

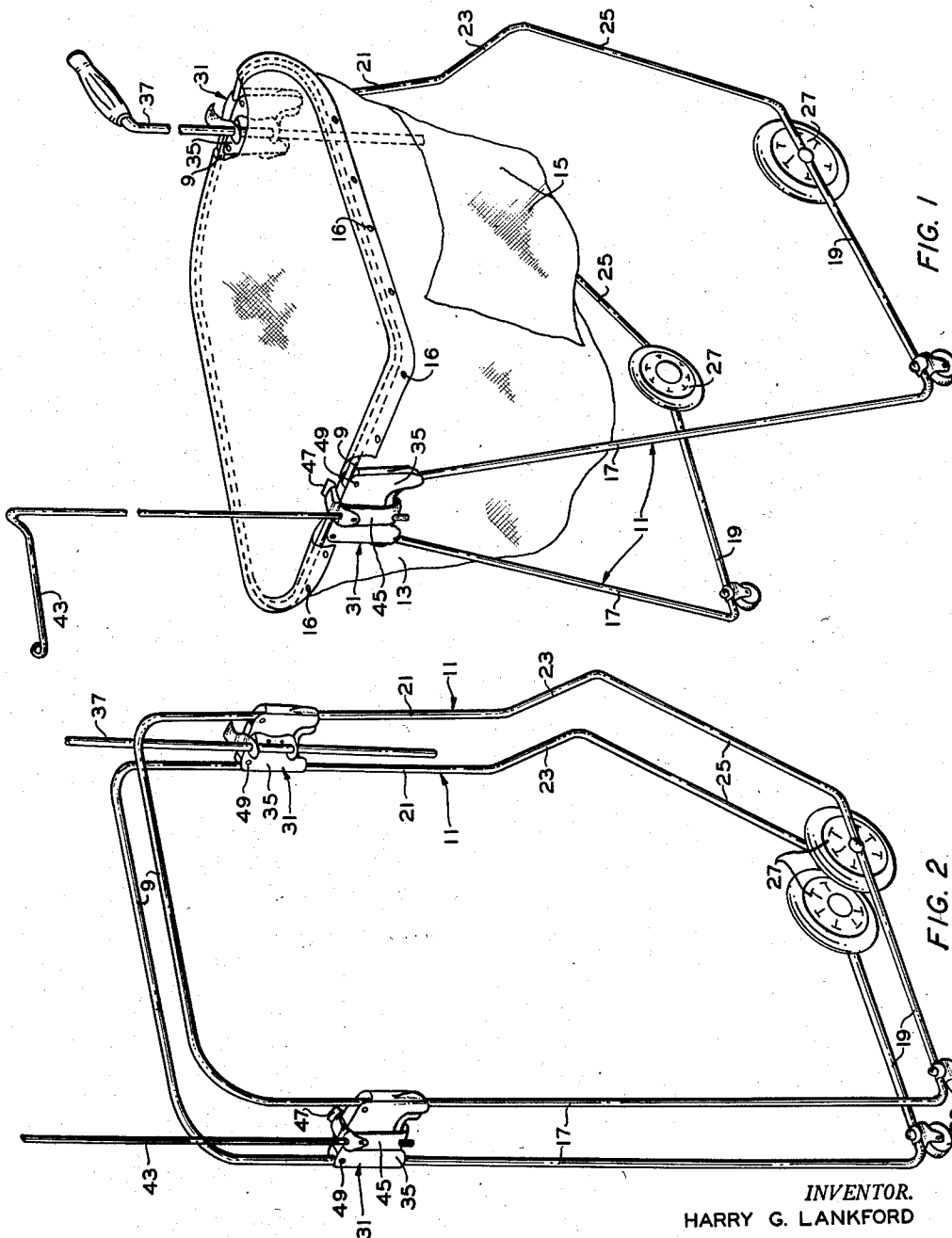
Aug. 12, 1958

H. G. LANKFORD
COLLAPSIBLE HAMPER CART

2,847,227

Filed Dec. 30, 1955

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

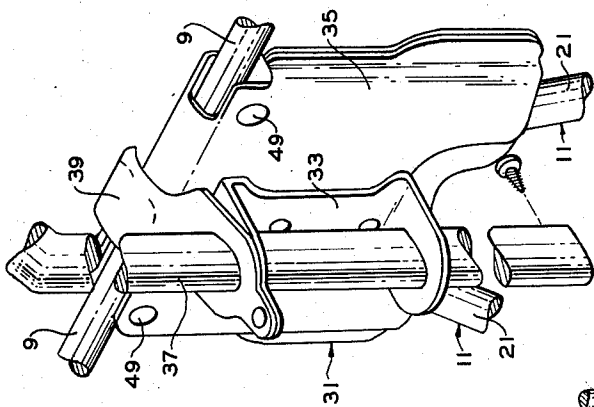


FIG. 5

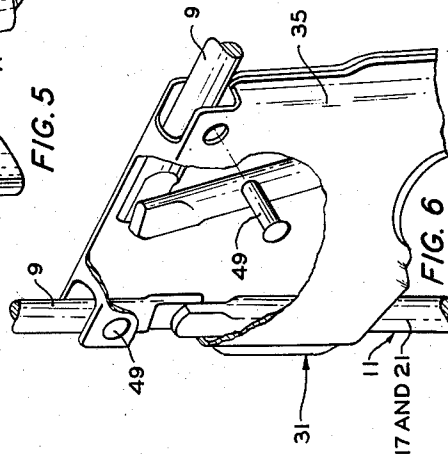


FIG. 6

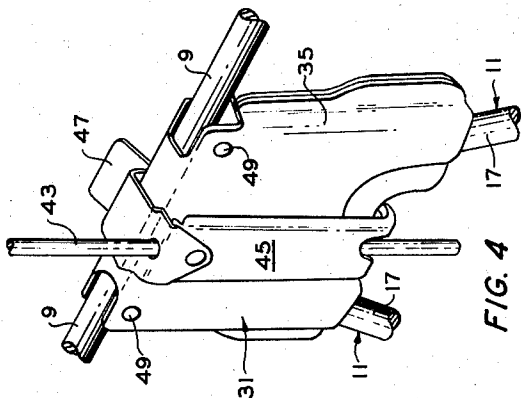


FIG. 4

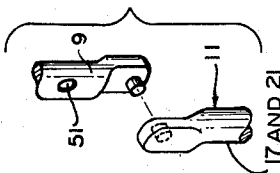


FIG. 7

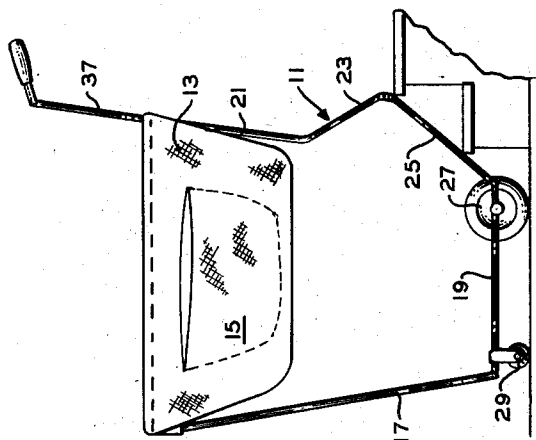


FIG. 3

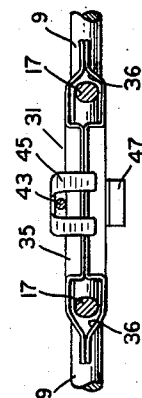


FIG. 8

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1

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COLLAPSIBLE HAMPER CART

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Application December 30, 1955, Serial No. 556,562

8 Claims. (Cl. 280—42)

This invention relates to carts. In a more specific aspect, this invention relates to a portable and collapsible cart. In a still more specific aspect, this invention relates to a portable and collapsible cart having an easily removable bag, such cart being particularly desirably used in home laundry operations and being easy to store between times of use. In yet another specific aspect, this invention relates to new connecting and/or hinging means for pivotally joined frame members.

Laundry carts and hampers are known in the art, and I am the inventor of a very good portable hamper. See my United States Letters Patent No. 2,531,520. This portable hamper, while being very useful, has a disadvantage in that it is not foldable or collapsible and will not store in as small a space as my new cart or hamper between times of use. My new collapsible portable cart or hamper which is the subject hereof is an improvement over my non-folding model which is the subject of the patent set forth hereinbefore. The new unique connecting and hinging means of my new foldable cart, which provides for the very useful and easy folding features thereof, is an invention of great merit and can be used to provide folding features for frame members other than those used to support hampers, etc., for example, cooking grills or pans, table tops, serving trays, and the like.

