

E. G. BUDD.

DESK.

APPLICATION FILED JAN. 27, 1909.

1,046,731.

Patented Dec. 10, 1912.

3 SHEETS—SHEET 1.

Fig. 1,

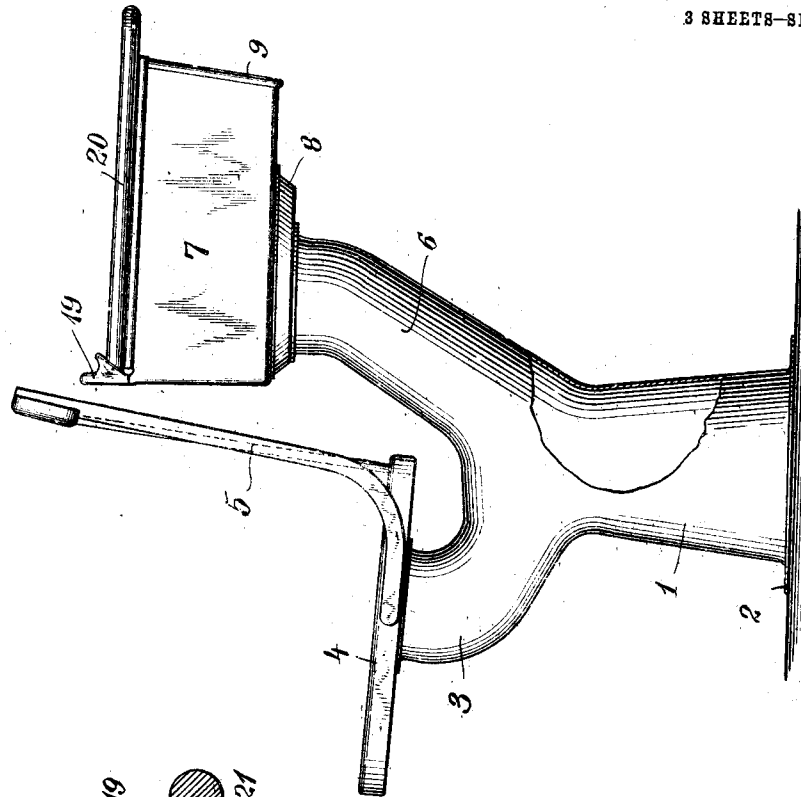
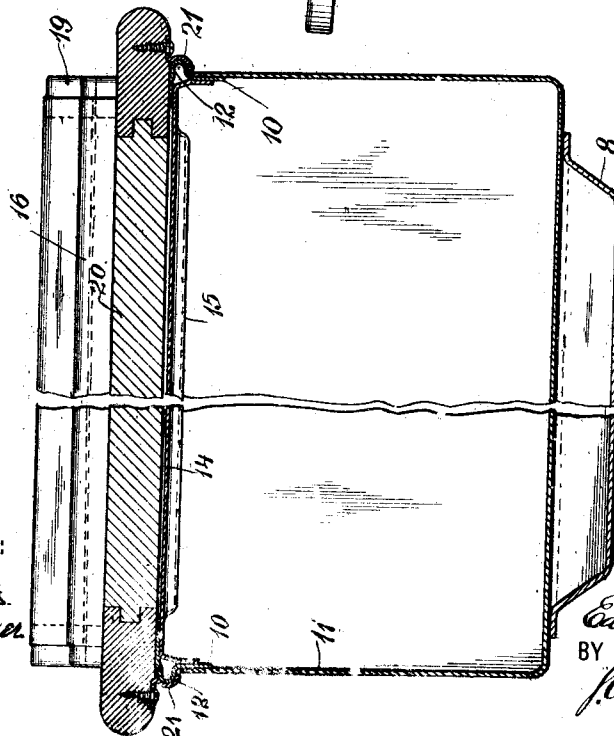


