

H. W. BOLENS.
CHAIR SEAT SPIDER.
APPLICATION FILED JAN. 7, 1915.

1,178,488.

Patented Apr. 11, 1916.

Fig. 1.

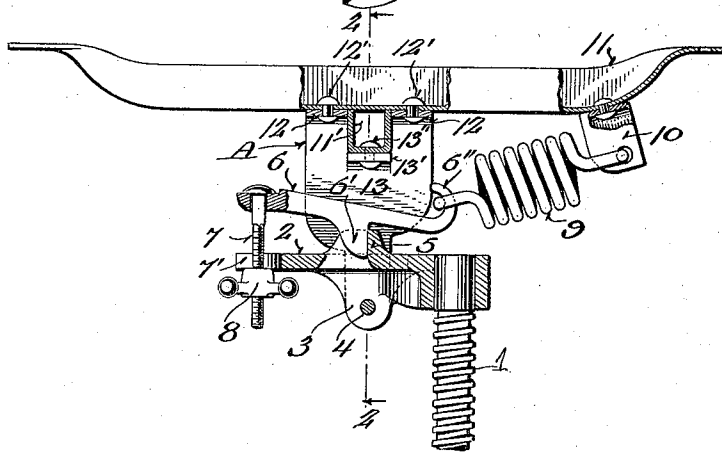
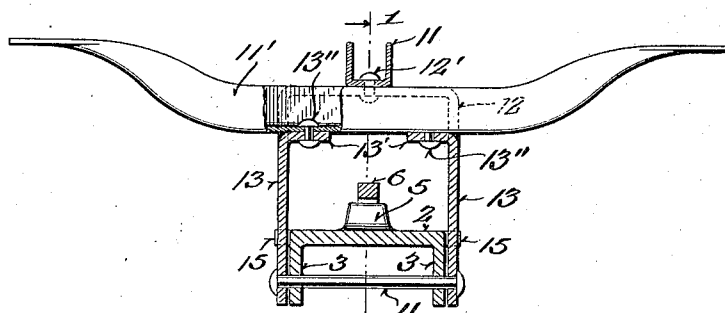


Fig. 2.

Inventor

Harry W. Bolens

Witnesses:
Camden Young
May Downey

Boyd
Wright

Attorneys

UNITED STATES PATENT OFFICE.

HARRY W. BOLENS, OF PORT WASHINGTON, WISCONSIN.

CHAIR-SEAT SPIDER.

1,178,488.

Specification of Letters Patent.

Patented Apr. 11, 1916.

Application filed January 7, 1915. Serial No. 903.

To all whom it may concern:

Be it known that I, HARRY W. BOLENS, a citizen of the United States, and resident of Port Washington, in the county of Ozaukee and State of Wisconsin, have invented certain new and useful Improvements in Chair-Seat Spiders; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention refers to sheet metal or pressed steel seat spiders for chairs and has for its object to provide a simple, economical and durable one-piece saddle for the support of radially disposed saddle-arms, the saddle being so constructed and arranged that by simple die operations upon a single sheet metal blank a bridge-piece is formed having downturned pivot legs, the said bridge-piece in the operation being centrally cut away, together with the legs, to form an arm-receiving channel, which channel is provided with base ears that are formed by cut away sections of the metal that are folded inwardly from the legs. By this construction a countersunk channel is provided for the reception of one arm of the spider, while the bridge sections form a seat for the upper cross-arm of said spider. Thus it will be seen that the spider arms are rigidly supported by the saddle upon different planes, whereby the several elements can be quickly assembled and firmly secured to form a rigid, durable and light seat support, it being understood that the spider arms are preferably formed from sheet-metal blanks pressed into channel irons of the U-shaped type.

With the above objects in view the invention consists in certain peculiarities of construction and combination of parts as set forth hereinafter with reference to the accompanying illustrations and subsequently claimed.

In the drawings Figure 1 represents a side elevation of a seat spider embodying the features of my invention, with parts broken away and in section to more clearly illustrate various details of construction, the section being indicated by line 1—1 of Fig. 2, and Fig. 2, a similar sectional view taken at a right-angle to that shown in Fig. 1, the section being indicated by line 2—2 of the last mentioned figure of the drawings.

