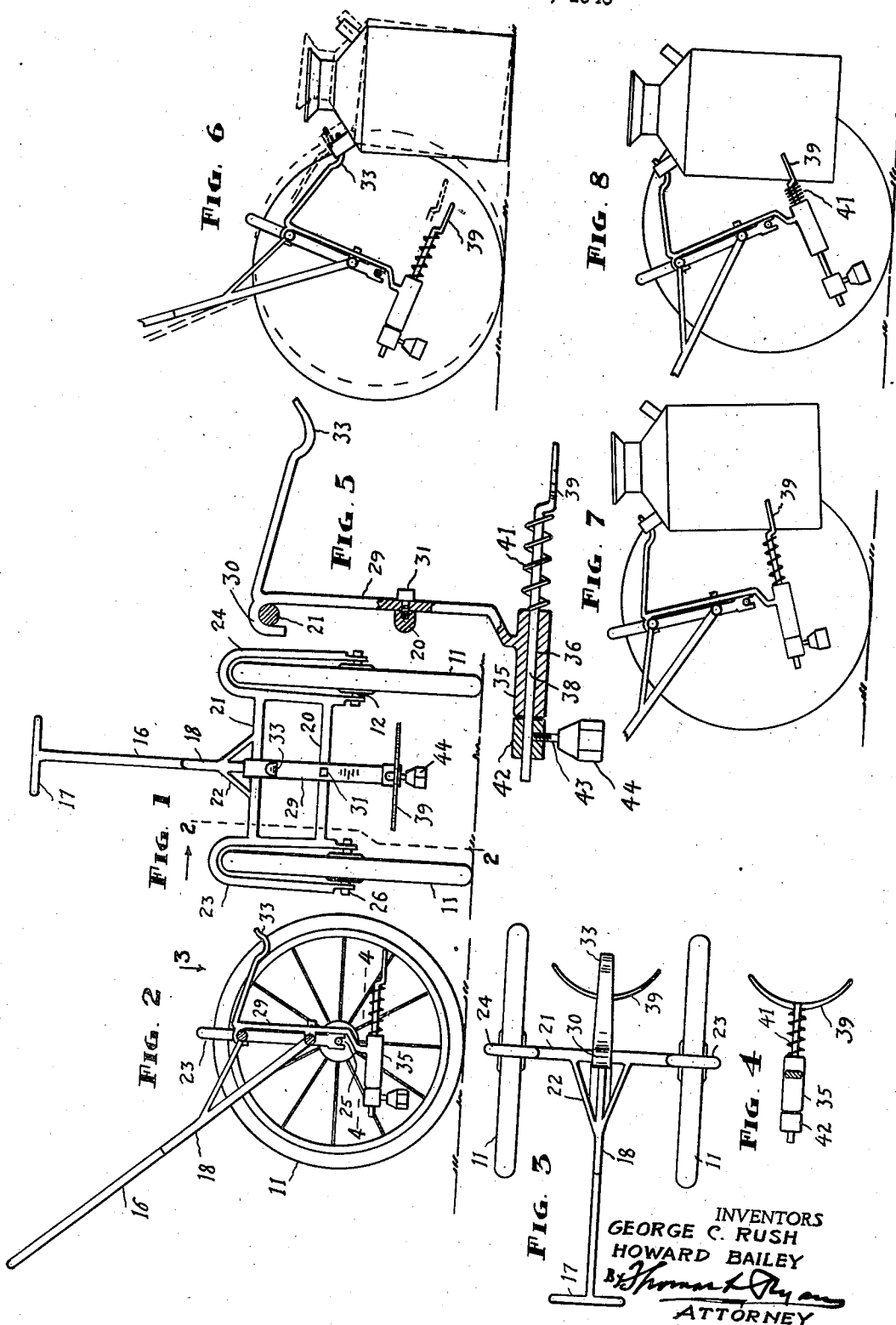


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CARRIER

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CARRIER

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This invention relates to improvements in carriers intended for the handling manually of loads which are susceptible to being engaged at a plane well above the ground, and which said loads are intended to be carried in a suspended status. Our invention has especial reference to improvements in carriers which are intended to facilitate the picking up, transporting, and delivering of filled containers such as milk cans and the like.

Advantages desired in a carrier of the above description are, that it may be capable of being easily operated to pick up the can, and to lift it to and support it at a suitable elevation, and to so retain it in its elevated position, that splashing of its contents may be avoided and the handling of the load from beginning to end of its journey may be effectively controlled. Other benefits sought for are, that the carrier may readily be maneuvered and operated by a person of ordinary skill, and that it may be economical of manufacture, durable and dependable, and not liable to get out of order or repair.

