

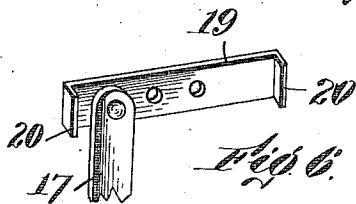
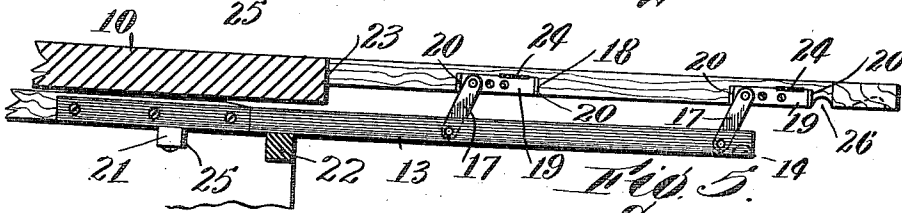
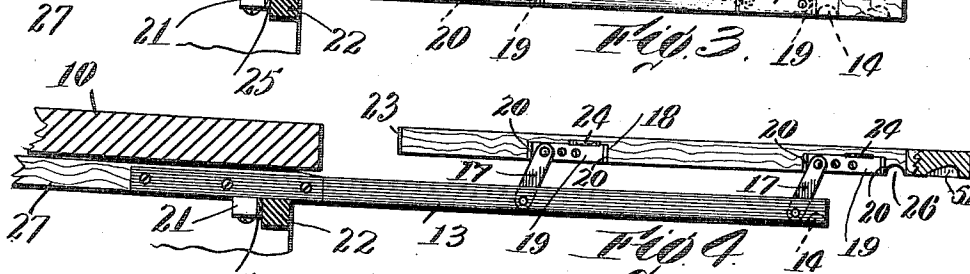
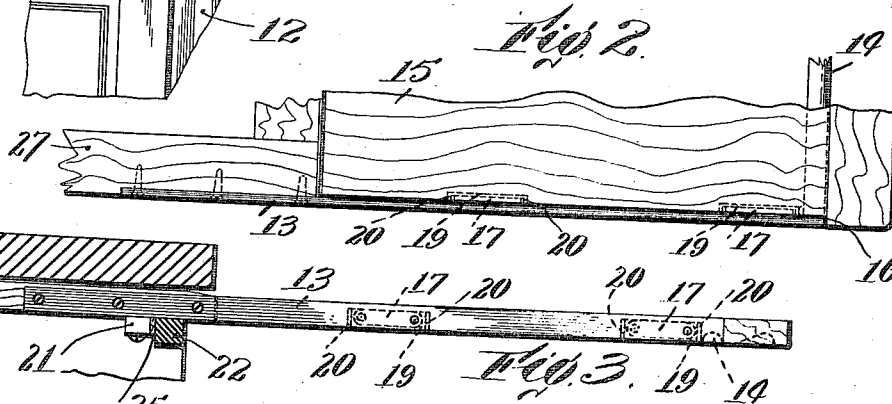
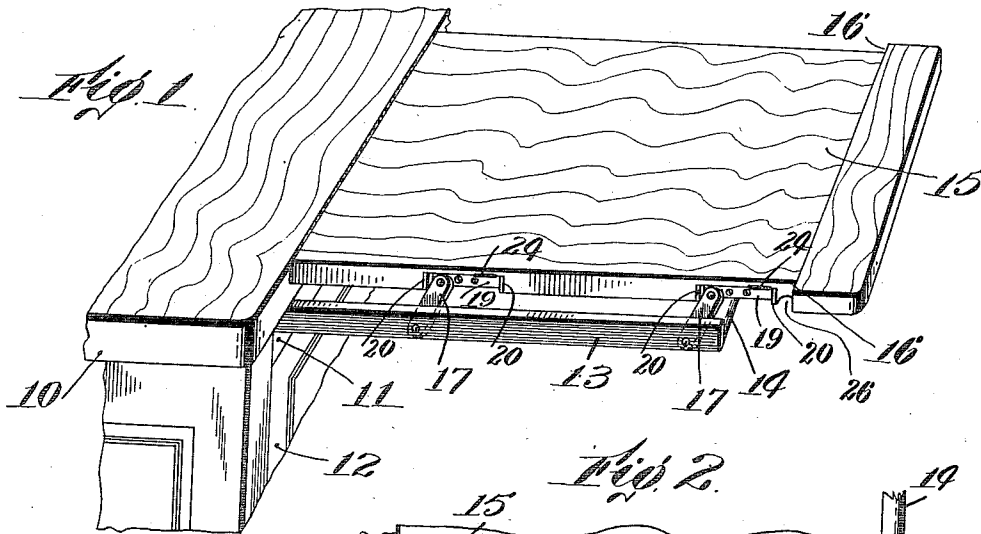
F. E. WARING.
DESK.

