March 4, 1969 A. FIEDLER 3,430,972

COMBINED STEPLADDER-CART

Filed Aug. 11, 1966

FIG. 1

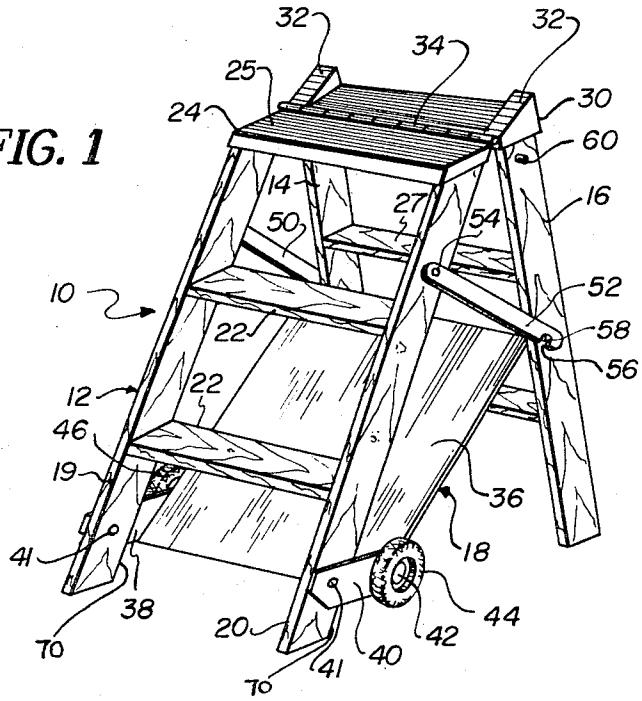


FIG. 2

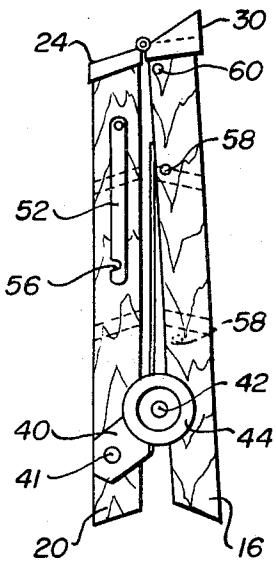


FIG. 3

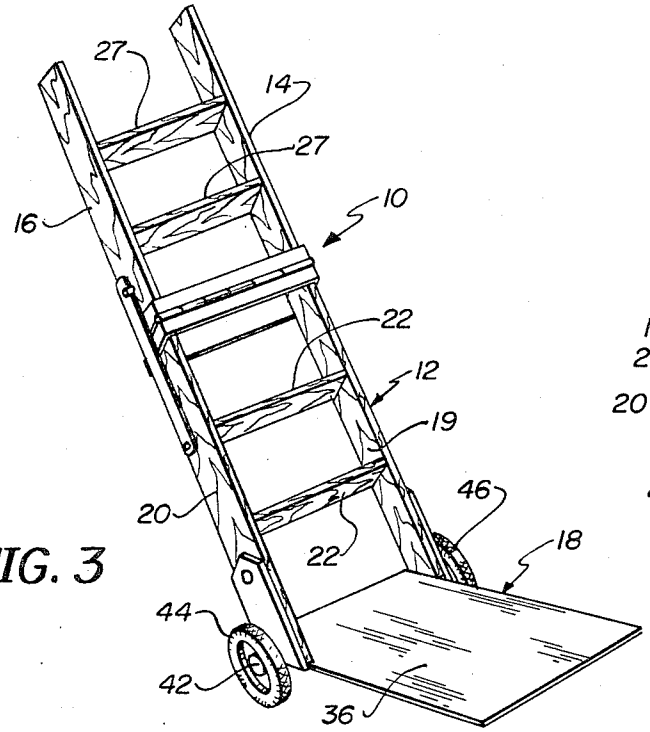
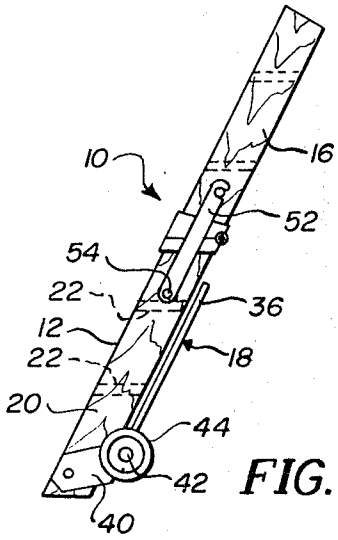


FIG. 4



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COMBINED STEPLADDER-CART

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This invention relates to stepladders and handcarts and, more particularly, to a combined stepladder-cart.