The new foldable and portable cart of my invention has an upper foldable receptacle support for supporting a receptacle throughout substantially its entire periphery, a pair of base members spaced below this upper support and a pair of frame members extending between opposite margins of said support and said base members. These are preferably provided by a frame preferably formed by a pair of elongated members, and each of such preferably has an upper portion and a lower portion pivotally connected together. The upper portions form the foldable upper receptacle support, and the lower portions form the base and connecting frame members between the support and base. When viewed from the side, one of the connecting frame members is preferably substantially vertical between one of the margins of the upper support and the base, and the other of the connecting frame members preferably has a substantially vertically extending upper portion depending from the other of the margins, and a lower portion extending at an angle to the vertical to form a runner surface. These frame members and the foldable support are pivotally joined so that they can be disposed in an open position with the base members spaced apart and the support in substantially a horizontal plane, and in a position with the base members relatively close together and the support member folded to result in a relatively narrow folded assembly for storing in a usual narrow space, for example between a refrigerator and a wall. The support carries a receptacle, preferably a readily removable bag, in which is deposited the items held or transported by the cart, for example laundry.

The new hinging means of my invention for folding frame members which have portions which are pivotally

2

connected, such as the upper support frame members and connecting frame members of my new portable cart, has a housing having a passageway therethrough. The frame member is mounted in the passageway with the point of pivot within the housing and with the frame members projecting from the housing. A pin member is mounted in the housing, and this pin pivotally mounts one of the pivoted frame member portions and connects the frame and housing together. The housing also serves as a stop to position the frame members in desired pivoted, out-of-alignment position. A preferred embodiment of my new means has a housing with spaced passageways so that the folding frame members can be connected to each other as well as being hingedly joined. This is the embodiment desirably employed in the structure of the new portable and foldable cart of my invention.

It is an object of my invention to provide new cart means.

It is another object of my invention to provide new portable and collapsible cart means.

Still another object of my invention is to provide a new foldable and portable laundry hamper which can be conveniently stored between times of use in a relatively narrow space.

Yet another object of my invention is to provide new hinging means, particularly hinging means for folding frame members having portions which are pivotally connected.

And, it is yet another object of my invention to provide new connecting and hinging means for a pair of folding frame members, each having portions which are pivotally connected.

Other objects and advantages of my invention of cart means and connecting and/or hinging means particularly useful therewith will become apparent to those skilled in the art upon reading this disclosure.

Drawings accompany and are a part of this disclosure. These drawings depict preferred specific embodiments of the new means of my invention, and it is to be understood that such are not to unduly limit the scope of my invention.

In the drawings,

Fig. 1 is a perspective view of a preferred specific embodiment my new cart means in open position.

Fig. 2 is a perspective view of the frame structure of same in folded position.

Fig. 3 is a side elevation view of same in position in relation to stairs to be ascended therewith.

Fig. 4 is an enlarged perspective view of a preferred embodiment of the new connecting and hinging means of my invention as adapted to the front of the embodiment of the new cart means of my invention shown in the drawings.

Fig. 5 is a perspective view of same adapted to the rear of the cart.

Fig. 6 is a perspective view partly cut away, showing the connecting and hinging means structure in detail.

Fig. 7 is a perspective view of a preferred means of pivotally joining the frame members.

Fig. 8 is a bottom plan view showing the spaced apertures or holes in the bottom of the connecting means of my invention.

Following is a discussion and description of the new means of my invention made with reference to the drawings whereon the same reference numerals are used to indicate the same or similar parts or structure. The discussion and description is of preferred specific embodiments of my new means, and it is to be understood that such is not to unduly limit the scope of my invention.

Referring now to Figs. 1 through 8 of the drawings which depict preferred specific embodiments of the new cart and connecting and hinging means of my invention

3

wherein the frame structure of the cart is made from metal rod bent to form the upper frame support members 9 and the lower connecting frame and base members 11. The upper support member rods 9 are preferably bent in arch-like or semi-loop configuration as shown in Fig. 2 so that when they lie in a horizontal plane and end to end, as shown in Fig. 3, they form a receptacle support for snap-on bag 13 and support the bag substantially all around the periphery of the loop support. Bag 13 is preferably made of washable fabric, such as duck or canvas, and readily removable for laundering or replacement. Pockets 15 formed by fabric members sewed to the sides of the bag have been found desirable to hold clothes pins, etc. The bag preferably is held on by snap fasteners 16, the shape of support members 9 determining the top shape of bag 13 when open. The bag 13, of course, folds with the cart.

The lower frame members 11 are made in one piece or in sections, as desired, and they are bent to form front, substantially vertical portions 17 which connect between the upper receptacle support members 9 and base members 19 which are positioned substantially horizontal. The rear portion of members 11 has an upper depending portion 21 which extends substantially vertical, a portion 23 which extends outwardly and downwardly from portion 21, and an angular disposed runner portion 25 which connects with base members 19. These spaced runner members 25 form a runner surface on which the cart rests when being taken up and down stairs. See Fig. 3 of the drawings.

