

H. W. BOLENS.  
CHAIR IRON.  
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940,232.

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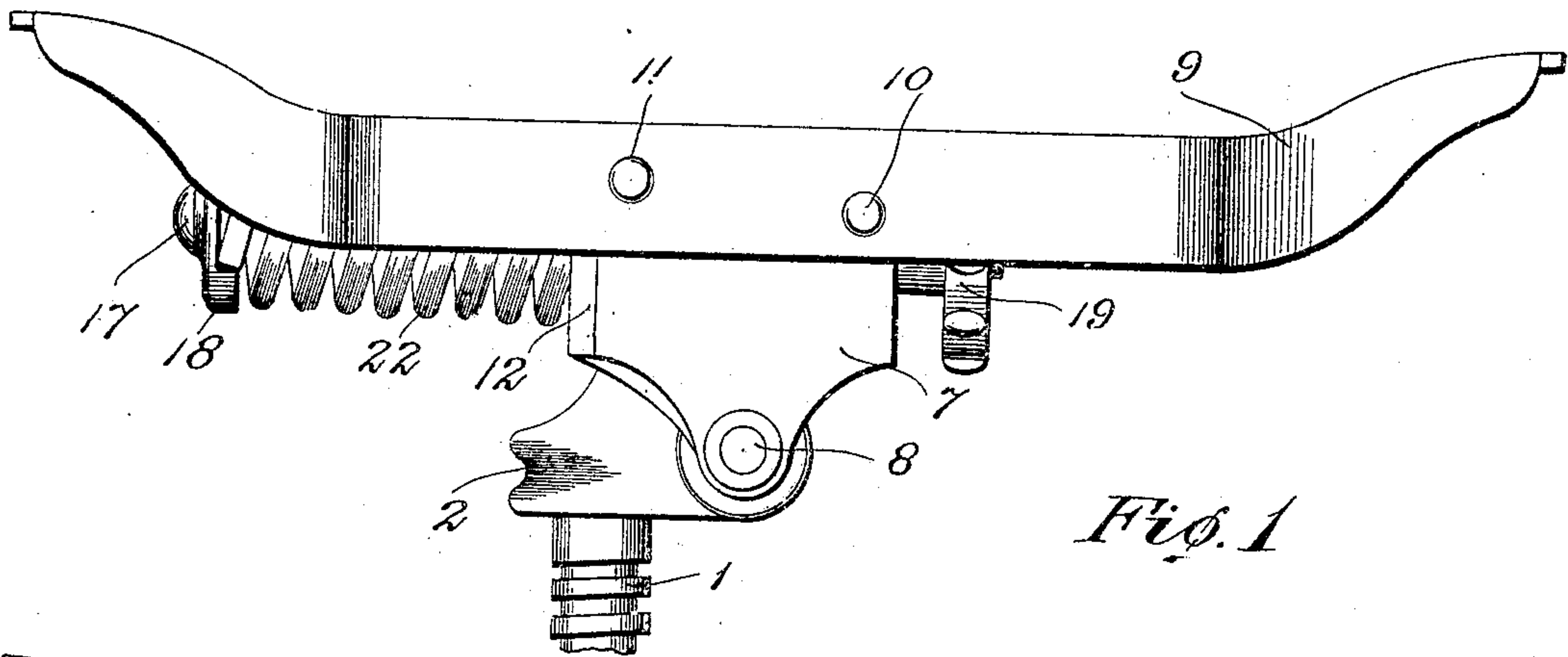


