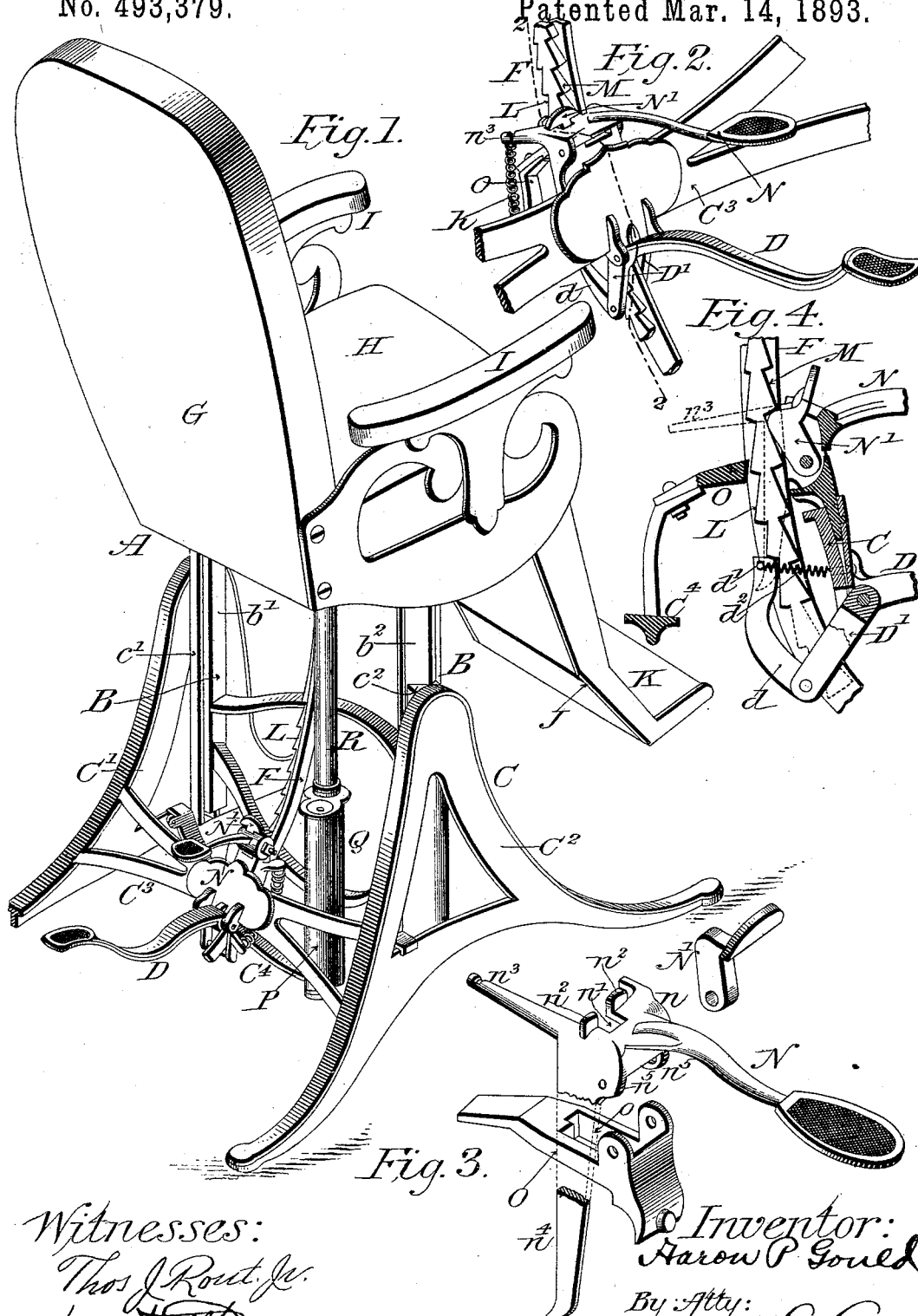


(No Model.)

A. P. GOULD.
DENTAL CHAIR.

No. 493,379.

Patented Mar. 14, 1893.



Witnesses:

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UNITED STATES PATENT OFFICE.

AARON P. GOULD, OF CANTON, OHIO.

DENTAL CHAIR.

SPECIFICATION forming part of Letters Patent No. 493,379, dated March 14, 1893.

Application filed March 16, 1889. Serial No. 303,616. (No model.)

To all whom it may concern:

Be it known that I, AARON P. GOULD, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have
5 invented a new and useful Improvement in Dental Chairs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

10 My invention relates to an improvement, as hereinafter claimed, in chairs of the class in which the chair frame or body is so mounted upon suitable supports as to be vertically adjustable, and my object is to provide means
15 by which the chair body may be quickly raised or lowered and firmly held in its adjusted position while securing a firm, simple, and durable construction of parts.

In the accompanying drawings,—Figure 1
20 is a view in perspective of my improved chair. Fig. 2 is a similar view, on an enlarged scale, of the mechanism for raising and holding the body of the chair in adjusted position. Fig. 3, is a similar view, enlarged and detached,
25 of the locking pawl, releasing lever, and the support therefor. Fig. 4 a vertical longitudinal section on the line 2—2— of Fig. 2.