APPLICATION FILED JULY 10, 1907. RENEWED APR. 21, 1910.

973,325.

Patented Oct. 18, 1910.

2 SHEETS—SHEET 1.



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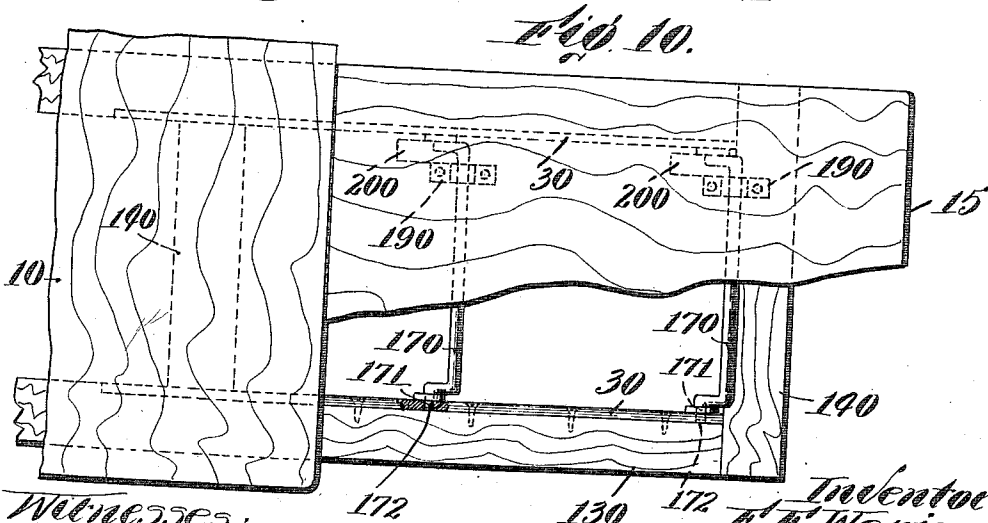
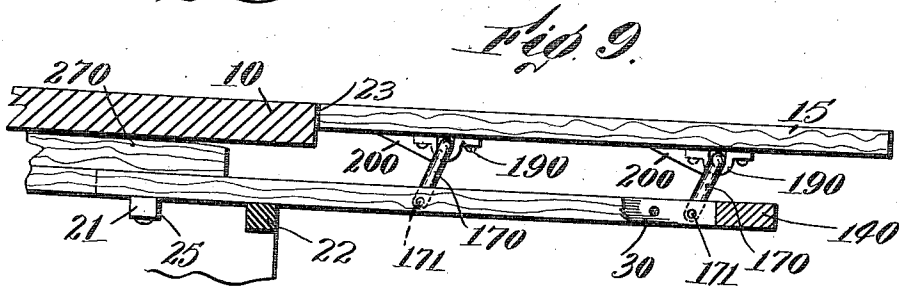
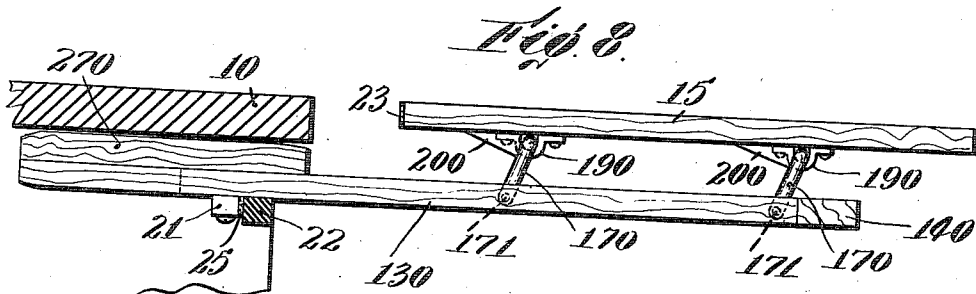
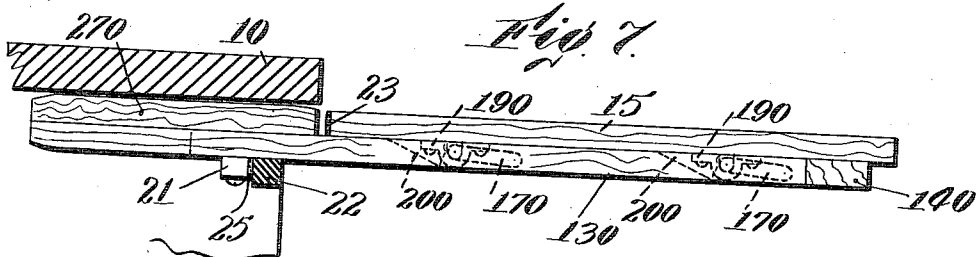
DESK.

