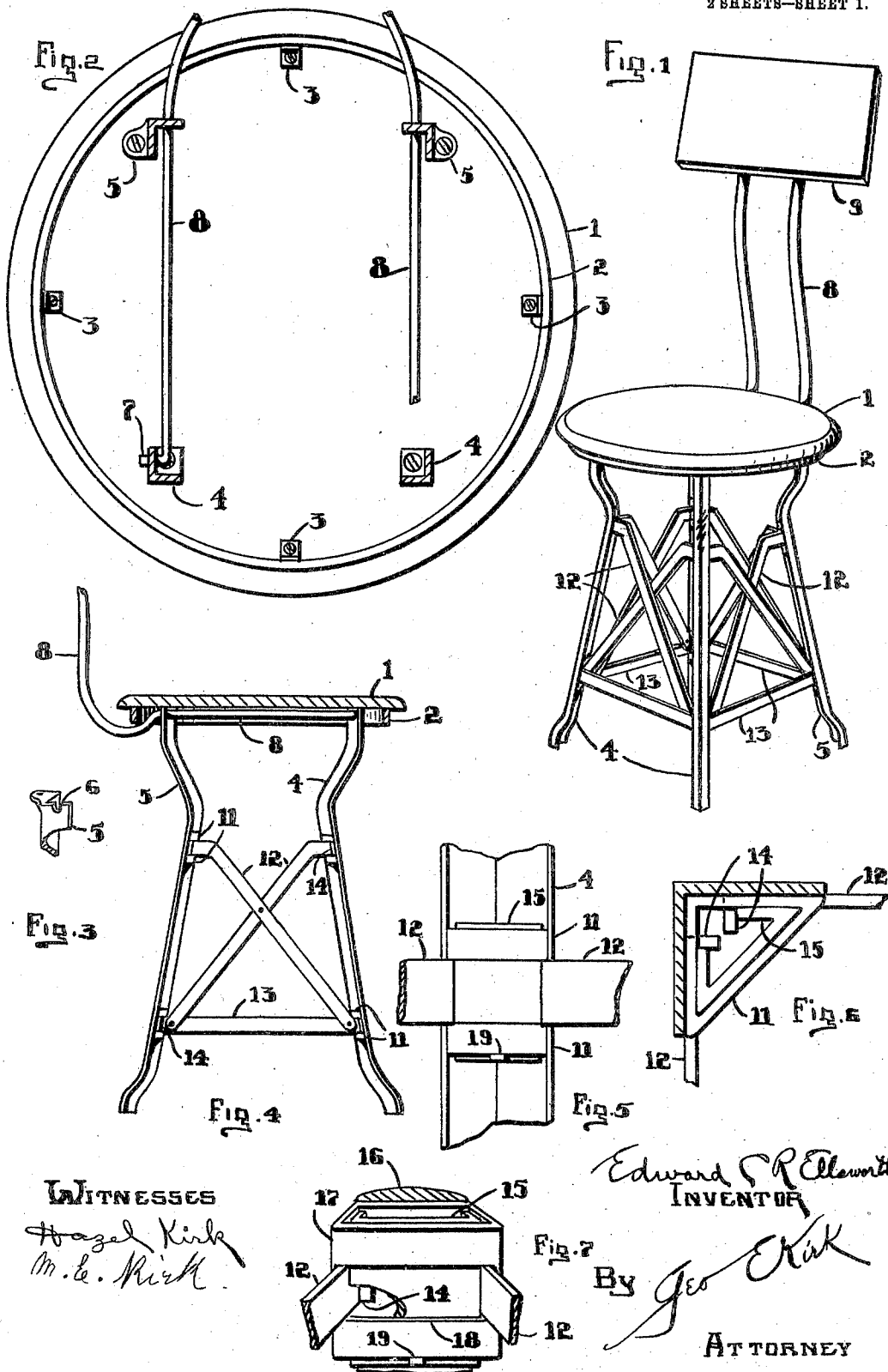


E. C. R. ELLSWORTH.
FURNITURE.
APPLICATION FILED DEC. 19, 1908.

950,719.

Patented Mar. 1, 1910.