Fig. 4,



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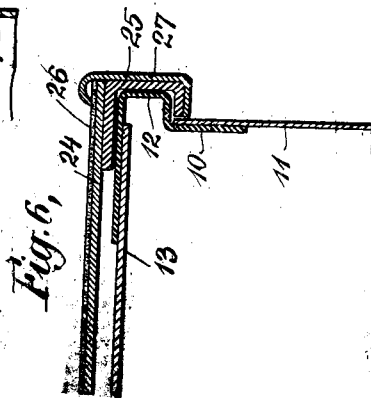
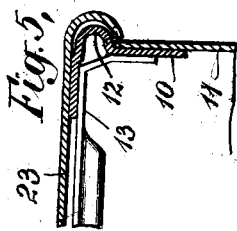
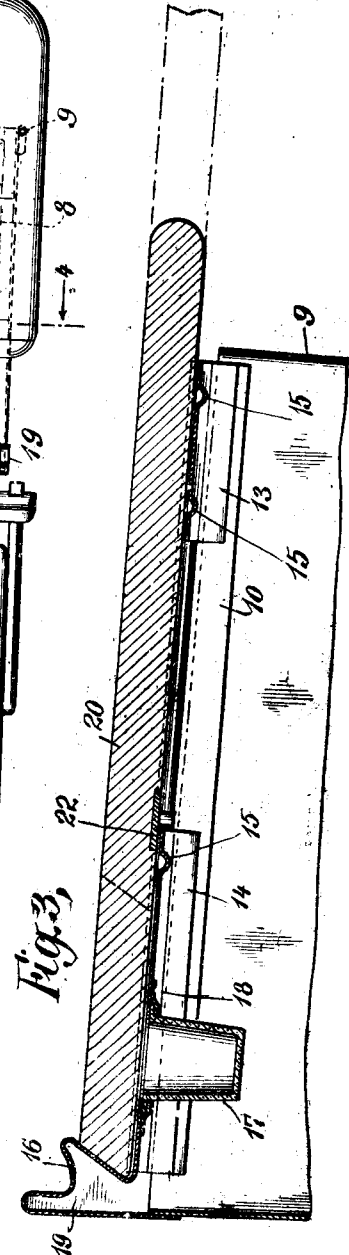
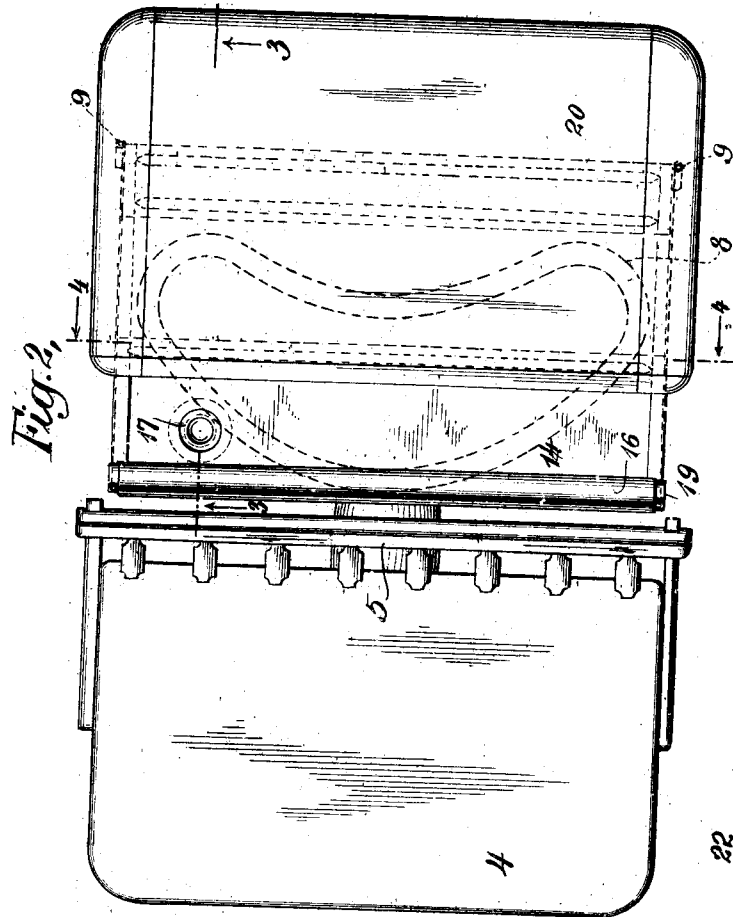
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3 SHEETS-SHEET 2.



