F. L. WELT & W. A. WHITEHOUSE.

ADJUSTABLE SUPPORT FOR DESKS, TABLES, SEATS, OR THE LIKE.

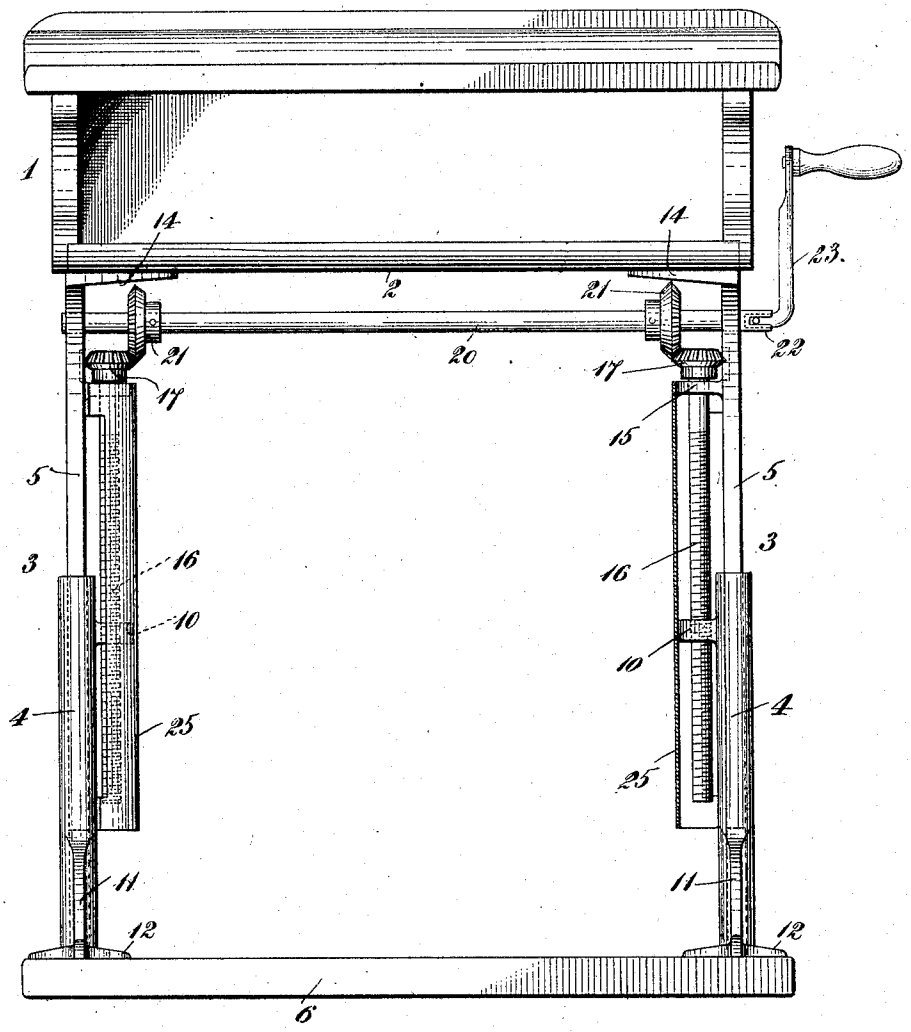
APPLICATION FILED FEB. 12, 1915.

1,300,229.

Patented Apr. 8, 1919.

2 SHEETS—SHEET 1.

Fig-1-



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2 SHEETS—SHEET 2.

Fig. 2.

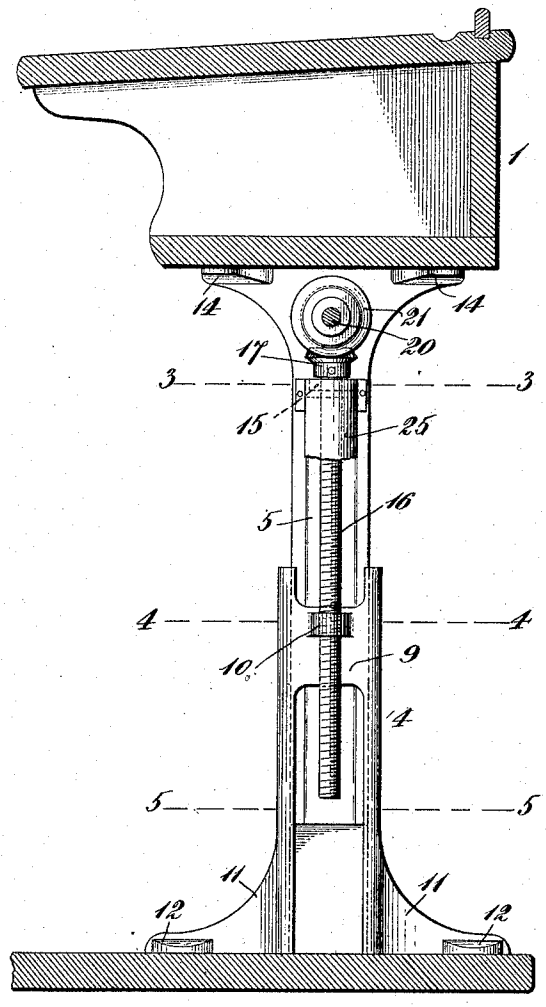


Fig. 3.

