

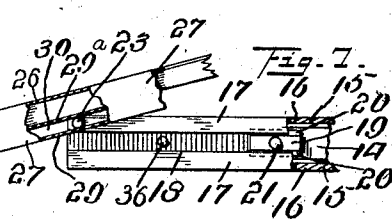
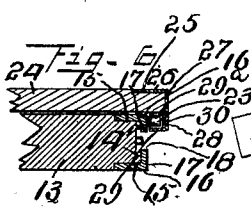
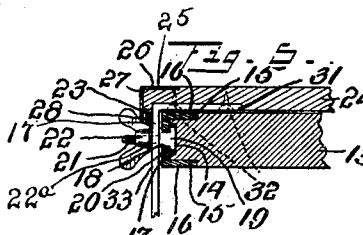
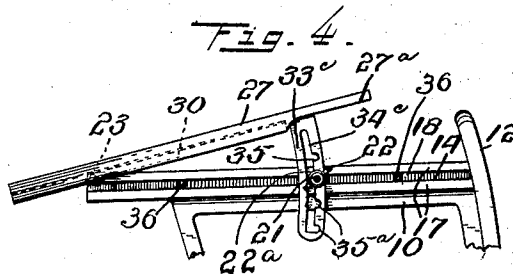
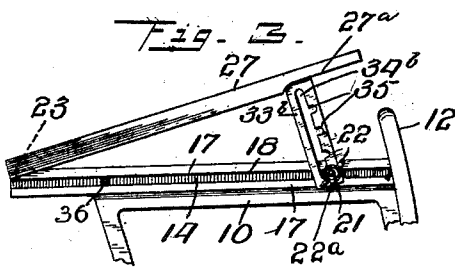
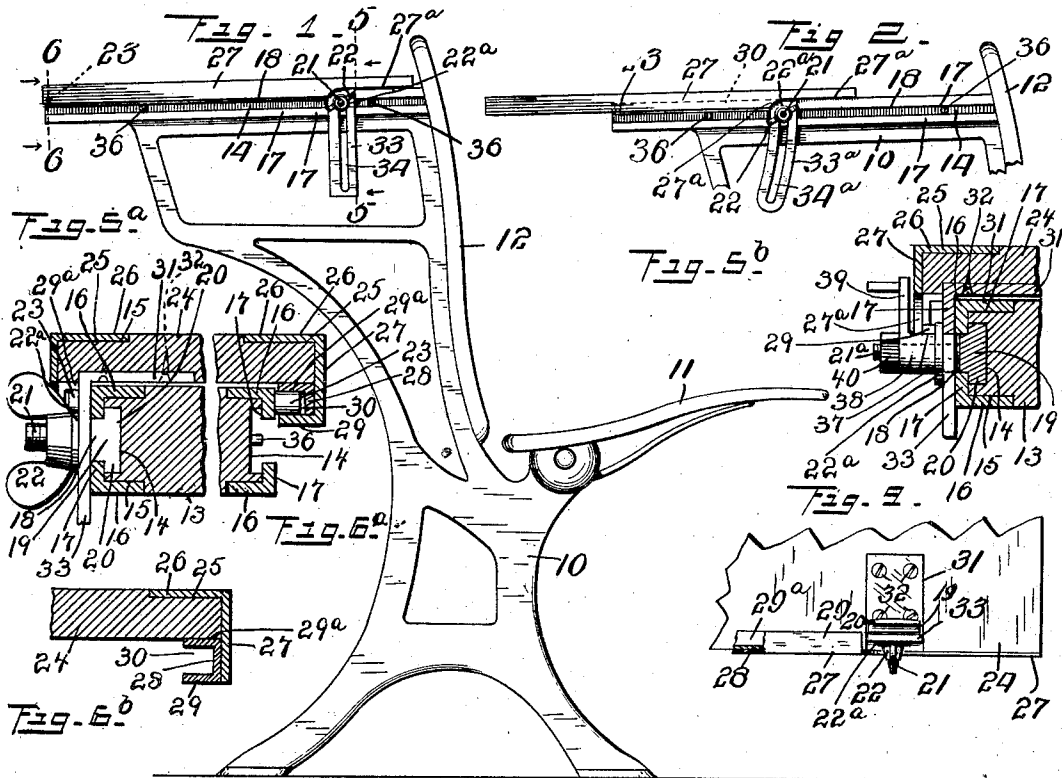
No. 727,438.

PATENTED MAY 5, 1903.

J. W. H. PINER.
SCHOOL DESK.

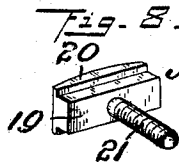
APPLICATION FILED FEB. 14, 1903.

