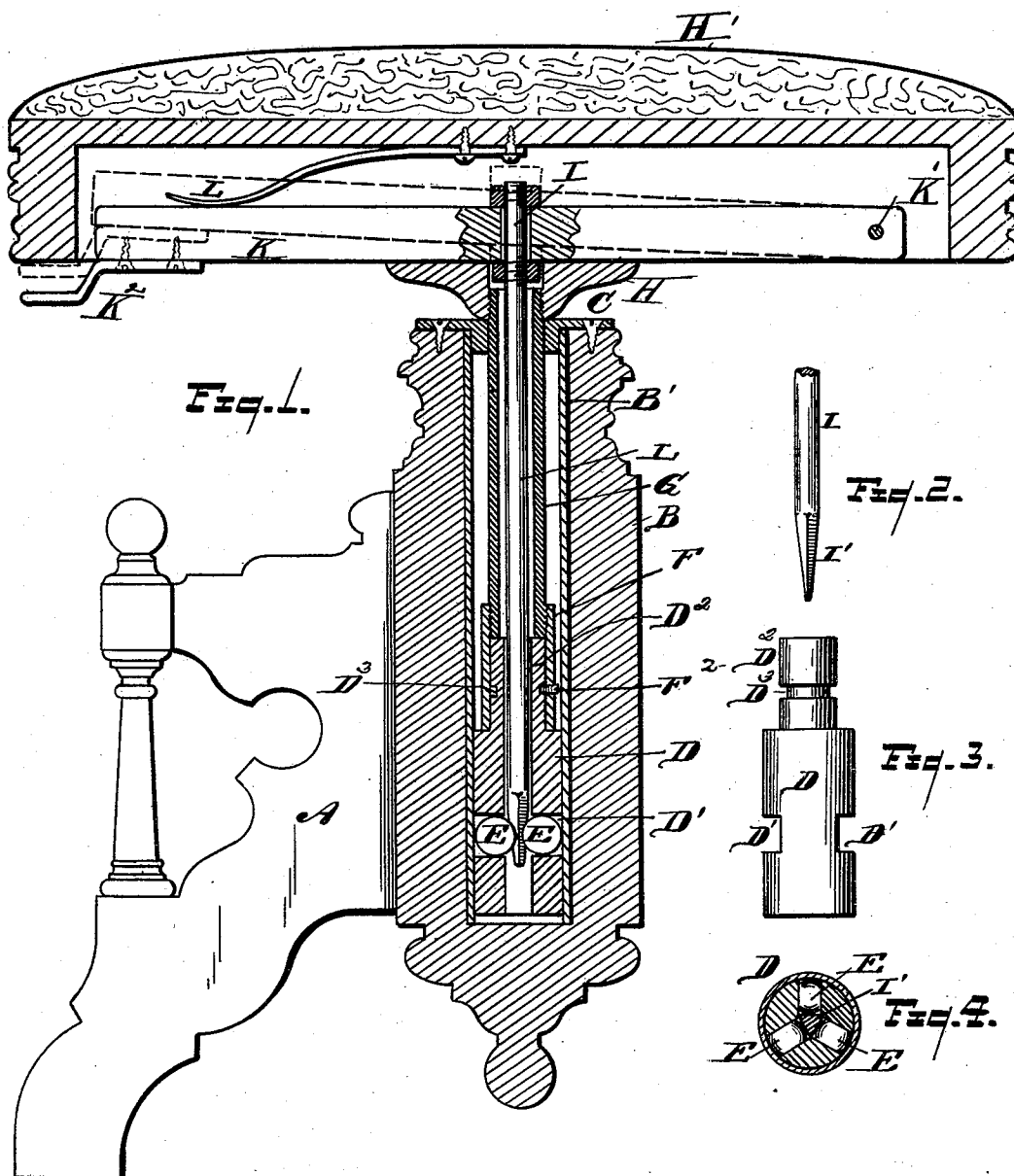


(No Model.)

C. H. BIGGS & F. H. FAIRCHILD.
ADJUSTABLE SEAT.

No. 478,840.

Patented July 12, 1892.



WITNESSES

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CHARLES HENRY BIGGS AND FRANK H. FAIRCHILD, OF DETROIT, MICHIGAN.

ADJUSTABLE SEAT.

SPECIFICATION forming part of Letters Patent No. 478,840, dated July 12, 1892.

Application filed February 8, 1892. Serial No. 420,693. (No model.)

To all whom it may concern:

Be it known that we, CHARLES HENRY BIGGS and FRANK H. FAIRCHILD, of Detroit, in the county of Wayne and State of Michigan, have jointly invented a new and useful Improvement in Adjustable Seats of Stools or Chairs, of which the following is a specification.