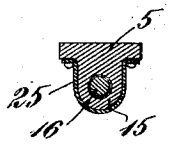


Fig. 4.

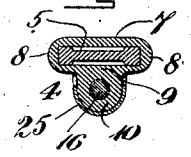
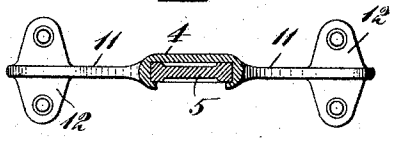


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANK L. WELT AND WILLIAM A. WHITEHOUSE, OF SOMERVILLE, MASSACHUSETTS; JENNIE E. WHITEHOUSE, EXECUTRIX OF SAID WILLIAM A. WHITEHOUSE, DECEASED, ASSIGNOR OF ONE-HALF OF THE WHOLE RIGHT TO HARRY W. HATCH, OF SOMERVILLE, MASSACHUSETTS.

ADJUSTABLE SUPPORT FOR DESKS, TABLES, SEATS, OR THE LIKE.

1,300,229. Specification of Letters Patent. Patented Apr. 8, 1919.

Application filed February 12, 1915. Serial No. 7,870.

To all whom it may concern:

Be it known that we, FRANK L. WELT and WILLIAM A. WHITEHOUSE, both of Somerville, in the county of Middlesex and State of Massachusetts, citizens of the United States, have invented a new and useful Improvement in Adjustable Supports for Desks, Tables, Seats, or the like, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The present invention relates to an adjustable support for desks, especially school desks, tables, seats, chairs or other articles requiring an adjustable support.

Among the purposes of our invention is to provide an adjustable support which can be applied to any article presenting an under side to which the support may be secured and without the necessity of changing or mutilating the article; this especially in connection with school desks, it being our object to provide a support which may be attached to any desk and especially to old desks in place of the supports, either fixed or adjustable, previously employed. It is our further object to provide an adjustable support of simple construction, presenting a sightly appearance and in which the parts for effecting the adjustment are concealed or in an out-of-the-way position; also, to provide whereby the adjustment can be effected from a convenient point and simply by the application of an ordinary wrench or crank. Among our further objects is to provide a support which will be self-locking at any point within the range of its adjustment, and also a support which will be noiseless even when jarred; in other words, a support in which the adjusting parts are held in a stationary position by the weight of the object supported.

The support can best be seen and understood by reference to the drawings in which it is shown applied to a common type of school desk, and in which—

Figure 1 is a front elevation.

Fig. 2 is a central vertical section.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a section on the line 4—4 of Fig. 2, and

Fig. 5 is a section on the line 5—5 of Fig. 2.

1 represents the desk or object supported and which presents an under side 2 to which the adjustable support is secured.

In the usual mode of its application the support has separate spaced uprights or legs 3 parallelly disposed and each consisting of parts or sections 4 and 5, respectively, slidable on one another and made preferably of metal. Of these parts the parts 4 are stationary parts resting upon the floor 6 or other supporting base to which they are secured, while the parts or sections 5 slide longitudinally on the parts 4 for extending or contracting the height of the support and object supported by it.

Each of the parts or sections 4 comprises an elongated body 7 made relatively thin in cross section but quite broad. The body 7 is provided with inwardly-turned side edges 8 which together with the body provide a housing for receiving the slidable extension 5. By reference to Figs. 2 and 4 it will be seen that the edges 8 turn inwardly and around the sides of the part 5 by which a partial telescopic union is effected between the sections of the leg and by which they are held in proper alinement with one another as the leg is extended or contracted. The retention of the extensible part 5 is further attained by a web 9 which extends between the inwardly-turned edges 8 of the stationary section of the leg across the inner side or face of the extensible section. This web apart from assisting in the retention of the extensible section provides also a fixture to which is secured a lug 10 which assists in the adjustment of the support as will later be explained. In order that the stationary part or section 4 of the leg may be maintained firmly on its base in an upright position its lower end is provided with integral outward-flaring webs or wings 11 which bear upon the floor or supporting base and are

provided with integral angularly-turned flanges or feet 12 which also bear upon the floor and to which they are preferably secured by any suitable fastenings (not shown).

Each of the slidable sections 5 of the support consists of a sliding plate made to properly fit within the housing of the stationary section and slide therein, the union between the two sections being made as snug as possible although such as will permit of the easy extension or retraction of the movable part. In other words the parts 7, 8 and 9 form, collectively, a loop surrounding the sliding plate afforded by the upper leg section 5 and within which loop the said section 5 may slide vertically in a telescopic manner, said loop bracing said section 5 and serving to hold it steady at all times so that the leg will be firm and stable in all positions of adjustment, as will be understood from Figs. 2 and 4 of the drawings. At the top end thereof each of the extensible sections 5 of the leg is provided with integral, inwardly turned flanges 14 to which the desk or object is secured by any suitable fastenings (not shown) which pass through these flanges and fasten into the bottom side of the desk.