To provide a carrier affording the above named advantages, is the object, broadly stated, of our invention. The said general object, and also more special aims which are devoted to structural improvements, are accomplished by, and our invention is embodied in the new construction, combination and arrangement of parts described in the following specification, illustrated in the accompanying drawings, and defined in the claims.

The several parts of the invention, as they appear in the different views in the drawings, are identified by suitable characters of reference applied to them.

In the drawings—

Figure 1 is a front view of our improved carrier, the hand lever being shown in raised position.

Figure 2 is a vertical sectional view taken on the broken line 2—2, in the direction of arrow 2 in Figure 1.

Figure 3 is a top plan view, taken in the direction of arrow 3 in Figure 2.

Figure 4 is a sectional top plan view taken on the broken line 4—4 in Figure 2.

Figure 5 is an enlarged detail view illustrative of the hook and yoke device.

Figure 6 is a diagrammatic side view illustrative of the position of the carrier and its several parts, when said carrier will have been advanced

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to position wherein the hook device of the hand lever is engaged with a handle of the loaded can.

Figure 7 is a diagrammatic side view illustrative of the carrier, and of its several parts, when the power arm of the lever will have been lowered and the can will have been lifted.

Figure 8 is a diagrammatic side view illustrative of the position of the carrier, and of its several parts, when the power arm of the lever will have been further lowered, the wheels of the carrier thereby being advanced, and the can thereby being swung to and poised in substantially vertical position, and there supported by the vehicle.

Each of two similar traction wheels 11 which preferably, and in the present instance, are rubber tired, is provided with a usual axle 12 mounted on anti-friction bearings (not shown). For a carrier of the capacity and design for accommodating loads of the size and form indicated in the drawings, the said wheels are about twenty-seven inches in diameter.

A member which we designate as a hand lever, consists of a rod or tube of divided formation, section 16 thereof provided with handle 17 being united with section 18 thereof, as by a threaded connection. The weight arm of said lever embodies a frame structure consisting of a lower cross bar 20 and an upper cross bar 21; struts 22 interjoining said upper cross bar with said hand lever; and U shaped members 23 and 24 which are integrated with the ends of said cross bars, as indicated in Figure 1.

In recesses 25 which are provided in the ends of said members 23 and 24, the ends of said axles 12 are received, and where same are secured, as by the usual binding nuts 26.

A hook and yoke device which is designed to perform the functions presently to be mentioned, comprises an upright bar 29 provided with a downwardly turned lug 30 at its upper portion, and with a cap screw 31 spaced therefrom, in the body portion of said bar. The said lug is adapted to be disposed in seated position on and joined to the cross bar 21, and said cap screw is adapted to be screwed into a threaded hole provided therefor in the cross bar 20. The upper portion of said bar 29 is extended forwardly, and its end is made into the form of a hook 33. The lower end portion of the said bar is bent rearwardly and downwardly and is integrated with a guideway block 35 which is provided with a longitudinal

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bore 36. A stem 38 which is movable slidingly in the bore of said guideway block, embodies an arcuate head piece 39, as indicated in Figure 4.

Uniting the above described hook and yoke device with the said frame, consists in placing the lug 30 in seated engagement with the cross bar 21, and in applying the cap screw 31 to said lower cross bar 20.

A helical spring 41 is interposed between the frontal end of said guideway block and the heel of said head piece, and which urges said head piece forwardly. A tail block 42 is held securely at adjusted position on said stem by a set screw 43. The head 44 of said set screw is of size and weight to, by gravity, maintain the yoke member against moving rotatively, said yoke member thereby being maintained with its head piece in horizontal position. The tension desired for said spring may be had by adjusting the position of the tail block on said stem 38 (see Figure 5).

In the procedure of using our improved carrier, it is maneuvered from any assumed position, such as that which is shown in Figure 2, to a position adjacent to the typical load, such as a filled milk can, and in which said last named position the lever will have been raised and the hook 33 will have become engaged with a handle of the can, as indicated in Figure 6.

Now, upon lowering the power arm of the lever, the upward urge of the hook causes the can to tilt (see broken lines in Figure 6). At the same time, the wheels move toward the can, whence the yoke head piece 39 becomes engaged with the side of the can, at a plane relatively near its bottom (see Figure 7). At this stage, the wheels and their axles (which said axles constitute fulcrums at the lower ends of the side members 23 and 24 of said lever) are held against further forward movement. As the power arm of the lever is further lowered, the can is hoisted to, and is supported in the raised position indicated in Figure 7.