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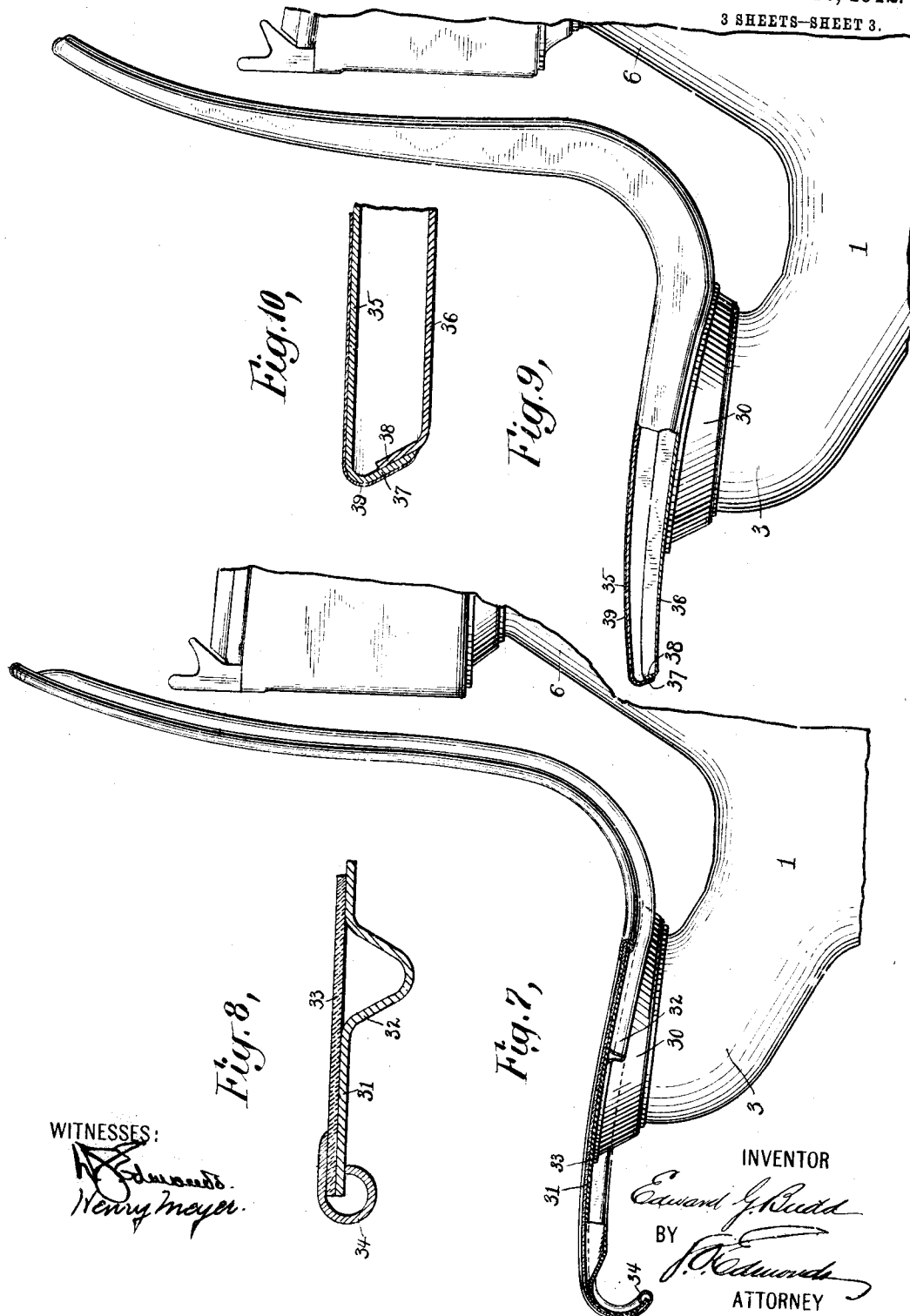
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

EDWARD G. BUDD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO HALE AND KILBURN COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF DELAWARE.

DESK.

1,046,731.

Specification of Letters Patent.

Patented Dec. 10, 1912.

Application filed January 27, 1909. Serial No. 474,398.

To all whom it may concern:

Be it known that I, EDWARD G. BUDD, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Desks, of which the following is a specification.