NO MODEL.



Witnesses

C. Spengel
J. C. Brooke



Inventor
John William Henry Piner,

By Walter Allen
Attorney

UNITED STATES PATENT OFFICE.

JOHN WILLIAM HENRY PINER, OF CINCINNATI, OHIO.

SCHOOL-DESK.

SPECIFICATION forming part of Letters Patent No. 727,438, dated May 5, 1903.

Application filed February 14, 1903. Serial No. 143,331. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILLIAM HENRY PINER, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in School-Desks, of which the following is a specification.

My invention relates to improvements in adjustable desk-tops, whereby a movable upper top is capable of being adjusted and fixed on the ordinary top of a desk to any position for the use of a student in reading, writing, or drawing and furnishes a new top for an old desk, as the most wear and tear on a desk is generally on the top of the desk, which in course of time becomes scratched and sometimes rendered almost unusable by whittling and cutting. If a desk is occupied by a careful and studious pupil for one term, it may be occupied by an indolent and destructive pupil the next term, so that in the course of a few years every desk-top comes to be in bad shape for writing or drawing. This device furnishes a new top for a desk at a fraction of a cost of purchasing an entirely new desk by utilizing the existing desk-top as a lower top for the support and connection of a new upper top, which is so applied as to be movable thereon to a position most suitable to the age and size of each student and also to the duty which the student may be performing at a given time, whether it be reading, writing, or drawing.

My invention consists in the features of novel construction hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a school-desk provided with my improvements, the upper top being shown in normal position. Fig. 2 is a side elevation showing the upper top moved forwardly on the lower top. Fig. 3 is a side elevation showing the upper top tilted on the front edge of the lower top. Fig. 4 is a side elevation showing the upper top moved forwardly and also tilted on the front edge of the lower top. Fig. 5 is a detail vertical section taken on the line 5 5, Fig. 1, looking in

the direction of the arrows. Fig. 5^a is an enlarged detail view thereof. Fig. 5^b is a similar view showing a modified construction of clamping device. Fig. 6 is a detail vertical section taken on the line 6 6, Fig. 1, looking in the direction of the arrows. Fig. 6^a is an enlarged detail view thereof. Fig. 6^b is a similar view showing a modified construction of the channel angle-plate. Fig. 7 is a detail side elevation, part of the side flange of the upper top being broken away to show the guide-pin and the depending arm being omitted to show the flanged slide. Fig. 8 is a perspective view of the flanged slide. Fig. 9 is a detail bottom view of the upper top, showing the channel angle-plate, flanged slide, depending arm, and clamping-nut.

10 is a skeleton side frame or standard, 11 the hinged seat, and 12 the back, of a combined school seat and desk or any other school-desk of approved construction.

Supported on the skeleton side frame or standard 10 and rigidly secured thereto against the back 12 is a stationary lower top 13, formed of wood or similar material, with side grooves 14, providing slideways, and lower and upper rabbets 15 beneath and above the grooves for lower and upper metal angle side plates 16, fitted in the rabbets 15 for binding the side edges of the lower top and having their vertical flanges 17 overlapping the side grooves 14 and both in the same plane, but spaced apart, so as to leave guideways 18 opposite the side grooves 14 for metal slides 19, fitting in the side grooves 14 and having vertical flanges 20, embraced by the vertical flanges 17 of the angle side plates 16 and carrying screw-threaded pins 21, receiving clamping thumb or winged nuts 22, bearing against washers 22^a.

23 represents guide-pins secured to the vertical flanges 17 of the upper angle side plates 16 at the front corners of the lower top.

24 is an upper or supplemental top, formed of wood or similar material, with rabbets 25, in which are fitted angle side plates 26, of metal, for binding the upper side edges thereof and having vertical flanges 27, adapted to embrace the sides of the lower top and horizontal lower flanges 29. This upper top is adapted to slide back and forth on the lower top and to be tilted at the front edge thereof.

28 represents metal channel angle-plates riveted or otherwise fastened, such as by bracing, to the vertical flanges 27 of the angle side plates 26 of the upper top 24 and having horizontal upper flanges 29^a, which, in connection with the horizontal lower flanges 29, provide guide-grooves 30, into which the guide-pins 23 on the lower top extend for the purpose of guiding the upper top in its sliding and tilting movement. For securing or fastening the upper top in its adjusted position I provide metal brackets 31, secured to the under side of the upper top by suitable fastenings 32 and having depending straight arms 33, formed with slots 34, as shown in Fig. 1, or depending segmental arms 33^a, having slots 34^a, as shown in Fig. 2, or depending straight arms 33^b, having slots 34^b and one or more pin recesses or seats 35, as shown in Fig. 3, or depending segmental arms 33^c, having slots 34^c and one or more pin recesses or seats 35^a. Through these slots the screw-threaded pins 21 on the slides 19 project and are adapted to fit in the recesses and receive the clamping thumb or winged nuts 22, which provides means whereby the depending arms, with the upper top, can be rigidly secured and held in adjusted position. The inner ends of the side plates 27 of the upper top have recesses 27^a for the clamping-nuts 22.

