(No Model.) 2 Sheets—Sheet 1.

T. J. COLLINS.

CHAIR.

No. 511,195. Patented Dec. 19, 1893.

Fig 1.

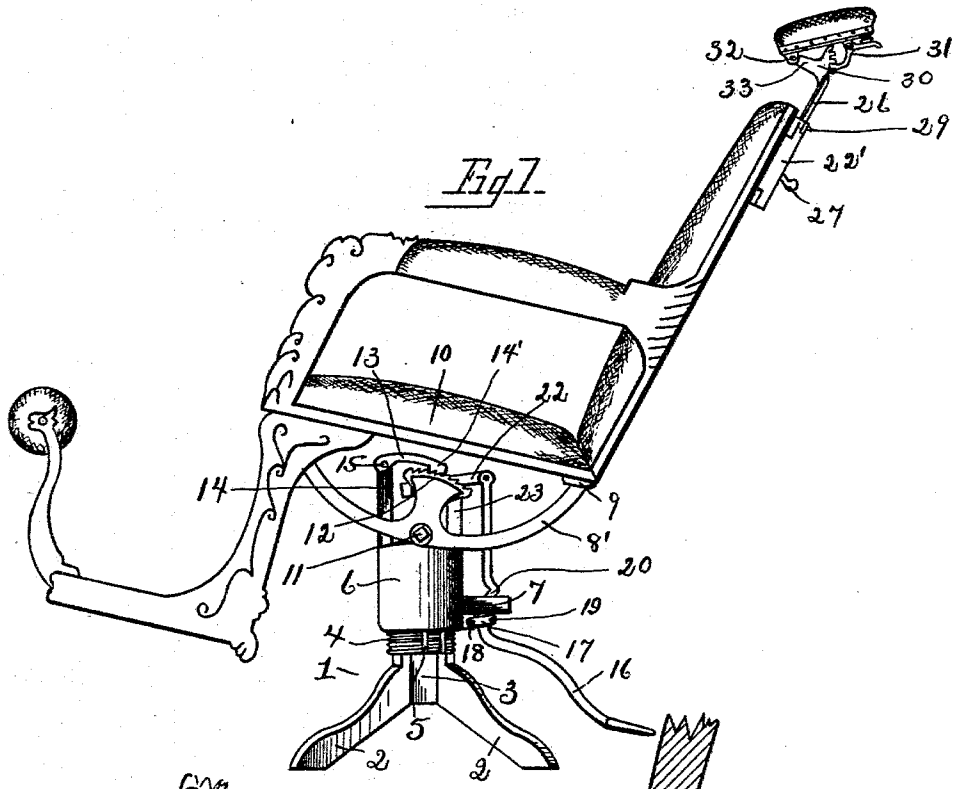
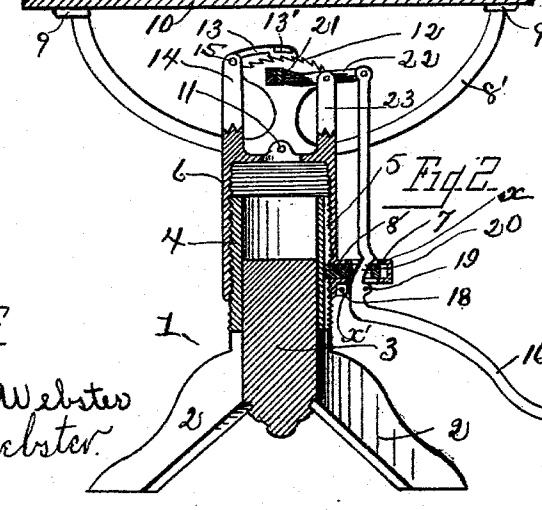


Fig 2.



WITNESSES.

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(No Model.) 2 Sheets—Sheet 2.

