Sept. 15, 1964 E. F. HAMILTON 3,148,855

CHAIR BASE

Filed Dec. 26, 1961 2 Sheets-Sheet 1

Fig. 1.

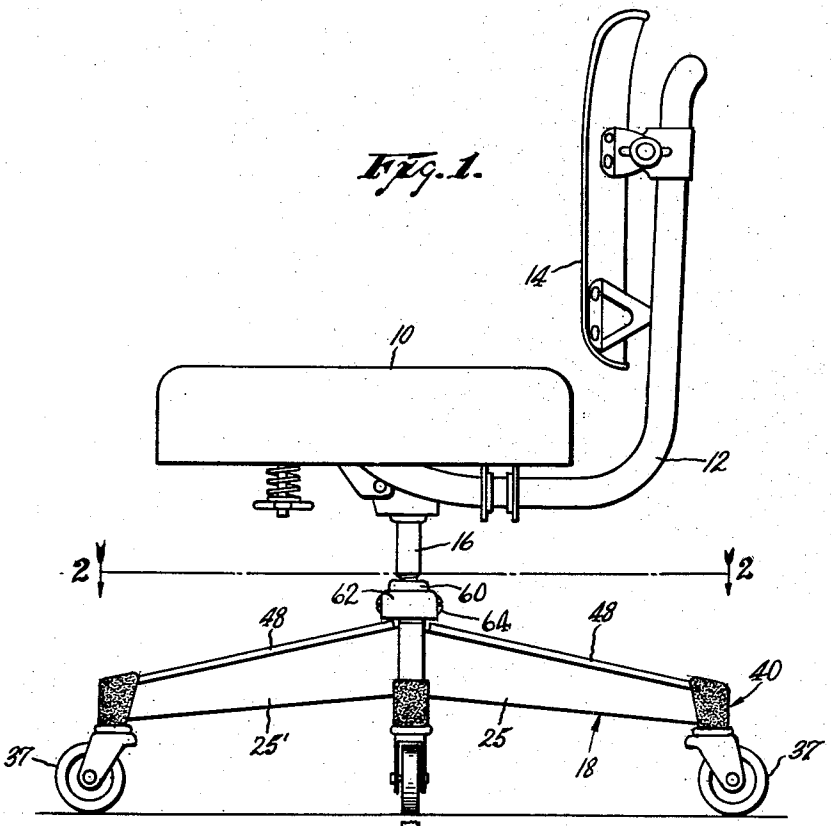
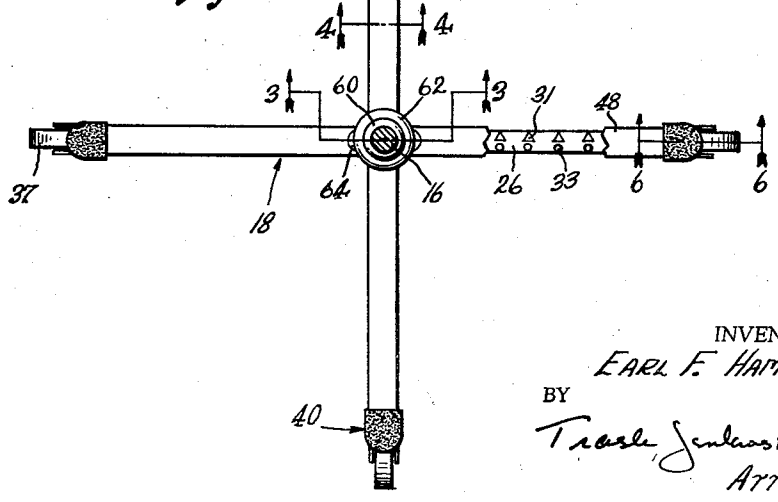



Fig. 2.




INVENTOR.
EARL F. HAMILTON,
BY
Treasle, Jenkens & Hanley
ATTORNEYS.