36 represents stops, which may be pins, nails, screws, or plugs, located in the side grooves 14 of the lower top 13 for restricting or limiting the movement of the slides, so as to prevent them moving forward or backward too far.

Instead of the clamping device hereinbefore described for retaining the upper top in tilted position I may substitute any other suitable form of clamp, such as that shown in Fig. 5^b, where I provide the flanged slide 19 with a pin 21^a and mount thereon a cam-collar 37 and a clamp-lever 38, having an operating-handle 39, the cam-collar 37 and cam-lever 38 being retained on the pin by a nut 40. The horizontal lower flange 29 of the guide-pin groove 30 may be formed on the channel angle-plate 28, as shown in Fig. 6^b, instead of on the angle side plates 26.

In the normal position of the upper top it rests flat upon the lower top, with its front edge preferably flush with the front edge of the lower top. In this position the tops are secured together by the clamping-nuts 22, bearing against the outer side of the depending arms, thus drawing the slides 19 against the inner side of the depending arms, thus binding the parts together. When it is desired to adjust the upper top to a position suited to the student, the clamping-nuts are loosened and the upper top moved forward, with the slides, and the depending arms raised therewith, so as to tilt the upper top on the front edge of the lower top until such a position of the upper top is accomplished as shall provide a support suitable to the student, when it is clamped in the position in which

it has been placed. To return the upper top to normal position, it is only necessary to loosen the clamping-nut and permit the depending arms, with the upper top, to fall and then push the latter toward the back and again clamp it. The adjustable upper top possesses two movements—first, an approximately horizontal movement toward and from the student sitting at the desk, so that the upper top can be placed at any desired distance from the student, and, second, a tilting movement giving any desired inclination for the purpose of reading, writing, or drawing. Although this upper or supplemental top is designed practically for use in connection with school-desks, it may be attached to any ordinary table, such as used by architects, artists, and draftsmen.

Among the many advantages which this device possesses over all others which have been attempted in the past I would mention the following:

The device is permanently attached to the desk, becomes a part of it, and hence is as durable as the desk itself. There is no part of it which can be taken away by the student. Hence it is always there and always in working order. This feature distinguishes it from a mere attachment, because it incorporates it as a part of the desk.

The simplicity of the device will commend itself upon a careful examination. It is so easy of adjustment that it can be manipulated by the smallest student of school age as well as by the most advanced. Its working can be seen at a glance, and the matter of adjusting it in any desired position requires but a moment. It is so simple that there is absolutely nothing to get out of order. Being a part of the desk, it naturally follows that it can be placed with fixity and solidity in any desired position. This is a feature which it is impossible to obtain unless the whole device is permanently fixed to the desk. The movement of all the parts is smooth and noiseless.

Most devices of this character are objectionable because of projections which extend from the desk, either in front or at the sides, and which endanger the student either in hand or clothing. This objection is entirely removed by this device. The top of the desk is presented to the student absolutely free of clamps or other obstructions. There is absolutely nothing which projects on the front of the desk next to the student, and the necessary fixtures on the two sides of the desk are so beveled as to avoid any interference with the freedom of a student in passing the desk.

This device possesses the greatest possible economy of movement and space. The time of the student is not wasted in making a single unnecessary movement of the parts necessary to adjust the top to any desired position. The parts which hold the top in any position are so constructed as to occupy the

least possible space and are mostly concealed beneath the desk-top itself. It will also be apparent that my upper top provides a cover for the pencil-groove and ink-well and other receptacles located in the lower top and provides a smooth surface for the whole of the lower top.

By the term "lower top" I mean that part or frame of a desk upon which the upper top is mounted or supported and which may be either solid or in the form of a receptacle across and over the front edge of which the upper top is tilted and moved.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of a lower top, an upper top adapted to slide back and forth on the lower top and to be tilted across and over the front edge thereof and means for connecting the tops together, comprising rigid arms secured to the sides of the upper top, slides, and clamping devices whereby the arms are fastened to the slides so as to move with the latter.

2. The combination of a lower top, an upper top adapted to slide back and forth on the lower top and to be tilted across and over the front edge thereof and having depending side flanges and means for securing the upper top in the position to which it is adjusted, comprising slides, arms and clamping devices.

