(No Model.) 3 Sheets—Sheet 1.

D. B. HARTLEY.

RECLINING CHAIR.

No. 263,174. Patented Aug. 22, 1882.

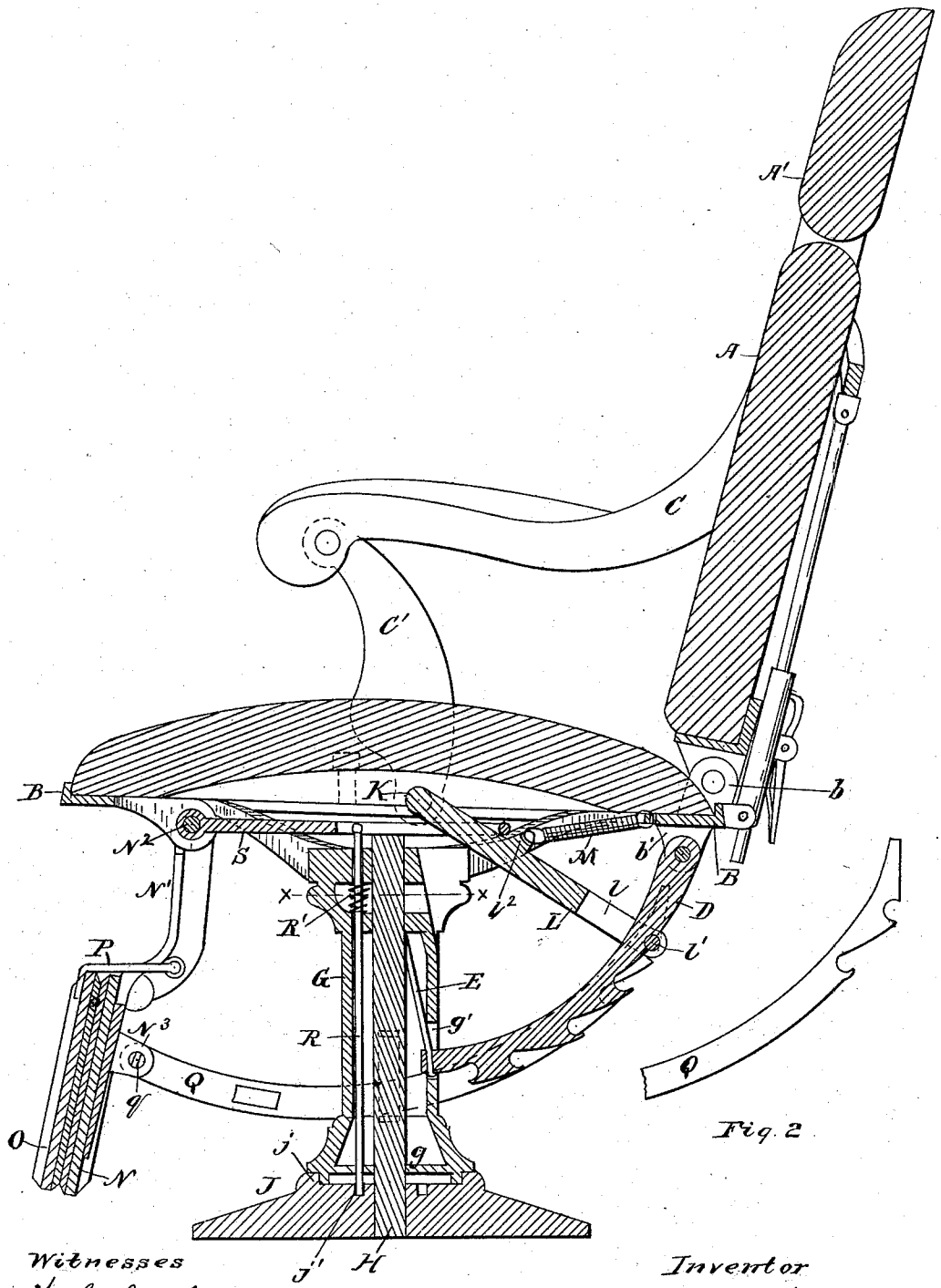


Fig 1

Fig. 2

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(No Model.) 3 Sheets—Sheet 2.