A support for the chair frame or body A is shown as consisting of a frame B having vertically adjustable connection with the base or
30 pedestal C and actuated by means of the lever and pawl D, *d*, operatively held on the base C and in automatic engagement with a lifting rack bar F which in turn is pivotally
35 secured to the upper portion of the frame B. The chair frame or body A is of the usual or any preferred form and as shown is composed of a seat and back section G—H, arms I and leg and foot rest J—K.

40 To the under side of the seat section and in any desired manner is rigidly secured the body carrying frame B to which is pivotally secured the lifting bar F, which bar is provided on its opposite edges, respectively,
45 with the teeth L, M. The base or pedestal C, is, as shown, composed of two "A" frames C¹—C² rigidly connected by the cross struts C³—C⁴. The "A" frames are provided on their inner faces with vertical tracks or ways
50 *c'* *c*² in which, move the projections *b* *b'* formed on the body carrying frame B.

The mechanism co-operating with the lift-

ing rack F to raise the chair body is in location and composition as follows: On strut C³ and centrally thereof and of the chair is pivotally secured a lifting lever D having forwardly and downwardly extending portions D' between which a lifting pawl *d* having a pin *d'* at its upper end is pivotally held. A
55 spring *d*² secured to the pin *d'* and to the strut C³ serves by its contractile force to hold the pawl normally in engagement with a tooth L of the rack bar F. To secure the chair body in desired vertical adjustment a gravity pawl N' pivotally carried by a releasing lever N is
60 provided. The said gravity pawl is provided with a T shaped upper portion which is engaged by a projection on the releasing lever as hereinafter described. A support O rigidly secured to the cross struts C³ C⁴ and slot-
65 ted as at *o* for a purpose hereinafter set forth provides a pivotal support for the releasing lever N. The last named lever is cast in one piece and is provided with a lateral extension *n* having a slot *n'*, upturned lugs *n*² at
70 the sides of the slots, an approximately horizontal forwardly extending finger *n*³ a downwardly extending finger *n*⁴ and lugs or ears *n*⁵. The releasing lever is returned to its
75 normal elevated position by means of a spring *h* connected respectively to the finger *n*³ of the lever and the strut C³.

The parts assembled are in position for operation as follows: The lifting lever by its downwardly and forwardly extending portions embraces the rack bar F thus bringing
80 the lifting pawl to the rear of said bar and in engagement with the teeth L. Above the lifting lever but to the front of the rack bar the gravity pawl and its releasing lever are
85 located, the said pawl by this arrangement engaging the teeth M on the front of the rack bar, which bar thus passes between the two pawls N' *d*—and through the slot *o* of the support O. The gravity pawl rests in the slot
90 *n'* of the releasing lever with its T shaped portions in engagement with the lugs *n*² thereof and adapted to be operated thereby. It will be observed that the releasing lever is through its lugs *n*⁵ pivoted to the support O
95 and that at its upper end it is connected with the gravity pawl as above set forth while its lower end through the medium of the finger *n*⁴ and pin *d'* established a connection with
100

the pawl d of the lifting lever. It will thus be seen that the pawls $N' d$ are simultaneously withdrawn from the rack bar when it is desired to lower the chair.

- 5 To govern the rapidity of the descent of the chair when the pawls are released from the rack bar I provide a fluid retarding mechanism of the usual or any preferred form consisting broadly of a piston R carried by and
10 moving with the chair body and reciprocating vertically in a cylinder P secured to the base of the chair and communicating by the usual valve mechanism with the reservoir Q.
- Such being the construction and the arrangement of the parts, the operation thereof is as follows: To raise the chair the operator presses upon the lever D the pawl d engaging one of the teeth L of the rack whereby the body of the chair is raised a given distance
20 and held by the gravity pawl engaging one of the teeth M. This movement may be repeated until the body of the chair is raised to the desired height in which position it is secured by the gravity pawl. To lower the
25 chair body, pressure is applied to the releasing lever by which the gravity pawl is released from the teeth M of the rack through the action of the lugs n' thereon while at the same time the finger n^4 of the lever engaging
30 the pin d' of the pawl d simultaneously disengages the latter from the teeth L. The

pawls being released from the rack bar the chair body resting on the frame B and piston R gradually descends, the fluid being forced under pressure from the cylinder to
35 the reservoir in a well known manner, until the desired point is reached and the lever N being released is through the spring n^3 returned to its normal elevated position thereby allowing the pawl $N' d$, to simultaneously
40 engage the rack bar the former by gravity the latter through the stress of the spring d^2 .

Having thus fully described the nature and object of my invention, what I claim, and desire by Letters Patent, is— 45

In a chair the combination of a base, a vertically reciprocating frame supported in the base, a rack for elevating the frame, a lifting lever carrying a pawl, to engage the rack, a lever carrying a holding pawl held in engagement with the rack, and a finger operated by
50 the lever carrying the holding pawl and so located as to engage the lifting pawl and release it at the same time the lever releases the holding pawl substantially as set forth. 55

In testimony whereof I have hereunto set my hand this 8th day of March, A. D. 1889.

AARON P. GOULD.

Witnesses:

W. K. MILLER,
CHAS. R. MILLER.