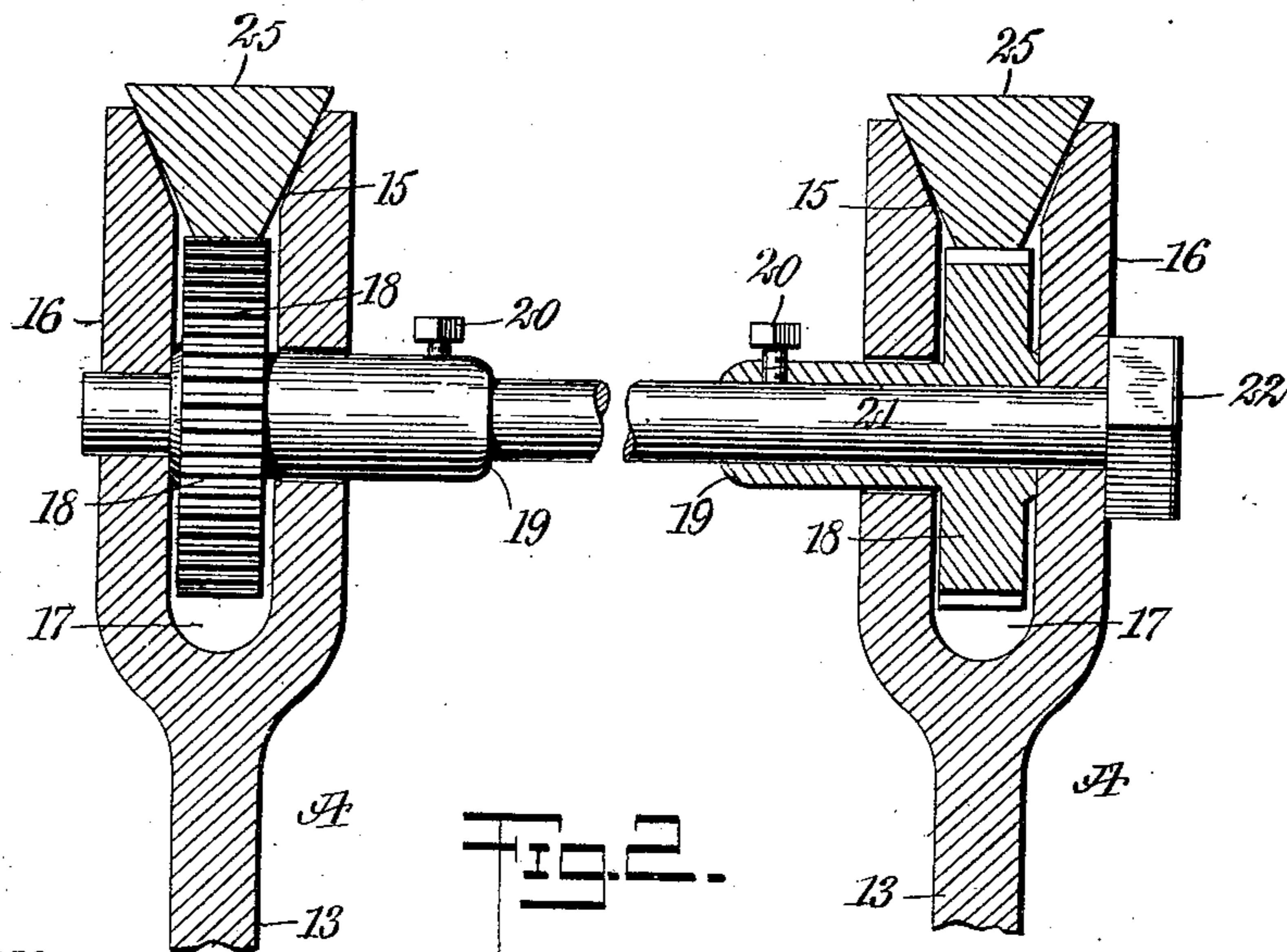
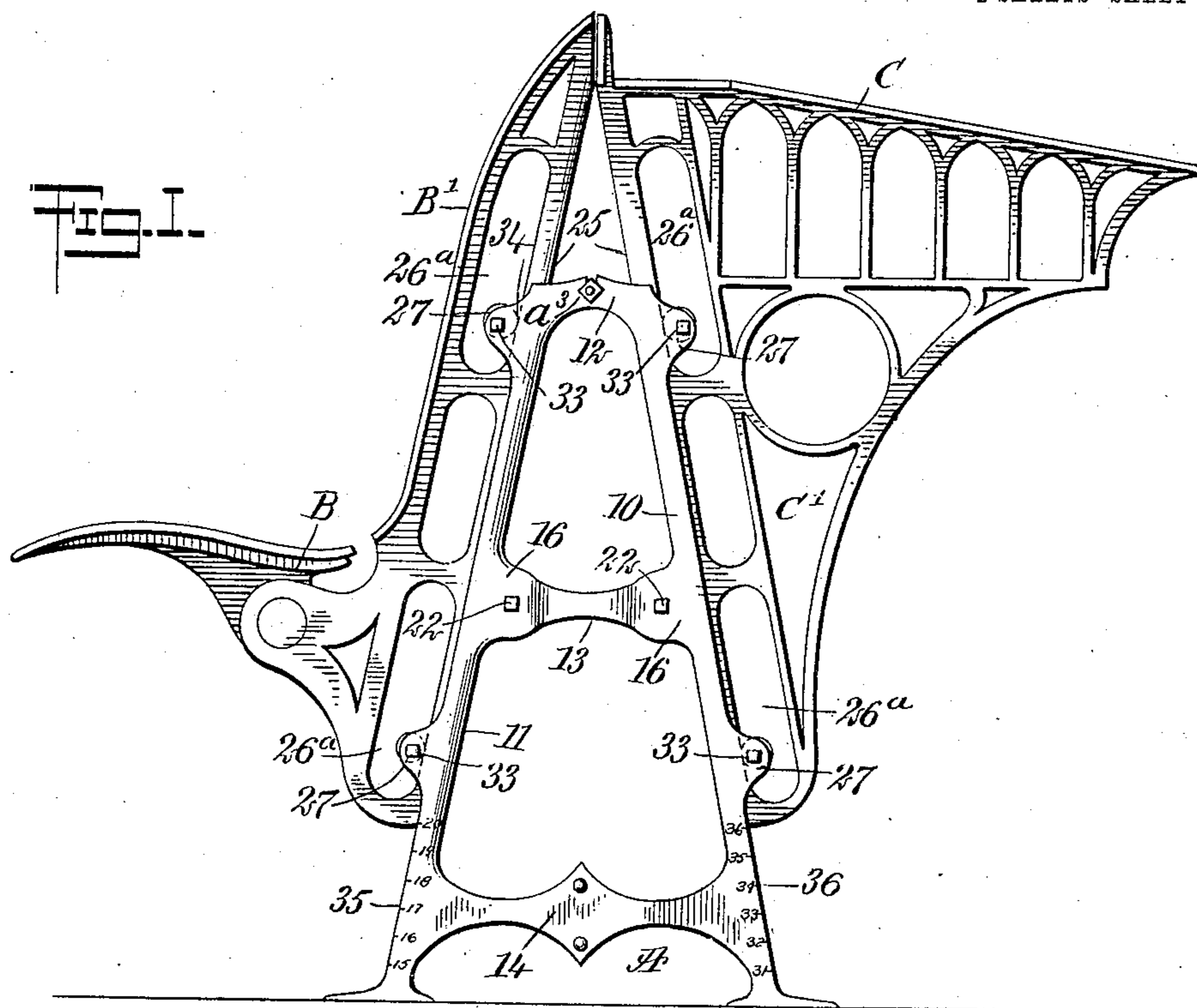


