D. F. OLIVER.

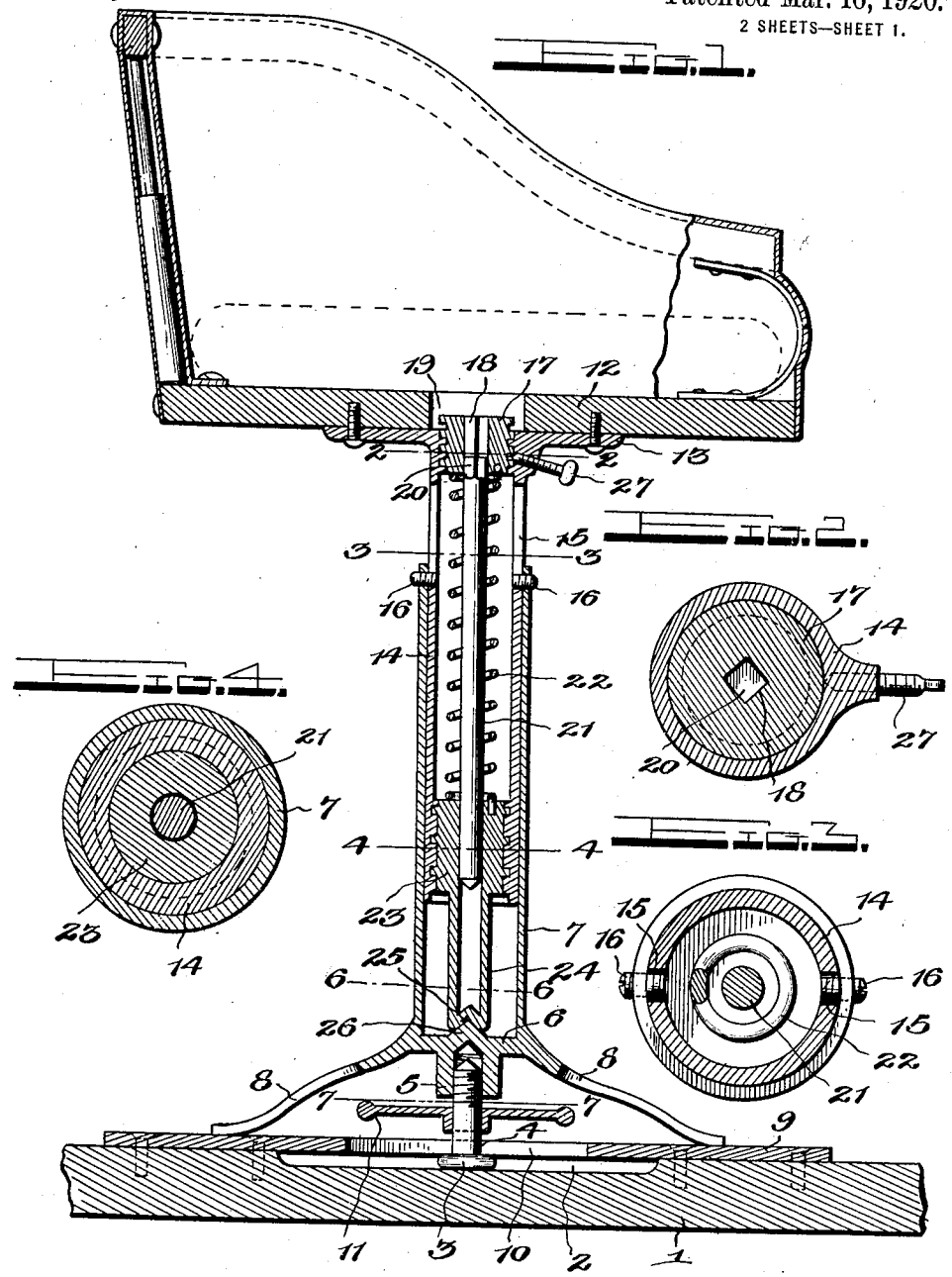
SEAT.

APPLICATION FILED JAN. 12, 1915. RENEWED AUG. 15, 1918.

1,333,993.

Patented Mar. 16, 1920.

2 SHEETS—SHEET 1.



Inventor

Doctor F. Oliver;

Witnesses

Chas. L. Griesbauer

W. H. Brenton

By G. K. Strong

Attorney

D. F. OLIVER.

SEAT.

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2 SHEETS—SHEET 2.

Fig. 5.