This invention relates to desks for use in school rooms and assembly halls.

The invention is directed to the provision of a desk of an improved construction and particularly to one which is made largely or entirely of metal so as to be fire-proof.

Other desirable features of the desk made in accordance with the invention are that there are few lodging places for dirt so that the structure may be more readily kept clean and in a sanitary condition, that ample room is provided for the student's feet and that great strength and rigidity of the structure and simplicity of the construction are obtained together with low manufacturing cost.

One feature of the invention consists in the provision of a desk-box constructed largely or entirely of sheet-metal, the bottom and sides of the box being preferably made from a single piece of sheet-metal pressed to the desired form. The corners of the box thus made are rounded so that damage or injury to persons by being thrown against the desk is minimized and neat fillets are provided within the box reducing the liability of the collection of dirt therein and facilitating cleaning. The box is supported upon a pedestal, preferably one having a base portion and two arms extending upwardly therefrom one supporting a seat and the other lying in rear of the seat-support and having the desk-box secured thereon. When the desk-box is made of sheet-metal, it is undesirable to secure the bottom of the box directly to the pedestal which supports it as such a structure is not sufficiently rigid. Instead I employ a metallic member between the box and the standard which supports it, the member being secured to the bottom of the box over a large area so that it materially strengthens the box and being so shaped that it extends well out toward the side edges of the box so as to contribute to the rigidity of the structure.

My invention further involves certain improvements in the construction of the top of the box and the parts pertaining thereto which will hereinafter be fully described.

I have illustrated the preferred embodiment of my invention in the accompanying drawings in which—

Figure 1 is an elevation of a desk and chair, the pedestal therefor being broken away in part; Fig. 2 is a plan view of the same; Fig. 3 is a section of the desk-box on line 3—3 of Fig. 2; Fig. 4 is a transverse section on line 4—4 of Fig. 2; Figs. 5 and 6 are sectional detail views illustrating modified forms of top construction; Fig. 7 is a sectional elevation showing the seat construction; Fig. 8 is an enlarged detail view in section illustrating the construction shown in Fig. 7; and Figs. 9 and 10 are views similar to Figs. 7 and 8, illustrating a modification of the seat construction.

Referring to these drawings, 1 indicates a hollow pedestal preferably constructed of pressed sheet-metal, this having a base or body portion of circular or oval section provided with a flange 2 at its lower end whereby the pedestal may be secured to the floor. At the upper end of the base portion two integral arms branch one forwardly and the other rearwardly. Upon the upper end of the forward arm 3 is secured a seat 4 of any suitable construction, here shown as a wooden seat provided with a wooden back 5 though, as will be understood, the seat and back may be made of metal. The rear arm 6 extends to a greater height than arm 3 and has the desk-box 7 secured thereto. The box 7 is constructed largely or entirely of metal, the bottom, sides and forward end thereof being preferably formed from a single piece of sheet-metal by pressing the same to a rectangular configuration as shown.

The bottom of the box 7 is not secured directly to the arm 6 of the pedestal but instead a piece is mounted between these two parts and suitably secured thereto. This piece serves the double purpose of strengthening the bottom of the box 7 and transmitting strains from points on the box adjacent to the edges thereof direct to the pedestal. For this purpose I have shown a piece 8 having the form of a shallow pan and consisting of a sheet-metal piece pressed into form. The piece 8 is of substantial

width as shown in Fig. 2, so that it extends outwardly adjacent to the sides of the box and it is so formed that a considerable area thereof contacts with the bottom of the box and this portion of the piece is secured to the box in any suitable manner, as by brazing or riveting it thereto. At or adjacent to its center, the piece 8 is suitably secured to the arm 6 of the pedestal as by brazing it to an outwardly turned flange at the upper end of arm 6. The piece 8 while forming the securing means for fastening the desk-box upon the pedestal, also provides a double-bottom for the box, thus greatly stiffening the construction.