2 SHEETS—SHEET 1.



WITNESSES

Hazel Kirk
M. E. Kirk

Edward C. R. Ellsworth
INVENTOR

Fig. 7

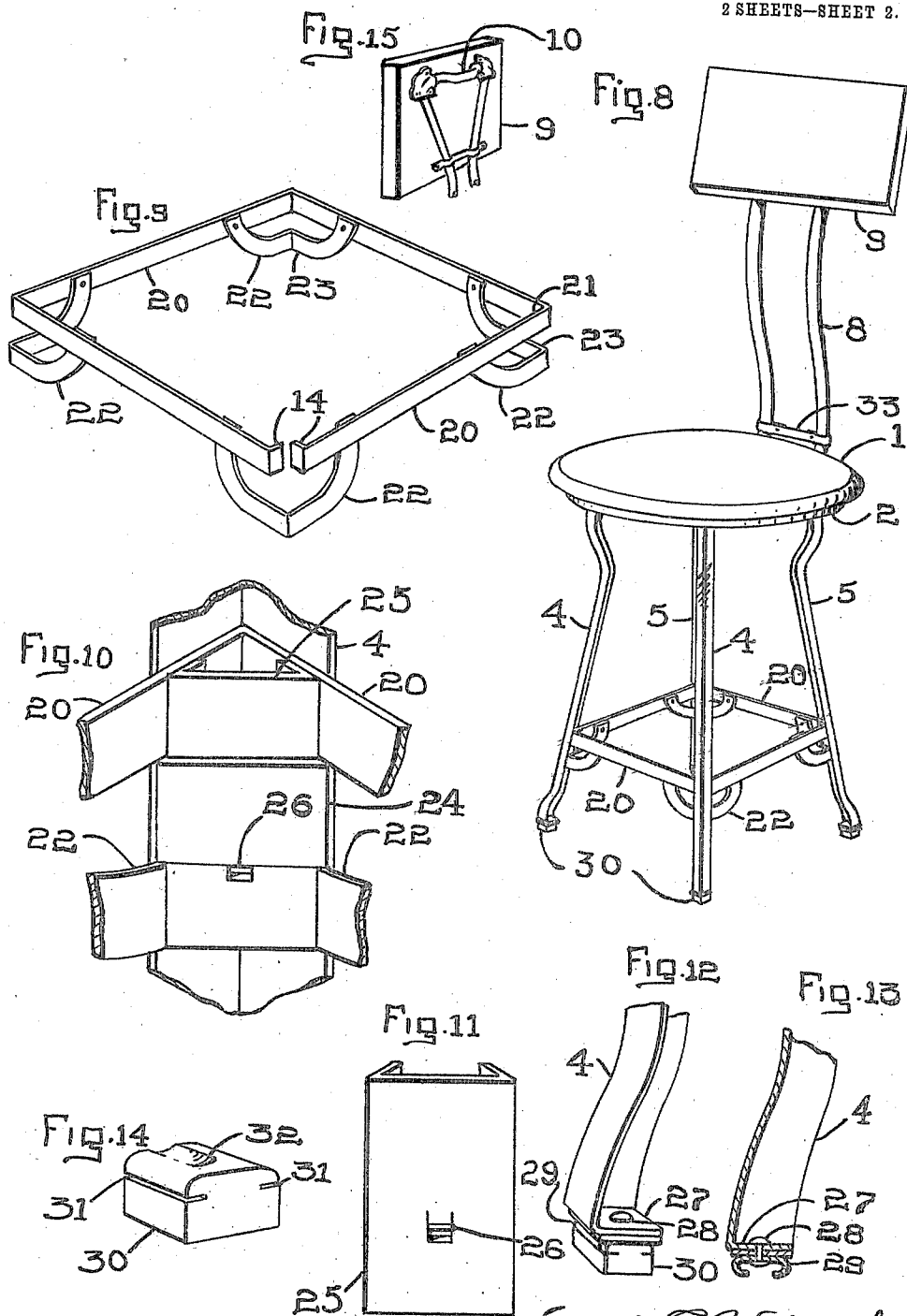
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UNITED STATES PATENT OFFICE.

EDWARD C. R. ELLSWORTH, OF TOLEDO, OHIO.

FURNITURE.

950,719.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed December 19, 1908. Serial No. 468,321.

To all whom it may concern:

Be it known that I, EDWARD C. R. ELLSWORTH, a citizen of the United States, residing at Toledo, Lucas county, Ohio, have invented new and useful Furniture, of which the following is a specification.

This invention relates to the forming of elements and the connection thereof into articles to render the articles easy of assembling as well as to produce strong and rigid constructions.

This invention has utility when embodied in articles of furniture, especially in so-called metal furniture, wherein the metallic features are so interconnected as to withstand a maximum of hard usage and still are practicable for economic manufacture.

