May 3, 1960 W. W. GOOD 2,935,121

CHAIR

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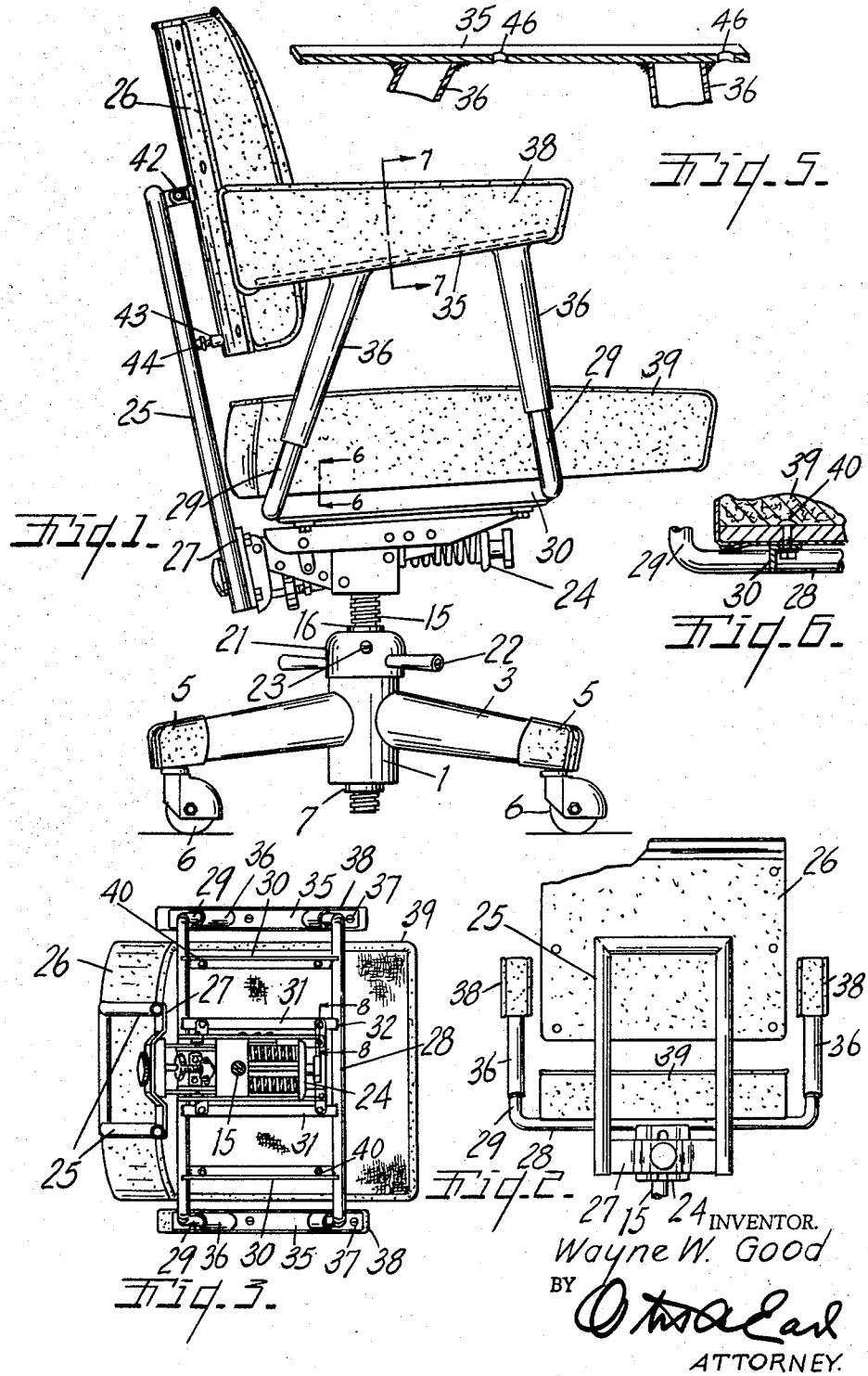


Fig. 5.

Fig. 1.

Fig. 6.

Fig. 3.

Fig. 2.

