

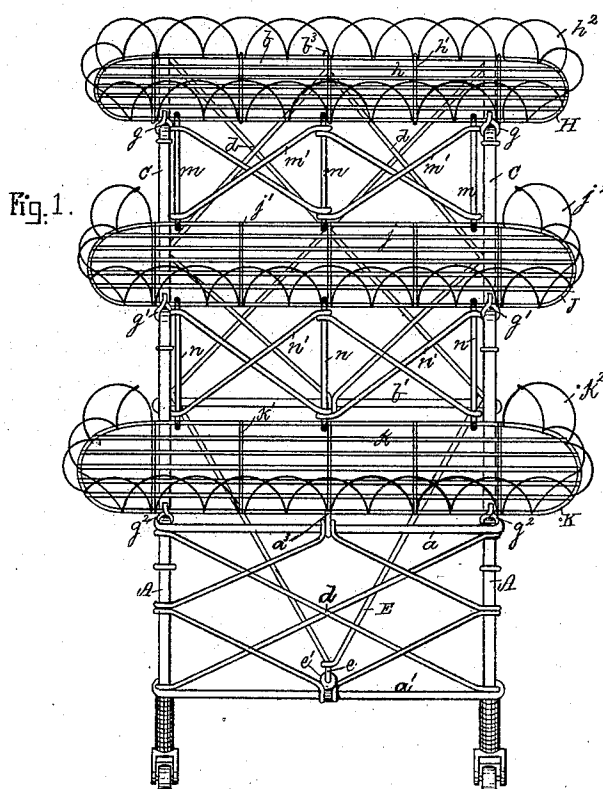
(Model.)

6 Sheets—Sheet 1.

A. E. WHITEHOUSE.
FOLDING WIRE FLOWER STAND.

No. 412,146.

Patented Oct. 1, 1889.



Witnesses.

M. C. Moller
John Osnow

Inventor.

Alonso E. Whitehouse,
by W. A. Cospeland,
his atty.

(Model.)