At the opening to the interior of the box, the edges of the sheet-metal piece from which the sides and bottom are made are turned over as shown at 9 in Figs. 1 and 3 so as to avoid rough edges which might cause injury and catch the clothing. To the upper edges of the sides of the box are secured edge-strips 10, these being strips of sheet-metal pressed to a transverse curvature so as to form therein a lengthwise bead. The strips 10 are secured to the sides 11 of the box in any suitable manner with the beads 12 in the strips lying just above the upper edges of the sides. Extending between the sides 11 of the box and secured at their ends thereto so as to brace them are two transverse strips 13 and 14 each provided with one or more corrugations to give it greater strength and rigidity as shown at 15. The strips 13 and 14 may be of sheet-metal and have their ends downwardly turned and secured to the sides 11 of the box or the strips 10 affixed thereto. The strip 14 at the forward part of the desk is provided with an integral extension 16 bent to suitable form, as that shown in Fig. 3, to provide a pen-rack, the edge of this extension being carried downwardly and secured to the back of the box. In the strip 14 is an opening for an ink-well 17, this being held in position by a piece 18 secured to the under side of the strip 14 so as to receive a flange on the ink-well. The ends of the pen-rack formed by the extension 16 are closed by metallic pieces 19 which may be castings and which are secured in position in any suitable manner.

The top of the desk shown in Figs. 1 to 4 is made of wood and is preferably mounted to slide upon the sides of the box so that a person using the desk may draw the top toward him for greater convenience, and in so doing the ink-well is uncovered. The top 20 has strips 21 of sheet-metal secured to the under side thereof adjacent and parallel to the side edges thereof. These strips are shaped to receive the beads 12 on the strips 10 so that the top is guided in its forward and rearward movement and held against lateral movement.

In order to prevent excessive movement of the top of the desk a stop 22 is secured to the under side of the top 20 and adapted to engage the cross-strip 13. Preferably the forward edge of the top 20 is cut to correspond with the shape of the portion of the pen-rack 16 lying directly in front of it, as shown in Fig. 3.

Referring to Fig. 5, a slight modification of the construction above described is shown, the parts 10, 11, 12 and 13 being substantially the same as those illustrated in Figs. 1 to 4. Instead of using wood in the construction of the top of the desk, the top 23, shown in Fig. 5, consists of a piece of sheet-metal cut to the shape desired for the top of the desk and having its edges curled downwardly to correspond with the beads 12 on the edge strips 10. When such a top is employed the structure is entirely fire-proof but this construction is open to the objection that the metal of the desk top would chill the arm and hand of the student using the desk. This may be guarded against in various ways among which is the application to the upper surface of the top 23 of a thick coating of paint of special composition such as to resist the transmission of the chilling effect of the metal.

In Fig. 6 is shown a further modification in which a sheet-metal top for the desk is employed. In this figure the parts 10, 11, 12 and 13 are also substantially similar to the corresponding parts of Figs. 1 to 4. The top of the desk consists of a rectangular piece of sheet-metal 24 and secured to the under side of this piece at the lateral edges thereof are strips 25 of U-shaped cross-section which extend around beads 12 on the strips 10 so as to guide the top in its movement. A sheet of material which will transmit heat but poorly is applied to the upper surface of the sheet-metal top 24. Such a sheet is shown at 26 and consists of hard fiber or a composition of a similar nature. The fiber sheet 26 is secured to the metallic sheet 24 by means of edge strips 27 of U-shaped cross-section which overlap the lateral edges of the fiber sheet and extend around the U-shaped edge strips 25.

It will be seen that in accordance with the construction above described, a desk-box and seat are supported on a single pedestal, the base of which is comparatively small so that the floor under the desk and chair can be readily kept in a sanitary condition and ample room is provided for the student's feet; also the corners and edges on the exterior of the desk-box are rounded so as to be of attractive appearance and to avoid injury to persons by being thrown against the desk, and on the interior of the desk-box the corners are all rounded so that dirt will not collect therein and so that the box may be easily and thoroughly cleaned.

The construction described employing sheet-metal parts to a very large extent, these being pressed to the desired form in a simple operation, is such that the desk may be produced at low manufacturing cost and this without sacrificing in any way the strength and rigidity of the completed structure. It will be apparent that the desk constructed as shown in Figs. 1 to 4 is practically fire-proof and when constructed in accordance with Figs. 5 and 6 is entirely fire-proof, a feature which is of the greatest importance since such desks are frequently used in school rooms where the students are children and must be protected in every possible way against the dangers of fires.