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2 SHEETS--SHEET 2.



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UNITED STATES PATENT OFFICE.

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DESK.

973,325.

Specification of Letters Patent.

Patented Oct. 18, 1910.

Application filed July 10, 1907, Serial No. 383,025. Renewed April 21, 1910. Serial No. 556,810.

To all whom it may concern:

Be it known that I, FREDERICK E. WARING, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Desk, of which the following is a specification.

This invention relates to desks having horizontal slides or arm-rests. As such arm-rests are ordinarily constructed, they are drawn out to occupy a position from one to two inches below the top of the desk, and therefore, their usefulness is considerably restricted.

The principal objects of this invention are to provide means whereby such an arm-rest may be concealed within the body of the desk or below its top when not in use, and may be drawn out in such a manner that the top of the arm-rest will be located in the same plane as the top of the desk, so that it will virtually constitute a continuation of the surface of the desk, and also to provide such construction that the mere drawing out of the arm-rest will bring the same to this elevation without necessitating any additional manipulation of the parts; to provide a construction in which the arm-rest will be supported in a rigid and fixed manner; and to provide for locating the arm-rest with its support in the same space that is now occupied by an ordinary simple arm-rest, so that the invention may be applied to desks already constructed without mutilating them in any way.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings which illustrate preferred embodiments of the invention, and in which—

Figure 1 is a perspective view of a portion of a desk showing one form of the invention in position for use thereon. Fig. 2 is a plan of the attachment. Fig. 3 is a side elevation of the desk in section and the attachment drawn out and ready for elevation. Fig. 4 shows, in side elevation, the next position of the parts when the arm-rest is being withdrawn. Fig. 5 is a similar view showing the parts in the position shown in Fig. 1. Fig. 6 is a perspective view of certain details of the same. Fig. 7 is a view similar to Fig. 3 showing another form in which the invention may be embodied. Fig. 8 is a side elevation of the

same with the parts in the same position as that shown in Fig. 4. Fig. 9 is a side elevation of the same form showing the parts in position for use, and Fig. 10 is a plan of the same partly broken away.