Rear wheels 27 are mounted on axles which are in turn mounted on base members 19 preferably adjacent the runner members 25. Front wheels 29 are mounted on base members 19 adjacent front portions 17 of the frame. These front wheels are preferably caster wheels to make the cart most easy to move and maneuver in any direction, and the cart rides in use on level surfaces on the wheels 27 and 29.

Connecting and hinging means 31, one at the rear and one at the front, connect the four upper and lower frame members together to form the cart frame. On the rear member 31, a bracket 33 is fastened to the housing 35 in a suitable manner such as by riveting the bracket thereto, preferably on the inside thereof. This bracket 33 has spaced holes therein as shown which mount cart handle 37. Handle 37 is adjustably mounted by spring loaded latch 39 which is connected to the upper arm of bracket 33. Latch 39 has a hole therein through which handle 37 will easily pass when the plane of the hole is at right angles to the longitudinal axis of the handle. The spring loading of latch 39 urges it out of this position into a position where the effective size of the hole is less and the latch contacts the handle to grasp same. Finger pressure exerted on the outer portion of latch 39 works same to release handle 37 for shortening or lengthening, as desired. Handle 37 has a grip of rubber, plastic, or the like, on its outer end to more conveniently handle the cart.

A hanger member 43, on which ironed laundry, etc., can be conveniently hung by the usual clothes hanger, is preferably mounted on the front connecting and hinging means 31, preferably on the outside thereof. A spring loaded removable clamp 45 is mounted on the outside of housing 35, such clamp having spaced holes to receive hanger 43. The clamp end portions snap over the housing, and in at rest position, the top hole grasps the shank of the hanger. Finger pressure downwardly on portion 47 releases the clamp so that hanger 43 can be adjusted as to height or removed. When not in use, hanger 43 can be mounted for storage opposite of Fig. 1 with the outer end projecting inwardly between base members 19.

The new connecting and hinging means of my invention 31 hingedly mounts and connects the pair of upper support members 9 and the pair of lower frame mem-

4

bers 11. The ends of members 9 and the corresponding ends of members 11 are flattened and pivotally joined by a teat on one and a recess therefor in the other. See Fig. 7. This ball and socket-type joint has been found particularly satisfactory. The hollow, flat housing 35 has its upper corners open and a pair of spaced holes 36 in the bottom (Fig. 8) and forms spaced passageways in which frame members 9 and 11 are projectively mounted with their pivoted ends in the housing. Pins 49 are mounted in housing 35 in any suitable manner and pass through holes 51 in the end portions of support members 9 to pivotally attach same and thus members 11 to the connecting means 31.

Housing 35 is made wide enough to accommodate both end portions of the pivotally joined frame members when the cart is in open position, the position of Figs. 1, 3, 4 and 5, and the right hand assembly of pivoted members in Fig. 6. In this position the top of the housing acts as a stop to hold members 9 in substantially horizontal position with base members 19 spaced apart to form a stable base.

If desired, the same connecting and hinging means 31 can be used to foldably join frame members for other equipment, for example, a tray or table top which could be hinged to an upper support member similar to member 9, or a cooking grill which could be hinged to a member similar to support member 9, in each case the entire assembly being collapsible to form a relatively flat package.

As will be evident to those skilled in the art, various modifications of my new cart means, and connecting and hinging means, can be made, or followed, in the light of this disclosure and discussion, without departing from the spirit or scope of the disclosure or from the scope of the claims.

I claim:

1. A collapsible and portable cart, comprising, in combination, a pair of like upright frame members, each of said frame members having a lower portion comprising a rod bent to form a front member substantially vertical, a base member substantially horizontal, and a rear member having an angularly disposed lower runner portion and an upper portion substantially vertical, and each of said frame members having an upper portion comprising a rod bent to form an arch-like support member, the end portions of said upper arch-like member being pivotally connected to the end portions of said lower portion of said frame member, a receptacle, separate connecting means connecting said frame members together in the front and rear of the cart to dispose said frame members in mirror image relation and to mount said pivotally connected portions of said upper and lower portions of said frame members to move together and so that said upper support members of said frame members can first be disposed in open position to form a loop in a substantially horizontal plane, said support members supporting said receptacle throughout substantially its entire periphery, with said lower frame member portions spaced apart to form a relatively wide base for said cart, and second so that said upper support members of said frame members can be disposed relatively close and side by side in closed and collapsed position in a substantially vertical plane with said lower frame member portions positioned relatively close together, a pair of rear wheels oppositely mounted on said base members of said frames adjacent said runners, and a pair of front wheels mounted on said base members adjacent said front members of said lower portions of said frames.

