

No. 626,641.

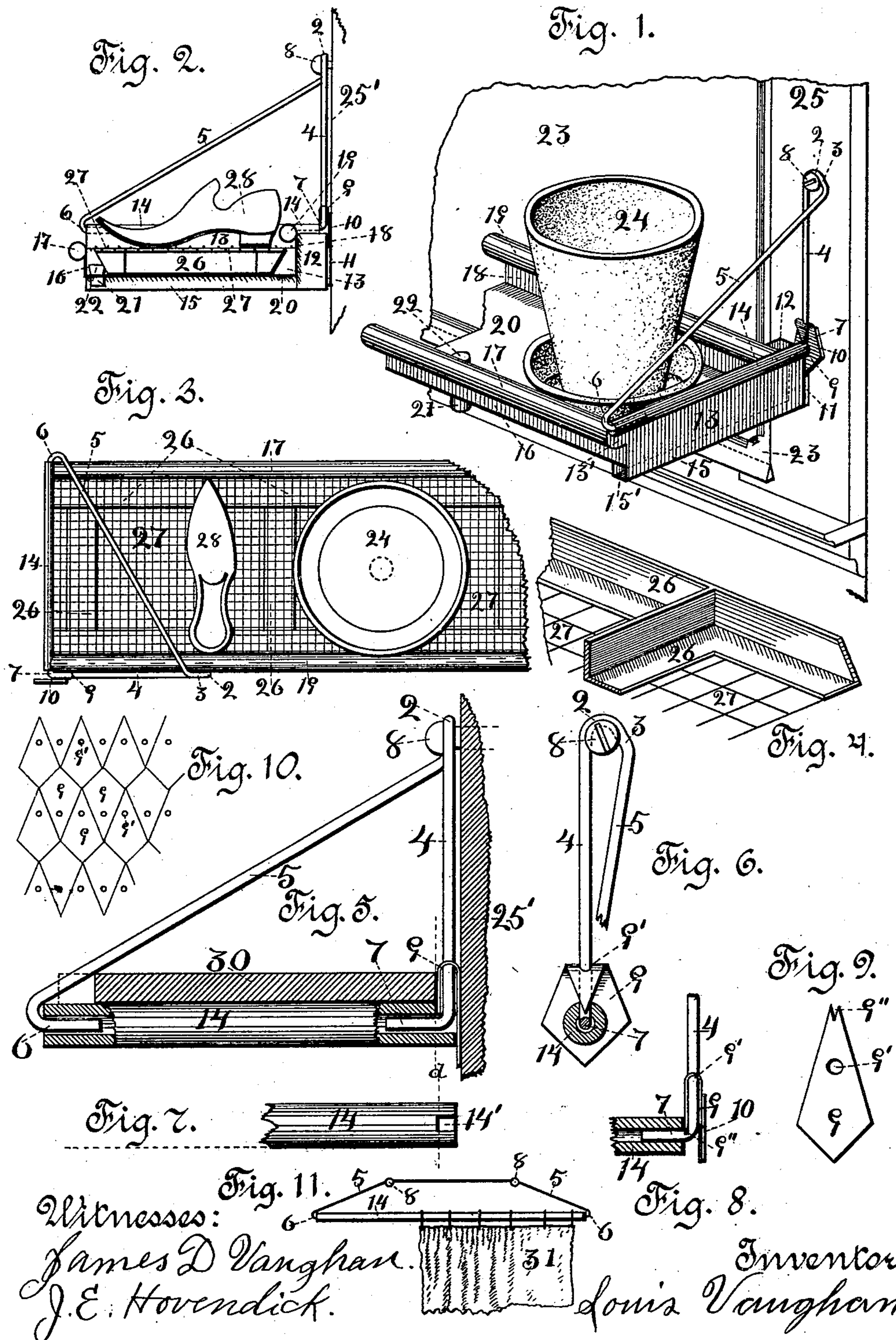
Patented June 6, 1899.

L. VAUGHAN.

CONVERTIBLE TRAY AND PORTABLE TRAY SHELF.

(Application filed Jan. 23, 1897.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

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CONVERTIBLE TRAY AND PORTABLE TRAY-SHELF.

SPECIFICATION forming part of Letters Patent No. 626,641, dated June 6, 1899.

Application filed January 23, 1897. Serial No. 620,445. (No model.)

To all whom it may concern:

Be it known that I, LOUIS VAUGHAN, a citizen of the United States, residing at Blair, in the county of Washington and State of Nebraska, have invented a new and useful Convertible Tray and Portable Tray-Shelf with Suspension-Brackets, of which the following is a specification.

