April 7, 1959 C. J. POLCHOW 2,880,772

WORK-HOLDING DEVICE

Filed Oct. 4, 1955

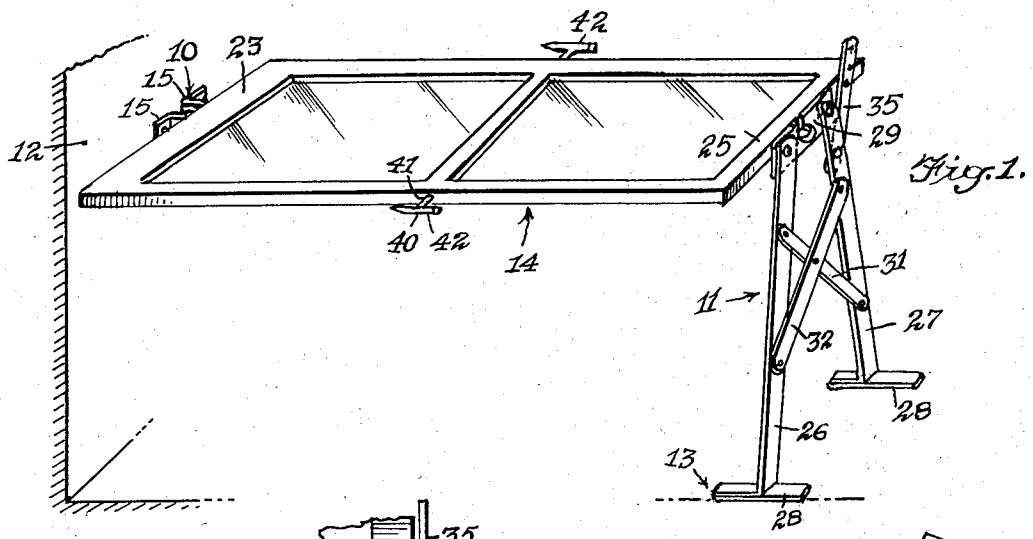


Fig. 1.

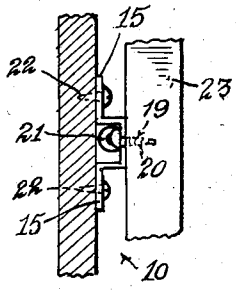


Fig. 4.

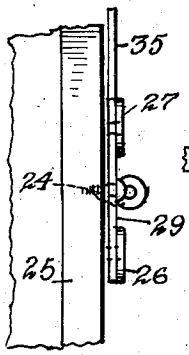


Fig. 5.

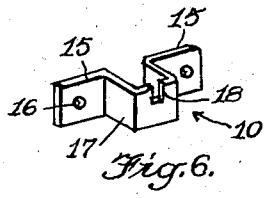


Fig. 6.

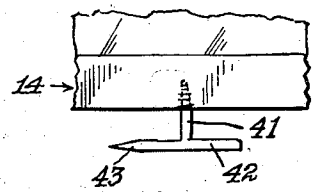


Fig. 7.

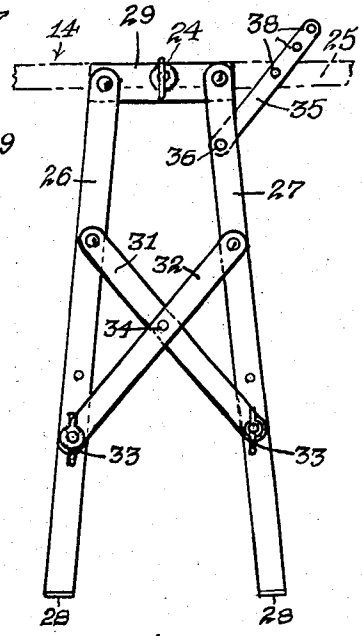


Fig. 2.