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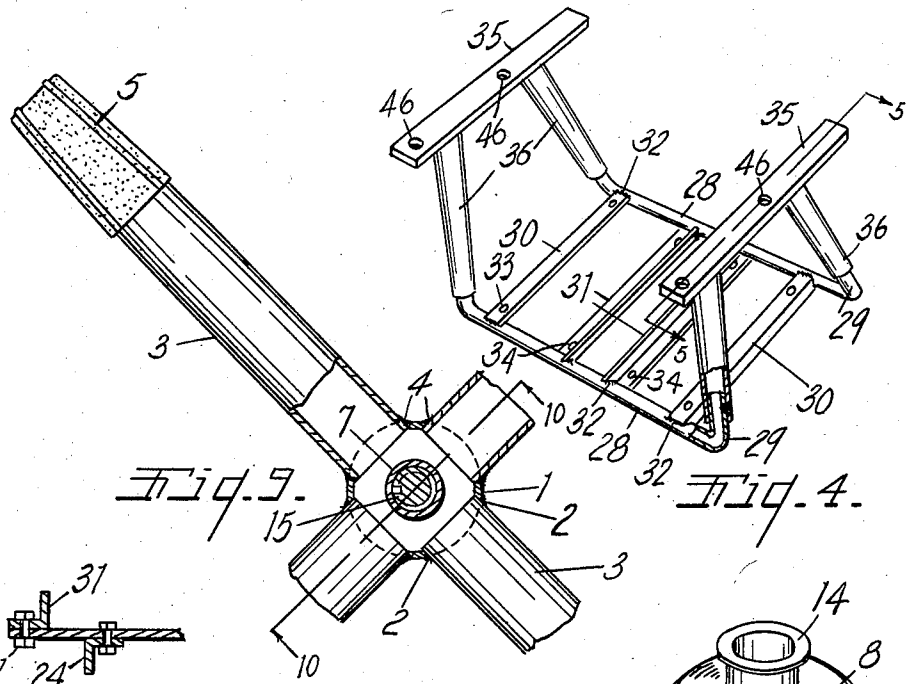


Fig. 3. Fig. 4.

Fig. 8.

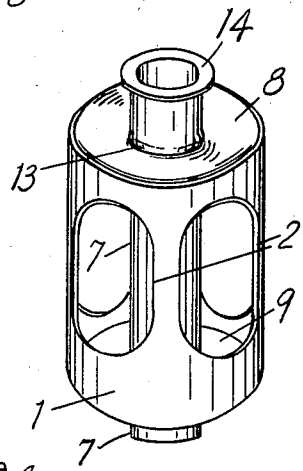


Fig. 11.

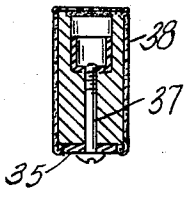


Fig. 7.

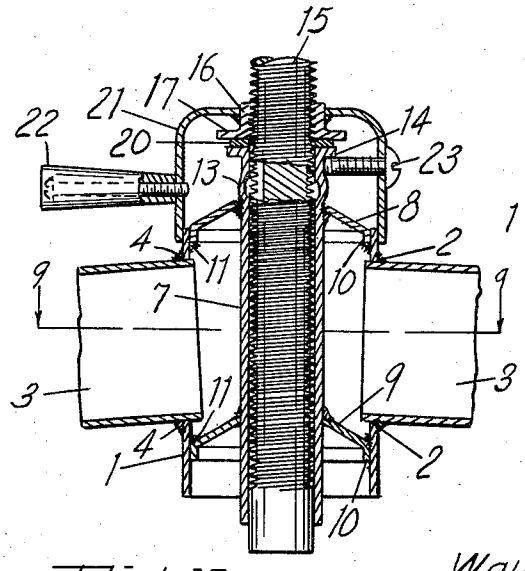


Fig. 10.

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CHAIR

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5 Claims. (Cl. 155—95)

This invention relates to chairs commonly designated as office type.

The main objects of this invention are:

First, to provide a swivel chair assembly including a base which is fabricated mainly of tubular stock and while relatively light weight and graceful in appearance is very strong and rigid and capable of sustaining heavy loads.

Second, to provide a frame unit on which the seat, back and arm units can be readily mounted and removed for replacement should occasion require.

Third, to provide a seat, back and arm supporting structure having these advantages which harmonizes with the base structure.

Fourth, to provide a chair having these several advantages in which the parts may be packaged and shipped in the knock down and readily assembled.

Fifth, to provide a chair structure having these advantages in which the parts may be economically produced.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a side elevational view of a swivel chair embodying my invention.

Fig. 2 is a fragmentary rear elevational view thereof.

Fig. 3 is an inverted view of the chair seat, back and arms assembly with the supporting post in cross section.

Fig. 4 is a perspective view of the seat, back and arm supporting frame.

Fig. 5 is an enlarged fragmentary view in section on a line corresponding to line 5—5 of Fig. 4.

Fig. 6 is a fragmentary view in section on a line corresponding to line 6—6 of Fig. 1 showing the manner of connecting the seat to the supporting frame.

Fig. 7 is a fragmentary view in section on a line corresponding to line 7—7 of Fig. 1.