Referring by characters to the drawings, 1 represents a threaded spindle having a

head 2 projecting therefrom, which head is provided with depending lugs 3 for the reception of a pivot pin 4. The central portion of the head, which head is preferably cast, is formed with an upturned fulcrum block 5 that is engaged by a fulcrum finger 6' of a tension lever 6. The outer end of the tension lever 6 is apertured for the reception of an adjusting screw 7, the threaded end of which screw passes through a slot 7' in the head 2 and is engaged upon the lower face of said head by an adjusting nut 8. The opposite end of the tension lever terminates with a coupling hook 6'' for engagement with one end of a coiled spring 9, the opposite end of said coiled spring being fitted through apertures in an ear 10, which ear is, in this exemplification of my invention, riveted to one leg of the upper cross-arm 11 of the spider.

A sheet metal saddle A is provided for the support of the spider arms, which saddle is formed from a single blank. The saddle comprises a horizontally disposed bridge-piece 12, which bridge-piece is merged into down-turned legs 13, 13, the lower ends of the same being mounted upon the pivot-pin 4 in the usual manner. The bridge-piece 12 of the saddle is cut away centrally to thus divide the same into spaced sections, as best shown in Fig. 1 and the cut away portion also extends through the base portion of each of the legs 13 to form a spider arm receiving channel below the upper face of the bridge sections. The portions of the leg which are cut away to form the channel are folded inwardly at the base of said channel to form ears 13' 13'. These ears constitute seats for a spider arm 11', which spider arm is preferably U-shaped in cross-section, as shown, being stamped from a single piece of sheet metal, whereby durability, strength and lightness are combined. The arm, when seated within the channel, is countersunk flush with or below the upper face of the sectional bridge-piece 12, whereby said upper face presents an unobstructed seat for the cross-spider arm 11, which spider arm is positioned, in this exemplification of my invention, at a right angle to the lower or countersunk spider arm 11'. The base section of the spider arm 11' is secured to the ears 13' by rivets 13'' and the upper spider arm 11 is similarly secured to the sections of the bridge 12 by rivets 12'. Thus it will

be seen when the arms are assembled and riveted in their respective positions to the saddle member, these elements together form a rigid structure which will resist wear and strain to the maximum without liability of becoming loose due to indefinite usage, attention being called to the fact that the lower spider arm 11 being so seated within the channel, as to resist strain in all directions and that both of the spiders form bracing trusses for the saddle.

It is obvious from the foregoing description that the tension of the coiled spring 9 can be varied by manipulating the nut 8 which is in threaded union with the screw 7 and thus the tension of said spring will draw the spider arms and saddle in a forward direction, sustaining the same horizontally, which position is maintained due to the fact that the legs 13 engage stop lugs 15 which extend laterally from the spindle head and project into the path of forward movement of said legs. By the spring connection it is also obvious that the seat spider is capable of backward yield and return to its normal position in the manner usual with the type of seat spiders to which my invention refers.

While I have shown a single upper spider arm affixed to the bridge piece of the saddle, it is obvious that, for heavy duty, I may, without departing from the spirit of my invention, employ two of such arms.

I claim:

1. A seat spider saddle comprising a horizontally disposed bridge-piece having downturned legs, the bridge-piece and legs being cut away to divide said bridge-piece into spaced sections forming a spider arm receiving channel therebetween, and ears folded inward from the leg portions of the channel, the said ears constituting sections of the cut away portion of said legs.

2. A seat spider comprising a one-piece sheet-metal saddle having a horizontally disposed bridge-piece and downturned legs, the bridge-piece and legs being cut away to form a spider arm receiving channel below the upper surface of said bridge-piece, ears folded inwardly from the legs at the base of the channel, a spider arm seated within the channel, means for securing the spider arm to the leg ears, and a second spider arm positioned at a right angle to the first mentioned spider arm mounted upon the bridge-piece, and means for securing said second spider arm to the bridge-piece.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

HARRY W. BOLENS.

Witnesses:

N. E. OLIPHANT,
M. E. DOWNEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."