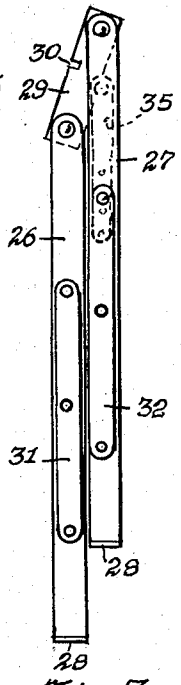


Fig. 3.

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United States Patent Office 2,880,772 Patented Apr. 7, 1959

2,880,772

WORK-HOLDING DEVICE

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Application October 4, 1955, Serial No. 538,336

2 Claims. (Cl. 144—288)

This invention relates to work-holding devices, and more particularly to such devices which are adapted to be used with stationary vertical and horizontal supporting surfaces, as for example the wall of a building or the like, and a floor, side-walk or the ground.

An object of the invention is to provide an improved work-holding device adapted to hold window frames, screens or other relatively large and bulky articles characterized by being capable of mounting pivots, said work-holding device being so organized and arranged that components thereof may cooperate with existing floor and wall surfaces to support the work.

Another object of the invention is to provide an improved work holder as above set forth, which may be quickly set up or dismantled, with a minimum of preparation or preliminary operations being required.

A still further object of the invention is to provide an improved work holder of the above type, which has an upright pedestal or stand of directional stability, said stand having means for steadying the work being held and being readily collapsible when not in use, for storage or carrying purposes.

A feature of the invention resides in the provision of an improved work-holding device having all of the above advantages and which is nevertheless simple in its construction and economical to manufacture.

Other features and advantages will hereinafter appear.

In the drawings accompanying this specification, similar characters of reference indicate corresponding parts wherever possible in the several views, in which:

Figure 1 is a perspective view of a work-holding device made in accordance with the invention, set up for use and supporting a window sash for painting or finishing operations.

Fig. 2 is an elevational view of the pedestal or stand portion of the work-holding device.

Fig. 3 is an elevational or side view of the stand of Fig. 2, shown in collapsed condition.

Fig. 4 is a fragmentary top or plan view of the wall-mounting bracket component of the work-holding device.

Fig. 5 is a fragmentary top or plan view of the stand component of the work-holding device.

Fig. 6 is a perspective view of the bracket shown in Fig. 4.

Fig. 7 is a fragmentary plan view of a portion of the sash of Fig. 1 and a hand-engageable fitting attached thereto, for aiding in the manipulation of the sash.

Referring to Fig. 1, the work-holding device shown therein as made in accordance with the invention comprises a wall-mounting and wall-supported component or bracket indicated generally by the numeral **10**, and a floor-supported component or stand indicated generally by the numeral **11**. The wall-supported component or bracket **10** is shown as being secured to a stationary wall **12**, as of a building structure or the like, and the stand **11** is supported on an adjoining floor surface **13**.

I have found that by the provision of the wall-supported component **10** which is securely fastened to a

stable, stationary building wall, in conjunction with the stand **11** which has stability in directions parallel to the wall **12**, a firm and advantageous support is provided for window frames, sashes, screens and all manner of large and bulky work on which operations are to be performed. For instance, it will be readily understood that the sash **14** shown in Fig. 1, when securely mounted on the components **10** and **11** will have considerable stability in directions longitudinally of it or perpendicular to the wall **12**. It will, moreover, have very appreciable stability laterally of its length or in directions parallel to the wall **12** by virtue of the support of the bracket **10** by the wall, and by virtue of a property of directional stability of the stand **11**, as will be later brought out in more detail.

Referring to Figs. 1, 4 and 6, the wall-supported component or bracket **10** is shown as being preferably formed of a sheet metal strip having a pair of mounting ears **15** provided with apertures **16**, and having a U-shaped body portion **17** disposed between and connected to the ears **15**. The body portion **17** of the bracket **10** has a bearing means in the form of an open-ended slot **18** adapted to receive a pivot pin **19** which may advantageously be of the type having wood-screw threads **20** and a finger-engageable head or wings **21**.