Fig. 1

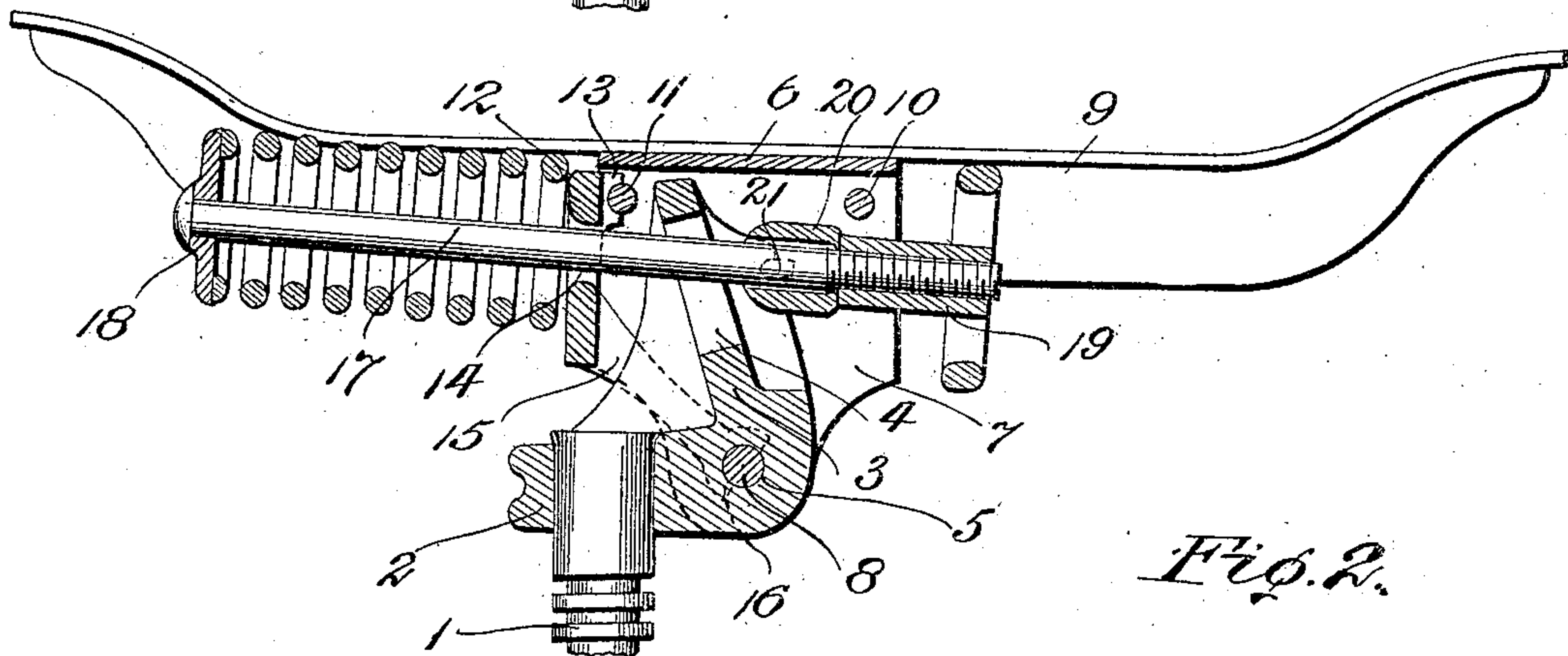


Fig. 2.