Integral with each of the extensible sections 5 and projecting inwardly therefrom is a lug 15. This lug is arranged in vertical alinement with the lug 10 on the stationary section. Extending through the lugs 10, 15 of the respective sections is an adjusting screw 16. The shank of this screw at the point where it extends through the lug 15 on the movable section is not threaded. The major portion of the shank of the screw is, however, threaded and has threaded connection with the lug 10 on the section 4. At the top end thereof above the lug 15 each of the adjusting screws is provided with a head 17 by which it may be turned. This head preferably takes the form of a bevel gear.

Arranged horizontally and journaled to turn in and between the movable sections 5 of the respective legs is a shaft 20. This shaft lies directly above the heads of the adjusting screws and the axis thereof lies in a plane common to that occupied by the axes of the respective screws. Fixed to the shaft and turning therewith are parts by which the motion of the shaft may be imparted to the adjusting screws for turning the same as the shaft is turned. These parts take the form of bevel gears 21 which are preferably arranged to coöperate with the gears forming the heads of the screws on the inner sides thereof and by their engagement hold the shaft 20 against lateral displacement.

The shaft 20 extends through the slidable extension of one or the other of the legs and the end 22 thereof is fashioned to receive any instrument by which the shaft may be turned. In the drawings the end is fashioned to be turned by a crank 23 applied to it.

The shanks of the adjusting screws are each inclosed, throughout their length, by a guard 25 which is turned around and secured to the lug 15 through which the shank of the screw extends.

In the operation of the device the adjustable location of the desk or object is effected by turning the shaft 20 either in a forward or reverse direction which tends to raise or lower the desk or object supported.

In regard to the adaptability of the support, it is evident that the support may be attached to practically any object owing to the fact that the object simply rests upon the flanged ends of the supporting legs. The support is also easily adaptable to objects of different widths inasmuch as the legs may be spaced any desired distance apart, this requiring only that the shaft 20 be properly lengthened or shortened to coincide with the spaced positions of the adjustable sections of the legs and that the members or gears which operate the screws be properly set upon this shaft, a variation which can very easily be effected.

The device is absolutely self-locking in any adjusted position, primarily owing to the fact that the shaft 20 and shanks of the screws occupy the same plane. By reason of such arrangement it will be seen that the gears upon the shaft 20 which engage the gears upon the heads of the screws will occupy at all times a dead central position and cannot be moved for turning the adjusting screws unless the shaft 20 be turned. In other words, the weight of the object supported or any object that may be placed thereon will have no effect to turn the adjusting screws but only make the set or adjusted position of the object more secure. This can better be appreciated by a consideration that the adjusting screws bear the weight of the desk or object supported through the interposed connections consisting of the gears 21, the shaft 20 bearing these gears and the adjustable sections of the legs within which the shaft 20 is journaled to turn and which bear the object or desk supported.

Inasmuch, also, as the adjusting screws bear the desk or object supported through these movable connections the weight of the desk or object will accordingly tend to hold the otherwise loose members and to take up all lost motion. Accordingly the support can be adjusted with very little noise or rattle and after the adjustment has been effected the support becomes practically noiseless as against jar or vibration. This is due to the fact that each leg section 4 and 5 consists (aside from the guard casing 25) of a single integral part or casting, and that the adjust-

able leg sections are embraced by loops on the stationary leg sections and within which loops said adjustable leg sections have a close sliding fit, so that the legs are firm and steady in all positions of adjustment, as hereinbefore stated.

Having thus fully described our invention, we claim and desire to secure by Letters Patent of the United States:—

An adjustable support of the type specified, comprising separate spaced uprights, each having a stationary portion attachable to a base, and an adjustable portion attachable to the part to be supported, the adjustable portion of each of the uprights being slidably mounted upon the stationary portion and adjustable thereon in extension thereof and snugly retained by said stationary portions against else than endwise adjustment, both said stationary and adjustable portions of each of the uprights having upon the interior side thereof parts for receiving and retaining an adjusting screw, that part of the stationary portion of the upright for receiving the screw being internally threaded, adjusting screws arranged to extend through the parts of said portions of the uprights made to receive them and held thereby against else than endwise adjustment, said screws being each provided with a head by which it may be turned, a rod mounted upon the adjustable portions of said uprights above the heads of said screws, and members carried by said shaft to engage the heads of the respective screws for turning the screws as the shaft is turned, said members upon the rod engaging the heads of the screws in a manner whereby the rod may be held against endwise displacement by the heads of the screws.

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Witnesses:
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M. E. FLAHERTY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."