In the foregoing, the seat has been referred to as being made of wood and it is so shown in Figs. 1 to 6. However, if it is desired to use metal to a greater extent in order to make the structure more thoroughly proof against fire, the seat may be constructed of metal, as shown in Figs. 7 to 10. In these figures, 1 indicates the pedestal with its arm 3 supporting the seat and an arm 6 supporting the desk-box as before. The seat is made of sheet-metal and is preferably secured upon the arm 3 in substantially the same manner as that employed in securing the desk-box upon the arm 6. A sheet-metal pan-shaped piece 30 is employed, this being secured to the under side of the seat and to an outwardly-extending flange at the end of arm 3 in any suitable manner as by brazing or welding or by employing rivets or bolts. The seat proper may consist of one or two pieces of sheet-metal pressed to the proper configuration, and in either case the upper surface of the metal is covered in such manner as to guard against a chilling effect due to contact with the metal.

In Figs. 7 and 8, a single sheet-metal part 31 is bent to form the seat and seat-back, its forward edge being curled under as shown. In pressing this piece into form, corrugations 32 are preferably provided to strengthen the structure. Over the piece 31 is laid a sheet 33 of a hard material which will transmit heat but poorly and which is preferably fireproof. The sheet 33 may be made of fiber. The edges of this fiber sheet are bound to the metal sheet 31, as by the employment of sheet-metal strips 34 bent as shown in Fig. 8 and embracing the edges of the two sheets.

In Figs. 9 and 10, another method of constructing the seat is shown, this consisting of two sheet-metal pieces bent as shown to conform to the shape desired for the seat and seat back. These two pieces 35 and 36 have coacting flanges 37 and 38 at their edges which are secured together by brazing or welding in assembling the pieces 35 and 36. To guard against the chilling effect of the metal, a coating 39 of a suitable paint

which is a non-conductor of heat is applied to the upper surface of the seat and back.

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

1. In a desk, a desk-box having the bottom, sides and end thereof formed from a single piece of sheet-metal, a top for the box, and corrugated sheet-metal strips extending between said sides at the upper edges thereof but below said top and secured at their ends to said sides, substantially as set forth.

2. In a desk, a desk-box having a bottom, end and sides, a top for said box movable upon said sides in the plane in which it lies, and a sheet-metal piece extending between said sides below said top and secured at its ends to the sides near the upper edges thereof, a portion of said piece being extended upwardly above said movable top and then away from said top, and the movement of said top carrying its edge into engagement with said upwardly-extended portion, substantially as set forth.

3. In a desk, a desk-box having a bottom, end and sides, a top for said box, a sheet-metal piece extending between said sides below said top and secured at its ends to said sides near the upper edges thereof, a portion of said piece being extended above the top of the box at the rear edge of said top and being formed to provide a pen-rack, and means for securing the edge of said portion to said end of the box, substantially as set forth.

4. In a desk, a desk-box having a bottom, end and sides, a top for said box, a sheet-metal piece extending between said sides below said top and secured at its ends to said sides near the upper edges thereof, a portion of said piece being extended above the top of the box and being formed to provide a pen-rack, and metallic members secured to said portion and closing the ends of the pen-rack, substantially as set forth.

5. In a desk, a desk-box comprising bottom, sides and an end formed of sheet-metal, edge-strips of sheet-metal at the upper edges of said sides, a sheet-metal cross-strip extending between said sides adjacent to said end and having its ends secured to the sides, a top coacting with said edge-strips and movable relatively to the sides of the box, and means for arresting the movement of said top in such position that its forward edge overlaps said cross-strip, substantially as set forth.

6. In a desk, a desk-box comprising bottom, sides and an end formed of a single piece of sheet-metal, edge strips of sheet-metal secured to said sides at the upper edges thereof, two sheet-metal cross-strips extending between said sides and secured at their ends thereto one adjacent to said end

and the other adjacent to the open end of the box, a top supported by said edge-strips and movable thereon, and means for arresting the movement of said top in such position that its forward edge overlaps the first-named of said cross-strips, substantially as set forth,

This specification signed and witnessed
this 22nd day of January, 1909.

EDWARD G. BUDD.

Witnesses:

R. M. FRIES,

P. J. TUCKER.