

No. 619,180.

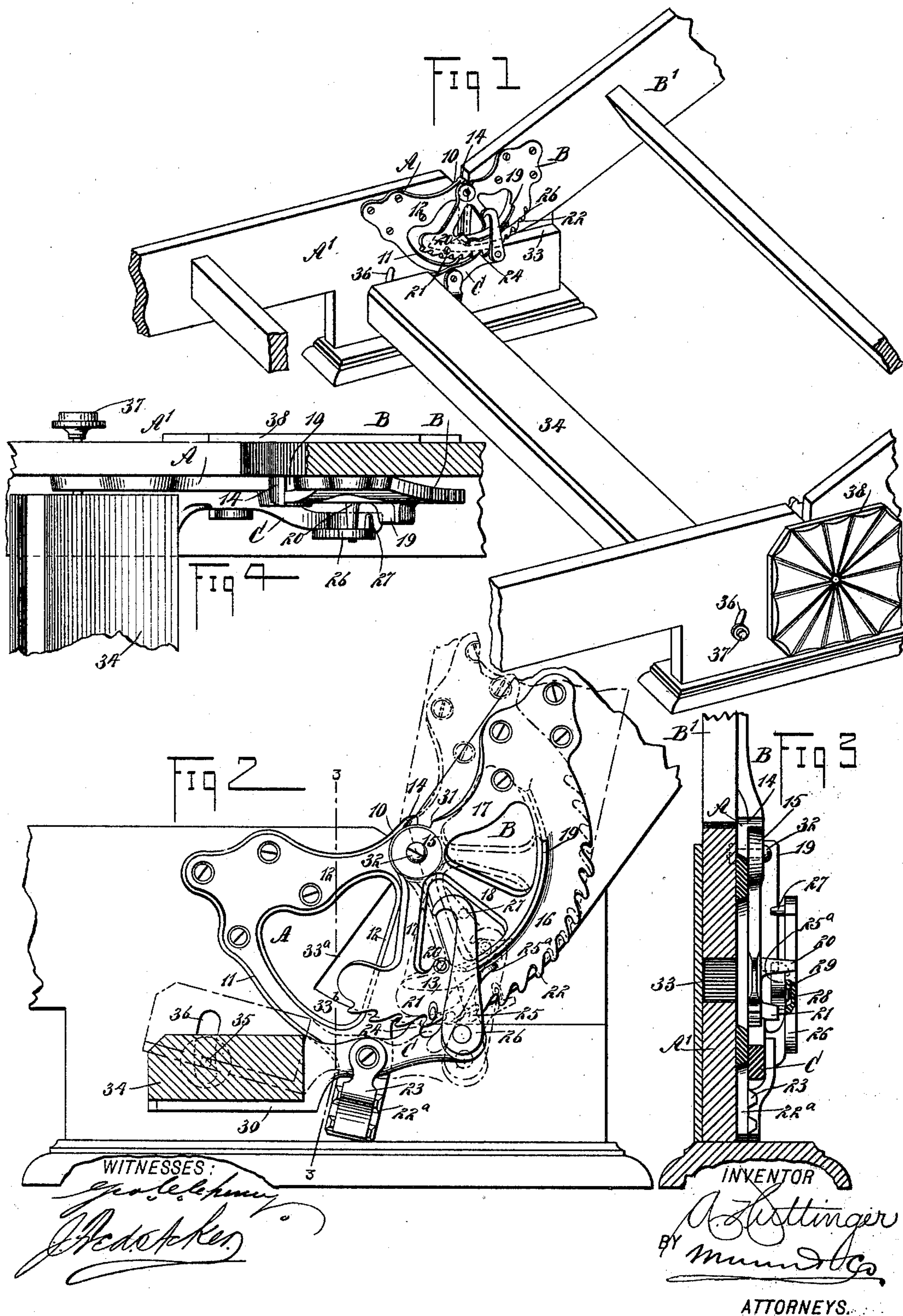
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A. HUTTINGER.

HINGE FOR COUCHES, BEDS, OR ADJUSTABLE CHAIRS.

(Application filed Apr. 8, 1898).

(No Model.)



UNITED STATES PATENT OFFICE.

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HINGE FOR COUCHES, BEDS, OR ADJUSTABLE CHAIRS.

SPECIFICATION forming part of Letters Patent No. 619,180, dated February 7, 1899.

Application filed April 6, 1898. Serial No. 676,617. (No model.)

To all whom it may concern:

Be it known that I, AMBROSE HUTTINGER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Hinge for a Couch, Bed, or Adjustable Chair, of which the following is a full, clear, and exact description.

