(No Model.) 2 Sheets—Sheet 1.

J. WORTHINGTON.

SCHOOL DESK AND SEAT.

No. 584,447. Patented June 15, 1897.

Fig. 1.

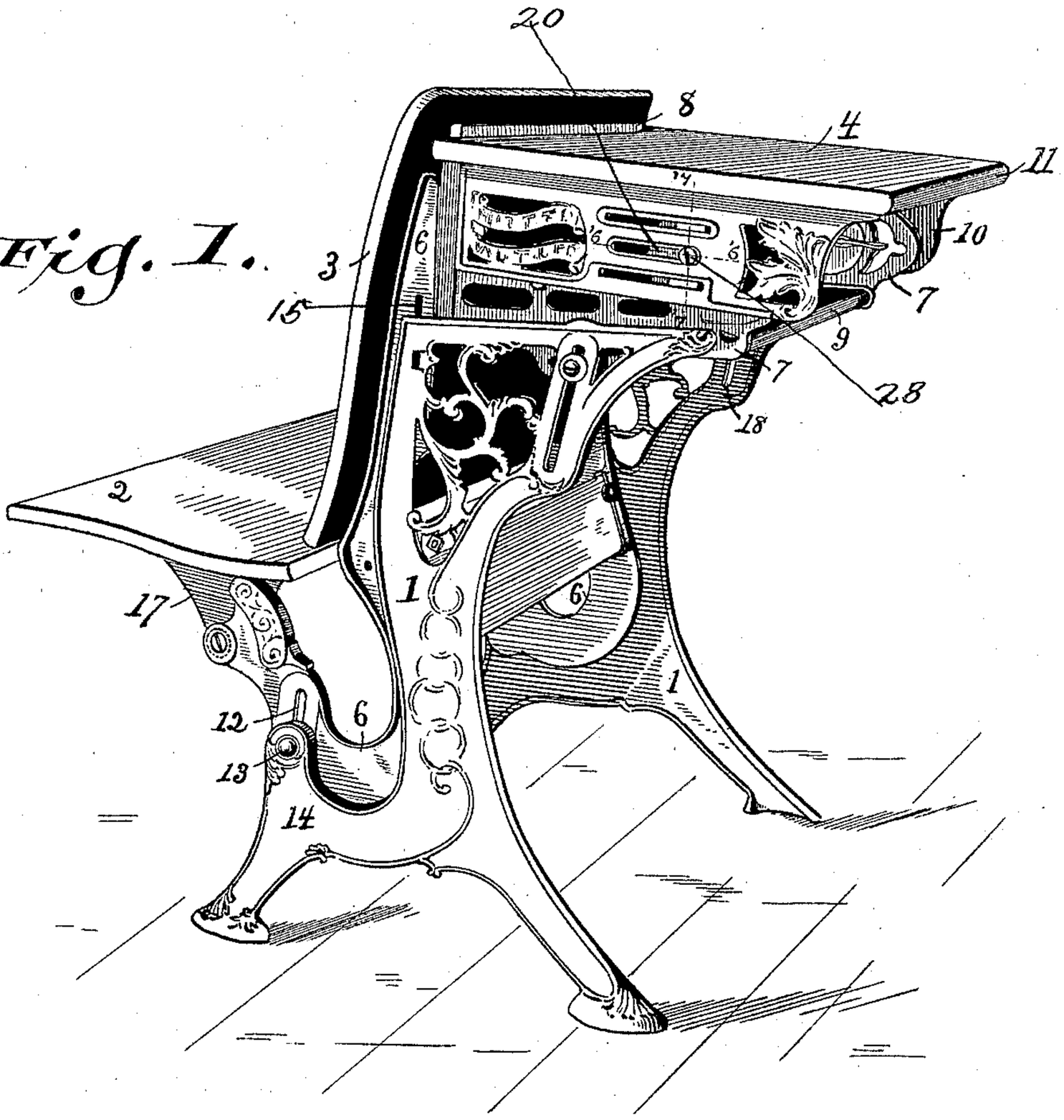
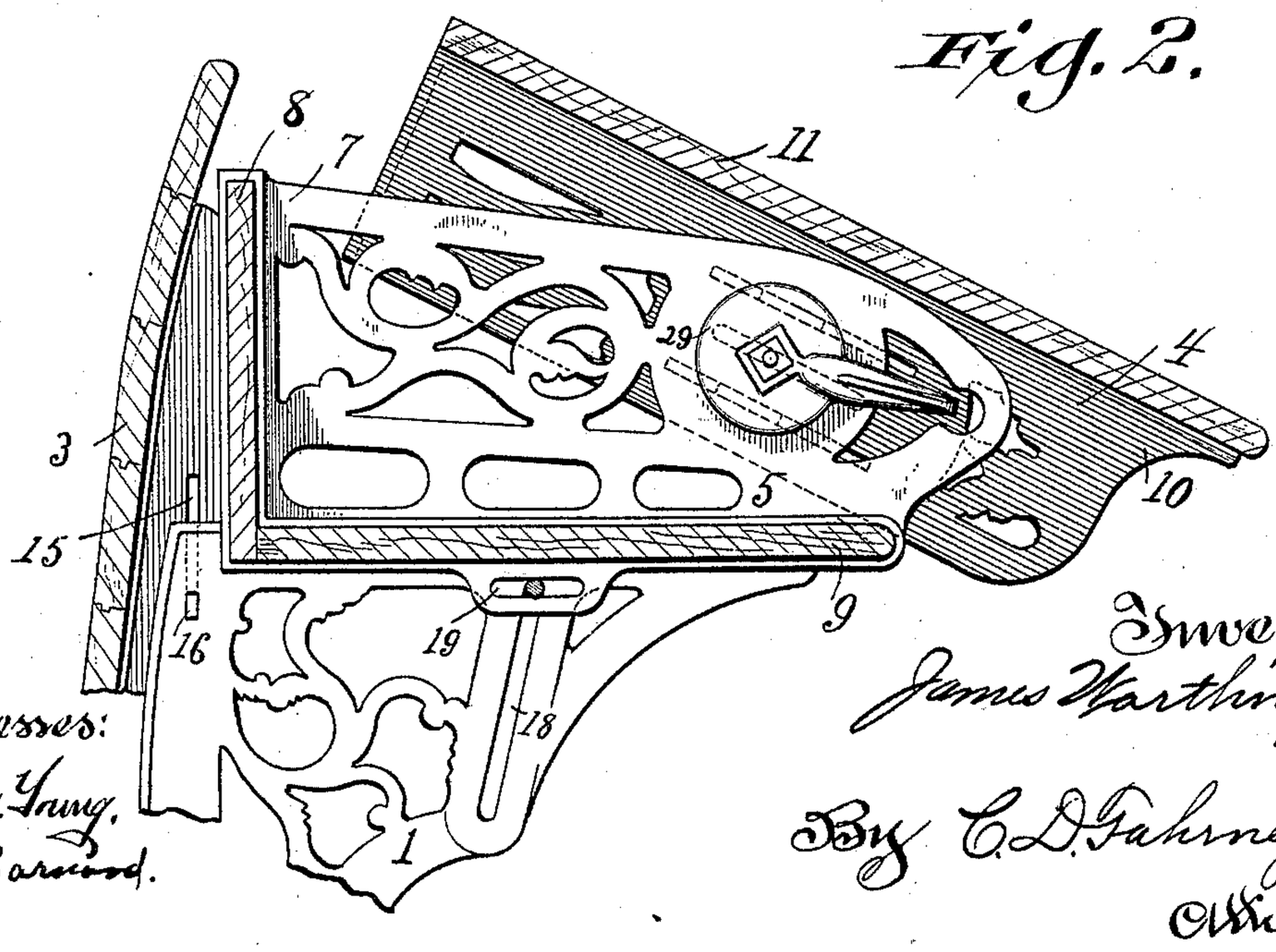


