

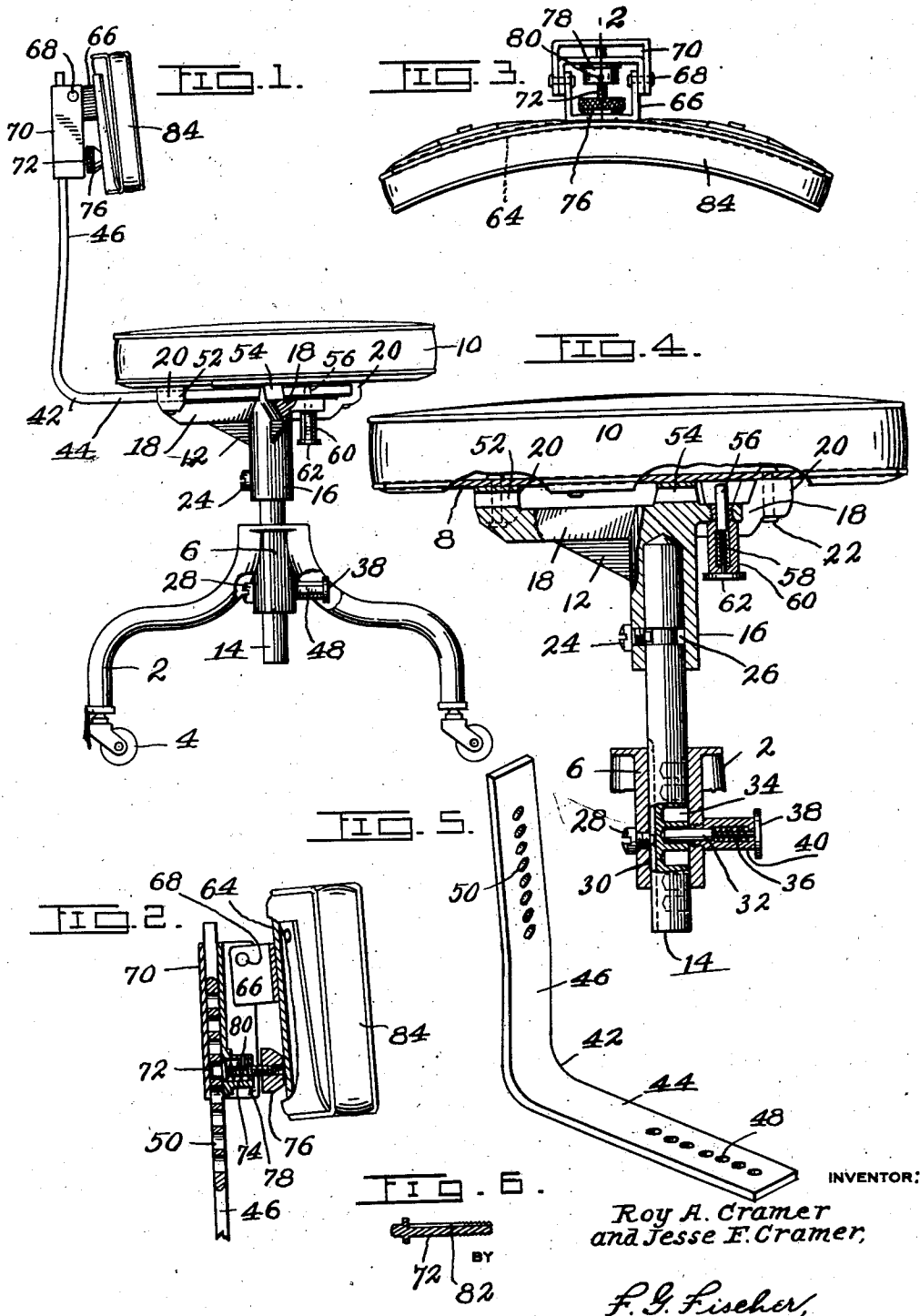
Sept. 15, 1936.

R. A. CRAMER ET AL

2,054,557

ADJUSTABLE CHAIR

Filed May 6, 1935



UNITED STATES PATENT OFFICE

2,054,557

ADJUSTABLE CHAIR

Roy A. Cramer and Jesse F. Cramer,
Kansas City, Mo.

Application May 6, 1935, Serial No. 20,033

3 Claims. (Cl. 155-156)

Our invention relates to adjustable chairs and while it is designed more particularly for office use it may be employed to advantage in other places where a chair of this character is desired.

One object of the invention is to provide a comfortable chair in which the seat and back can be readily adjusted independently of each other to suit the convenience of the user and then be reliably locked in any of the adjusted positions.

A further object is to provide the chair with an adjustable back-rest and novel means for tilting said back-rest to different inclinations.

Other objects will hereinafter appear and in order that the invention may be fully understood, reference will now be had to the accompanying drawing, in which:

Fig. 1 is a side elevation of the chair with some of the parts broken away and some in section.

Fig. 2 is an end elevation of a tiltable back-rest with its supporting and adjusting means in section.

Fig. 3 is a plan view of the back-rest and its supporting and adjusting means.

Fig. 4 is a side elevation, partly in section, of the chair seat and its supporting means.

Fig. 5 is a detail perspective view of the back-rest supporting member.