The object of my invention is to provide a hinge for a couch, bed, or adjustable chair which will be an improvement upon the hinge for which Letters Patent were granted to me November 10, 1896, No. 571,194; and a further object of the invention is to materially simplify the construction of the hinge and to provide a hinge which when applied to an article of furniture will not be visible at any time whether the frame of said article be upholstered or not.

Another object of the invention is to dispense with the necessity of a foot-lever and to provide means for the adjustment of the head portion of a couch or bed or the back portion of a chair whereby said head portion may be carried to and held at any desired inclination relative to the bed or held in the same horizontal plane with the bed.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a portion of the head part of a couch, illustrating the application of the improved hinge thereto. Fig. 2 is an enlarged side elevation of the hinge applied to the body and head section of the couch, illustrating the hinge in two positions. Fig. 3 is a vertical section on the line 3 3 of Fig. 2, and Fig. 4 is a plan view of the improved hinge when the head-section of the couch is in its extreme upper position or the position shown in dotted lines in Fig. 2.

The hinge consists of two segmental sections A and B, in connection with which a lock-lever C is employed. The section A of the hinge is adapted for attachment to the inner face of the side rail A' of the foot of a couch, for example, or to the seat portion of a chair, while the section B of the hinge is

adapted for attachment to the inner face of a side rail or the back of a chair or head of a couch, the lock-lever being supported by a side rail on the body of the couch or by the side rail of a chair. The section A consists of a hub 10, which is at the apex of the section, side arms 12, and a segmental bottom rail 11. An extension 13 is carried rearwardly and upwardly from the inner or front side arm 12, as shown in dotted lines in Fig. 2, and at the upper peripheral portion of the hub 10 of the section A a lug 14 is formed, which extends horizontally beyond the inner face of the section. The section B of the hinge is preferably of greater radius than the section A, but is of less depth, and comprises a hub 15, a bottom segmental rail 16, sides 17, and a central spoke 18. At the upper edge of the bottom rail 16 a curved flange 19 is formed, which extends inwardly and commences at a point between the center and forward end of the said rail, terminating at a point near the rear end of the rail, as is best shown in Fig. 2.

An inwardly-extending pin 20 is preferably made integral with the upper edge of the bottom rail 16 a slight distance in front of the forward end of the flange 19, and below the pin 20 a lug 21 is formed on the inner face of the rail 16 at its lower edge, the said lug being preferably over one of a series of teeth 22, produced in the bottom edge of the said rail 16, the teeth being given a forward inclination. An arm 22^a is projected downward from the bottom rail 11 of the section A at its rear end, and upon this arm 22^a a bracket 23 is secured. The lock-lever C is pivoted between the arm 22^a and the bracket 23, and the said lever is provided with a spur 24, adapted to enter the spaces between the teeth on the section B of the hinge. At the rear end of the lock-lever an upwardly-extending member 25 is formed, being provided at the top with an inclined surface 25^a, the inclination being downwardly and forwardly.

A releasing-arm 26 is pivoted upon the lock-lever where the body connects with the upwardly-extending member 25, and the releasing-arm is of such length that it will extend beyond the upper edge of the flange 19 when the lever C is in its normal position. The upper extremity of the releasing-arm is pro-

vided with a forwardly-curved hook-like upper extremity and an outwardly-extending pin 27 at said hooked extremity. The movement of the releasing-arm is limited, preferably, by producing a socket 28 in the outer face of the arm or that face which is opposite the head portion of the lock-lever, the socket being adapted to receive a lug 29, formed upon the said lock-lever, as illustrated in Fig. 3. A bracket 30 is formed at the forward end of the lock-lever, and a shoulder 31 is produced in the upper side portion of the hinge-section B, the said shoulder being adapted for engagement with the lug 14 of the hinge-section A when the head of the couch, for example, has been carried to its highest position, as shown in dotted lines in Fig. 1 and in positive lines in Fig. 4.

As heretofore stated, the section A of the hinge is secured to the inner face of the side rail of the body of a couch, for example, and the section B is secured to a corresponding surface of the side rail of the head of the couch, the attachment of the two sections being so made that the hub 15 of the head-section B of the hinge will engage with the inner face of the hub of the body-section A of the hinge, and the two hinge-sections are pivotally connected by a bolt 32 or its equivalent passed through the two hubs.

Where the hinge connection between the body-rail and head-rail of a couch is made, a recess 33 is made in the end of the body-rail, the said recess being provided with an inclined forward wall 33^a and a bottom wall, which may be straight except where it connects with the wall 33^a, at which point the bottom wall is preferably curved, as shown at 33^b in Fig. 2, and the forward end of the side rail of the head-section is beveled and rounded at its lower edge, so that the abutting ends of the side rails may fit snugly together, when so desired, to have the head and body of the couch in the same horizontal plane.