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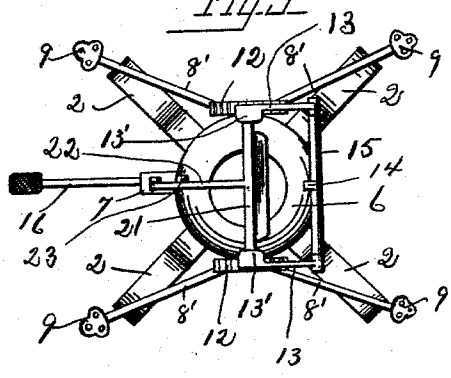
Fig. 1



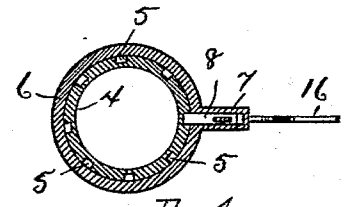
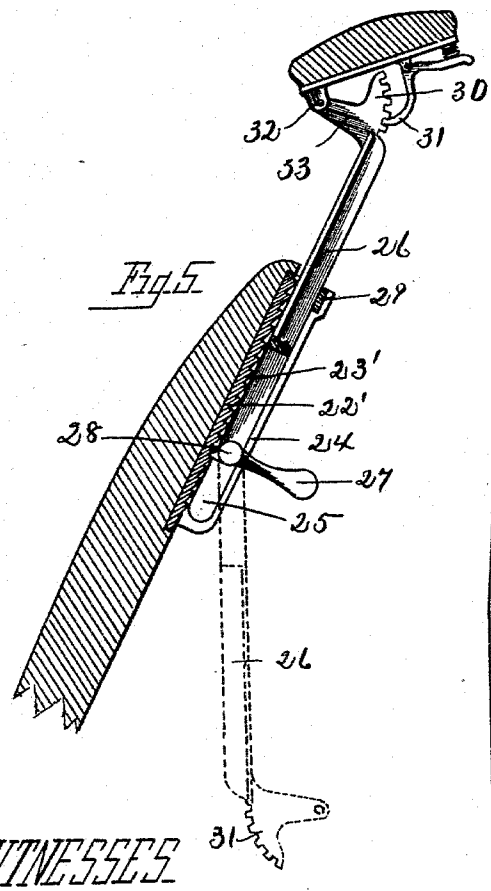


Fig. 4

Fig. 5



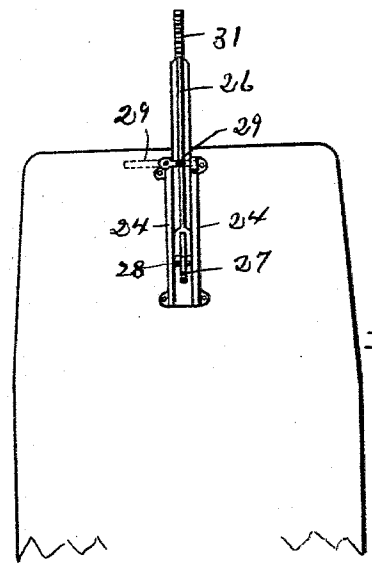


Fig. 6

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UNITED STATES PATENT OFFICE.

TIMOTHY J. COLLINS, OF TOLEDO, OHIO.

CHAIR.

SPECIFICATION forming part of Letters Patent No. 511,195, dated December 19, 1893.

Application filed December 10, 1892. Serial No. 454,751. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY J. COLLINS, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Chairs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

My invention relates generally to chairs, and particularly to chairs intended for barbers' or dentists' use, the object of the invention being to provide certain novelties of construction in this class of chairs whereby they are greatly simplified, strengthened, and rendered cheaper of manufacture.

A further object is to provide means for allowing the chair seat to revolve and tilt and locking the same in its rotary adjustment by means of mechanism connected with a foot lever.

A further object is to provide a head rest support with a vertical adjustment as to height, with an adjustable head rest, and a pivotal movement of the support, whereby the support and head rest may be moved radially upon the pivot to allow the same to swing below the top of the back of the chair.

A further object is to provide a chair with adaptability to all uses for which it is intended, without removing any of the parts.

In the drawings: Figure 1 is a side elevation of a complete chair. Fig. 2 is a longitudinal vertical sectional view of the base, and a portion of the seat showing the means for unlocking the catches to allow tilting of the seat, and also for revolving the same. Fig. 3 is a plan view of the base and mechanism connected therewith for allowing the chair to tilt and locking the same in adjustment. Fig. 4 is a cross sectional view of the standard of the base, and the internal screw threaded support and the catch for securing the seat in revoluble adjustment. Fig. 5 is a detail sectional view of the back and the head rest, pivotally connected therewith, showing the head rest in vertical adjustment in full lines, and dropped out of the way in dotted lines. Fig. 6 is a sectional elevation of the back of the chair, showing the swinging standard of the head rest in position, the locking lever being shown in full lines as engaged with the catch, and in dotted lines as disengaged.