No. 891,128.

PATENTED JUNE 16, 1908.

J. E. AMENT.
SCHOOL DESK AND SEAT.
APPLICATION FILED DEC. 7, 1907.

2 SHEETS—SHEET 1.



WITNESSES

G. Robert Thomas
G. Robert Thomas

INVENTOR

James E. Ament

BY *Mum Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

JAMES E. AMENT, OF INDIANA, PENNSYLVANIA.

SCHOOL DESK AND SEAT.

No. 891,128.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed December 7, 1907. Serial No. 405,527.

To all whom it may concern:

Be it known that I, JAMES E. AMENT, a citizen of the United States, and a resident of Indiana, in the county of Indiana and State of Pennsylvania, have invented a new and useful Improvement in School Desks and Seats, of which the following is a full, clear, and exact description.

A purpose of the invention, is to provide a combined school seat and desk, of such construction that the seat together with its back can be raised or lowered without in any manner interfering with the desk back of it and coupled to it.

It is also a purpose of the invention, to provide a construction whereby the desk can be raised or lowered without interfering with the seat with which it is connected.

It is a further purpose of the invention, to so construct the device that when the seat is lowered it moves mechanically toward the desk in front of it, and which is used by the occupant of the seat and whereby when the desk is lowered it moves mechanically backward toward the seat occupied by the pupil using the desk.

It is likewise a purpose of the invention, to provide a construction of the character described wherein in raising or lowering either the seat or the desk it is not required to loosen or tighten any nuts, set screws, or equivalent retaining devices.