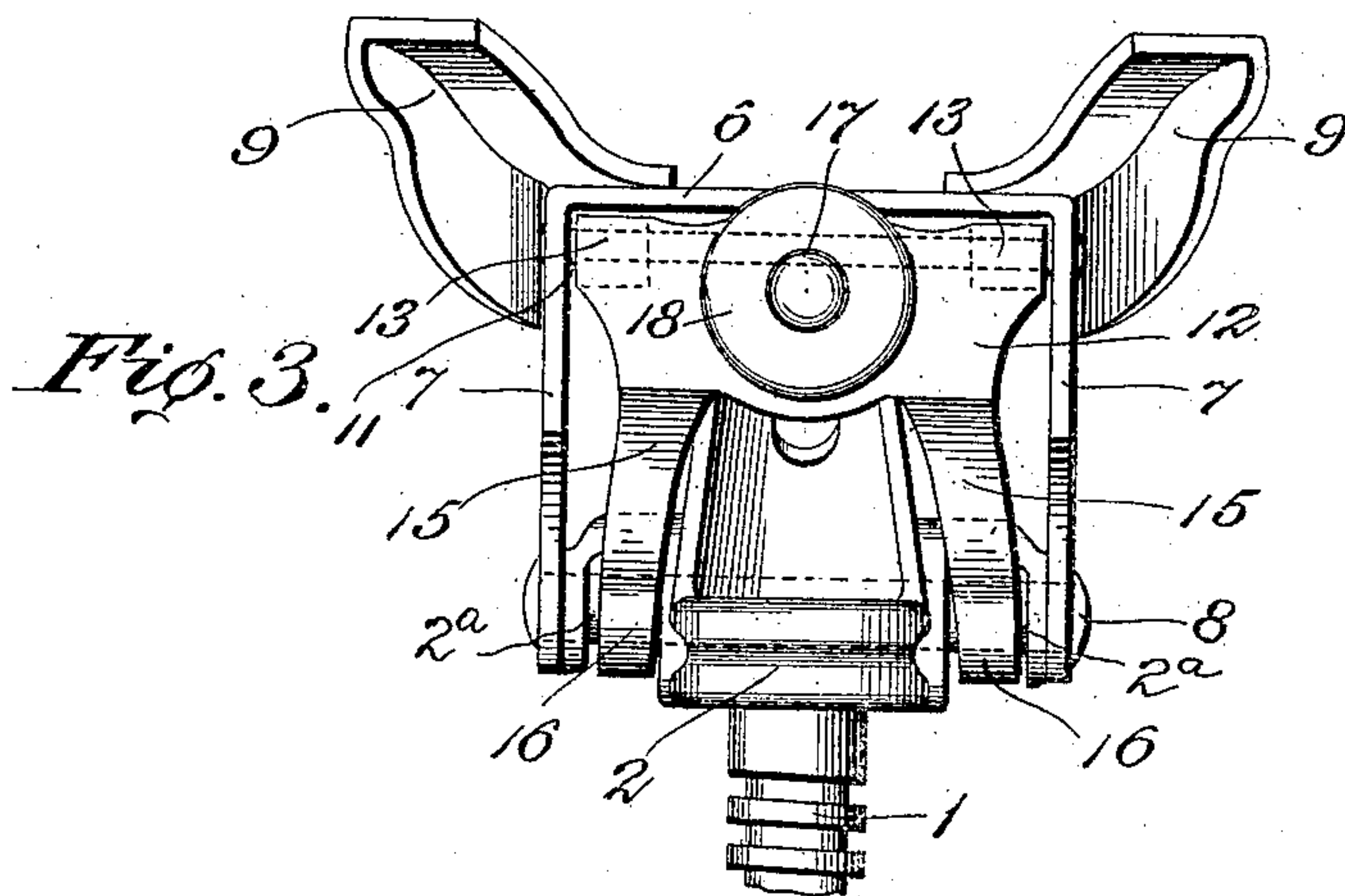


Fig. 3.

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# UNITED STATES PATENT OFFICE.

HARRY W. BOLENS, OF PORT WASHINGTON, WISCONSIN.

CHAIR-IRON.

940,232.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed December 9, 1907. Serial No. 405,816.

*To all whom it may concern:*

Be it known that I, HARRY W. BOLENS, a citizen of the United States, residing at Port Washington, in the county of Ozaukee and State of Wisconsin, have invented new and useful Improvements in Chair-Irons, of which the following is a specification.

This invention relates to that class of chair-irons embodying an inverted U-shaped sheet-metal spreader and upon the opposite angles of which are riveted sheet-metal spider-arms.

Heretofore, in chair-irons of this style, the bridge-piece employed to engage and retain one end of the compression-spring, has usually been affixed in some manner to the spreader or spreader-plate, as it is sometimes termed, such being accomplished in various ways, but always with the result that the stress of the spring finally and entirely came upon the bearing-eyes of the depending sides or flanges of the spreader, thus causing the bearing eyes mentioned to become worn in instances where the pintle was fixedly mounted in the head-casting or yoke, and, consequently, the bearing-eyes moved upon the pintle.

The prime object of my present invention is to divide the strain of this bridge-piece between the spreader or spreader-plate and the usual hinge-pintle, whereby the undue wear upon the bearing-eyes of the spreader is avoided to a large extent.

Other, though minor objects of the invention, will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawing—Figure 1 is a side-elevation of a chair-iron embodying my improvements; Fig. 2 is a central vertical longitudinal sectional-view; and, Fig. 3 is a rear-elevation of the same.

Corresponding numerals of reference indicate corresponding parts in all the figures of the drawing.

I have illustrated my invention in connection with a well-known form of chair-iron, the details of which, except as hereinafter described, do not enter into my invention, and, hence may be altered at will. In this instance, 1, designates the usual swivel or supporting-post, at the upper end of which is located a casting or yoke, 2, from which rises an inclined standard, 3, having a trans-

verse opening, 4. This casting or yoke is transversely bored, as at 5, and through the bore is passed the usual hinge-pintle, 8.

The spreader or spreader-plate, is formed of sheet-metal, and consists of the upper horizontal portion, 6, and the opposite depending ears or flanges, 7, near the lower ends of which are formed the usual bearing-eyes that receive the ends of the hinge-pintle 8, whereby, as will be obvious the spreader is capable of tilting or oscillating. Upon the opposite angles of the spreader are located the spider-arms, 9, also formed of sheet-metal, and which as will be seen, are angular in cross-section. Through the depending sides or flanges of these arms and the depending sides of the spreader, are passed pins 10 and 11, the former being disposed in front and the latter in rear of the inclined standard 3, if desired, whereby said pins form stops for limiting the oscillating movements of the spreader.