D. B. HARTLEY.

RECLINING CHAIR.

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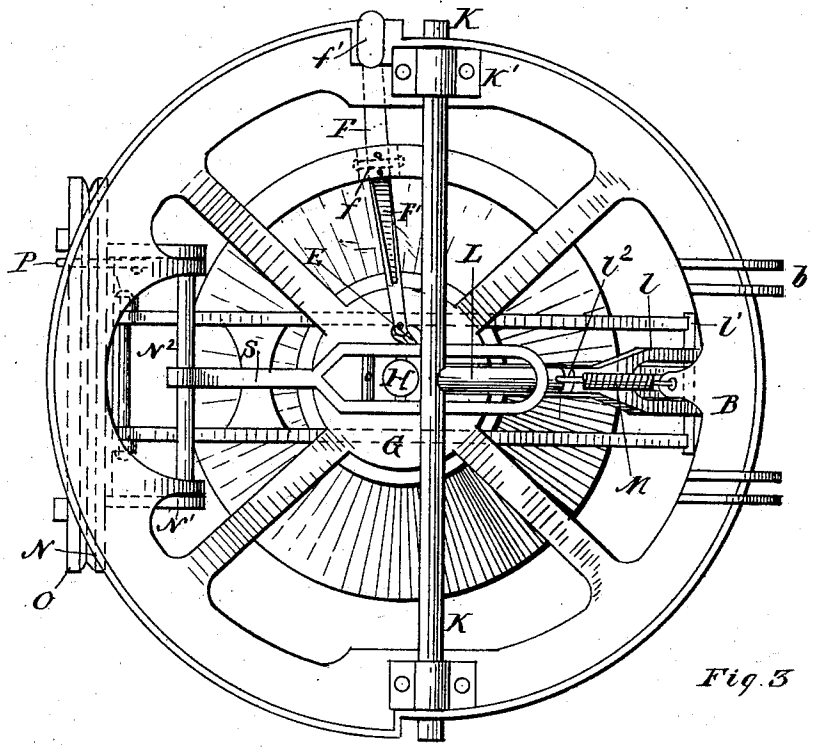


Fig. 3

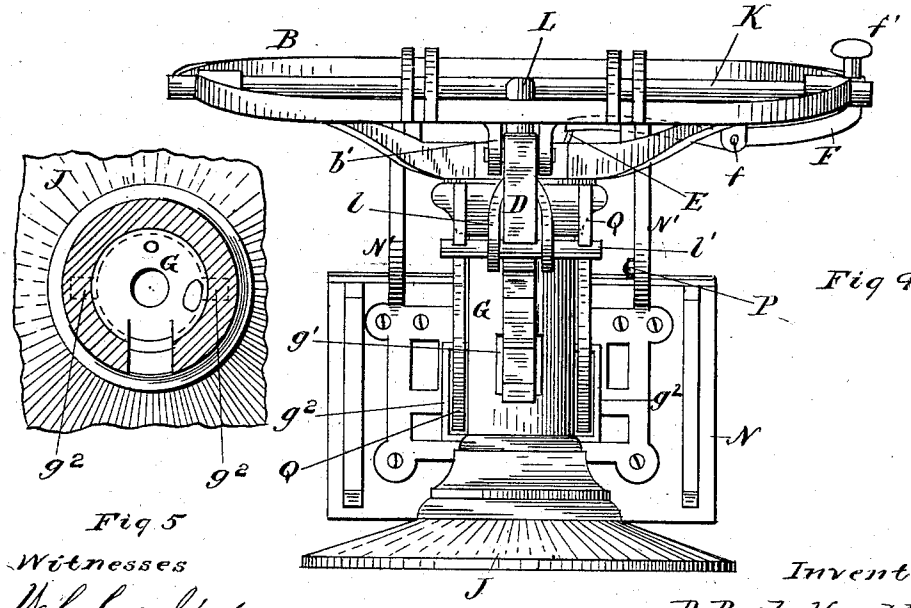


Fig 4

Fig 5

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(No Model.) 3 Sheets—Sheet 3.