In the annexed drawings, making part of this specification, Figure 1 is an elevation, partly in section, of the standard and seat with the connecting mechanism. Fig. 2 is an elevation showing the lower end of the vertical wedge-formed shaft. Fig. 3 is a similar elevation of a cage which contains the clamping-rollers. Fig. 4 is a horizontal section of the same, showing the rollers and shaft.

A is the pedestal, with three or four legs, the standard B, of which is hollow from the top toward the bottom and lined, preferably, with a metallic tube B'.

C is a cap placed on top of the tube, formed with a central boss and fastened to the wood by screws or attached in other convenient manner.

In the bottom of the hollow part of the standard is placed a cage D, which may be made of wood, turned to the form shown in Figs. 3 and 4. Recesses are cut at D' to contain the rollers E, which turn loosely therein. There are three of these, arranged as shown in Fig. 4, and they play loosely in the recesses D', formed in the cage D. On the extension D² of this cage D there is cut a groove D³, and a collar F surrounds the extension D², while a set-screw F², tapped through the collar, enters the groove D³, so that the collar, while free to turn on the cage, cannot be separated therefrom. This collar rests on the shoulder at the base of the extension D². A tube G is threaded at the top and bottom, the latter being received in a corresponding thread in the upper end of the collar F. This tube G passes up through a hole in the center of the boss of the cap C and is threaded at the top to receive the boss H on the bottom of the seat H'. A rod I is attached to a lever K, which is pivoted at K' to the seat between two of the transverse bars and extends down through the interior of the tube G and the cage D beyond the wheels E, its lower end

being tapered to form a preferably three-sided wedge I', which is so adjusted as to project through the space between the wheels E and rest against all three of them.

L is a spring attached to the bottom of the seat, the tension of which presses downwardly upon the lever K.

The operation of the mechanism hereinbefore described is as follows: The seat in Fig. 1 is shown in its lowest position. The seat is connected by the boss H with the tube G and collar F, which rest upon the shoulder of the cage D, by which it is supported, being free to turn thereon. When it is desired to raise the seat, one hand grasps the edge so that the fingers may rest on the brass plate K², fastened to the end of the lever K, the other hand being placed under the seat on the opposite side. The upward strain forces the lever K upward, lifting the rod I and raising the wedge-formed point I', so as to sufficiently free the wheels E'. When the seat is lifted everything inside of the tube B' is lifted, with it, being entirely free to move upward. When the seat has been sufficiently raised and is released, the lever K is forced down by the spring L, and with it the rod I is forced down, so that the wedged point I' is driven into the space between the three rollers E, forcing them outwardly against the interior surface of the lining B', thus forming a friction-clutch, the resistance of which increases with the increase of the weight on the seat. Thus the seat is firmly sustained in any position within the range of the pedestal. When it is desired to lower the seat, the reverse operation is performed. The lever K is again lifted, together with the rod I, and wedge I' is drawn from between the wheels E, leaving them free to turn back toward the center of the cage and out of frictional contact with the tube B'. The seat is then let down by hand into such position as may be desired, when the release of the lever and the action of the spring again locks it, as before.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In combination with the hollow standard and adjustable seat, the lever placed under the seat and extending to or nearly to its periphery, the pointed rod attached to the le-

ver, and wheels carried in a vertically-adjustable cage placed within the standard to form a friction-clutch by the outward pressure of the inclined faces of the rod, forcing the wheels against the interior face of the hollow standard to support the seat at any point within the range of its adjustment, substantially as set forth.

2. In combination with the hollow standard and swiveling seat, the wheel-carrying cage D, means for locking the cage in the standard, and collar F, attached to but free to turn on the cage, the cap C, and tube G, attached at one end to the collar and at the other to the seat and intermediately supported by the cap, substantially as set forth.

3. In combination with the hollow standard and adjustable and swiveling seat, the vertically-adjustable cage D, the seat carrying tube G, resting and free to turn thereon, the lever K, pivoted to the seat, and pointed rod L, attached thereto, and wheels E, placed within a chamber in the cage and capable of being forced outward against the interior wall of

the standard by the inclined portion of the pointed rod, substantially as set forth.

4. In combination with the hollow standard and adjustable and swiveling seat, the cage D, constructed with an extension D' and groove D³, the wheels E, chambered in the cage, collar F, set-screw F', which engages the groove D³ and permits rotary motion only to the collar in its relation to the cage, tube G, to which the seat is attached and which rests on the collar, the pointed rod I I', the inclined faces of which force the wheels outwardly against the wall of the hollow standard, and spring-pressed lever K, pivoted to the seat, substantially as set forth.

In witness whereof we have hereunto subscribed our names in the presence of two subscribing witnesses.

CHARLES HENRY BIGGS.
FRANK H. FAIRCHILD.

Witnesses:

R. MASON,
M. A. HOWEY.