3. The combination of a lower top and an upper top adapted to slide back and forth on the lower top and to be tilted across and over the front edge thereof, and having depending side flanges embracing the sides of the lower top and means for connecting the tops together comprising guide-pins, inwardly-projecting flanges, slides, arms, and clamping devices.

4. The combination of a lower top, having guide-pins projecting from the sides of the front corners thereof, and an upper top adapted to slide back and forth across and over the lower top and to be tilted on the front edge thereof and having depending side flanges embracing the sides of the lower top and formed with inwardly-projecting flanges providing grooves into which the guide-pins extend for guiding the movement of the upper top upon the lower top.

5. The combination of a lower top, having guide-pins projecting from the sides of the front corners thereof, an upper top adapted to slide back and forth across and over the lower top and to be tilted on the front edge thereof and having depending side flanges embracing the sides of the lower top and horizontal lower flanges and angle-plates having horizontal upper flanges secured to the side flanges and providing with the horizontal lower flanges grooves into which the guide-pins extend for guiding the movement of the upper top upon the lower top.

6. The combination of a lower top having guide-pins projecting from the sides of the

front corners thereof, and stops, an upper top adapted to slide back and forth on the lower top and to be tilted on the front edge thereof and having depending side flanges embracing the sides of the lower top and formed with inwardly-projecting flanges providing grooves into which the guide-pins extend for guiding the movement of the upper top upon the lower top, and the depending arms secured to the upper top having clamping devices and restricted in their movement by the stops.

7. The combination of a lower top, having angle side plates provided with guide-pins projecting from the sides thereof at the front corners of the lower top, and an upper top adapted to slide back and forth on the lower top and to be tilted across and over the front edge thereof and having depending side flanges embracing the angle side plates of the lower top and formed with inwardly-projecting flanges providing grooves into which the guide-pins extend for guiding the movement of the upper top upon the lower top.

8. The combination of a lower top having side grooves, slides provided with pins and working in the side grooves, an upper top adapted to slide back and forth on the lower top and to be tilted on the front edge thereof, depending arms secured to the upper top and having slots through which the pins project, and clamping devices working on the latter for securing the depending arms with the upper top at the desired height between the back and front of the lower top.

9. The combination of a lower top having side grooves, slides provided with pins and working in the side grooves, an upper top adapted to slide back and forth on the lower top and to be tilted on the front edge thereof, depending arms secured to the upper top and having slots and recesses through which the pins project, and clamping devices working on the latter for securing the depending arms with the upper top at the desired height between the back and front of the lower top.

10. The combination of a lower top having side grooves, flanged slides provided with pins and working in the side grooves, the upper and lower angle side plates secured to the lower top, overlapping the side grooves and providing ways for the flanged slides, an upper top adapted to slide back and forth on the lower top and to be tilted on the front edge thereof, depending arms secured to the upper top and having slots through which the pins project, and clamping devices working on the latter for securing the depending arms with the upper top at the desired height between the back and front of the lower top.

11. The combination of a lower top having side grooves, flanged slides provided with pins and working in the side grooves, upper side flanges overlapping the side grooves and provided with guide-pins projecting from the sides thereof at the front corners of the lower top, lower side flanges secured to the lower top, overlapping the side grooves and provid-

ing in connection with the upper side flanges, ways for the flanged slides, an upper top adapted to slide back and forth on the lower top and to be tilted on the front edge thereof and having depending side flanges embracing the upper side flanges of the lower top, and formed with inwardly-projecting flanges providing grooves into which the guide-pins extend for guiding the movement of the upper top, depending arms secured to the upper top and having slots through which the pins of the flanged slides project and clamping devices working on the pins of the flanged slides for securing the depending arms with the upper top at the desired height between the back and front of the lower top.

12. The combination of a lower top having side grooves, flanged slides provided with pins and working in the side grooves, upper angle side plates overlapping the side grooves, and provided with guide-pins projecting from the sides thereof, lower angle side plates secured to the lower top, overlapping the side grooves

and providing in connection with the upper angle-plates, ways for the flanged slides, an upper top adapted to slide back and forth on the lower top and to be tilted on the front edge thereof and having angle side plates formed with horizontal lower flanges and embracing the upper angle side plates of the lower top, angle-plates having horizontal upper flanges and secured to the angle side plates of the upper top and providing grooves in connection with the horizontal flanges into which the guide-pins extend for guiding the movement of the upper top, depending arms secured to the upper top and having slots through which the pins project and clamping devices working on the latter for securing the depending arms with the upper top at the desired height between the back and front of the lower top.

JOHN WILLIAM HENRY PINER.

Witnesses:

J. C. BROOKE,

EMILY BROOKE PINER.