Sept. 15, 1964 E. F. HAMILTON 3,148,855

CHAIR BASE

Filed Dec. 26, 1961 2 Sheets-Sheet 2

Fig. 3.

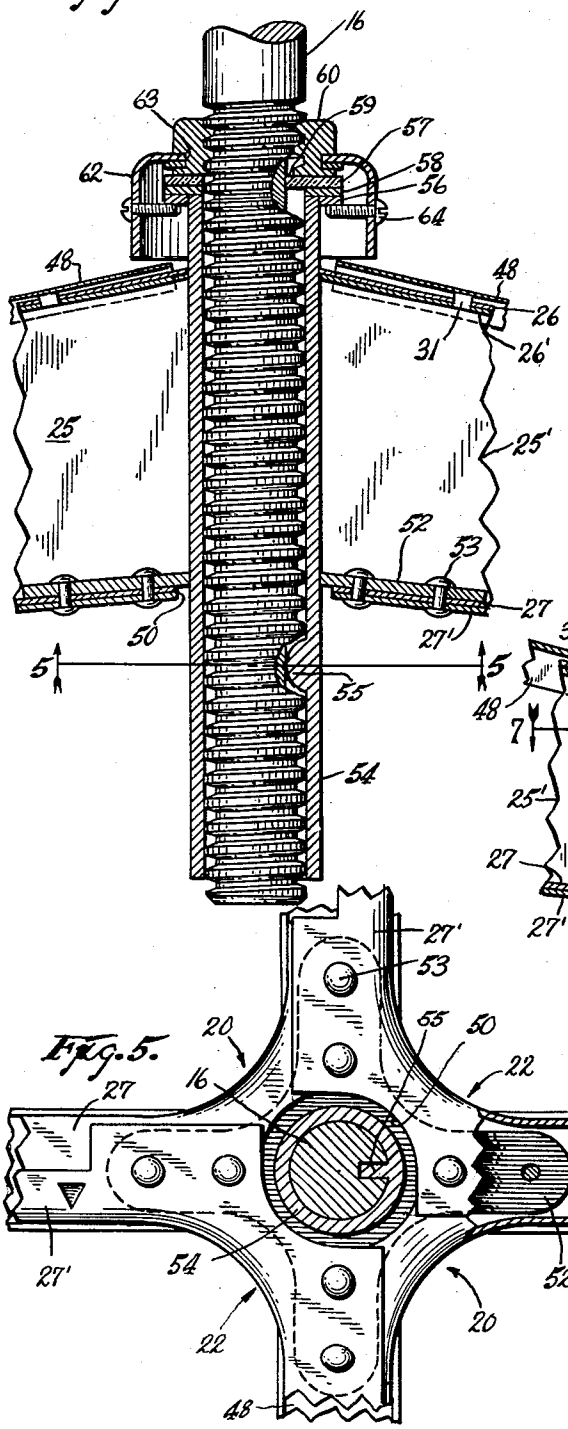



Fig. 4.

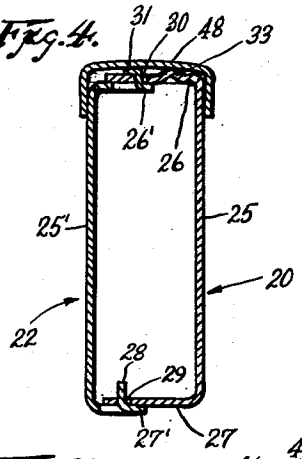
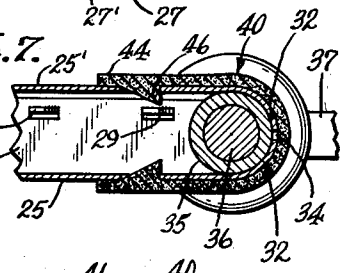



Fig. 7.



