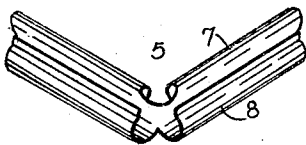
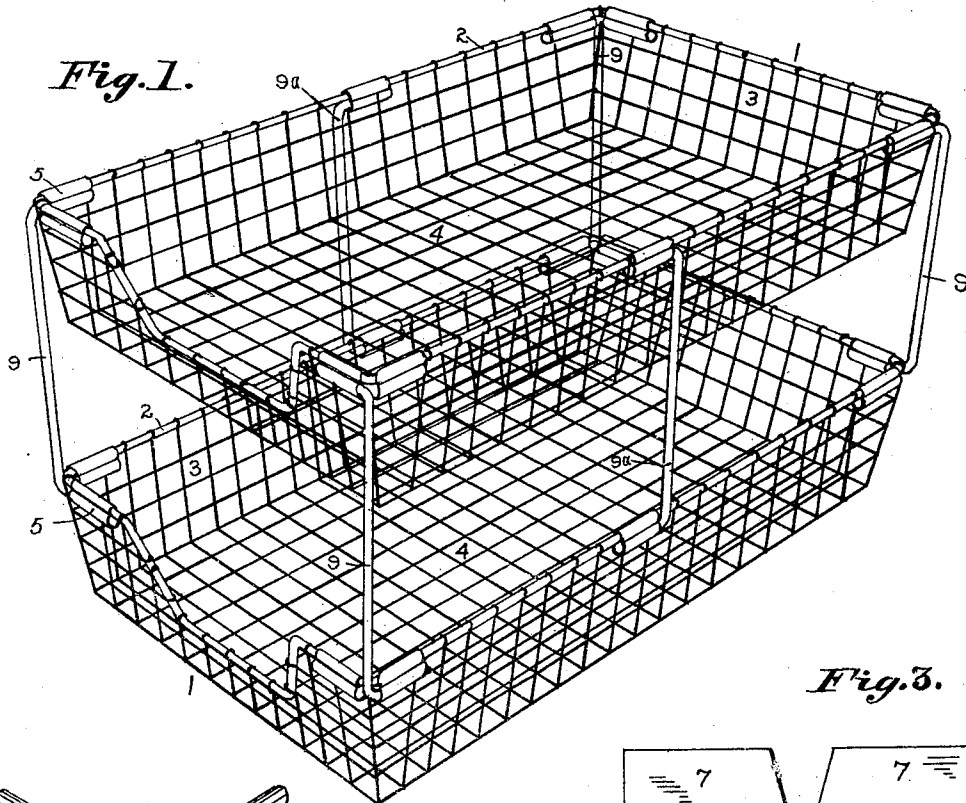
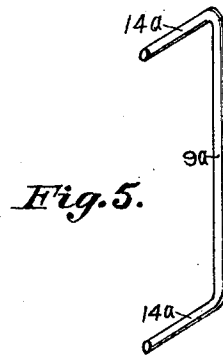
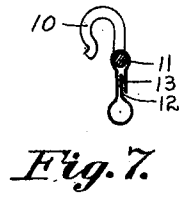
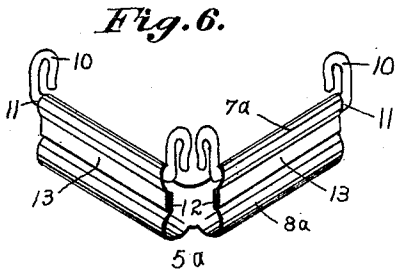
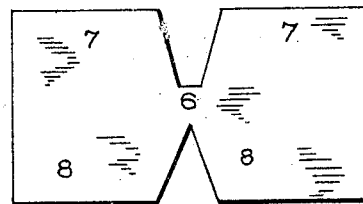
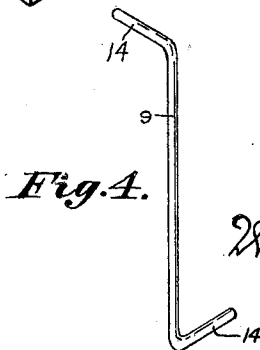


933,517.