Fig. 2.



Witnesses:
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S. W. Barnard.

Inventor:
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Attorneys

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

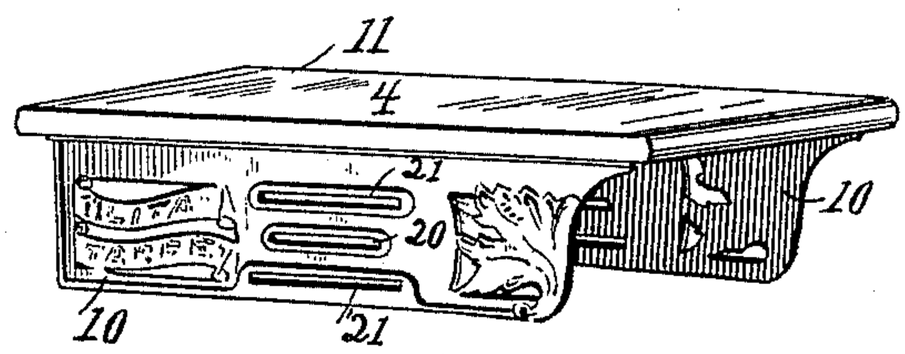


Fig. 3.a

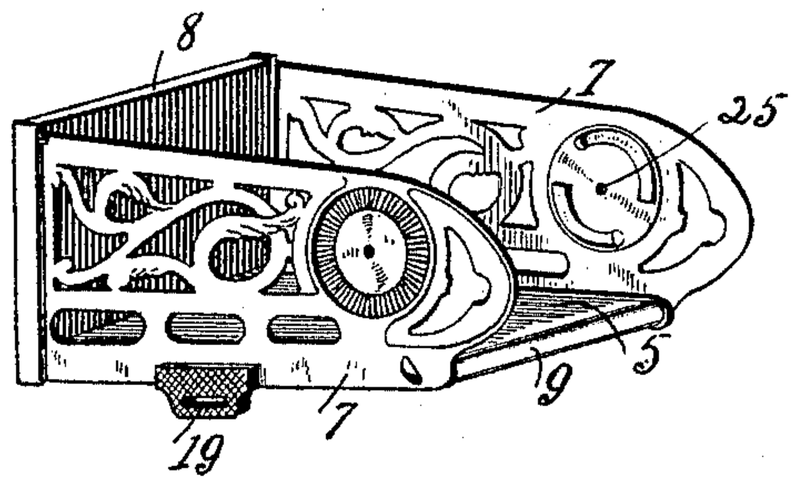


Fig. 4.

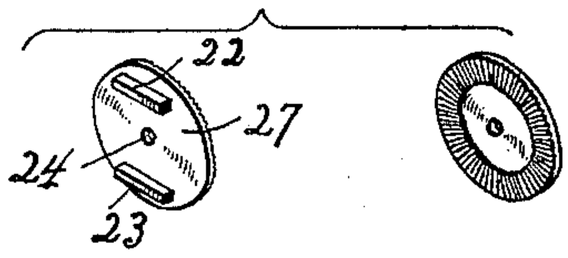
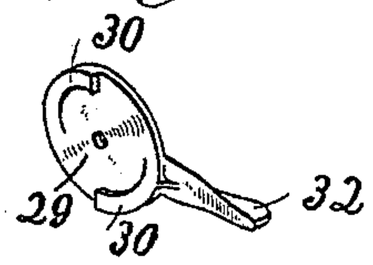


Fig. 5.



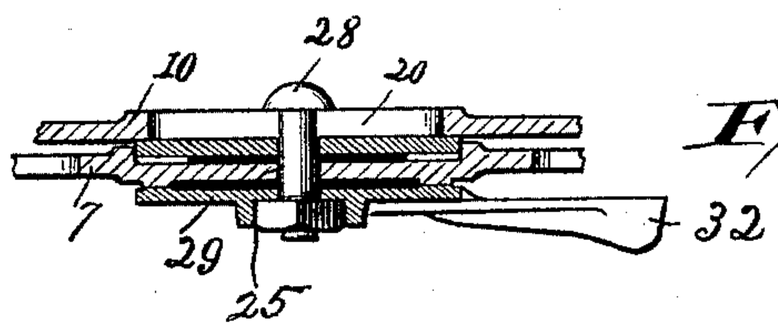
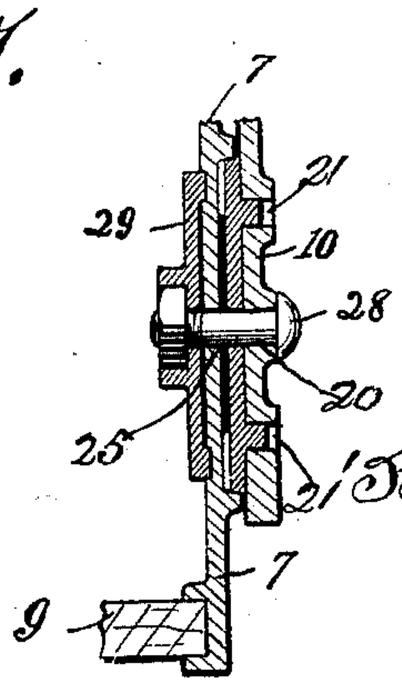