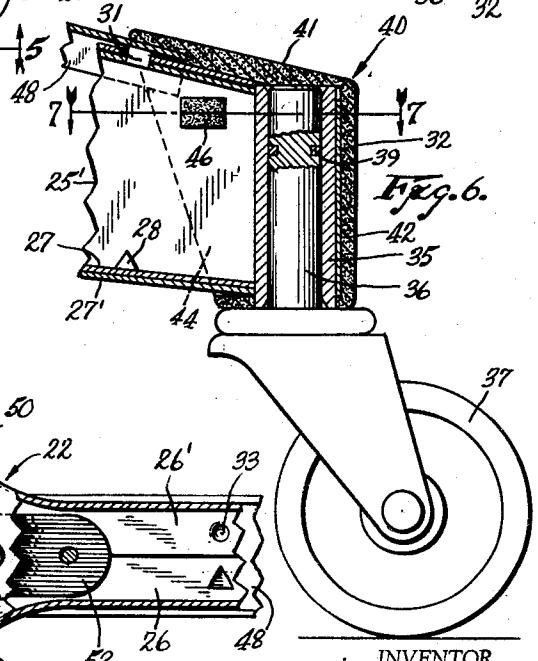




Fig. 6.

Fig. 5.




INVENTOR.
EARL F. HAMILTON.
BY
Traske Jenkins & Hanley
ATTORNEYS.

United States Patent Office 3,148,855 Patented Sept. 15, 1964



3,148,855

# CHAIR BASE

Earl F. Hamilton, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana

Filed Dec. 26, 1961, Ser. No. 162,089
10 Claims. (Cl. 248—188.7)

This invention relates to an article of furniture, and more particularly to a chair base adapted to be used in association with a swivel-type chair.

It is an object of the invention to provide a chair base which can be economically manufactured largely from inexpensive sheet-metal stampings, which is adapted to support a chair-supporting swivel rod and a plurality of ground-engaging casters, and which will have an attractive appearance, yet prove sturdy and durable in use.

In accordance with the preferred form of my invention, there is provided a chair base having a plurality of outwardly projecting, generally horizontal legs. Each of said legs is formed from a pair of channeled interfitting arms on a pair of bifurcated members. Each of the arms on each of said bifurcated members is rigidly connected to one of the arms on each of a pair of adjacent members to thus rigidly interconnect each of said legs. The apex of the interconnection of the arms on each of said members is spaced from the apexes of the other members to define a vertically extending opening at the center of the base in which an upwardly projecting chair-supporting rod is received. At the remote ends of each of the legs portions of the interfitting arms defining said leg project outwardly from the remaining portions of said arms and are rigidly joined together, whereby the space between said portions of the arms rigidly joined together and the ends of the remaining portions of said arms define a vertically extending caster spindle socket in order that the chair base may be supported upon a plurality of ground-engageable casters.

Other objects and features of the invention will become apparent from the more detailed description which follows and from the accompanying drawings, in which:

FIG. 1 is a side elevation of a swivel chair having a base embodying my invention;

FIG. 2 is a horizontal section taken on the line 2—2 of FIG. 1, but with portions thereof being broken away;

FIG. 3 is a fragmentary enlarged section taken on the line 3—3 of FIG. 2;

FIG. 4 is an enlarged vertical section taken on the line 4—4 of FIG. 2;

FIG. 5 is a vertical section taken on the line 5—5 of FIG. 3, but with portions thereof being broken away;

FIG. 6 is an enlarged vertical section taken on the line 6—6 of FIG. 2; and

FIG. 7 is a horizontal section taken on the line 7—7 of FIG. 6.

My invention may be employed as a base for chairs and similar articles of furniture, but for convenience of description, it is described and illustrated herein as being used in association with a swivel-type office chair. As shown in FIG. 1, such a chair may comprise a seat 10 to which back supports 12 are connected for supporting a back rest 14 in an elevated position above and to the rear of said seat. The chair is supported on a vertically extending swivel rod 16 operatively connected to the seat 10 and extending downwardly therefrom for connection to my chair base.