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 side elevation of the improved seat and desk; Fig. 2 is an enlarged horizontal detail sectional view of the adjusting devices employed in connection with the seat and its back and which are duplicated for changing the elevation of the desk, the section being taken practically on the line 2—2 of Fig. 3; Fig. 3 is an enlarged side elevation of the main frame and a rack carried thereby adapted for connection with either the seat or the desk and which operates in the frame; Fig. 4 is an enlarged transverse section taken practically on the line 4—4 of Fig. 3; Fig. 5 is an end view of one of the locking rollers employed and illustrated in Fig. 4; Fig. 6 is a transverse section taken practically on the

line 6—6 of Fig. 3; and Fig. 7 is a detail view of a brace or connecting rod for the main frame.

The main frame A is substantially A-shaped, comprising side members 10 and 11 that diverge in a downward direction from the upper connecting member 12, the side members 10 and 11 being connected also at their central portions by a bar 13 and at their lower portions by a cross bar 14, it being understood that two sections of A-formation constitute the said main frame. The sections of the said main frame may be connected by any suitable number of braces, but they are practically connected at their upper ends by a rod *a* illustrated in Fig. 7, which rod has shoulders *a'* formed thereon adjacent to its ends, which shoulders engage with the inner faces of the sections of the main frame A, and the said rod *a* is provided at its ends with reduced threaded portions *a*² that are made to enter recesses in the upper connecting member 12 of the sections of the main frame, as is shown in Fig. 1, and nuts *a*³ are screwed upon the said threaded extremities *a*² of the rod.

The members 10 and 11 of the main frame A are provided each with a groove 15 in its outer edge. These grooves 15 are V-shaped in cross section, as is best illustrated in Figs. 4 and 6 and the said grooves extend practically from the bottom to the top of the said side members 10 and 11 of the said frame sections. In the formation of the central connecting bar 13, where said bar joins the side members 10 and 11 of the side sections of the main frame, the bar is increased in width and is forked, as is illustrated at 16, particularly in Fig. 2, thus forming at such points pockets 17 that are in direct communication with the V-shaped grooves 15 of the said side members, as is also best shown in Fig. 2.

In each of the pockets 17 just referred to, a ratchet wheel 18 is located, and preferably in the formation of the said pockets 17 the outer wall of each pocket is of greater height or depth than the inner wall, as is illustrated in Fig. 3. The ratchet wheels 18 are provided with hubs 19 and these hubs are secured by set screws to a shaft 21 that is mounted to turn in the main frame, and at the outer end of each shaft 21 a polygonal head 22 is formed, whereby the shaft may be turned by a wrench or similar tool. In connection with a ratchet wheel 18 of each shaft 21, a pawl 23 is employed, and this pawl is by preference suit-

ably pivoted upon the wider member of a pocket 17, as is illustrated in Fig. 3, and the pawl is provided with a handle 24, whereby the point of the pawl may be readily moved
5 to and from the ratchet wheel 18 with which it is adapted to engage.

The frame A is adapted to carry two factors, namely, a seat B accompanied by a suitable back B', and a desk C accompanied by a
10 suitable support C' that extends down from it. The side members of both the combined seat and back and the combined desk and its support, at the rear portion of said frame structures are made triangular in cross section so as to enter and slide in the grooves
15 15 of the side members 10 and 11 of the main frame, but in the construction of the said side members 25 of the seat and desk construction, the cross sectional shape of the said side members is such that they are formed upon
20 an angle slightly wider than that of their receiving grooves 15, in order that when pressure from the outside is brought to bear on the said members 25 of the said desk and seat
25 construction, the members will be forced to close frictional engagement with the walls of grooves that they enter, as is clearly shown in Fig. 6, and also particularly in Fig. 4. The
aforesaid rear side members 25 of the seat and
30 desk construction are provided with rack teeth 26 upon their rear faces as is shown in Fig. 3. These rack teeth do not extend the entire length of the said side members 25, and engage with the ratchet wheels 18, but the
35 teeth 26 are sufficient in number to admit of ample vertical adjustment of the parts carrying them. Each frame construction for the seat and the desk is provided with longitudinal openings 26^a, that extend along the
40 outer front faces of the framework of the desk and the seat, and said front faces of the side members 25 of the seat and the desk are flat, as is shown at 28 in Fig. 4. These openings
45 26^a are adapted to receive locking rollers 27; these rollers 27 are eccentrically mounted and are adapted for engagement with the aforesaid plain or straight faces 28 of the
said members 25 of the seat and the desk construction, as is particularly shown in Fig. 4.
50 The rollers 27 are provided with polygonal openings 29 that extend through from end to end, as is shown in Fig. 5, and these polygonal openings 29 receive a polygonal central section of a pin 30, which is provided at each of
55 its ends with a cylindrical surface, one surface being designated as 31 and the other as 32, the surface 32 being of greater diameter than the surface 31 in order that the said pin 30 may be entered in suitable openings provided in cheek pieces 34 that extend forwardly from the said members 10 and 11 of
60 the main frame A, each side of the openings 26^a, as is particularly shown in Figs. 1 and 4. The pins 30 are provided at their outer ends with polygonal heads 33 so that these pins

may be turned by the same instrument that is employed for turning the shafts 21.