My invention relates to improvements in trays and tray-shelves for caring for footwear and plants; and the objects of my improvements are, first, to produce a convertible tray and tray-shelf conserving cheapness, lightness, and strength; second, to make such shelf portable; third, to provide a releasable, adjustable, folding, and separable bracket therefor; fourth, to provide means to protect the finish of walls or woodwork against which the shelf or bracket is supported, and, fifth, to provide means to hold the tray-shelf forward or out of the curtain route at a window. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of an end half of a tray-shelf suspended from a window-casing. Fig. 2 is a cross-section showing a removable grating in the tray. Fig. 3 is a plan of an end half modified for a wall-shelf by omitting the vertical tube or strut 12 and showing the suspensory wire folded down on top over the grating. Fig. 4 is a perspective detail of the removable grating inverted. Fig. 5 is an enlarged view of the hanging bracket, showing a board shelf 30 on the tube 14. Fig. 6 is a sectional view on the broken line *d* of Figs. 5 and 7. Fig. 7 is a top view of the wall-abutting end of the tube 14 in Fig. 5. Fig. 8 shows a modification, omitting the notch 14' for lighter work. Fig. 9 is a view of the protector or shield plate 9 in the stretchout before being bent to the form shown in Figs. 1, 2, 3, 5, 6, and 8. Fig. 10 shows the lines on which to cut the shield-plates from a large sheet to save material; and Fig. 11 shows how the suspensory wire may be modified and suspended at two points above the tube 14.

Similar numerals refer to similar parts throughout the several views.

The tray-shelf consists of a body part bent

from a piece of sheet metal to form the flat bottom 20, the vertical front and back 16 and 18 having their top edges rolled forward to form the tubes 17 and 19 and a pair of ends 13 fastened thereto. To facilitate using a shallow tray, the tubes 17 and 19 of front and back are of sufficient size to give the required stiffness or central support to prevent buckling or sagging when the tray is loaded heavily at the center and give a finished ornamental appearance in front. For additional strength in very long shelves the tubes are soldered at their closing or lap and supplementary tubes placed beneath the bottom 20, extending between the feet 15. The back is higher than the front to allow the insertion of a plant-pot saucer or the removable grating 26 27 beneath the roll or tube 19 and save room, as shown in Figs. 1 and 2, the back tube 19 overhanging the tray to bring said tube out of the route of the window-curtain, which passes down behind.

The end 13 is formed of a single piece of sheet metal, its lower edge bent to form a horizontal tube 15', as a foot 15, to support the end of the bottom 20, which is seated on said foot and abuts against the end 13. It also may have the forward projecting end 13' to close the end of the tube 17, or it may be omitted, as shown in Fig. 2. It also extends beyond the back 18, behind which it is bent to form the vertical tube 12 as a projection or strut to bear against the casing 25 to hold the body of the shelf sufficiently forward to allow the drop window-curtain 23 to pass down behind the tray. The top edge of the end 13 is bent to form a roll or tube to strengthen said end and stiffen its top edge and to provide the open-ended tube 14 to separably receive the hooked ends 6 and 7 of the suspensory wire of the bracket and resist the compression between said hooked ends.

The suspension-bracket consists principally of two parts—the horizontal tube 14 and a single piece of rod or wire having the vertical part 4, its lower end 7 bent to a right angle to engage the bore of the tube separably at its wall-bearing end and its top end bent in a plane at right angles to its lower end, agreeing with the face of the casing 25 or wall 25' to form the curved loop-hook 2 to engage re-

leasably the projecting shank of the stud or screw 8 between its head and the wall and an inclined part 5, being a continuation from the loop-hook, having its end bent to form the hook 6 separably to engage the bore of the tube at its projecting end. The part 3 of the loop-hook is obliqued away from the vertical part 4, thus forming a wide mouth, so that the upper end of the inclined part 5 will clear the screw-head 8 when the bracket is raised for releasement from the wall. By a slight modification, such as making one or two plain central bends in the wire, as shown in Fig. 11, the shelf may be supported from a ceiling or soffit or from another shelf or bracket above, the symmetrical location of two intermediate points of attachment of the suspensory wire giving greater strength and preventing longitudinal movement of the tube. By a vertical row of studs or screws 8 adjustment of height may be attained and a number of shelves ranged above each other against a wall.

The shield-plate 9 consists of a piece of sheet metal cut to a distorted rhombic form, with two of its adjacent sides elongated to about double length. A perforation 9' is made near the center of the elongated part, through which the vertical part 4 of the suspensory wire is threaded and at which point the sheet is bent, the large end down against the back of the wire and end of the tube adjacent to the wall, and the acute point having the fork 9" cut, as shown in Fig. 9, is bent down against the front of the wire, the fork 9" seated on the hooked end 7 to prevent the shield from descending too far or swinging off laterally, or in case of heavy brackets the acute point is inserted in the gain or notch 14' at the end of the tube 14, which notch is cut to receive the wire 4, flush with the end of the tube, to allow the end of the tube to abut against the shield or a vertical support.

That the shield may be more effectual on highly-finished walls or casings a cushion 10, of softer material, as cork, cloth, or leather, is fastened to its back, and a like cushion 11 is fastened on the back of the vertical tube or strut 12 on the tray-shelf when the use is such as to require these parts.

The tray is provided with the thimble aperture 21 for drainage and cleaning and is closed by a stopple 22.

The removable grating is used in the tray when it is desired to dry boots or shoes or to propagate plant-cuttings by setting the tray on a radiator, when the grating prevents burning or the plant-pots becoming overheated. It is always used when the tray-shelf is used as a receptacle of footwear, allowing all water to drip off and the shoes or boots to become dry on the bottoms. It is easily removed for cleaning or when not desired or needed. Figs. 2 and 3 show the elevated grating as placed in the tray to receive the plant-pots 24 or shoes 28.