A cross-bar 34 is attached to the bracket portions 30 of the lock-lever C, since the hinge is duplicated at each side of the couch, and a pin 35 is projected from each end of the cross-bar 34 outward through slots 36, made in the side rails of the body of the couch, the pins being provided with knobs 37 at their outer ends. The recessed portions of the side rails of the body may be entirely covered by caps 38 of an ornamental character, if desired, the caps being attached to the body-rails of the couch and extending over the joints between the head-rails and body-rails of the couch, having no connection, however, with the former.

In operation, supposing the head of a couch to be in the same horizontal plane with the body and it is desired to elevate the head, as the head is carried upward the teeth 22 will slip over the spurs 24 on the lock-levers, and when the head has been properly adjusted the spurs of the lock-levers will enter the most convenient spaces between the teeth 22 of

the hinge and securely hold the head-section in the desired position. When it is desired to drop the head-section, it is simply necessary to draw one knob 37 upward, whereupon the cross-bar 34 will be carried upward and the head ends of the lock-levers will be carried downward, releasing the said lock-levers from engagement with the toothed sections of the hinges and permitting the head-section to drop. The knobs 37 are not absolutely necessary, since the lock-levers may be carried out of engagement with the toothed sections of the hinges by other means—as, for example, the head-section may be carried upward to its highest position—at which time the shoulder 31 will engage with the lug 14, and the lugs 21 on the bottom rails of the head-sections of the hinges will ride up upon the inclined surfaces 25^a of the lock-levers and force the said levers downward, and the pins 20 on the toothed sections of the hinges will at that time engage with the hooked upper ends of the releasing-arms 26 and will force the said arms rearward or in direction of the head of the couch to insure the pins 27, carried by the releasing-arms, being placed in position to engage with the under faces of the flanges 19 of the toothed sections of the hinges when the head is dropped. Thus it is obvious that the head ends of the locking-levers will be held down and the spurs of the said levers out of engagement with the teeth 22 of the hinges until the pins 27 on the releasing-arms have passed the rear ends of the flanges 19, whereupon the weight of the cross-bar 34 will force the head ends of the lock-levers upward, the flanges affording no more resistance to the releasing-arm.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with two frames, of hinge-sections connected respectively with said frames, one of said sections being toothed, a locking-lever pivoted to the frame of the other section and arranged to engage the toothed section, and a releasing-lever pivoted to the locking-lever and arranged to hold it out of engagement with the toothed hinge-section, substantially as described.

2. The combination, with two frames, of a hinge comprising two sections attached to the said frames respectively, one of said sections being provided with teeth at its lower end, a curved flange above the teeth, a pin near one end of the said flange, and a lug opposite the pin adjacent to the said teeth, a lock-lever fulcrumed upon the frame of the other hinge-section, weighted at one end and provided with a spur near its opposite end arranged to enter the spaces between the teeth of the said hinge-section, the head portion of the lock-lever being carried upwardly in direction of the flange, terminating in an inclined plane, and a releasing-arm pivoted upon the head portion of the lever and provided with a projection adapted for engagement with the un-

der face of the said flange, for the purpose specified.

3. The combination, with a hinge comprising two segmental pivotally-connected sections arranged to slide one over the other, one section at its pivot-point being provided with a stop and the other with a shoulder for engagement with the stop, one of the hinge-sections being also provided with teeth in its lower edge, a curved flange above the teeth, a horizontal pin near one end of the flange and a lug opposite the pin at the toothed surface of the section, of a lock-lever fulcrumed upon the plain section of the hinge below the teeth of the toothed section, the said lever being weighted at one end and provided near its head end with a spur adapted to enter the spaces between the said teeth, the lever being further provided at its head portion with an upwardly-extending branch terminating in an inclined plane which is below the under face of the said flange, and a releasing-arm pivoted upon the head end of the lock-

lever, having limited movement thereon, the said releasing-arm being provided with a projection, adapted in one position of the said lock-lever to engage with the under face of the said flange, and hold the teeth of the toothed section of the hinge out of engagement with the said lock-lever, as specified.

4. The combination with two frames, of hinge-sections connected respectively with said frames, one of said sections being toothed, a locking-lever pivoted to the frame of the other section and arranged to engage the toothed section, the said toothed section being provided with a flange or stop, and a releasing-lever pivoted to the locking-lever and arranged to engage said flange and to hold the locking-lever out of engagement with the toothed hinge-section, substantially as described.

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Witnesses:

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