Thus it will be observed that the combined seat and back can be adjusted independently of the desk and its support, and by reason of
70 the inclination of the members of the main frame in which the said parts travel, when the seat is adjusted downward it is mechanically moved in direction of the desk in front of it as well as having a vertical movement
75 or adjustment, and that the desk when it is adjusted will move in direction of the seat that is at the back of it and is to be occupied by the person using the desk, such movement taking place when the adjustment is in
80 a downward direction. At the lower portions of the sections of the main frame A on the outer faces of said sections, a scale in inches is produced, one scale being designated in the drawings as 35 and the other as
85 36, and these scales are in inches or fractions thereof, and by their means it can be readily determined to what extent an adjustment of the seat or desk is to be made, since the
90 scales are read relatively to the lower end portions of the said seat construction and desk construction, the distance being duplicated with reference to the scale 35 from the upper face of the seat B to the floor, and with
95 reference to the scale 36 from the upper face of the desk C to the floor.

In the operation of this device the shaft 21 is slightly turned by means of a wrench so that the ratchet wheel carried by that shaft is moved the distance of about one tooth,
100 which movement of the shaft will cause the eccentrics pressing against the frame construction of the part to be adjusted to release their hold, whereupon the part to be adjusted may be moved freely up or down, and
105 when the proper adjustment has been reached, the pawl 24 is made to engage with the ratchet wheel 18 provided for the part adjusted, and then the operator will take the instrument employed for turning the shaft 21
110 and apply it to the heads 33 of the pins 30 carrying the locking rollers for the section operated, and the said pins 30 upon being turned so as to jam the said rollers against the frame construction of the part, the more
115 weight that is applied to the said adjusted part will serve to more firmly hold the part in adjusted position.

This combined seat and desk is exceedingly simple and can be very lightly and economically constructed, and it is evident that
120 either the seat or the desk can be adjusted to accommodate an adult or a child.

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

1. In school desks and seats, a support having oppositely inclined front and rear faces and provided with V-shaped grooves in
130 said faces, a seat having V-shaped side mem-

bers fitting the grooves of one face of the support and provided with racks, a desk having V-shaped side members fitting in the grooves of the opposing face of the support, pinions mounted in the support and engaging the racks of the seat and desk, pawls engaging the pinions, and eccentrics mounted in the support and engaging the side members of the seat and desk.

2. In school desks and seats, a support having oppositely inclined front and rear faces and provided with V-shaped grooves in said faces, a seat having side members having V-shaped edges fitting the grooves of one face of the support and provided with racks and with openings, a desk having side members having V-shaped edges fitting in the grooves of the opposing face of the support and provided with racks and with openings, pinions mounted in the supports and engaging the racks of the seat and desk, pawls engaging the pinions, and eccentrics mounted in the support and working in the openings in the seat and desk, said eccentrics engaging side members of the said seat and desk.

3. In school desks and seats, a frame formed of two sections connected together, each section having downwardly diverging and connected side members provided with grooves in their outer faces, a seat having side members fitting the grooves at one side of the frame and provided with racks, a desk having side members fitting the grooves at the opposite side of the frame and provided with racks, a pinion mounted in each side member of the frame, pawls engaging the pinions, and eccentrics mounted in the side members of the frame and engaging the side members of the seat and desk.

4. In school desks and seats, a frame formed of two sections connected together, each section comprising downwardly diverging side members having grooves in their outer faces, and a plurality of cross bars con-

necting the side members, the intermediate cross bar of each section having its ends forked to form pockets communicating with the grooves of the side members, a seat having side members fitting in the grooves of the side members at one side of the frame and provided with racks, a desk having side members fitting in the grooves of the side members at the opposite side of the frame and provided with racks, shafts mounted in the cross bars formed with pockets, pinions on the shafts in said pockets and meshing with the racks of the seat and desk, and pawls engaging the pinions.

5. In school desks and seats, a support having a V-shaped groove at each side, side members provided with openings and having triangular portions fitting in the grooves of the support, and provided with racks, a pinion mounted in the support at each side and engaging the said racks, pawls engaging the pinions, and eccentrics mounted in the support, one above and the other below each pinion, and working in the openings of the said members, the eccentrics engaging the plain or straight faces of the triangular portions of the said members.

6. In school desks and seats, a support having a V-shaped groove at each side, members provided with openings and having triangular portions fitting in the grooves of the support, means for raising and lowering the said members, and eccentrics mounted in the support and working in the openings of the members, said eccentrics engaging the plain straight faces of the triangular portions of the said members.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES E. AMENT.

Witnesses:

OTTELENE TAYLOR,
M. C. GORDON.