When it is desired to use the tray other-

wise than suspended, the suspensory wire is readily separated therefrom by withdrawing either end 6 or 7 from the tube 14 by springing said ends apart and is as easily replaced by a reverse manipulation. Without the brackets the feet 15 support the tray evenly on any other shelf, table, or floor, and for shipping and storage the brackets are folded down on top, as shown in Fig. 3, and are readily adjusted by swinging to engage different wall-supports of varying distances apart, which facilitates selecting the most desirable locations on molded casings for the round-head screws 8, which are releasably engaged by the loop-hooks.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A hanging tray-shelf for windows having sheet-metal ends bent to form vertical tubes at the back corners of the tray, to act as struts to support the tray forward, out of the window-curtain route substantially as described.

2. A hanging tray-shelf for windows, having a sheet-metal end bent to form a vertical tube at the back of the tray, and a cushion on the back of said vertical tube substantially as described.

3. A hanging tray-shelf for windows having a sheet-metal end projecting back of the tray, a bend in said end to form a horizontal tube to receive in its ends hooks on the ends of a suspending-wire, and a shield-plate at the back of the projecting part of the end and suspending-wire substantially as described.

4. A hanging shelf having a suspensory wire and a perforated sheet-metal shield threaded on said wire to hang back of the shelf substantially as described.

5. A tray-shelf having suitable bracket ends, and a sheet-metal body having the top edge of the back bent forward to form a tube overhanging the tray, and the top edge of the front bent forward to form a tube outside the tray substantially as described.

6. A hanging tray-shelf for windows having ends projecting back of the tray, and an intermediate sheet-metal body having the top edge of its back bent forward to form a supporting-tube overhanging the tray, and the top edge of its front bent forward to form a supporting-tube outside the tray substantially as described.

7. A tray having a sheet-metal end the lower edge of said end bent to form a tube under the bottom of said tray to serve as a foot substantially as described.

8. In a convertible tray and hanging tray-shelf the combination of a tray-body having sheet-metal ends having their lower edges bent to tubes to form feet under the ends of the tray-bottom, and their top edges bent to form tubes to separably receive in their ends hooks on the ends of suspensory wires substantially as described.

9. In a convertible tray and hanging tray-

shelf the combination of a sheet-metal tray-body having a flat bottom and vertical sides having their top edges bent to form tubes as intermediate supports to said body, and sheet-metal ends having their lower edges bent to form tubes as feet under the ends of said bottom, and their top edges bent to form tubes, with a pair of suspensory wires each consisting of a single piece having its ends bent to form hooks to separably engage in the tube on the top of the tray end, and an intermediate bend to form a loop or hook to engage a support substantially as described.

10. In a convertible tray and hanging tray-shelf the combination of a sheet-metal tray having the top edges of front and back sides bent to form tubes as intermediate supports, and ends having their lower edges bent to form tubes as feet under the ends of the tray-bottom, and their top edges bent to form tubes to separably receive in their ends hooks on the ends of suspensory wires substantially as described.

11. In a suspension-bracket the combination of a tube, and a wire having its ends bent to engage the ends of the tube, and a sheet-metal shield having an aperture whereby it is threaded on the wire to bear against the vertical support or wall substantially as described.

12. A shield for hanging brackets to protect the wall against which the bracket is hung, consisting of a plate bent adjacent to a perforation therein, whereby it is adapted to be threaded on an upright member of the bracket, with one end seated on a horizontal member, and the opposite end portion suspended between the bracket and the wall substantially as described.

13. A shield to protect the upright support against which a bracket is hung, consisting of a bent and perforated plate to engage the

bracket and hang between it and said support substantially as described.

14. A convertible tray and tray-shelf having separable brackets, and sheet-metal ends bent to a tube along their lower edges to form feet under the ends of the tray substantially as described.

15. A convertible tray and tray-shelf comprising a sheet-metal body having two opposite top edges bent to form intermediate supporting-tubes between sheet-metal ends bent to tubes along their lower edges to form feet under the ends of said body and having separable brackets substantially as described.

16. A tray comprising sheet-metal ends having their lower edges bent to tubes disposed under the ends of the bottom of a sheet-metal body having its edges bent to form supporting-tubes between said ends, substantially as described.

17. A convertible tray and hanging tray-shelf for windows having a sheet-metal end bent to form a vertical tube at the back of the tray and bent along its lower edge to form a tube disposed under the end of the tray-bottom substantially as described.

18. A convertible tray and hanging tray-shelf for windows, comprising a sheet-metal tray-body having two opposite edges bent to form intermediate supporting-tubes between sheet-metal ends each bent to form a vertical tube at the back of the tray and bent along its lower edge to form a tube disposed under the end of the tray-body, substantially as described.

Signed at Blair, in the county of Washington and State of Nebraska, this 19th day of January, 1897.

LOUIS VAUGHAN.

Witnesses:

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J. E. HOVENDICK.