Patented Sept. 7, 1909.



Witnesses;
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UNITED STATES PATENT OFFICE.

WILLIAM W. WORCESTER, OF CANTON, OHIO.

LETTER-TRAY.

933,517.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed May 13, 1909. Serial No. 495,646.

To all whom it may concern:

Be it known that I, WILLIAM W. WORCESTER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Letter-Trays, of which the following is a specification.

The invention relates to trays, usually made of woven wire, as for use on office tables and desks for temporarily storing letters, bills and other papers; and the object of the improvement is to provide simple connections and standards by means of which one tray can be supported above another to form a vertical series or tier of trays suitably separated one from another. Such a tier of trays, thus separated, occupies so much vertical space that it is very desirable to nest the individual trays, one within another, for transportation or storing in stock by a wholesale or retail merchant; and therefore the supporting standards should be simply made and readily attached and detached from the individual trays to form a tier thereof. It is furthermore very desirable to assemble different numbers of trays in a tier for various uses; and in view of the comparative cheapness of the trays themselves, it is practically necessary that the connecting standards shall be very inexpensive, and also that the bearings for the same on the rims of the trays shall be simple and readily applied, preferably to any ordinary type of tray without special work or preparation for the same. These general objects of the invention are attained by the construction and arrangement illustrated in the accompanying drawings, forming part hereof, which embody a preferred form of the improvement and also a modified form of the corner bearings, and in which—

Figure 1 is a perspective view of two trays supported one upon the other by the improved standards; Fig. 2, a detached perspective view of a pair of corner bearings; Fig. 3, a plan view of the sheet-metal blank for same; Fig. 4, a detached perspective view of one corner standard; Fig. 5, a similar view of a modified form of corner standard; Fig. 6, a detached perspective view of a modified form of the corner bearings; and Fig. 7, a cross section of one corner bearing of the modified form.

Similar numerals refer to similar parts throughout the drawings.

The trays 1 may be of the ordinary and well-known type made of the heavy wire rim 2 and the relatively thin woven wire sides 3 and bottom 4, although such form of tray is not an essential feature of the present invention. A pair of bearings 5 or 5^a are secured to the rim at each corner of the tray, one bearing of each pair being located externally on the adjacent sides of the tray.

When the corner bearings are originally secured to the tray, they may be made of a rectangular sheet metal blank 6 having suitable notches in the middle of the upper and lower edges; from which blank the bearings are formed by bending the portion of the blank between the notches to form a right angle corner, and then by bending and clamping the upper tongues 7 over and around the wire rim of the tray on each side adjacent to the corner, and by bending the downward tongues outward in the form of the tubular bearings 8 for the standards 9, one of which bearings being located on each side of the tray adjacent to the corner.

When the corner bearings are to be applied to a finished tray, it is sometimes more convenient to provide a pair of hinged hooks 10 on each bearing. These hooks are preferably formed of wire on the end of an intervening pintle 11, around which pintle the upward tongue of the blank is bent to form a journal bearing 7^a in which the pintle of the hooks can be rotated; and it is evident that this form of bearings can be applied to the corners of the tray by engaging and clamping the hooks over the rim of the tray, which clamping may be by the spring of the wire. In this engagement, the hinge of the hooks permits each pair thereof to adjust itself to the rim of the tray. In this form of corner bearings, the upward flanges 12 are preferably provided on the edge of the standard bearing tongues 8^a, outside of which flanges the depending edges 13 of the hinge-bearing tongues 7^a are preferably clamped, thus supporting and strengthening the standard bearings.

Each corner standard is made of a single rod or wire having each end portion 14 bent at right angles to the intervening stem portion and also preferably at right angles to

the plane of each other. The bent portion on one end of each standard is inserted endwise into the standard bearing on one side of the corner of one tray, and the bent portion on the other end of the same standard is inserted in the standard bearing on the adjacent side of the corresponding corner of the next tray; and it is evident that by arranging the standards on all the corners in a similar manner that each one will brace and stay the other so that the upper tray will be firmly and securely supported on the lower tray. Additional trays can be similarly mounted, one above the other, by utilizing the remaining bearing on each corner of the upper tray.