The bridge comprises a transverse portion, 12, having a transverse opening, 14, alining with the opening 4 in the inclined standard, and at each end, depending inwardly disposed legs or branches, 15. These branches or legs are provided at their lower extremities with half-round notches, 16, that bear on the hinge-pintle 8, to permit which the casting 2 is recessed at opposite sides of the inclined standard 3, as at 2<sup>a</sup>. (See Figs. 2 and 3). This forms the lower support for the bridge, and its upper support may be produced in various ways, but preferably by so forming the bridge as will adapt it to engage with the rear cross-pin 11. This I accomplish by providing the inner or front face of the bridge at its upper edge with either a single transverse rib extending from one vertical side to the other of the bridge and providing it with a half-round notch to engage the rear pin 11, or, as shown, with two of such ribs, 13, so notched, and located at the two upper corners of the bridge, the result in both arrangements being the same. Of course, as will be readily apparent, it is not essential to the operation of the invention that the upper end of the bridge be supported by the pin 11, and that, if desired or preferred, the upper end of the bridge may be supported by and connected to any other part of the spreader, although, as a matter of fact the pin 11 is a part of the spreader,



in that, it is permanently fastened thereto. However this may be, it will be seen that as the spreader tilts or oscillates upon the hinge-pintle, the latter forms also a bearing  
5 or journal for the lower end of the bridge, so that a half of the stress or strain is, through the bridge, transmitted to the hinge-pintle and removed from the spreader.

The spring-adjustment is of the ordinary  
10 type, and in this instance, comprises the rod, 17, which is passed through the openings 4 and 14 respectively formed in the inclined standard 3 and bridge 12, and which at its outer end is provided with the usual head  
15 18, between which and the bridge, is located the tension-spring 22. The front end of the rod is threaded and carries the usual hand-nut or wheel, 19, and loose bearing-sleeve 20, the latter having bearing-lugs, 21,  
20 that engage with suitable notches formed in the side-flanges of the inclined standard 3.

Having described my invention, what I claim, is—

25 1. A chair-iron, comprising a post, a head having a transverse portion bored and provided with recesses near its ends communicating with said bore, a hinge-pintle extending through the bore beyond the ends of the  
30 transverse portion of the head, a spreader mounted to oscillate on the ends of the hinge-pintle, a separate bridge piece supported at its upper end by the spreader and having depending members bearing on the  
35 hinge-pintle in the aforesaid recesses of the head, and a spring adjustment the spring of which bears against the bridge.

2. A chair-iron, comprising a post, a head, a transverse hinge-pintle extending through  
40 the head, a spreader mounted to oscillate upon the hinge-pintle, a pin extending transversely through the spreader near the rear end thereof, a separate bridge piece the upper end of which fits between the sides  
45 of the spreader and is provided with notched lugs bearing against the pin, and depending members on said bridge piece notched at their lower ends to bear upon the hinge-pintle, and a spring adjustment the  
50 spring of which bears against the bridge.

3. A chair-iron, comprising a head, a supporting-post, a hinge-pintle mounted in the head, a spreader mounted to oscillate on the  
55 pintle, a pin passing through the spreader, a bridge, the lower end of which removably engages the hinge-pintle and the upper end of which similarly engages the pin, and a

spring-adjustment, the spring of which bears against the bridge.

4. A chair-iron, comprising a head, a sup- 60 porting-post, a hinge-pintle mounted in the head, an inverted U-shape spreader mounted to oscillate on the hinge-pintle, sheet-metal spider - arms, angular in cross-section, mounted on the angles of the spreader, pins 65 passing through the sides of the arms and sides of the spreader, a bridge comprising an upper notched end engaging the rear pins and a lower notched end engaging and bearing upon the hinge-pintle, and a spring- 70 adjustment, the spring of which bears against the bridge.

5. A chair-iron, comprising a post, a head at the upper end thereof, a hinge-pintle passing through the head, an inverted 75 U-shape spreader mounted on the hinge-pintle, a transverse pin extending across and connecting the terminals of the spreader, the bridge 12, having the notched ribs 13 engaging the pin and the lower depending 80 arms 15, notched and engaging the hinge-pintle, a spring-adjustment, and a spring for the same bearing on the bridge.

6. A chair-iron, comprising, a support- 85 ing-post terminating in a casting or head transversely bored and cut-away, as at 2<sup>a</sup>, the hinge-pintle located in the bore, the inclined standard rising from the casting and having an opening, the inverted U-shaped sheet-metal spreader having its ears or sides 90 mounted for movement on the hinge-pintle, the sheet-metal spider-arms, angular in cross-section and mounted on the opposite angles of the spreader, the pins passing through the sides of the spider-arms and 95 the sides of the spreader in front and in rear of the standard and forming front and rear stops for the spreader, the bridge 12 having the opening 14, the notched ribs 13, and the depending inclined arms 15, notched 100 at their lower ends, the notches of the ribs and arms respectively engaging the rear pin and hinge-pintle, and the spring-adjustment, the rod of which passes through the openings in the standard and bridge, and 105 the spring of which bears against the rear face of the bridge.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY W. BOLENS.

Witnesses:

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