Fig. 6 is a detail sectional view of a plunger.

In carrying out the invention we employ a plurality (preferably four in number) of legs 2 mounted at their lower ends upon casters 4 and united at their upper ends by a centrally-disposed member 6.

8 designates a seat which is preferably made of sheet metal and equipped with a suitable cushion 10 for the comfort of the occupant. The seat 8 is mounted upon suitable supporting means which permits the seat to be rotated independently of the legs 2 and adjusted vertically to different elevations.

The seat supporting means comprises a spider 12 and a vertically-disposed shaft 14. The spider 12 comprises a centrally-disposed hub 16 and a plurality (preferably three in number) of arms 18 radiating from said hub 16 and having upwardly projecting outer terminals 20 to which the seat 8 is fixed by suitable means such, for instance, as rivets 22. The hub 16 is swiveled upon the upper portion of the shaft 14 and secured against accidental displacement by means of a set screw 24 threaded into the hub 16 and projecting into a circumferential groove 26 formed in said shaft 14. The shaft 14 is slidably mounted in a central opening extending vertically

through the member 6, but secured from rotation therein by a set screw 28 threaded into the member 6 and projecting into a vertical groove 30 in said shaft 14.

32 designates a plunger which cooperates with a vertical series of recesses 34 in the shaft 14 in securing the latter at different elevations in the member 6. The plunger 32 is forced into any registering recess 34 by means of a coil spring 36 and provided with a knob 38 whereby it may be withdrawn from the recess when it is desired to raise or lower the shaft 14. The spring 36 is arranged within a housing 40 threaded into the member 6 and forming a support for the plunger 32 which is slidably mounted within said housing.

Referring now more particularly to the back of the chair, 42 designates a supporting member bent approximately at right-angles to provide a horizontal arm 44 and an upright arm 46 having series of holes 48 and 50, respectively. The horizontal arm 44 is slidably mounted in the upper slotted portions 52 and 54 of the spider 12, but is normally held stationary by means of a plunger 56 adapted to enter any registering hole 48 towards which it is urged by means of a coil spring 58. The plunger 56 and the spring 58 are mounted in a housing 60 threaded into the spider 12 at a point near the hub 16. The plunger 56 is provided at its lower end with a knob 62 whereby it may be retracted against the action of the spring 58 when it is desired to release the arm 44 preparatory to sliding the same forwardly or backwardly.

64 designates a back-rest provided at its upper portion with a U-shaped member 66 tiltably connected by pivots 68 to a sleeve 70 slidably mounted upon the upright arm 46 of the supporting member 42. The sleeve 70 is provided with a plunger 72 adapted to enter any of the openings 50 in the arm 46 and thus support the sleeve 70 and the back-rest 64 at different elevations. The plunger 72 is urged forwardly by a coil spring 74 and provided at one end with a threaded rotatable member 76 which may be adjusted forwardly or backwardly to give greater or less inclination to the back-rest 64. The plunger 72 and the spring 74 are mounted in a housing 78 fixed to the sleeve 70. A pin 80 extending into the housing 78 and a longitudinal slot 82 formed in the plunger 72, prevent the latter from turning with the rotatable member 76.

With the foregoing construction it is apparent that the seat 8 may be raised or lowered and then secured at the desired point with the plunger 32. It is also apparent that the supporting member 55

42 may be adjusted forwardly or backwardly to adjust the back-rest 64 relative to the seat 8. The back rest 64 may also be adjusted vertically to carry it towards or away from the seat 8 and after such adjustment, be secured by the plunger 72. The supporting member 42 is preferably made of spring steel so that it may yield to a limited degree when the occupant of the chair leans backwardly against a cushion 84 with which the back-rest 64 is equipped.

From the foregoing description it is apparent that we have provided an adjustable chair possessing the advantages hereinbefore pointed out, and while we have shown and described a preferred embodiment of said chair we reserve all rights to such changes and modifications as properly fall within the spirit and scope of the invention as claimed.

Having thus described our invention, what we claim and desire to secure by Letters Patent, is:

1. A chair comprising a seat, supporting means for said seat, a supporting member carried by said supporting means and provided at its upper portion with a series of holes, a sleeve slidably embracing said supporting member, a back-rest tiltably mounted upon said sleeve, a plunger reciprocally mounted in and projecting from said

sleeve, spring means for forcing said plunger into any one of the holes in said supporting member, and a rotatable member threaded upon said plunger and bearing against the back-rest for changing the inclination of the latter.

2. In a chair, a supporting member provided with an upright arm, a sleeve slidably embracing said upright arm, a spring pressed plunger mounted in said sleeve and adapted to secure the latter from accidental movement upon said upright arm, a back-rest tiltably mounted upon the sleeve, and a rotatable member threaded upon the plunger and abutting said back-rest and whereby the latter may be adjusted to different inclinations.

3. In a chair, a supporting member provided with an upright arm having a series of holes, a sleeve slidably embracing said upright arm, a spring-pressed plunger mounted in said sleeve and adapted to enter any one of said holes brought in registry therewith, a back-rest pivotally mounted upon the sleeve, and a rotatable member threaded upon the plunger and abutting said back-rest and whereby the latter may be adjusted to different inclinations.

ROY A. CRAMER.
JESSE F. CRAMER.