In the illustrated embodiment of my invention, the chair base comprises four outwardly projecting generally horizontal legs 18. However, it is to be understood, that my chair base may have any desired number of such outwardly projecting legs.

As shown, the base legs 18 are formed from two pairs of opposed bifurcated members 20 and 22. Each of said members has a pair of arms disposed at right angles to each other and provided with channeled cross-sections. Each arm on the members 20 is formed from a vertically extending web 25 interconnecting parallel, horizontal upper and lower stretches 26 and 27, and each arm on the members 22 is likewise formed from a vertically extending web 25' interconnecting horizontal upper and lower stretches 26' and 27'. The webs 25 and 25' have the same height to permit the horizontal stretches 26 and 27 on the arms of the members 20 to be disposed in overlapping abutting engagement with the stretches 26' and 27' on the arms of a pair of adjacent members 22, as shown in FIGS. 4 and 5. In this manner, each of the legs 18 is formed from a pair of interfitting arms of a pair of the bifurcated members 20 and 22, and each of said legs is interconnected to its two adjacent legs.

To interconnect the interfitting pairs of arms, the lower stretches 27' on the members 20 underlie the stretches 27 of the members 22, and are provided with a plurality of longitudinally spaced tabs 28 lockingly received in a plurality of openings 29 formed in the stretches 27. Similarly, the stretches 26 on the members 20 overlie the stretches 26' on the members 22, and are provided with a plurality of longitudinally spaced openings 30 in which a plurality of tabs 31 formed on the stretches 26' are lockingly received. For reasons that will become apparent hereinafter, a plurality of projections 33 are formed on the stretches 26, with the upper faces of said projections being generally coplanar with the upper faces of the tabs 31.

As shown in FIGS. 6 and 7, the webs 25 and 25' project outwardly beyond the ends of their respective horizontal stretches 26–27 and 26'–27', and are bent inwardly, as at 32, and rigidly joined together as by a weld seam 34. Thus, the space between the curved ends 32 of the webs 25 and 25' and the ends of the horizontal stretches 26–27 and 26'–27' defines at the end of each of the legs 18 a vertically extending caster swivel socket in which a bearing sleeve 35 may be rigidly mounted as by welding. The sleeve 35 is adapted to receive the spindle 36 of a ground-engageable caster 37 supporting the chair base in an elevated position. Conveniently, the spindle 36 may have an annular groove in which a compressible ring 39 is carried to thus retain said spindle in the bearing sleeve 35.

Disposed over the remote end of each of the base legs 18 is a bumper 40 having a top portion 41 extending over the open upper end of the caster spindle socket and an end portion 42 disposed around the interconnection 34 of the ends 32 of the arm webs 25 and 25'. Integrally connected to the top and end portions 41 and 42 of the bumper 40 is a pair of side walls 44 extending inwardly over the webs 25 and 25' and provided with inwardly projecting bosses 46 press-fit in openings formed in the webs 25 and 25' to thus releasably mount the bumper 40 on the arm 18.

Mounted on the upper face of each of the legs 18, conveniently by a press-fit, is a kick plate 48 having an inverted generally U-shaped configuration. As shown in FIG. 4, the upper faces of the tabs 31 and projections 33 are generally coplanar and engage the web of the kick plate 48 to support it in a level horizontal position. Conveniently, the kick plates extend from the apexes of the bifurcated members 20 and 22 to points adjacent the remote ends of the legs 18 formed by said members, with the outer ends of said kick plates being received under the top portions 41 of the bumpers 40.

As shown in FIG. 5, the inner edge of the apex of each of the bifurcated members 20 and 22 is curved, as at 50, and is spaced from the apexes of the other members, whereby said members define a pair of horizontally spaced vertically aligned openings at the center of the

base. Disposed within the chair base is a plate 52 having a plurality of arms projecting outwardly into each of the base legs 18 and rigidly secured to the stretches 27 and 27' by a plurality of rivets 53 to cross-brace the members 20 and 22 and act in combination with the tabs 28 and 31 and the weld seams 34 to rigidly connect said members. As shown, the plate 52 is provided with an opening disposed in alignment with the openings formed by edges 50 of said members 20 and 22.