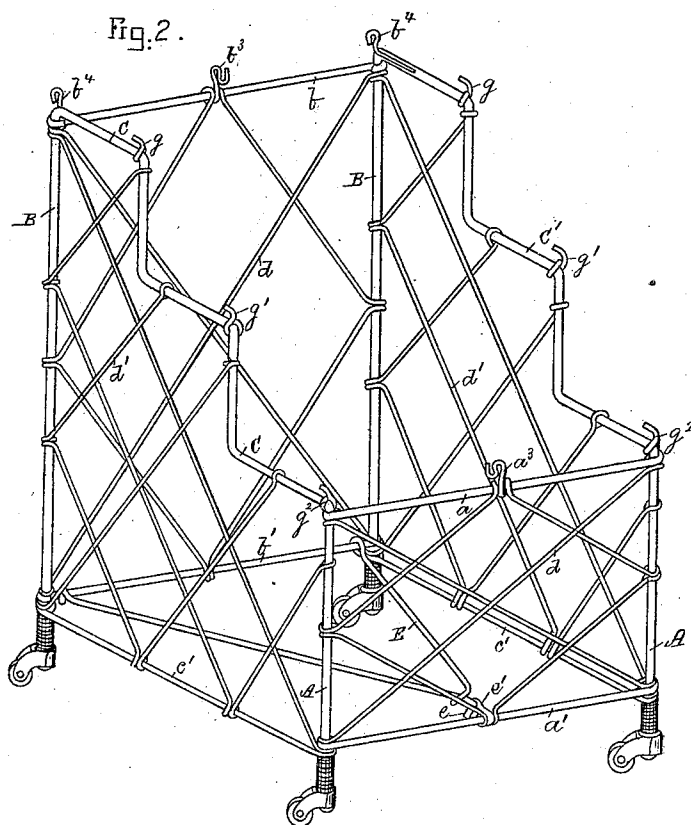
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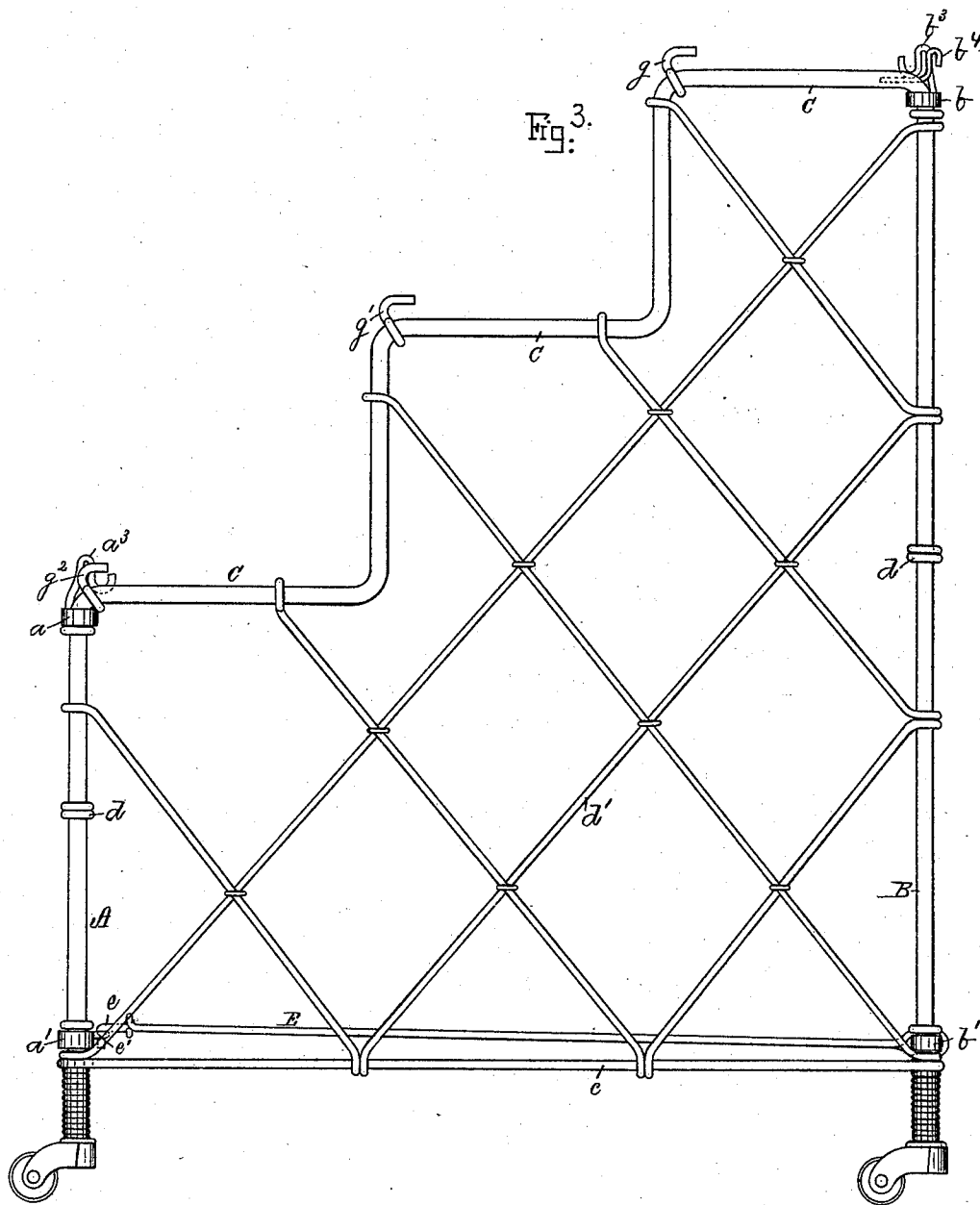
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Fig. 4.