D. B. HARTLEY.

RECLINING CHAIR.

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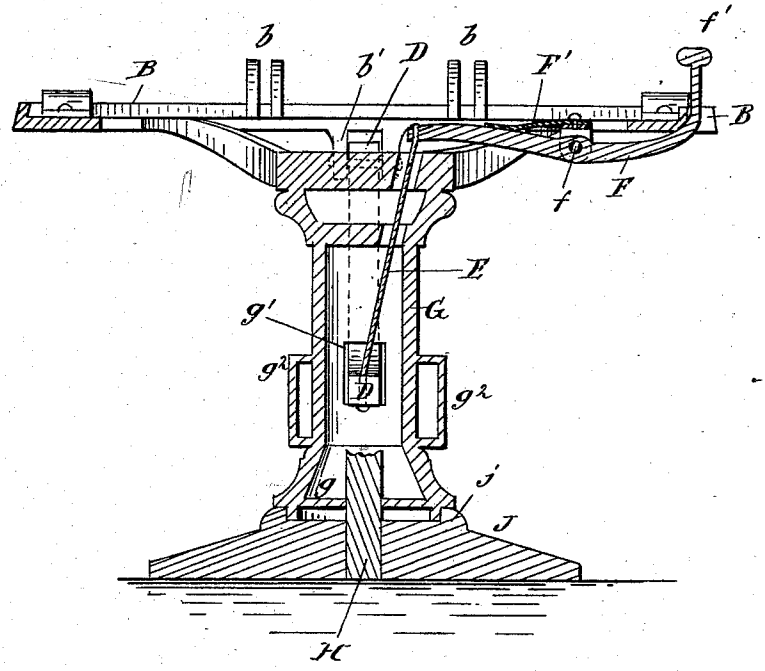


Fig. 6

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UNITED STATES PATENT OFFICE.

D. BERT HARTLEY, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO THE UNION BRASS MANUFACTURING COMPANY, OF SAME PLACE.

RECLINING-CHAIR.

SPECIFICATION forming part of Letters Patent No. 263,174, dated August 22, 1882.

Application filed March 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, D. BERT HARTLEY, a citizen of the United States, residing at the city of Chicago, in the county of Cook, in the State of Illinois, have invented certain new and useful Improvements in Reclining-Chairs, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical front and rear section of a reclining-chair provided with my improvements. Fig. 2 is a detailed side elevation of one of the pair of ratchets connecting the leg-rest with the chair-back, part of its length being broken away. Fig. 3 is a top plan view of the chair-base, the back and cushion being removed. Fig. 4 is a rear elevation of the same. Fig. 5 is a detailed section on the line *x x* in Fig. 1, looking downward, the margin of the base-plate being broken away. Fig. 6 is a transverse diametrical section of the seat-frame and its standard, looking toward the back of the chair.

The same letters denote the same parts in all the figures.

My invention relates to reclining-chairs; and it consists in the several devices and combinations of devices, which will be fully described hereinafter, and definitely pointed out in the claims, the object being to facilitate the conversion of the chair from the sitting to the reclining adjustment, and its adjustment in different positions horizontally to provide for readily connecting and disconnecting the leg-rest and chair-back, and for conveniently locking the foot-rest against the leg-rest when the former is not in use.

In the drawings, the improvements which I am about to describe are shown in connection with a chair of the same general construction as those which form the subjects of Letters Patent No. 229,701, granted to me July 6, 1880, and of an application for patent filed by me in the month of September, 1881, and now pending.