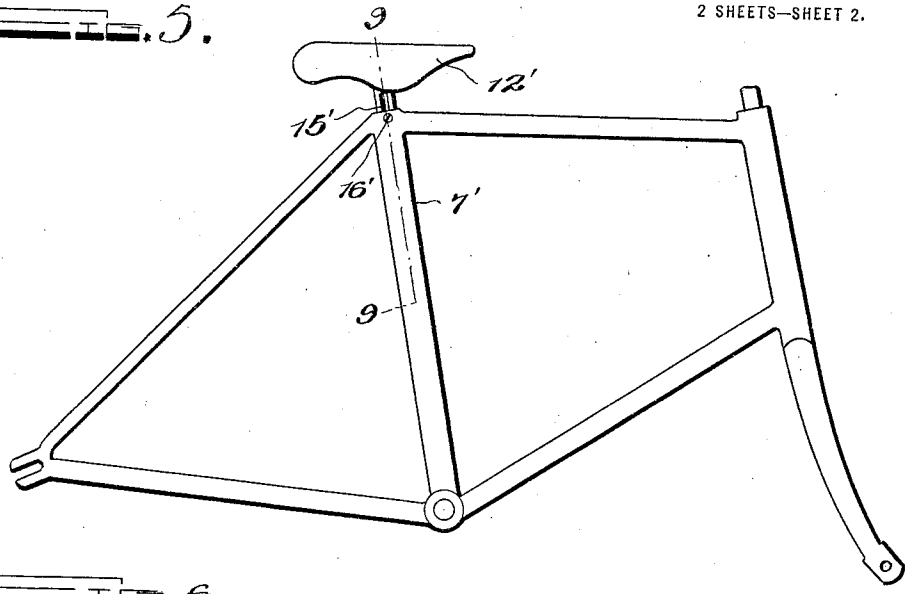


Fig. 6.

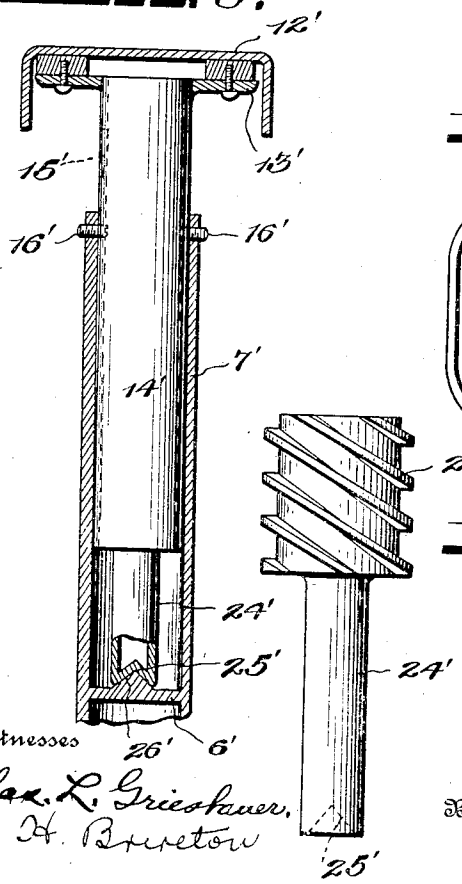


Fig. 7.

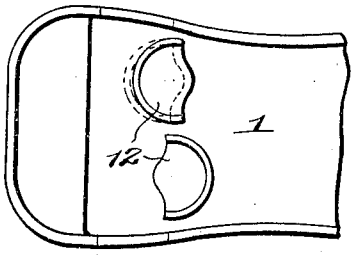


Fig. 8.

Witnesses

Chas. L. Griesbauer.

W. H. Bureton

Inventor

Doctor F. Oliver,

By G. N. Strong

Attorney

UNITED STATES PATENT OFFICE.

DOCTOR FRANKLIN OLIVER, OF OAKLAND, CALIFORNIA; LILLIE F. OLIVER EXECUTRIX OF SAID D. FRANKLIN OLIVER, DECEASED.

SEAT.

1,333,993. Specification of Letters Patent. **Patented Mar. 16, 1920.**

Application filed January 12, 1915, Serial No. 1,850. Renewed August 15, 1918. Serial No. 250,076.

To all whom it may concern:

Be it known that I, DOCTOR F. OLIVER, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Seats, of which the following is a specification.

This invention relates to certain new and useful improvements in seats and pertains more particularly to seats used in connection with automobiles or other vehicles, bicycles and office chairs.

The primary object of the invention is to provide an improved seat structure in which the seat proper is resiliently mounted through the medium of a coil spring, which latter not only affords resilient support for the seat by virtue of its compressibility, but in addition is utilized to wind and unwind upon compression and expansion to provide a resilient support of superior character.

In the drawings:

Figure 1 is a vertical sectional view of the invention;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a section on the line 3—3 of Fig. 1;

Fig. 4 is a section on the line 4—4 of Fig. 1;

Fig. 5 is a side elevation of the invention applied to a motor-cycle, or bicycle;

Fig. 6 is an enlarged section taken on the line 9—9 of Fig. 5;

Fig. 7, is a fragmentary top plan view of an automobile showing seats constructed in accordance with the present invention therein; and

Fig. 8 is a detail side elevaton of the member which is actuated upon winding and unwinding of the spring.