Fig. 6.

Fig. 7.



Witnesses:
Geo. N. Fenny.
S. H. Barnard.

Inventor:
James Worthington.
By C. D. Fahrney
Attorney

UNITED STATES PATENT OFFICE.

JAMES WORTHINGTON, OF MANITOWOC, WISCONSIN, ASSIGNOR TO THE MANITOWOC SEATING COMPANY, OF SAME PLACE.

SCHOOL DESK AND SEAT.

SPECIFICATION forming part of Letters Patent No. 584,447, dated June 15, 1897.

Application filed June 17, 1896. Serial No. 595,850. (No model.)

To all whom it may concern:

Be it known that I, JAMES WORTHINGTON, of Manitowoc, county of Manitowoc, and State of Wisconsin, have invented a new and useful Improvement in School Desks and Seats, of which the following is a specification.

My invention has reference to that familiar model of school desks and seats in which the main frame gives support at its front to a seat and seat-back and at its rear to a desk and a receptacle for the books and stationery of the occupant, it being the practice to arrange the desks one in advance of the other in rows at a convenient distance from one another, so that the occupant of each seat may use the desk adjacent to him in front.

My invention has for its object the relative adjustment of various parts of the seat and desk with respect to the size of the pupil and the requirements of the different phases of his school labors by means of certain peculiarities of construction which will be more fully set out in the specification and claim hereunto appended, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a school desk and seat which embodies my invention therein. Fig. 2 is a vertical sectional view of the upper portion of the same. Figs. 3 and 3ª are detailed views in perspective of parts of the desk and book-receptacle. Figs. 4 and 5 are perspective views in detail of parts of the hinging and clamping device employed in the connection between the desk proper and its sustaining parts. Fig. 6 is a horizontal transverse sectional view taken on line 6′ 6′, Fig. 1. Fig. 7 is a vertical sectional view taken on line 7′ 7′, Fig. 1.

My improved desk and seat comprises two standards 1, a seat 2, a seat-back 3, a desk proper, 4, and a book-receptacle 5, all adjustably connected to the standards except the desk proper, which is supported upon castings or brackets constituting a part of the book-receptacle.

The seat and seat-back are sustained by two frames or castings 6, adjustably connected to the inner front sides of the standards, while the book-receptacle and desk proper are adjustably connected to the upper ends of the standards, and consist of the side brackets 7, connected by a front board 8 and a lower board 9, constituting the book-shelf, and the board 11, forming the top of the desk, which is pivotally hung upon the brackets 7 by means of the downwardly-extending brackets 10.

The castings 6 are formed with a vertically-extending upper portion, to the front edges of which the seat-back 3 is firmly fixed. At their lower ends these castings are curved forward and upward, constituting the seat-support. Near their lower extremity they are provided with a vertical slot 12, adapted to receive clamping-bolts 13, passing through the forwardly-projecting portion 14 of the standards 1, this arrangement permitting of the vertical adjustment of the seat and seat-back with respect to the standards.

The castings 6 are provided near their upper ends with slots 15, corresponding in length with slots 12, just described, and extending approximately parallel therewith. These slots receive laterally-projecting lugs 16 on the inner sides of the standards, the arrangement serving as a guide to insure the proper movement of the castings when adjusted vertically with respect to the standards. Seat-brackets 17 are pivoted to the lower forwardly-projecting ends of the castings 6 and have fixed to their upper edges a series of boards constituting the seat.