In the drawings, A denotes the chair-back, hinged to the lugs *b*, which project upward from the rim of the seat-frame B. This chair-back is provided with an adjustable head-rest, A′. On each side of the back is pivoted the upper joint, C, of an arm-rest, which upper joint has pivoted to its farther end a lower joint, C′. On the under side of the rim of the seat-frame B and below the middle of the chair-back is provided in the lugs *b′* a ratchet, D, which extends forward under the chair-seat, and is curved in a circular arc to correspond to the swinging of the back. Through a slot at the forward end of this ratchet passes the lower end of a nearly-vertical rod, E. A button at the tip prevents it from being lifted out of the slot. The upper end of this rod is pivoted to the inner end of a transverse lever, F, having its fulcrum at *f* on the under side of one of the arms of the seat-frame. The outer end of the lever extends to the margin of the seat-frame, where it carries a knob or button, *f′*, which projects up through a slot in the rim of the frame, so as to be within easy reach of the occupant of the chair. All these features have been already shown either in the patent or in the application referred to.

I will now proceed to describe those improvements which constitute the present invention.

The seat-frame B rests at its center on an upright tubular standard, G, to the top of which it is rigidly affixed; or the standard may be cast in one piece with the seat-frame. In either case the standard is closed at its upper end by the plate which forms the center of the seat-frame. A spindle or shaft, H, passes axially through the standard, and is rigidly set in the base-plate J. Passing through the center of the seat-frame at its upper end and through the corresponding diaphragm, *g*, at its lower end, this spindle forms a bearing on which the standard (carrying with it the seat-frame) may revolve within the flange *j* of the base-plate. A slot, *g′*, in the back of the standard receives the forward end of the ratchet D, whose other end is pivoted to the seat-frame. The length of the slot vertically is determined by the distance through which the ratchet is to be raised and lowered. The rod E, by which the ratchet is raised and lowered, is arranged within the standard G, its upper end passing through an opening in the center plate, which forms the top of standard G.

The lower joints, C′, of the arm-rests are rigidly affixed to the respective ends of a rock-

shaft, K, which turns in boxes K′, affixed to the upper side of the rim of the seat-frame, or in other suitable bearings. From the middle of this rock-shaft a rocking arm, L, extends downward and backward, so as to inclose the ratchet D, with its forked end *l*, and the pin *l′*, which joins the two branches of the fork and rests in the notches of the ratchet when the latter is in its lowest position. So long as the ratchet D is in that position the chair-back is securely locked at the angle corresponding to that notch of the ratchet in which the pin *l′* rests. By depressing the knob *f′* the rod E will be lifted, drawing the ratchet D up out of contact with the pin *l′*. The chair-back may then be turned on its hinges into any desired degree of inclination within the range limited by the highest and lowest positions of the forked end of the rocking arm. Then on removing the pressure from the outer end of the lever F the rod E will no longer hold up the forward end of the ratchet, and the ratchet will fall so as to engage again with the pin *l′* at the end of the rocking arm, and the chair-back will be securely locked in its new position. The top of the standard is slotted at the back, so as to allow the arm L the requisite range of vibration. The fall of the forward end of the ratchet is facilitated by a spring, F′, affixed at one end to the upper side of the arm, which affords a fulcrum to the lever F, and pressing the weight-arm of the lever downward with its other end. This secures the locking of the ratchet and the pin *l′* the instant the pressure is removed from the knob *f′*. The suddenness with which the chair-back would fall from a higher to a lower position on the lifting of the ratchet out of contact with pin *l′* is checked by a coiled spring, M, connecting the rocking arm L with the rim of the seat-frame B at a point under the middle of the chair-back. A perforated lug, l^2, near the middle of the arm L, affords a point of attachment for the forward end of the spring.