Referring to the drawings: Figure 1 is a perspective view of an embodiment of the invention in a chair; Fig. 2 is a section on an enlarged scale, taken just below the seat or bottom platform of the chair and looking up theretoward; Fig. 3 is a fragmentary detail in perspective showing the form of top for the rear legs where united to the platform; Fig. 4 is a vertical section through the chair from front to back, with the chair back broken away and the cut leg braces removed instead of shown in section; Fig. 5 is a fragmentary detail view in elevation of the connecting features uniting a leg to the bracing means; Fig. 6 is a section of the leg looking down on the connection shown in Fig. 5; Fig. 7 is a perspective view of the connection adapted to a leg of different form than shown in Fig. 6; Fig. 8 is a perspective view of a chair of so-called metallic furniture illustrating the invention; Fig. 9 is a perspective view of the bracing means for the legs of the chair shown in Fig. 8; Fig. 10 is a fragmentary detail view in elevation of the connecting features uniting the bracing means to a leg as adapted to the showing in Fig. 8; Fig. 11 is a detail view of the removable holding element adapted to lock the bracing means to the leg in Fig. 8; Fig. 12 is a fragmentary detail view of the foot for the leg; Fig. 13 is a sectional view of the leg adjacent the foot with the cushion member of the foot removed; Fig. 14 is a perspective view of the cushion member of the foot; and Fig. 15 is a view in perspective of the rear portion of the back rest, showing the mounting of the rest upon its support.

The platform or seat portion 1 is shown of general circular form and provided on its

under surface with a flange 2, in this instance shown as connected directly to the platform 1 by brackets 3. The front legs 4 and the rear legs 5, are each shown as directly and independently connected to the platform or seat portion 1 of the chair or article of furniture, which connections of the legs to the platform are separate from the connection of the flange to the platform. To provide the detachable connection of the legs or supports to the platform, as shown, integral portions are flanged over and perforated for the holding screws.

The forward supporting members or legs 4, near the flange seat attaching portion, have openings admitting the hooked ends 7 of the seat back rod 8, which rod serves as a support to carry the back rest 9 just below the return bend portion 10 of the rod 8. This back is mounted directly on the legs and independently of the seat, the rod 8 extending through recesses 6 in legs 5 near the seat, and from thence to the legs 4 remote from the back to engage these forward legs 4 by hooks 7, which are readily sprung into or out of position. When sprung out of position, the back may be readily removed from the chair by loosening one of the rear legs 5, thus permitting twisting of the back to get the other hook through the attached leg 5. In such form the article is a convenient stool, while the general assembling features are of considerable value in shipping knocked down. The general form of the back is such that while quite firmly maintaining its position, it may be slightly yieldable. Besides simplicity and practicability for use, the back is of pleasing form to the eye. The return bend 10 of the back furnishes a convenient grip portion for moving the chair about. With the back connected as shown, independently of the seat, the strains, direct and torsion, in ordinary use are upon the separate legs, producing an exceptionally permanent construction, not tending to destroy the seat nor to disconnect the structure in any wise.

To withstand all unusual strains, the leg members in Figs. 1 and 8 are firmly and positively braced, producing a light and symmetrical structure of exceptional durability and strength. The legs 4, 5, are provided with keeps, shown in Fig. 5 as arranged in pairs, one above and one below the perpendicularly entering removable portion here shown as the termini of diagonally

disposed elements of the bracing unit feature. The bracing feature comprises the diagonally disposed elements 12 and the horizontally disposed tie elements 13. Taking the pair of diagonal elements 12 and tie element 13 between a pair of legs and constructing as a section of the bracing unit, the rigidity thereof is increased by joining together as shown in Fig. 4. The positive connection between the supporting members or legs, 4, 5, and the elements 12, 13, embodies bent or angularly disposed portions 14 to coact in the locked assemblage in the structure. The removable holding element 15 has a pair of its sides extending in intersecting planes. These sides coact with similarly extending seating faces in the keep 11, while when so positioned in the keep 11, the holding element may engage a pair of bent portions 14 of the elements to lock the bracing unit sections in set up relation. The keeps 11 as shown in Fig. 4 are disposed in pairs, and the action of element 15 is that of a wedge in drawing the parts firmly into position. When full seating point is reached, the outwardly bent free end of spring tongue 19 of the holding element 15, is below keep 11 and springs outward to engage the keep and thus hold the element 15 against working loose or accidental withdrawal. When the supporting leg is not hollow and of right angle form to thus give proper direction to the bracing feature, adaptation of the holding device may be brought about, for instance as shown in Fig. 7, disclosing the solid or half oval leg 16, to which is attached the loop keep 17 having opening 18 for termini of brace elements. Herein the keep retains the brace elements against lateral thrust of the holding element 15, while in Fig. 5 the sides of the leg serve this end.