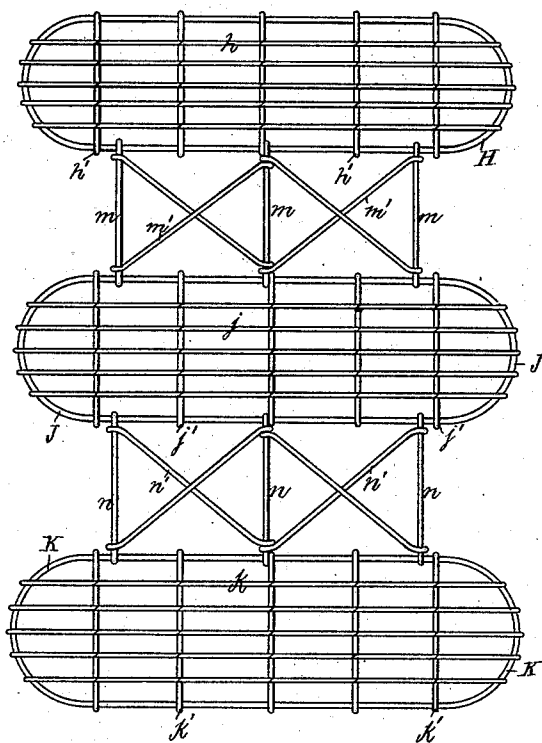
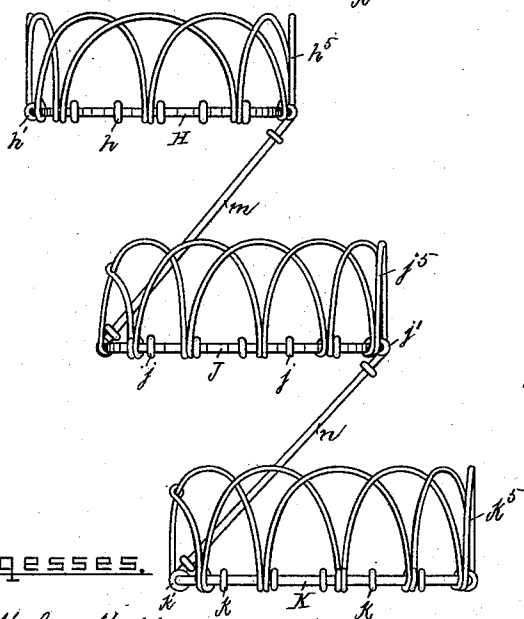


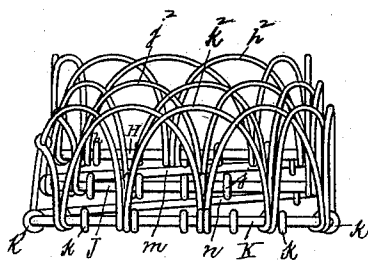
Fig. 5.



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Fig. 6.