2. The cart of claim 1 wherein, each of said connecting means is a flat, hollow housing having a pair of spaced apertures in its bottom and having its upper corners open to the top and side to form spaced substantially vertical passageways, and pins through said housing and said end portions of said upper support members mounting one of said pivotally connected portions of said frame members in each passageway so that said pivoted end portions

5

of each of said frame members mounted in mirror image relation move upon pivoting in the same plane, said housing having central space to receive said pivotally connected portions of said upper and lower frame portions when said support members are disposed in said open, substantially horizontal position, said housing forming a stop to position said frame members in said open and closed positions, a handle slidably and adjustably mounted on said rear connecting member, a hanger member slidably and adjustably mounted on said front connecting member, said front wheels being swivelly mounted, and said receptacle comprising a shallow fabric bag with pockets formed on its sides, and means for detachably securing the mouth of said bag to said upper support members.

3. A foldable and portable cart, including, in combination, a frame formed by a pair of elongated members, each of said members having an upper portion and a lower portion which are pivotally connected, and said upper portions of each of said elongated members being bent to be positionable in an open position with each of said members having a semi-loop shape in a generally horizontal plane and together forming a loop, and with each of said lower portions being bent to have when extended a downwardly and outwardly extending portion at the front, a rearwardly extending base portion, an upwardly extending runner portion, and an inwardly and upwardly extending and completing rear portion, and means for securing said frame members to each other so that said cart can be disposed in a folded position and in said open position and so that said pivotally connected upper and lower portions of said elongated frame members move at the same time upon the movement of either portion, said means joining said frame members in the region of said pivoted connection of said upper and lower portions, and pivot means mounted in said means for securing said frame members to each other and pivotally mounting said upper portions about a point in the end portions of said upper portions.

4. A collapsible and portable cart, including, in combination, a pair of frame members, each having a lower portion having a substantially vertical front portion, a substantially horizontal base portion and an angular lower and rear runner portion and a substantially vertical upper rear portion, each of said frame members having an upper receptacle support portion pivotally joined to the upper end portions of said lower portions of said frame members, said receptacle support portion disposable in a substantially vertical plane and in a substantially horizontal plane, separate connecting means having pivot means therewith and hingedly connecting said frame members together in the front and rear of the cart in the region of said pivotal connections of said upper support portions to said lower portions with the end portions of one of said portions of said frame members pivotally mounted in said pivot means of said connecting means so that said upper and lower portions of each frame member move simultaneously upon the movement of either portion and so that said frame members can be disposed, in open position with said support members in a substantially horizontal position to support a receptacle sub-

6

stantially around the periphery thereof, and in collapsed position with said frame members relatively close together, and a receptacle carried by said support members.

5. The cart of claim 4 wherein said support members in said open position form a substantially continuous loop, and said receptacle is a shallow bag mounted on said support members by readily removable means.

6. The cart of claim 4 wherein each of said connecting means is a housing having a pair of spaced passageways with one of said frame members in each of said passageways, and fixed pin members in said housings which pivotally mount said upper support members of said frame to move said lower portions of said frame with said upper portions, said housing forming stop means to position said frame members in said open position.

7. Connecting and hinging means for a pair of folding frame members each frame member having portions which are pivotally connected, comprising, a hollow, flat housing having spaced apertures in each end forming a pair of spaced passageways therethrough, said frame members mounted in said passageways with the point of pivot of said portions within said housing and said frame members projecting from said housing through said apertures, said housing having space to receive said pivotally connected portions when said frame members are pivoted out of alignment, and a pair of pins fixedly mounted in said housing adjacent said apertures in one end, said pins pivotally mounting in said housing portions of said frame members in the inner end portions of said frame members to pivot about said pins in said housing to so mount said frame members in said passageways, said pivoted portions of each of said frame members moving upon pivoting in the same plane and in the plane of said housing and simultaneously upon movement of either portion, said housing forming stop means to position said pivotally connected portions of said frame members in pivoted position and in aligned position.

8. Hinging means for folding frame members, comprising, a frame member with pivotally connected portions, a housing having a passageway therethrough, a portion of said frame member having the point of pivot of said pivotally connected portions mounted in said housing with said frame members projecting out of the ends of said passageway, and a fixed pin member in said housing pivotally mounting one of said pivotally connected portions of said frame member in the inner end portion of said one of said pivotally connected portions to pivot about said pin to so mount said portion of said frame member in said housing and so that said pivotally connected portions move simultaneously upon the movement of either portion, and a portion of said housing adjacent one of said outlets of said passageways forming stop means to limit movement of said frame member and position said frame members in pivoted, out-of-alignment position.

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