Fig. 8 is a fragmentary view in section on a line corresponding to line 8—8 of Fig. 3, illustrating certain details of the attachment of the back supporting unit to the frame.

Fig. 9 is a fragmentary view partially in horizontal section on a line corresponding to line 9—9 of Fig. 10 showing details of the base or pedestal.

Fig. 10 is a fragmentary view partially in vertical section on a line corresponding to line 10—10 of Fig. 9.

Fig. 11 is a perspective view of the central body member of the base.

The base or pedestal unit comprises the vertically disposed cylindrical body member 1 which is provided with vertically elongated angularly spaced holes 2. The legs 3 of tubular stock are flattened in cross section to fit within the openings 2 and are disposed therein and fixedly secured to the body member as by welds 4. The legs taper outwardly and are provided with nonmetallic buffers 5 at their outer ends and with caster wheels 6. The details of mounting the caster wheels and buffers

are not illustrated as they form no part of this present invention.

The tubular post socket 7 is disposed centrally within the body member 1 and fixedly secured to and supported therein by the vertically spaced upper and lower conical support members 8 and 9. The upper member 8 is disposed above and the member 9 is disposed below the leg openings. These support members have downturned flanges 10 which are fixedly secured to the inner side of the body member as by welds, indicated at 11, see Fig. 10.

The post socket projects above the upper support member 8 and has an annular rib-like offset 13 therein which supportedly engages the upper support member 8. The socket projects substantially above the upper support member 8 and is provided with an outturned bearing flange 14 at its upper end. The chair post 15 is rotatably and adjustably supported within the socket by means of the nut 16 which has an outturned bearing flange 17 coacting with the bearing on the upper end of the post socket, an anti-friction element 20 being disposed between the bearings. This element 20 may desirably be a washer-like piece of nylon or the like and embraces the post so that it cannot slip laterally out of position.

The nut is provided with a skirt-like housing 21 which rotatably embraces the upper end of the body member 1 and constitutes a lateral support for the post 7, see Fig. 10. This housing is desirably provided with laterally projecting hand pieces 22 facilitating adjustment of the nut. A retaining screw 23 is threaded through the housing with its inner end projecting below the flange-like bearing 14 of the socket member.

The back supporting unit designated generally by the numeral 24 is mounted upon the upper end of the post. As usable back supporting units are commercially available and form no part of my present invention other than as a back support, I have not illustrated the details of the unit but it will be understood that the supporting posts or uprights 25 for the back 26 are swingably supported by this unit 24, the uprights being provided with a cross piece 27 at their lower ends which is mounted for vertical adjustment on the back supporting unit 24.

The combined seat, back and arm supporting frame of my invention is illustrated in Fig. 4 and comprises the side members 28 disposed transversely of the chair, desirably formed of tubing and are disposed in laterally spaced relation. These side members have upturned upwardly converging end portions 29. The side members 28 are rigidly connected by the outer pair of cross pieces 30 and the intermediate pair of cross pieces 31. These cross pieces are of angled section, the outer cross pieces being disposed with their angles facing inwardly and downwardly and the intermediate cross pieces being disposed with their angles facing upwardly and outwardly. The cross pieces are disposed between the side members in end abutting relation thereto and fixedly secured thereto as by welds indicated at 32.

The cross pieces 30 have longitudinally spaced holes 33 in their horizontal arms and the cross pieces 31 have holes 34 in their horizontal arms. The arm supporting bars 35 are provided with downwardly projecting and downwardly diverging tubular uprights 36 aligned with and telescopingly engaging the upturned ends 29 of the side bars and fixedly secured thereto. The bars 35 are provided with longitudinally spaced holes 46 receiving the attaching screws 37 for securing the arms 38 to the bars 35. The arms 38 are formed as units and in assembling are merely positioned upon and secured to the bars 35. The seat 39 is disposed upon the supporting frame and secured thereto by means of bolts 40 which project downwardly from the seat and are spaced to engage the holes 33 in the cross pieces 30 of the frame, see Fig. 7.

The back supporting unit 24 is disposed on the under-

side of the intermediate cross pieces 31 and secured thereto by bolts 41, see Fig. 8. The back 26 is desirably pivoted at 42 on the uprights 25, the back being provided with a stop 43 coacting with the stop 44 on the upright thereby limiting the forward swinging movement of the back on its supports. An important advantage of the structure is that the several units constituting the chair may be produced and the several parts of the structure, if desired, may be shipped or stored disassembled and readily assembled for display or delivery. The structure also permits a wide variation in upholstery, both in the matter of materials and colors, and substantial variations in design details.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe other modifications or adaptations as it is believed this disclosure will enable those skilled in the art to embody or produce the structure as may be desired.