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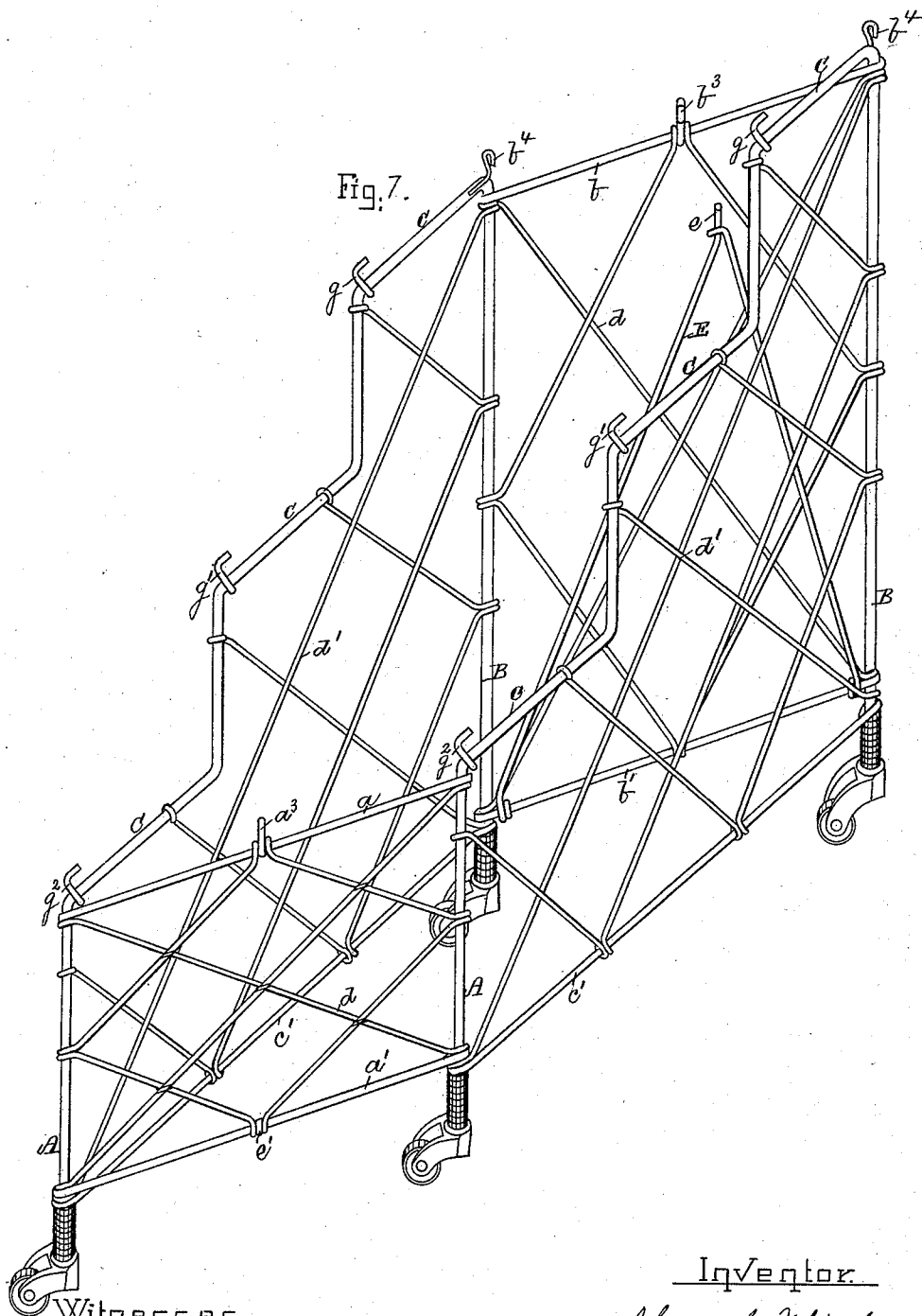
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