Rigidly secured to the opening in the plate 52, as by welding or any suitable mechanical means, is a sleeve 54 projecting above and below the base legs 18 and carrying the swivel rod 16, said sleeve being provided with a key 55 received in a vertically extending slot formed in the swivel rod 16. The upper end of the sleeve 54 has an annular outwardly projecting flange 56 upon which a pair of washers 58 and 57 are carried, the washer 57 having an inwardly extending key 59 received in said vertically extending slot in the swivel rod 16. The washer 57 supports a cap 60 having an axially extending opening in which the swivel rod 16 is threadably received. An inverted cup 62 is disposed over the upper end of the sleeve 54, and is provided with an opening, the edges of which are received in an annular groove 63 formed in the outer face of the cap 60. A pair of screws 64 are mounted in the vertically extending cup side walls to engage the lower face of the sleeve flange 56, whereby said screws 64 and the edges of the cup received in the groove 63 retain the cup 62 in operative position on the upper end of the sleeve 54. It will thus be apparent, that by rotating the cap 60 on the rod 16, said rod will be raised and lowered within the sleeve 54 to effect a raising and lowering of the chair seat 10 relative to the chair base. Conveniently, the engaging faces of the cap 60 and washer 57 are provided with mating projections and recesses (not shown) which serve as indexing means for the raising and lowering of said chair seat.

I claim:

1. In an article of furniture,
(a) a base having a plurality of outwardly projecting, generally horizontal legs,
(b) each of said legs comprising a pair of interfitting channeled arms on a pair of bifurcated members,
(c) means on each of said arms for rigidly connecting said arm to the arm with which it is interfit,
(d) the arms on each of said members being interfit with one of the arms on each of a pair of adjacent members, whereby all of said legs are rigidly interconnected, and
(e) said members defining a pair of aligned vertically spaced openings at the center of said base for the reception of an upwardly projecting chair-supporting rod.

2. The invention as set forth in claim 1 with the addition that
(a) a vertically extending opening is formed in said members at each of said legs adjacent the remote end thereof, and
(b) the upwardly projecting spindle of a caster is rotatably received in said opening.

3. In an article of furniture,
(a) a base having a plurality of outwardly projecting, generally horizontal legs,
(b) each of said legs being formed from a pair of interfitting rigidly connected arms on a pair of adjacent bifurcated members,
(c) the arms on each of said members being rigidly connected to one of the arms on each of a pair of adjacent members for rigidly interconnecting said plurality of legs, and
(d) the apex of the interconnection of the arms on each of said bifurcated members being spaced from the apexes of the other bifurcated members to define a vertically extending opening at the center of said base for the reception of an upwardly projecting chair-supporting rod.



4. The invention as set forth in claim 3 with the addition that
(a) each of said arms has a vertically extending web interconnecting a pair of generally horizontal stretches which are rigidly connected to the stretches of the adjacent arm of an adjacent member, and
(b) the webs on each pair of adjacent interfitting arms project outwardly beyond said horizontal stretches and are rigidly joined together at their ends, whereby the space between said stretches and the connected ends of said webs defines a vertically extending caster spindle socket.