The combined stepladder-cart of the present invention can be used as a "footstool" type stepladder of relatively short length, as a regular ladder having a length substantially twice the length of a "footstool" type stepladder, and as a handcart for transporting bulky and heavy objects such as garbage cans and the like. It can also be manufactured in various sizes. It is also adapted to be collapsed into a relatively compact unit so that it can be easily stored in a small space. Accordingly, it has considerable utility around the home, and particularly, to individuals who live in apartments, duplex units and the like where storage space is at a premium.

It is therefore an object of the present invention to provide improved combined stepladder-carts.

Another object is to provide improved stepladder-carts which can be collapsed into a relatively compact unit, for easy storage in small spaces.

Still another object is to provide improved stepladder-carts which can be used as a "footstool" type stepladder, as a regular ladder having a length substantially twice the length of the "footstool" ladder, and as a handcart for transporting heavy objects.

A still further object is to provide stepladder-carts which can be inexpensively manufactured.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The above objectives are accomplished with a step-ladder-cart including a stepladder having a pair of support legs pivotally affixed to one end of it and a wheeled platform pivotally affixed to its other end. The support legs can be pivoted to extend upwardly in line with the step-ladder to effectively approximately double its length, and the platform pivots about the foot, or opposite end, of the stepladder to form a handcart.

The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the invention will be indicated in the claim.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings in which:

FIG. 1 is a perspective view of a combined stepladder-cart exemplary of the present invention;

FIG. 2 is a side plan view illustrating the manner in which the stepladder-cart is collapsed into a compact unit for storage;

FIG. 3 is a perspective view illustrating the manner in which the stepladder-cart is folded to form a handcart; and

FIG. 4 is a side view illustrating the manner in which the stepladder-cart is folded to form a regular stepladder of extended length.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring now to the drawing, a combined stepladder-cart **10** exemplary of the invention is illustrated including a stepladder **12** having a pair of support legs **14** and **16** pivotally affixed to its top end and a wheeled platform **18** pivotally affixed to its opposite, or foot, end. The step-

ladder **12** is constructed of two parallel spaced-apart step supports **19** and **20** between which are affixedly secured steps **22**. Only two steps are illustrated, however, it is apparent that other steps can be provided so as to lengthen the stepladder, if desired. Fixedly secured across the tops of the step supports **19** and **20**, is a platform-step **24** of relatively sturdy construction.

The support legs **14** and **16** are preferably substantially the same size as the step supports **19** and **20**, and have steps **27** affixed between them, in parallel spaced relation, for reasons set forth below. They may be of different size, however, and may be retained in parallel spaced relation by means of a pair of crisscrossed braces, if desired. A platform-step **30** is affixed across the upper ends of the support legs **14** and **16**, and has angled surfaces **32** on each of its opposite ends which are adapted to engage the top surface **25** of the platform-step **24** to fixedly position the support legs **14** and **16** in alignment with the step-ladder **12**, when manipulated in the fashion described below.

The support legs **14** and **16** are pivotally affixed to the stepladder **12**, by means of a hinge **34** affixed to the platform-steps **24** and **30**. The hinge **34** is preferably a piano-type hinge which extends across the width of the step-ladder-cart, however, two or more hinges can be used.

The wheeled platform **18** includes a flat plate **36** which is preferably of a sturdy metal sheet material. Fixedly secured to the opposite sides of the flat plate **36** at its one end are a pair of plate supports **38** and **40** which are, in turn, pivotally affixed to the foot end of the step supports **19** and **20**, respectively, by means of pivot pins **41**. An axle **42** is affixed beneath the plate **36** and has wheels **44** and **46** rotatably affixed to its opposite ends. The axle **42** is affixed to the plate **36** in a position such that the wheels **44** and **46** are aligned along side of and below the ends of the support legs **14** and **16** when the platform **18** is pivoted to the position illustrated in FIGS. 3. The end of the plate **36** is adapted to abut against the edges of the support legs **14** and **16** when the platform **18** is in its inoperative position, as illustrated in FIG. 1.