In proceeding in accordance with the present invention, the floor 1 of the vehicle is provided with a longitudinal groove 2 in which is both slidably and turnably received the head 3 of an upstanding bolt 4 that threadedly engages in a socket 5 formed in the lower closed end 6 of a tubular pedestal or base standard 7. The standard 7 is preferably provided with a plurality of feet 8 which bear upon a plate 9 appropriately secured to the floor 1 and which has a longitudinal slot 10 that registers with the floor groove 2 so as to allow the bolt 4 to extend up through slot 10. A hand wheel 11 is in rigid connection with the bolt 4 so that upon turning of the wheel the bolt will be similarly turned so as to frictionally lock the feet 8 to the floor plate 9, which structure allows the standard and its associated parts to be bodily shifted along the length of the slot, or to enable the seats to be partially or completely rotated, as suggested in Fig. 7.

The seat proper 12 has the flanged upper end 13 of a supporting tubular post 14 rigidly connected thereto, which post telescopes within base standard 7 and has longitudinal slots 15 into which screws 16 borne by standard 7 project, the screw and slot connections prohibiting rotary movement of the post 14 but not interfering with free vertical reciprocation thereof upon the post responding to irregular movements of the vehicle.

The post 14 is interiorly threaded at its upper end for the purpose of receiving a turnable but normally rigid plug 17, which plug has a socket 18 of angular cross-section, so as to not only receive a key-wrench which may be introduced through an opening 19 provided for the purpose in seat 12, but to also conformably receive the angular head 20 of a rod 21 which serves to maintain regularity of the convolutions of a coil spring 22.

The coil spring 22 is utilized to resiliently support the seat 12 and has its upper end rigidly connected to plug 17 and has its lower end similarly secured to a nut 23 having threads of approximately 37½° pitch, which nut is engaged with the threads at the lower end of post 14.

The nut 23 has a depending stem 24 which at its bottom is formed with a cone-shaped socket 25 that receives a cone-pointed projection 26 formed on the closed end 6 of standard 7, the stem 24 being formed hollow so as to slidably receive the rod 21.

The screws 16 also serve as stops to restrict the extent of relative outward movement of the post 14 and standard 7, and assure engagement of the stem 24 of nut 23, with the bottom 6 of standard 7.

In operation, the nut 17 is turned to effect winding of the spring 22 so as to place same under desired torsional tension, following which a screw 27 is operated to impinge

against nut 17 to lock the latter so as to maintain the spring with energy or power stored up therein.

Upon the vehicle being subjected to a jar or jolt, the downward movement of the seat is resisted by reason of compression of the spring and torsion thereof which latter is caused by the post 14 that is thrust downwardly with the seat, the spring torsion being effected by rotation of the nut 23.

Thus the downward movement of the seat is cushioned, first by reason of the compression of the coil spring; second, by torsion of the spring; and third by virtue of the friction which is set up by rotation of the nut 23, in and through the threads at the lower end of post 14 and by the friction between socket 25 and projection 26.

In Figs. 5 and 6 of the drawings, the aforementioned parts, where present, correspond to similarly designated parts with the addition of prime marks to the reference numerals. In this adaptation of the invention to bicycles and the like, the standard 7′ is the usual part of the frame utilized for support of the rider's seat 12′, the operation corresponding in all respects to that described in the foregoing with respect to vehicle seats.

In application of the invention to an office chair, the standard 7 may be secured to the usual base or foot structure, serving as the chair pedestal.

What is claimed is:

1. In combination, a pair of telescopic elements, an adjustable member carried by one element, a nut threaded into engagement with the lower end of said element and having a stem which abuts the adjacent end of the other element, and a tensioned coil spring rigidly connected to the member and nut whereby upon compression of the spring the nut will be turned by downward thrust of the first element to torsionally tension the spring.

2. In a seat support, a tubular standard, a tubular post slidable within the standard having a flange at the upper end to which the seat is fixed, and having vertical slots, screw pins fixed in the standard and entering the slots to guide the post, a plug fitting the upper end of the post, a rod connected with the plug and extending downward in the post a screw threaded nut turnable in the lower end of the post and into which the rod extends and a coil spring compressible between the plug and the nut.

3. A seat support of the character described comprising a tubular standard, a seat supporting post guided and slidable in the standard, a plug at the upper end of the post, a nut in the lower end, a coil spring surrounded rod connected with the plug and slidable in the nut, a tubular extension from the bottom of the nut having a cone-shaped socket, and a cone projecting upward within the standard and engaging the socket.

4. In a seat support of the character described, a tubular standard, a tubular post guided and slidable within the standard, a turnable plug in the upper end of the post, a screw threaded nut in the lower end, a rod extending down from the plug and guided and slidable in the nut, a coiled spring tensionally fixed and surrounding the rod between the plug and nut, and locking means to retain the plug when turned and control the torsional power of the spring.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DOCTOR FRANKLIN OLIVER.

Witnesses:
E. Bowen,
C. Smith.