1 designates the base of the chair comprising the legs 2 secured to the post 3, upon which is secured an exteriorly threaded cylindrical shell 4, having grooves 5 chased longitudinally of the shell, and transversely of the threads.

6 designates a tubular internally screw threaded seat support run upon shell 4, and revoluble thereon to either adjust the seat vertically or radially, and formed with a rectangular chamber 7 upon one side, in which is arranged a dog 8 adapted to enter the grooves 5 and lock the support from revolution, or when withdrawn, allow the support to revolve to adjust the same either radially with respect to the standard, or as to height.

8′ designates curved bars secured at each end 9 to the bottom 10 of the chair and pivotally connected at their centers to the seat support as at 11, to allow the seat to have a free tilting motion when desired. Each bar 8′ is formed with a ratchet faced segment 12, which projects upwardly above the central pivotal point. The ratchet teeth of one segment project to the front of the chair, while those of the opposite segment project to the rear.

13 designates the locking pawls one for each segment and the teeth of each pawl are inclined to engage with its respective segment. The pawls are pivoted upon a horizontal cross bar 15, which is connected to the standard 14 which extends from the tubular seat support 4. This cross bar 15 may be cast integral with the standard 14 or said standard may carry a tubular box in which this bar may be journaled. Each pawl 13 is also formed with an inwardly projecting lug 13′ by means of which it can be lifted out of engagement with the segments whenever desired. The pawls 13 are raised to allow of tilting the chair by means of a foot lever 16, connected with the support by means of two links 17, pivotally attached to the support at 18, the opposite ends being also pivotally secured to the lever at 19, whereby when the outer end of the lever is pressed upon, the body of the lever

(which is at an angle to the foot portion, to extend parallel with the support) is caused to move downwardly, and as the body is formed with a portion 20 having inclined faces x and x' which pass through the body of the dog 8, as the body is forced down, the dog is forced outward, by means of the incline x and as the body rises as pressure is removed from the foot of the lever the opposite incline x' forces the dog into engagement with a groove 5. The upper end of the body of lever 16 is connected with a bar 21 of a length to contact with lugs 13′ formed on the inner sides of the pawls, and raise the pawls when the lever 16 is depressed, the connection between the body of lever 16 and bar 21 being by means of a lever 22, pivoted centrally upon a standard 23 formed upon the support, the outer end being pivotally secured to the upper end of lever 16, and the inner end firmly secured to bar 21 which bar is of sufficient weight to normally drop from contact with the pawls, and in doing so as soon as pressure is removed from the foot lever raises the body portion and forces the dog 8 into a groove. It will be observed that links 17 are of the right length to permit the lever 16 to be depressed sufficiently to raise bar 21 to allow of tilting the chair, and the incline x of the body to withdraw the dog to allow of revolving the same if desired, and when horizontal allow the pawls to drop into engagement, and the opposite incline x' to force the dog into the groove.

Heretofore the head rest has usually been detachably connected with the chair, which has necessitated the removal of the same for the purpose of cutting hair, and the attachment of the same for the purpose of shaving. I have overcome this necessity by pivotally connecting the standard of the head rest to the back of the chair, whereby the rest is conveniently swung out of the way when desired, and as conveniently secured in position.

I will describe a preferred way of providing for removing the head rest from its vertical position, without removing it from the chair.

22′ indicates a casting secured to the back of the chair and adapted to receive the head rest support. This casting has a ratchet faced portion 23′, which extends from the top to the bottom of the same, and upon each side of the ratchet portion 23′ are formed the flanges 24, having longitudinal grooves 25 upon their inner faces, said grooves extending from the bottoms of the flanges through the tops of the same to permit the pivot pin of the head rest support to enter said grooves.