When not in use or when carried in stock, the corner standards, and the corner bearings when of the spring-hook type, can be readily detached and stored in the bottom of the tray to which they pertain, so that as many trays can be nested together as may be desired. And it is evident that the end portions 14^a of each standard may be bent in the same plane, as shown in Fig. 5, in which event the bent portions are inserted in the bearings on the same side of the corners of respective trays. Nor is it essential to locate the bearings and standards at the corners of trays, for manifestly the standards will brace each other if located on the rim at the ends of intersecting diameters. Furthermore, additional standards can be located on the sides of trays intermediate the corners, as shown at 9^a in Fig. 1, which is specially desirable when extra long trays are used.

I claim:

1. A tier of trays each having bearings on the rim, and supporting standards each having both end portions bent at right angles to the stem portion and detachably inserted in corresponding tray bearings.

2. A tier of trays each having bearings on the rim, and supporting standards each having both end portions bent at right angles to the stem portion and to the plane of each other and detachably inserted in corresponding tray bearings.

3. A tier of trays each having tubular bearings on the rim, and supporting standards each having both end portions bent at right angles to the stem portion and detachably inserted in corresponding tray bearings.

4. A tier of trays each having tubular bearings on the rim, and supporting standards each having both end portions bent at right angles to the stem portion and to the plane of each other and detachably inserted in corresponding tray bearings.

5. A bearing for the rim of a tray formed of a sheet metal blank having its upper and lower edges bent to form tubular bearings, and hooks hinged in the upper bearing and adapted to clamp the rim of the tray.

6. A pair of bearings for the corner of a tray formed of a sheet metal blank bent to form a corner intermediate its ends and having tongues on the end portions of its upper and lower edges, the lower tongues being bent to form tubular bearings and the upper tongues being adapted to be connected with the rim of the tray.

7. A pair of bearings for the corner of a tray formed of a sheet metal blank bent to form a corner intermediate its ends and having tongues on the end portions of its upper and lower edges, the tongues being bent to form tubular bearings with the edges of the upper tongues clamped over the edges of the lower tongues, and hooks hinged in the upper bearings and adapted to clamp the rim of the tray.

8. A pair of bearings for the corner of a tray formed of a sheet metal blank bent to form a corner intermediate its ends and having tongues on the end portions of its upper and lower edges, the tongues being bent to form tubular bearings, and hooks hinged in the upper bearings and adapted to clamp the rim of the tray.

9. A tier of trays each having tubular bearings with hooks hinged thereto and engaged with the tray rim adjacent to the corners thereof, and supporting standards each having end portions bent at right angles to the stem portion and to the plane of each other and inserted into corresponding tray bearings.

10. A tier of trays each having tubular bearings with hooks thereon engaged with the tray rim adjacent to the corners thereof, and supporting standards each having end portions bent at right angles to the stem portion and inserted into corresponding tray bearings.

11. A tier of trays each having tubular bearings on the rim adjacent to the corners thereof, and supporting standards each having end portions bent at right angles to the stem portion and to the plane of each other and inserted into corresponding tray bearings.

12. A tier of trays each having tubular bearings with hooks hinged thereto engaged with the tray rim adjacent to the corners thereof, and supporting standards each having end portions bent at right angles to the stem portion and inserted into corresponding tray bearings.

13. A tier of trays each having tubular bearings with hooks thereon engaged with the tray rim adjacent to the corners, and supporting standards each having end portions bent at right angles to the stem portion and to the plane of each other and inserted into corresponding tray bearings.

14. A tier of trays each having tubular bearings on the rim adjacent to the corners,

and supporting standards each having end portions bent at right angles to the stem portion and inserted into corresponding tray bearings.

- 5 15. A tier of trays each having tubular bearings on the rim at the ends of intersecting diameters, and supporting standards

each having end portions bent at right angles to the stem portion and inserted into corresponding tray bearings.

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