The bracket **10** is initially firmly secured to the wall **12**, as by wood-screws **22**, and the pivot pin **19** is screwed into the frame of the sash **14** at an appropriate place, here shown as the bottom frame member **23** of the sash.

A second pivot pin **24** similar to the pin **19** is screwed into the top frame member **25** of the sash, to constitute a second pivot for the work.

As shown in Figs. 1, 2 and 5 the stand component **11** comprises a pair of upright legs **26** and **27** which may be advantageously formed of sheet metal strips, said legs having feet **28** formed by suitably bending the end portions of the strips as shown.

At their upper extremities the legs **26** and **27** are pivotally connected to the ends of a connector plate **29** having an open-ended slot **30** adapted to receive the pivot pin **24**. The legs **26** and **27** are braced by a pair of cross braces **31** and **32** respectively pivotally connected at their upper ends to the legs **26** and **27**. The braces **31** and **32** have apertures in their lower ends and are detachably secured to the legs by wing screws **33**. Also, intermediate their ends the braces **31** and **32** are apertured to receive a removable locking pin **34** by which the braces are locked in operative positions, maintaining the legs **26** and **27** in spaced, slightly convergent positions as shown in Fig. 2.

For the purpose of bracing the work or sash **14** and preventing undesired pivotal movement thereof I provide a strut **35** secured by means of a pivot **36** to the leg **27**, said strut having a series of openings **38** adapted to receive a pin or screw which may be fastened in the upper frame member **25** of the sash **14**. By this organization the sash may be disposed and held in different adjusted positions, to suit the needs of a painter, glazier or other workman.

For the purpose of conveniently handling the work after the performance of painting or other operations thereon, I provide a pair of novel fittings **40** in the form of screw pins **41** having laterally extending bars **42** constituting handles. One end of each bar **42** may be pointed as shown at **43**, Fig. 7, to enable the fitting to be used in the manner of an awl, for starting a screw hole prior to attachment of the fitting to the frame.

It will be readily seen that I have provided, by the above organization, a novel and improved work-holding device cooperable with supporting wall and floor surfaces, by which relatively large and bulky workpieces may be conveniently handled, for performing operations thereon. The work-holding device is relatively small and compact,

simple in its construction and economical to fabricate. It may be readily dismantled and the stand 11 collapsed as shown in Fig. 3, by removing the locking pin 34 from the braces 31 and 32, and removing the thumb screws 33.

It is to be noted that while the invention has been described in connection with a support for window sashes, etc., it may be utilized very advantageously as a table for picnics and the like. In this use a plain board substituted for the window frame shown and the bracket 10 may be secured to a tree or the like. The board will then be held in the same fashion as the window sash hereinbefore described.

The term "work holding device," as set forth in the claims, is intended to cover devices in the form of tables as hereinbefore set forth.

While the invention has been described in some detail, it will be understood that variations and modifications may be made without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A work-holding device comprising the combination of a wall-supported bracket and a ground-supported frame structure, said bracket comprising a single, sheet-metal strip having a pair of apertured mounting ears and a U-shaped portions disposed between and connected to said ears, said U-shaped portion having an open-ended slot the end wall of which is adapted to constitute a bearing surface for a pin insertable in the said slot, said frame structure comprising a pair of upright legs and a pair of cross-braces respectively pivotally connected at single ends to the legs, comprising cooperable means on

the legs and braces for detachably fastening the free ends of the braces to the legs when the stand is set up in operable position, said cross braces having means disposed intermediate their ends for interconnecting the braces to provide rigidity to the frame structure, and said structure further comprising a connector plate pivotally secured to the tops of the legs and spacing the latter apart, said connector plate having an open-ended slot the end wall of which is adapted to constitute a bearing surface for a pin insertable in the slot, said frame structure having a strut means extendable from a side of the structure and adapted for engagement with the work, to steady the same.

2. The invention as defined in claim 1, in which the frame structure has laterally extending feet attached to the lower extremities of the upright legs, said feet having broad bottom surfaces for engagement with the surface of the ground, to prevent the legs from becoming appreciably imbedded in the ground.

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