Following the general line of the bracing of Fig. 1, but inverting and reducing the extent of the diagonal elements, and structure is produced as shown in Fig. 8. The horizontal tie portions 20 serve as the tie portions or elements 13 as foot rest. Furthermore herein, the bent or angularly disposed portions 21 of the tie element 20, are continuous or integral to form the adjoining tie portion after leaving the keep. Similarly the diagonal elements 22 are continuous or integral past their bends 23 at the keeps to form a diagonal element of the bracing device on the opposite side of a leg. For a four legged article of furniture, this continuous bracing unit may be of quadrilateral form as shown in Fig. 9.

With the diagonal elements and tie elements disposed in closer relation, the holding device may be condensed to an intermediate keep 24 into which may slide the holding element 25 to have its spring tongue 26 engage the lower side of the keep 24 when

the holding element reaches its seat. This tongue 26, like the tongue 19, has its bent free end inwardly movable to permit of movement to position, when the tongue moves outwardly to hold against accidental displacement of the element 25, thereby insuring maintenance of the structure in firm assembled relation.

The legs terminate at the floor end similarly to legs 4 at the seat end, but for increased strength the flange is formed by folding over two sides of the leg to form the base 27 through which extends the rivet 28 to firmly attach thereto the C-shaped channel 29 in which may seat the cushion member 30 having grooves 31 for the hook sides of the channel 29. To permit forcing this cushion into position, it is provided with a concavity 32 on its upper surface in the line of travel of the rivet head.

To additionally steady the back rod 8, and thereby materially strengthen the structure against unequal twisting strains, the portions of the back rod 8 are tied by the brace strap 33 riveted in position to keep the rods properly spaced and preclude any distortion from accidentally disconnecting the hooks 7.

This structure as an entirety possesses simplicity combined with great rigidity and lightness, while to these features of merit are added assembling advantages, permitting compact knock down shipment as well as ready conversion of the article of furniture as desired. The disposition of the detachable brackets on the rest 9 is such that the rest is well reinforced, the return bend handle 10 given its form, and the whole a simple and slightly showing. As set forth, the back as a complete portion of the article of furniture may be removed by loosening a leg and working hooks out. The removable locking elements permit ready replacing of the bracing means or of a leg. The wear portion or cushion 30 of the foot is easy of assemblage by forcing in or out of the C-shaped channel 29, while the hooks of this channel are of such form that should the cushion become worn down, there are not exposed cutting corners to injure the floor or floor covering. There is accordingly produced an article of furniture of great permanence and durability.

What is claimed and it is desired to secure by Letters Patent is:

1. The combination in an article of furniture of a plurality of legs, one of said legs having tie means extending in two directions therefrom, and a bracing element extending from one tie portion on one side of the leg to the tie portion on another side of the leg, said bracing element engaging the leg intermediate its engagement with the tie means.

2. The combination in an article of fur- 130

niture of a plurality of legs, bracing means for the legs, and a holding device for uniting the bracing means to a leg, said device embodying keep means on a leg and a holding element, said bracing means having bent portions adjacent a leg with which bent portions and the keep means the holding element coacts medially of its length with one and near its terminals with the other to firmly maintain the legs and brace means assembled.

3. The combination in an article of furniture of a plurality of legs, bracing means for the legs, and a holding device for uniting the bracing means to a leg, said device embodying a holding element provided integral with itself with a spring tongue, there being keep means on the leg and bent portions of the bracing means with which the holding element may coact when seated with its spring tongue holding it in position.

4. The combination in an article of furniture of hollow legs open inwardly and a bracing means for the legs embodying a tie element integrally continuous past a leg,

and a bracing element engaging the tie element and the leg.

5. The combination in an article of furniture of a platform, legs for sustaining the platform, and bracing means for the legs spaced from the platform and embodying a tie element and a pair of diagonally disposed bracing elements extending from the tie element to different legs, said bracing elements meeting the legs at a common point in pairs.

6. The combination in an article of furniture of a seat, legs for sustaining the seat, and bracing means for the legs spaced from the platform and embodying a foot rest tie element and a pair of diagonally disposed bracing elements extending from the tie element to different legs.

In testimony whereof I affix my signature in the presence of two witnesses.

EDWARD C. R. ELLSWORTH.

Witnesses:

GEO. E. KIRK,
C. H. RAUCH.