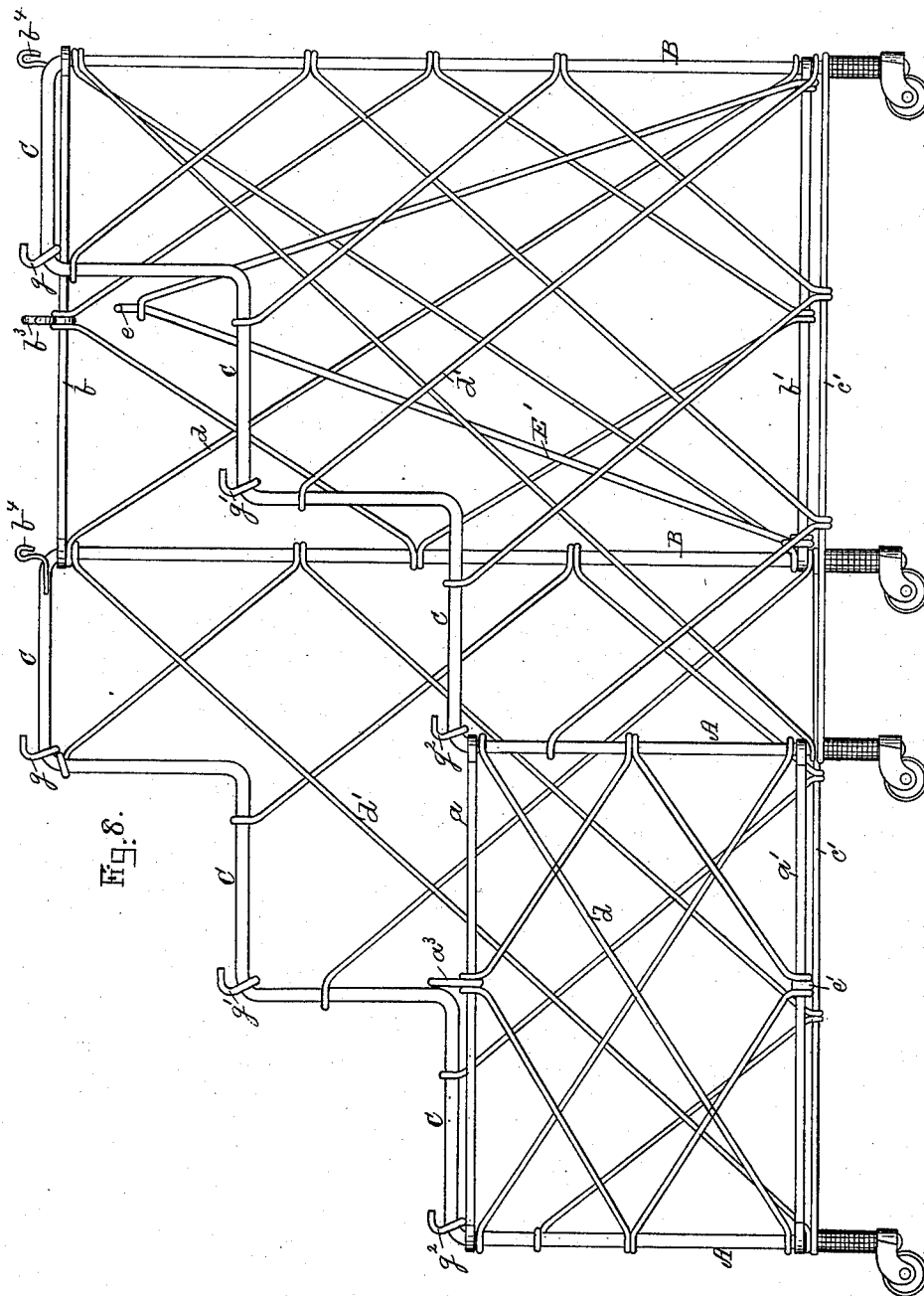
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UNITED STATES PATENT OFFICE.