A leg-rest, N, is pivoted to the front of the chair-frame by means of the hangers N′, rigidly affixed to the respective ends of a rock-shaft, N^2. It has hinged to it a foot-rest, O. On the inner side of one of the hangers N′, near its lower end, is pivoted a hook, P, long enough to hold the foot-rest folded against the leg-rest when they are not in use, and so short as not to come in contact with the seat-frame in its upright position. It can thus be swung back under the seat and out of the way when the foot and leg rests are to be opened. On the back of the frame of the leg-rest are raised a pair of lugs or brackets, N^3. Through holes in these passes a rod, *q*, which also passes through the forward ends of a pair of ratchet-arms, Q, and thus connects them with the leg-rest. The rod *q* may be secured at its ends by a flange and nut or other equivalent fastening. The ratchet-arms Q are curved to correspond with the arc described by the forked end of the rocking arm L, and they extend far enough back under the seat-frame for the notches at their rear ends to engage with the pin *l′*, which projects beyond the forked ends of the lever L far enough for this purpose. By reason of this engagement the adjustment of the leg-rest corresponds with that of the chair-back, the former rising, as the latter falls, toward a horizontal position. By slightly lifting the rear ends of the ratchet-arms—an operation which is facilitated by their pivotal bearing on the rod *q*—they may be disengaged from the pin *l′*, so that the leg-rest can be swung independently of the chair-back and locked in any desired position by the engagement of its notches with the guides or ears g^2, which are set on the sides of the standard G and through which the arms Q pass. The particular arrangement of notches shown in the drawings is such that the forward notch on each arm will engage with the corresponding ear when the leg-rest is in a horizontal position.

It is obvious that by increasing the number of notches the number of independent adjustments of the leg-rest may be proportionately increased.

Within the tubular standard and a little in front of the spindle H is an upright rod, R, long enough to project a little through a hole in the top of the standard while resting in one of the sockets *j′* of the base-plate. A coiled spring, R′, attached to the rod and to the standard, tends by its elasticity to force the rod down into the socket. A lever, S, pivoted at its forward end on the rock-shaft N^2, is connected by any convenient means with the upper end of the rod R, and extends back of the standard in the form of a loop around and over the rocking arm L, with which it comes in contact just forward of the lug l^2. By releasing the chair-back by the means already described, and tipping it slightly forward, the rocking arm L will lift the free end of the lever S, whereby the rod R will be lifted out of the socket *j′*, and the chair can then be turned upon the base-plate by means of the tubular standard, and be locked again in the opposite or (by making the number of sockets sufficient) in any intermediate position, the spring R′ forcing the rod R into any socket registering with it as soon as the lever S is released.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The upright tubular standard G, provided with the slot *g′* and guides g^2, in combination with the circularly-flanged base-plate J, with the upright spindle H, with the seat-frame B, rigidly affixed to the top of the standard, with the ratchets D and Q, arranged as described, and with means for lifting the forward end of D, substantially as and for the purposes described.

2. In a reclining-chair, a tubular standard slotted at the back, as described, a chair-back hinged to the seat-frame, a transverse rock-shaft having its bearings in the seat-frame,

arm-rests rigidly affixed to the ends of the rock-shaft and connected with the chair-back, a ratchet pivoted to the back part of the seat-frame and curving downward and forward into the slot of the standard, means arranged within the standard for lifting the forward end of the ratchet, and a rocking arm rigidly affixed at its forward end to the rock-shaft, and forming at its rear end a loop through which the ratchet passes, and of suitable length to engage with the notches of the ratchet when the latter is not lifted, all in combination, substantially as and for the purpose described.

3. The leg-rest N, foot-rest O, hinged to the leg-rest, hangers N′, pivoted to the front of the seat-frame, hook P, arranged as described, ratchet-arms Q, pivotally connected with the leg-rest, rocking arm L, provided with the transversely-projecting pin *l′*, and means for imparting to the rocking arm the motion of the chair-back, all in combination, substantially as and for the purposes described.

D. BERT HARTLEY.

Witnesses:
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M. B. GAGE.