In the upward swing of the can, the spring 41 yielding, as it does, to the rearward pressure exerted by the can, permits the can to assume a vertical position. In this upright position (see Figure 8), it is suspended on the hook and is stayed by the yoke. Its weight is transmitted through bar 29, and members 20, 21, 23 and 24 of the frame structure of the lever, to the axles of the wheels 11. The said spring 41 also functions to constitute a cushioning against jolting or rocking of the vehicle incident to the traversing of road obstacles or rough ground.

A carrier constructed according to our invention is light in weight and at the same time is strong and durable, and is capable of being manufactured economically, and of being conveniently handled in merchandising. The lever, consisting, as it does of separable sections; and the wheels being detachable from the side members 23 and 24 of the frame structure of said lever, the device may be handled in knocked down form. Assembling consists simply in disposing the side members 23 and 24 with their recessed ends in engagement with, and then securing them to the ends of the wheel axles 12; and of securing the section 16 of the lever, to the section 18 thereof.

The can being suspended at a substantial height, and the power arm of the lever being operable to easily raise and lower the can, it is practicable to conveniently transport the can under varying conditions and over irregular surfaces, and to dispose same on the ground, or on a raised level. Detaching the carrier from its

load consists simply in lowering the load to engagement with the ground or platform, and then raising the power arm of the lever. In this transaction the hook will have lowered to position disengaged from the handle of the can. The carrier may be then rolled rearwardly. In the meantime, the yoke, by the urge of spring 41, will have been returned to the initial position indicated in Figure 2.

Whereas the hook member and the yoke member, are of the form and arrangement especially adapted for handling of a load of the form and character of a filled milk can; and whereas the angle of inclination of the frame structure of the hand lever is specific in the present description; it will be understood in making the invention available for the handling of loads of other description, modifications of said parts, as well as minor changes in other structural features may be made, without departing from the spirit and principle of our invention as same is defined in the claims.

What we claim as our invention is:

1. A carrier comprising traction wheels oppositely arranged, a lever bar, a transverse frame integrated with said lever bar at its inboard end and at an oblique angle thereto, said frame embodying side arms extended beyond the transverse plane of the inboard end of said lever bar, axles interconnecting the lower ends of said side arms and the said wheels, a hook member projecting from said frame at a plane above the plane of said axles, a guideway block carried by said frame at a plane below the plane of said axles, a yoke member movable longitudinally in said guideway block, means to yieldably urge said yoke member to projected position, and a device carried by, and which is adjustable on said yoke member to limit the extent of the projective movement of said yoke member.

2. A carrier of the kind described, comprising a pair of traction wheels, an axle journaled in the hub of each of said wheels, a lever bar, a transverse frame structure integrated with said lever bar at its inboard end portion and at an angle thereto and embodying a downwardly disposed fork at each side thereof, the ends of said forks being extended beyond the horizontal plane of the inboard end of said lever bar and recessed and adapted to receive the ends of the axles of said wheels, means to detachably secure said axles to said forks, a hook member projecting from said frame at a plane above the plane of said axles, a guideway block carried by said frame at a plane below the plane of said axles, said block having a longitudinal bore, a stem slidingly disposed in said bore, an arcuate head piece integrated with the forward end of said stem, a helical compression spring interposed between said head piece and the said guideway block, a tail block retained on the rearward portion of said stem, and a weighted set screw operable in said tail block, to hold said block at the position to which it is adjusted on said stem, and also to maintain said stem against rotative movement in the guideway of said guideway block.

3. In a vehicle of the kind described, comprising traction wheels oppositely arranged, axles therefor, a lever bar, a transverse frame integrated with said lever bar at its inboard end portion and at an angle thereto and embodying downwardly disposed side arms terminating beyond the horizontal plane of the inboard end of said lever bar and being connected to said axles, a hook and yoke device including an upward right bar of length to extend from the upper

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portion of said frame to a plane below the plane of the said axles, said upright bar embodying at the rear side of its upper portion a downturned lug to engage said frame, and at the frontal side of said upper portion, a forwardly projecting hook, a guideway block integrated with said upright bar at its lower portion, said block having a longitudinal bore, a stem slidable in said bore, an arcuate head piece integrated with the forward portion of said stem, and means interacting between said head piece and said guideway block to urge said head piece projectively and which said means is yieldable to permit retractive movement of said head piece, and means to detachably secure said hook and yoke device to said frame.

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