ALONZO E. WHITEHOUSE, OF BOSTON, MASSACHUSETTS.

FOLDING WIRE FLOWER-STAND.

SPECIFICATION forming part of Letters Patent No. 412,146, dated October 1, 1889.

Application filed February 25, 1889. Serial No. 301,015. (Model.)

To all whom it may concern:

Be it known that I, ALONZO E. WHITEHOUSE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Folding Wire Flower-Stands, of which the following is a specification, reference being had to the accompanying drawings, which form a part hereof.

The object of my invention is a folding wire flower-stand which shall possess the advantages in lightness and strength of non-folding flower-stands now on the market, and which can be easily folded up when desired to pack away, so as to occupy but little space.

My invention consists in forming the frame with four wire corner-posts, the two rear posts being of greater length than the two front posts, the two front posts being connected together at the top and bottom by transverse wire rods hinged at each end to the posts, the two rear posts being connected together in a similar way, each front post being connected with its rear post by side rods, the upper side rods being formed with steps, and a brace extending from one of the rear transverse rods to one of the front transverse rods detachably fastened at one end, so that when unfastened the frame may be flattened by pressing two diagonally-opposite corners toward each other.

My invention also consists in a series of wire steps or trays combined with the frame, which can be detached and shut together.

In the drawings, Figure 1 is a front perspective view of my new stand with steps attached. Fig. 2 is a perspective of the frame, the steps being removed. Fig. 3 is a side elevation of the same. Fig. 4 is a top plan view of my new steps or trays spread open when removed from the stand. Fig. 5 is an end elevation showing the steps partially folded. Fig. 6 is an end elevation of the steps completely folded. Fig. 7 is a perspective showing the frame partially folded. Fig. 8 shows the frame completely folded.

I have shown for illustration a three-step stand, although the number of steps may be greater or less, according to the size and capacity of stand desired. The front post A, its rear post B, and the upper transverse rod

C, which is bent to form a seat for the steps, are formed of one continuous wire on each side of the frame. The front posts A A are connected together by the top and bottom transverse rods *a a'*, and the rear posts B B are connected by the top and bottom transverse rods *b b'*. Each end of these transverse rods *a a' b b'* is formed with an eye, within which the post is free to turn, as on a hinge. The front posts are connected to the rear posts at the lower end by side rods *c' c'* as a brace, but do not necessarily hinge. The front and rear are filled in with braces *d* and the sides with braces *d'*, which serve both as an ornament and to stiffen the stand. The front and rear braces *d* should have the end that is connected with the post formed with an eye, within which the posts can turn freely. A V-shaped brace E has its feet hinged to the rear bottom cross-rod *b'*, and at the apex it is detachably fastened to the front bottom cross-rod *a'*, the simplest form of fastening being a hook *e*, which hooks into an eye *e'*, projecting from the cross-rod *a'*. When the brace E is unhooked and raised out of the way and two diagonally-opposite corners are pressed toward each other, the stand will begin to flatten, as shown in Fig. 7, and finally close, as seen in Fig. 8. The form of brace may be varied somewhat; but a single-leg brace would hardly prevent skewing. It is preferable to have it hinged on the rear rather than on the front cross-rod, as being more convenient in folding, but is not necessary.

The posts are mounted on casters for convenience in moving the stand. The hook *a³* on the middle of the front top cross-rod *a* and hook *b³* on the rear top cross-rod *b* are rests to help support the steps. Catches *b⁴* at the rear corners, or other suitable devices for the purpose, and catch-hooks *g g' g²* at the knees of the side bars C, hold the steps in place. Each step has a rim of wire, as shown at H J K, respectively, with longitudinal bars *h j k* and cross-bars *h' j' k'*, respectively, to form the base of the step or tray. The upper step H also has a raised border *h²*.

When the steps are folded, the top step is designed to shut inside the next lower step, the second step inside the third, and so on like a nest of boxes. Therefore each succeed-

ing step or tray must be larger than the one before it. For this reason the rim J of the second step is a little longer and a little wider than H. The longitudinal bars *j* and cross-bars *j'* are arranged the same as bars *h* and *h'* in the upper step. The raised border *j*² does not extend around the back side of step J, as the back panel is formed by the link-connection between the two steps now to be described. Wire links *m* are hinged at the upper end by an eye to the front part of the rim H of the upper step, and at the lower end by an eye to the rear part of the rim J of the second step, and allow the upper step to be laid over and into the second step, as shown in Figs. 5 and 6. Of course the distance between the steps, one above the other, and therefore the length of the links *m*, must be, like the width of the upper tray, less than the width of the tray into which it shuts. The links *m* are braced suitably, and with the braces *m'* form a sufficient back panel for the step.

For the same reason as that already described for the difference in size between the first and second steps the rim K of the third step should be a little longer than rim J, and the connecting-links *n* should be of right length to shut inside the third tray, the links *n* and braces *n'* forming the back panel of this step.

In mounting the steps on the frame the front of the rim H of the upper step is first inserted under the catch-hooks *g*, and then by a slight springing pressure the rear of the rim can be crowded down upon its seat, so as to rest on the hook *b*³ and inside of catches *b*⁴, fitting sufficiently tight to not slip out. These catches *b*⁴ are preferably springs; but the necessary spring may be secured in the wire rim. The front of rim J is then inserted under hooks *g'*, the upright portion of the side bar C at the rear of the step serving the same purpose with this step as did the catches *b*⁴ with the upper step. The lower step K is then secured in a similar manner, its front rim resting on hook *a*³ and under hooks *g*².