Having thus described the invention, what is claimed as new and is desired to be secured by Letters Patent is:

1. A swivel chair base assembly comprising a vertically disposed cylindrical body member provided with angularly spaced vertically elongated leg openings, outwardly tapering tubular legs having inner end portions cross sectionally shaped to correspond to said openings fittingly disposed therein and fixedly secured to said body member to project radially therefrom, upper and lower socket support members having central openings therein disposed within said body member and fixedly secured thereto one above and the other below said leg openings therein, a tubular post socket disposed through and fixedly secured to said supports to project upwardly therefrom, said socket having an outwardly projecting flange like bearing member at its upper end, a post supporting nut having an outwardly projecting flange rotatably supported on said socket bearing member, said nut being provided with a housing member rotatably embracing the upper end of said body member and provided with a hand piece facilitating adjustment of the nut relative to a threaded chair post disposed within and laterally supported by said post socket, and a nut retaining member having threaded engagement with the housing member and disposed below and coacting with said flange on said socket member to releasably retain the post supporting nut and the post carried thereby.

2. A swivel chair base assembly comprising a vertically disposed tubular body member provided with angularly spaced leg openings, legs having inner end portions fittingly disposed in said openings and fixedly secured to said body member to project radially therefrom, vertically spaced socket support members disposed within said body member and fixedly secured thereto, a tubular post socket disposed through and fixedly secured to said support members to project upwardly therefrom, said post socket having an outwardly offset above the upper of said socket supports disposed in thrust supported engagement therewith, said socket having an outwardly projecting flange like bearing member at its upper end, and a post supporting nut having an annular flange rotatably supported on said socket bearing member, said nut being provided with a housing member rotatably embracing the upper end of said body member and provided with a hand piece facilitating adjustment of the nut relative to a threaded chair post disposed within and laterally supported by said post socket, said nut being provided with a retaining member having threaded engagement with the housing member and disposed below and coacting with said flange on said socket member to releasably retain the post supporting nut and the post carried thereby upon the base.

3. A base hub unit for a swivel chair comprising a vertically disposed cylindrical body member having angularly spaced leg receiving openings therein, conical upper and lower post socket support members having central post socket openings therein disposed one above the other below said leg openings in said body member and having downturned peripheral flanges fitting within and fixedly secured to said body member, a tubular post socket member fittingly disposed in said openings and fixedly secured to said support members, said post socket member having an annular rib like offset therein supportedly engaging the upper support member and having an outturned bearing flange at its upper end spaced upwardly from said offset, a post supporting nut having a bearing rotatably supported on said bearing flange of said socket member, a chambered bearing member housing fixedly connected to said nut and rotatably fitting the upper ends of said body member, and a retaining member for said housing having threaded engagement with and releasably engageable with the underside of said bearing flange on said socket member.

4. A base hub unit for a swivel chair comprising a vertically disposed cylindrical body member having angularly spaced leg receiving openings therein, upper and lower post socket support members having central post socket openings therein disposed one above the other below said leg openings in said body member and fixedly secured to said body member, a tubular post socket member disposed through said openings and fixedly secured to said support members, said post socket member having a bearing at its upper end, a post supporting nut having a bearing rotatably supported on said bearing of said socket member, a chambered bearing member housing fixedly connected to said nut and rotatably fitting the upper ends of said body member, and a retaining member for said housing having threaded engagement with and releasably engageable with the under side of said bearing flange on said socket member.

5. A base hub unit for a swivel chair comprising a vertically disposed cylindrical body member having angularly spaced leg receiving openings therein, conical upper and lower post socket support members having central post socket openings therein disposed one above the other below said leg openings in said body member and having downturned peripheral flanges fitting within and fixedly secured to said body member, a tubular post socket member fittingly disposed in said openings and fixedly secured to said support members, said post socket member having an annular rib like offset therein supportedly engaging the upper support member and having an outturned bearing flange at its upper end spaced upwardly from said offset, a post supporting nut having a bearing rotatably supported on said bearing flange of said socket member.

References Cited in the file of this patent

UNITED STATES PATENTS

1,182,889	Bolens	May 16, 1916
1,872,894	Collier et al.	Aug. 23, 1932
1,873,054	Sheldrick	Aug. 23, 1932
2,587,886	Penchoen	Mar. 4, 1952
2,702,075	Richards	Feb. 15, 1955
2,704,113	McKinley	Mar. 15, 1955
2,800,171	Hoven et al.	July 23, 1957
2,806,515	Burst	Sept. 17, 1957

FOREIGN PATENTS

313,705	Great Britain	June 20, 1929