The upper edges of the standards extend horizontally rearward, and near their upper and rear portion they are provided with approximately vertical slots 18. Upon this portion of the standards are supported the brackets 7, which engage the ends of the book-shelf 9 and serve as supporting-standards for the desk proper. These brackets are adjustably connected to the inner upper sides of the standards 1 by means of clamping-bolts passing inward through the slots 18 and the horizontal slots 19 in the lower portion of the brackets 7. The desk proper is pivotally supported upon the brackets 7 independent of the standards 1, and by this means it will be observed that the desk proper and the book-receptacle may be adjusted vertically with respect to the standards independent of the seat and seat-back.

The desk-board 11 is provided on its under

side with brackets 10, which pass down on the outside of the brackets 7 and are connected therewith by means of the clamping-bolts 28, which pass through the slots 20 in brackets 10 and the bolt-holes 25 in the brackets 7. Between the brackets 10 and 7 are provided the disks 27, (shown in Fig. 4,) through which the clamping-bolts also pass. These disks are provided on their outward faces with lugs 22 and 23, which are engaged by the parallel slots 21 and 21′ in brackets 10. This arrangement permits of a horizontal shifting movement of the desk-bracket 10 with respect to the disk and bolt, but prevents the disk from revolving independent of the bracket. The other face of this disk is seated against the adjacent side of the bracket 7, and upon the contact-faces of the two are preferably provided corrugations or teeth, in order that when pressed together they may more firmly adhere to each other. This arrangement permits of the horizontal adjustment of the desk or the tilting of it to any desired slant and retaining it in position by clamping these parts tightly together, which might be done by tightening up the nut on the bolt with a wrench, but which I accomplish in a novel and simple manner. For this purpose I provide the bolt on its inner end with a washer or disk 29, a perspective view of which is shown in Fig. 5, which is provided with an operating arm or handle 32. This disk is provided with a plurality of graduated lateral projections about the periphery of its bearing-surface which correspond with alternate like projections on its seat against the bracket 7, so that as these disks are partially revolved by the operator these alternate graduated bearing-surfaces oppose one another and produce strain on the bolt, thereby clamping the parts tightly together.

The clamping-bolts 28 are provided with nuts and should be so adjusted that when the clamping mechanism just described is slack sufficient freedom will be left to permit the disk 27 to revolve with respect to its seat against bracket 7. By means of the elongated bolt-hole 20 and the parallel slots 21 and 21′, engaging the lugs on the disk 27, a horizontal movement of the brackets 10, carrying the desk-board, is permitted, and at the same time the desk-board may be tilted to any desired slant, the clamping-bolts serving as an axis.

I am aware that it is not new to so construct a school-desk that the seat and seat-back may be adjusted vertically with respect to the standards, and upon this feature of the desk described in this application I make no claim.

I am also aware that it is not wholly new to provide a desk and seat with an adjustable and tilting desk proper, but heretofore in the construction of these desks the desk-board and the book-shelf or book-receptacle have been constructed integrally, there being no independent adjustment of the two. This construction not only renders the parts heavy and tedious of adjustment, but it robs the device of its most important function, that of tilting the desk proper to various degrees of slant toward the pupil, for as the desk is tilted to an angle, the book-shelf being subject to the same movement, the books are caused to slide out upon the floor. The objectionable features are wholly obviated by my invention, the desk proper being adjustable independent of the book-shelf, as is clearly illustrated in Fig. 2 of the drawings, while the parts are so light and easy of operation that the smallest pupil can effect the desired changes.

Having thus described my invention, what I claim is—

In a school desk and seat consisting essentially of the standards 1, the seat and seat-back sustaining frames 6, adjustably connected therewith on their front portions, the brackets 7 engaging the ends of the book-shelf, adjustably connected to the inner upper portions of the standards 1, and the desk proper pivotally and adjustably hung on the upper portions of the brackets 7 by means of the clamping-bolts 28 passing inward through the brackets 10 and 7 and the intermediate disks 27, and provided on their inner ends with the clamping washers or disks 29, substantially as and for the purpose set forth.

In testimony whereof I hereunto set my hand, this 4th day of June, 1896, in the presence of two attesting witnesses.

JAMES WORTHINGTON.

Witnesses:

C. D. FAHRNEY,

M. H. MURPHY.