When desired to fold up the stand, the steps are easily removed, beginning with the upper one, and then folded by nesting each within the next lower one, as already described, and as shown in the drawings.

What I claim as my invention is—

1. The combination of two front wire posts with two rear wire posts of greater length than the front posts, the two front posts being connected together at the top and bottom by transverse wire rods hinged at each end to the posts, the two rear posts being connected in a similar way, each front post being connected with its rear post by side rods, the upper side rods being formed with steps and a brace extending from one of the rear transverse rods to one of the front transverse rods, detachably fastened at one end, so that when unfastened the frame may be flattened by

pressing two diagonally-opposite corners toward each other, substantially as described.

2. The combination of two front wire posts with two rear wire posts of greater length than the front posts, each front post connected with its rear post at the upper end by a wire rod bent to form a series of steps, each front post and its rear post and connecting top rod being formed of one continuous wire, and each front post being connected with its rear post near the bottom by a side rod, the two front posts being connected both at the top and bottom by transverse rods hinged at both ends to the posts, the rear posts being similarly connected, and a brace extending from the rear bottom transverse rod to the front bottom transverse rod, detachably connected to one of the transverse rods, so that when unfastened it allows the frame to be flattened by compressing two diagonally-opposite corners toward each other, substantially as described.

3. The combination of two front wire posts with two rear wire posts of greater length than the two front posts, each front post connected with its rear post at the upper end by a wire rod bent to form a series of steps, each front post and its rear post and connecting top rod being formed of one continuous wire, and each front post being connected with its rear post near the bottom by a side rod, the two front posts being connected both at top and bottom by transverse rods hinged at both ends to the posts, the rear posts being similarly connected, the front and rear being filled in with wire panels hinged to the posts, the sides being also filled in with wire panels, and a brace extending from the rear bottom transverse rod to the front bottom transverse rod detachably connected to one of the transverse rods, so that when unfastened it allows the frame to be flattened by compressing two diagonally-opposite corners toward each other, substantially as described.

4. The combination of two or more folding wire trays of graduated sizes, forming a nest when folded, each of which is formed with a wire rim and suitable wire filling, the front side of the rim of the smallest being connected with the rear side of the rim of the next succeeding and larger tray by wire rods hinged at each end and of suitable length to allow the first tray to shut inside the second tray, the second tray connected with the third tray in the same manner, if more than two trays be used, and so on with each succeeding tray, substantially as described.

5. A folding wire flower-stand consisting of a frame composed of two front wire posts and two rear wire posts of greater length than the front posts, each front post being connected with its rear post at the upper end by a wire rod bent to form a series of steps, each front post and its rear post and connecting top rod being formed of one continuous wire, and each front post being connected with its rear post near the bottom by a side rod, the two

front posts being connected both at top and bottom by transverse rods hinged at both ends to the posts, the rear posts being similarly connected, and a brace extending from the rear bottom transverse rod to the front bottom transverse rod, detachably connected to one of the transverse rods, so that when unfastened it allows the frame to be flattened by compressing two diagonally-opposite corners toward each other, in combination with a set of folding wire trays to fit the steps formed by the upper side rods, the trays being graduated in size to form a nest when folded, each of which is formed with a wire rim and suitable wire filling, the front side of the rim of the top tray being connected with the rear side of the rim of the next succeeding and larger tray by wire rods hinged at

each end and of suitable length to allow the first tray to nest in the second tray, the second tray connected with the third still larger tray in the same manner, if more than two trays be used, and so on with each succeeding tray, the trays seated on the top step and on the bottom step having a rest projecting from the transverse rods, the top step having catches at the rear corners, against which the back of the top tray bears, and each step having at its front corner a catch-hook to hold the tray in position, substantially as described.

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Witnesses:

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