5. In an article of furniture,
(a) a base having a plurality of outwardly projecting, generally horizontal legs,
(b) each of said legs being formed from a pair of interfitting rigidly connected arms on a pair of adjacent bifurcated members,
(c) each of said arms including a vertically extending web interconnecting generally horizontal upper and lower stretches with the stretches on one of said pair of arms abutting the stretches on the other of said pair of arms in face-to-face relationship,
(d) at least one of the stretches on each of said arms having tabs lockingly received in openings formed in stretches of the arm against which it abuts to rigidly connect each pair of said interfitting leg-forming arms,
(e) the arms on each of said members being rigidly connected to one of the arms on each of a pair of adjacent members for rigidly interconnecting said plurality of legs,
(f) the apex of the interconnection of the arms on each of said bifurcated members being spaced from the apexes of the other bifurcated members to define a vertically extending opening at the center of said base for the reception of an upwardly projecting chair-supporting rod, and
(g) a plate rigidly connected to the abutting stretches of said members in each of said arms and having an opening disposed in alignment with said vertically extending opening for the reception of said chair-supporting rod.

6. In an article of furniture,
(a) a base having a plurality of outwardly projecting, generally horizontal legs,
(b) each of said legs being formed from a pair of interfitting arms on a pair of bifurcated members,
(c) each of said arms including a vertical web interconnecting upper and lower horizontal stretches abutting the upper and lower stretches of the adjacent arm on an adjacent member in face-to-face relationship,
(d) a plurality of longitudinally spaced tabs formed on at least one of the stretches in each pair of abutting stretches lockingly received in openings formed in the other stretch in said pair of abutting stretches to rigidly connect each of said members to the next adjacent member,
(e) the apex of the interconnection of the arms on each of said bifurcated members being spaced from the apexes of the other bifurcated members to define a vertically extending opening at the center of said base for the reception of an upwardly projecting chair-supporting rod,
(f) a plate rigidly connected to the abutting stretches of said members in each of said arms and having an opening disposed in alignment with said vertically extending opening for the reception of said chair-supporting rod, and
(g) the webs on each pair of interfitting arms projecting outwardly beyond said horizontal stretches and rigidly joined together, whereby the space between

said stretches and the connected webs forms a vertically extending caster spindle socket.

7. The invention as set forth in claim 6 with the addition that

(*a*) an elongated kick plate having an inverted U-shaped cross-section is mounted on each of said legs over said abutting upper arm stretches.

8. The invention as set forth in claim 6 with the addition that

(*a*) a bumper is received over the outer end of each of said legs,

(*b*) said bumper having an end portion disposed over the connection of said webs, a top portion disposed over the upper end of said caster spindle socket, and a pair of side portions having inwardly directed projections received in openings formed in said webs for mounting the bumper on said leg.

9. In an article of furniture,

(*a*) a base having a plurality of outwardly projecting, generally horizontal legs,

(*b*) each of said legs comprising a pair of interfitting channeled arms on a pair of bifurcated members,

(*c*) each of said arms including a vertically extending web interconnecting generally horizontal upper and lower stretches with the stretches on one of said pair of arms abutting the stretches on the other of said pair of arms in face-to-face relationship,

(*d*) at least one of the stretches on each of said arms having tabs lockingly received in openings formed in stretches of the arm against which it abuts to



rigidly connect each pair of said interfitting leg-forming arms, and

(*e*) a plate having a plurality of extensions projecting into said legs and rigidly connected to the stretches on said arms for cross-bracing and interconnecting said legs.

10. In an article of furniture,

(*a*) a base having a plurality of outwardly projecting, generally horizontal legs,

(*b*) each of said legs comprising a pair of interfitting channeled arms on a pair of bifurcated members,

(*c*) means on each of said arms for rigidly connecting said arm to the arm with which it is interfit,

(*d*) the arms on each of said members being interfit with one of the arms on each of a pair of adjacent members, whereby all of said legs are rigidly interconnected,

(*e*) said members defining a pair of aligned vertically extending openings at the center of said base, and

(*f*) a vertically extending sleeve carried in said pair of openings and rigidly secured to said base, said sleeve being adapted to receive and support a vertically extending chair-supporting rod.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 1,709,446 | Travers | Apr. 16, 1929 |
| 2,350,399 | Jones | June 6, 1944 |
| 2,732,157 | Hamilton | Jan. 24, 1956 |