The stepladder-cart **10** forms a three-step (including the platform-step **24**) when the support legs **14** and **16** are pivotally folded at the hinge **34** to extend downwardly in the angularly disposed position, illustrated in FIG. 1. A pair of locking braces **50** and **52** are pivotally affixed by means of pivot pins **54** to the step supports **19** and **20**, respectively, and have slots **56** formed in their opposite ends which are adapted to lockingly engage locking pins **58** affixed to the sides of the support legs **14** and **16**.

The platform **18** pivots about the pivot pins **41** so that its end abuts against the support legs **14** and **16** to retain the platform in its inoperative position.

If it is desired to extend the length of the step-ladder **12** to provide a regular ladder of substantially twice the length of the stepladder **12**, the locking braces **50** and **52** are pivoted to release the locking pins **58** from the slots **56** and the support legs **14** and **16** are pivoted about the hinge **34** until the angular surface **32** of the platform-step **30** abuts against the top surface **25** of the platform step **24**. The locking braces **50** and **52** are then pivoted to lockingly engage a pair of locking pins **60** affixed to the support legs **14** and **16**, to lock the ladder in extended position, as illustrated in FIG. 4. Fastener means (not shown), such as a hook and eye or the like, can be affixed to the stepladder **12** and to the platform **18**, so that the platform **18** can be held in a convenient, out-of-the-way position when the length is extended, if desired.

The stepladder-cart **10** may be used as a handcart by pivoting the support legs **14** and **16**, in the manner described above, to extend the length of the stepladder **12**. This action will provide a relatively long "back" for

the handcart, against which the articles that are to be transported can lean or rest. The platform **18** is then positioned so that its surface at the end adjacent the stepladder abuts against the under surface of the step supports **19** and **20**, as illustrated in FIG. 3, or against surface **70** if plate supports **38** and **40** are shortened, to provide support for the platform and to retain it in a position to permit the wheels **44** and **46** to engage and roll on the floor or ground. Alternatively, if the stepladder **12** and the support legs **14** and **16** are of relatively long length, for example, 3 or 4 feet long, the support legs **14** and **16** can be folded against the stepladder **12**, as illustrated in FIG. 2, and the platform **18** pivoted to its operative position, illustrated in FIG. 4. The carrying surface of the platform **18** is reduced in size, to some degree, when used in this fashion, however, it is still acceptable for most jobs. Also, it is apparent that the support legs **14** and **16** form the "back" for the handcart when it is folded, as described.

In FIG. 2, the stepladder-cart **10** is illustrated folded for storage. It can be seen that the platform **18** is folded and retained between the stepladder **12** and the support legs **14** and **16**, and that the latter are folded in substantially abutting relationship with the stepladder **12**, so that a relative compact unit is provided. If desired, platform **18** may be of shorter length to merely extend rearwardly in a horizontal fashion.

It will thus be seen that the objects set forth above, among those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above construction without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claim is intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween.

Now that the invention has been described, what is claimed as new and desired to be secured by Letters Patent is:

1. A combined stepladder-cart comprising: a stepladder having a plurality of steps affixed to a pair of step supports and a platform-step affixed across the upper ends of said pair of step supports, a pair of support legs having a platform-step affixed across the upper ends thereof and a plurality of steps affixed between them in spaced relation, hinge means affixed to said platform-steps hingedly fixing said stepladder and said support legs together and in a fashion such that said support legs can be pivoted to extend the length of said stepladder, said platform-step affixed across the upper ends of said support legs having a continuous sloped surface which engages the upper surface of said platform-step affixed across the upper ends of said step supports for providing additional strength and for retaining said stepladder and said support legs in extended alignment, and a wheeled platform pivotally affixed to the lower end of said step supports and positioned between said stepladder and said support legs, said platform being pivotal and the end thereof being engageable with the lower surfaces of said step supports to positionably support said wheeled platform in a substantially perpendicular position with respect to said stepladder so as to form a handcart, locking braces having locking slots therein pivotally affixed to respective ones of said step supports and locking pins affixed to respective ones of said support legs for locking said support legs in a fixed position with respect to said stepladder.

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U.S. Cl. X.R.

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