26 designates the head rest support bifurcated at the bottom to allow of securing a hand pawl 27 between the bifurcated portions by means of a pivot pin 28 which extends through the support, hand pawl, and into the grooves 25 and thereby acts as a journal upon which the hand pawl may be moved into or out of disengagement with the ratchet face 23′ to determine the height of the head rest, and also a pivot upon which the support for the head rest may swing, as shown in full and dotted lines, Fig. 5, the support being held when vertical by means of a latch 29, pivotally connected with one flange of the casting, and swinging into a catch at the opposite side to secure the support as shown in full lines Fig. 6, or thrown to one side as shown in dotted lines in the same figure, to allow the support to swing downwardly. The outer end of the pawl 27 is weighted to normally hold this pawl in engagement with the ratchet face 25. The head rest support 26 is formed at its upper end with a toothed segment 30 and projecting forwardly from said segment is an arm 33 to which the head rest is pivoted at 32. Connected with the head rest is a spring catch 31 adapted to engage the toothed segment 30 and by means of which the head rest can be adjusted to the proper angle.

From the foregoing the operation will be readily understood.

To adjust the chair to adapt the same to the height of the operator, the foot lever is depressed, and the seat is revolved to either raise or lower the same, the result being attained by means of the interiorly threaded seat support 6. To incline the seat to place the occupant in the desired position, the foot lever is depressed, raising the pawls 13 from the ratcheted segments 12, and the seat is free to tilt, the same operation withdrawing the dog 8 from the groove 5 when the chair may be revolved to adjust the same as to height, the head rest being adjusted to the occupant of the chair, vertically, by means of hand pawl 27 and as to inclination by means of catch 31. When it is desired to dispense with the head rest as is the case in hair cutting, latch 29 is raised and the head rest allowed to swing down out of the way.

It will be understood that by reason of the inversely inclined ratchet faces and reversely inclined ratchet teeth upon the pawls, one pawl holds the seat from tilting forward, and the other from a backward tilt. It will also be seen that by reason of weighting the handle of the hand pawl 27, the locking operation of the pawl is automatic when the head rest is being adjusted vertically.

While I have described the invention as applied to a barber's chair, it is equally as applicable to a dental chair, as by my means for tilting the chair and adjusting the head rest, I am enabled to attain sufficient adjustment in the chair as required for dental work.

What I claim is—

1. In a chair, a base, a cylindrical exteriorly screw threaded shell secured thereon, having transverse grooves along its length, a seat support threaded upon the shell having a dog for engagement with the grooves, bars pivotally secured upon the support, having ratcheted segments, the ratchet teeth of the segments being inclined in opposite direc-

tions, pawls pivotally secured to the seat support and adapted to engage the ratcheted segments to adjust the inclination of the seat, and a single lever to operate the said dog and pawls.

2. In a chair, the combination with a support, of the seat bars pivoted thereto, the segments carried by the seat bars and having ratchet teeth inclined in opposite directions, pawls pivoted to the support and having their teeth to correspond with their respective segments, and a foot lever and connections for simultaneously lifting both the pawls from their segments.

3. In a chair, the combination with a support, of the seat bars pivoted thereto, the ratchet segments arranged centrally of the seat bars and having oppositely inclined teeth, the pawls upon the support for engagement with the segments, and having oppositely inclined teeth, and inwardly projecting lugs, the foot lever and the lifting bar pivoted on the support opposite the pawls and connected with the foot lever for engaging the pawls to raise the same simultaneously.

4. In a chair, the combination with the standard threaded and grooved, of the support carrying a dog the seat bars carrying the segments, having oppositely inclined ratchet teeth the pawls, the lifting bar and the foot lever connected with the support, passing through the dog and provided with inclined faces whereby the pawls can be lifted and the dog thrown back at one and the same time.

5. In a chair, a head rest comprising a casting having a ratchet face and grooved flanges, a support having a pivot pin and pawl at its lower end and a head rest proper at its upper end, and a latch pivoted to one of the flanges of the casting and adapted to engage the other and hold the head rest in position.

6. In a chair, the combination with a casting having a ratchet face and grooved flanges, of a head rest support having a pivot pin, and a pawl and handle connected with the said pin, and the latch pivoted to one of the flanges and adapted to engage the other to hold the support in position.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

TIMOTHY J. COLLINS.

Witnesses:
WILLIAM WEBSTER,
CARROLL J. WEBSTER.