The invention is designed to be applied to any form of desk or table having a flat top. It is shown herein as applied to a style of desk recently introduced, which is provided with a horizontal top of considerable thickness. While the invention is applicable to the old styles of desks, it is especially desirable in this form, as with the ordinary arm-rest there is a drop of about two inches from the top of the desk to the arm-rest, and the rest is of very little use as ordinarily constructed. These arm-rests are often used by stenographers as a rest for their note-books, and when so used with the ordinary construction, it is necessary for the entire arm-rest to be employed for that purpose, and even then the top of the book is usually placed at an angle against the edge of the desk top in an inconvenient position. The user of the desk often desires to place articles partly on the desk and partly on the arm-rest to have them in a convenient position. This is especially true of desk-telephones, reference books, and the like. With the ordinary forms of arm-rests the user of this style of desk is restricted considerably in the way in which he or she can use these articles. In order to overcome these difficulties and elevate the arm-rest in such position that it virtually constitutes an extension of the surface of the desk itself being exactly in the same plane with it, and also to accomplish the other objects above mentioned, the arm-rest is preferably constructed in the manner shown in the first six figures; referring to which it will be seen that the desk as usual, is provided with a space above the case of drawers into which the arm-rest is ordinarily withdrawn under the top of the desk when not in use. In this form of the invention this space is not modified in any way, but is of exactly the same dimensions as would be the case with the ordinary forms of arm-rests. On account of this feature of construction, the invention in this form is especially adapted to be applied to old desks after they have been in use. In this case an open-centered slide or frame is employed to support and receive the arm-rest, con-

sisting of a pair of side bars 13 and a cross bar 14 connecting them. This frame in the present instance is preferably of metal. The arm rest 15 is cut out at 16 to provide a space for the reception of the side pieces 13, as is indicated in Fig. 2 when the parts are folded up or ready to be withdrawn within the desk or under the top thereof. This is done in the usual way by inserting the fingers in the notch 51 in the under side of the arm-rest which is readily accessible on account of its location, and the fact that the slide does not project under the arm-rest when folded up. A single straight pull then given draws the slide out and elevates the arm-rest in the proper position in the plane of the top of the desk. Pivotally connected with the side pieces 13 are links 17 which are also pivotally connected with the arm-rest. The latter has notches 18 therein, which preferably are provided with metal protecting pieces 19 having flanges 20 thereon, constituting stops against one of which a connecting link bears when the arm-rest is brought up in the position shown in Fig. 4. It will be seen that when the arm-rest is folded the parts occupy exactly the same position as that occupied by the ordinary arm-rest. When it is desired to draw out the arm-rest it is pulled out in the ordinary way as shown in Fig. 3. When it reaches the end of its travel a stop 21 on the underside of the slide engages the cross-piece 22, with which the desk is provided, and a further pull results in drawing up the arm-rest on its pivots to the position shown in Fig. 4. It is then pushed back to the position shown in Fig. 5 when a piece of felt 23 engages the edge of the desk. It will be seen that the links constitute a parallel motion, whereby the arm-rest is always parallel with the slide or side pieces thereof, and with its original position, which, of course, is parallel with the top of the desk. It will be seen also that in addition to that fact the entire mechanism occupies the same space as is occupied by an ordinary arm-rest, the same is constructed in a very simple manner, and in such a way that a simple pull in one direction not only draws out the slide, but elevates the arm-rest. In these six figures certain additional features of construction are shown, as for example, pieces of felt 24 and 25 which respectively engage the links and the cross bar 22 when the parts are folded up or drawn out, a notch 26 which receives the cross-bar 14, and an upwardly projecting plate 27 secured to the back of the frame to engage the underside of the top of the desk when the arm-rest is drawn out so as to hold it in a perfectly horizontal position. This plate also connects and rigidly supports the metallic frame.

The above described construction while of

general utility is especially desirable when the invention is to be applied to a desk already constructed, as it is so designed that the desk itself will not have to be cut or modified in any way.

When the invention is to be applied to a desk in the process of manufacture, this element is of less importance, and a cheaper construction can be used. In Figs. 7, 8, 9 and 10 such a construction is shown which has also an additional advantage, in that means is provided for more thoroughly preventing side play. In this form the frame 130 is shown as being constructed of wood, its cross-piece 140 being made in an obvious way. The arm-rest 15 is constructed as above, except that it is not provided with cut out sides 16 shown in the other figures. The slide or frame 130 in this case is preferably provided with a metallic strip 30 on the inside, to which are pivotally connected a pair of integral crank-pieces 170. These can conveniently be made of single pieces of wire having ends 171 engaging in holes 172 in the metal strips. They are connected with the bottom of the arm-rest by means of cleats 190 passing through the same in such a manner as to be pivotally connected with the arm-rest thereby. This constitutes a double hinge or pivotal connection as is the case in the other form, and a parallel motion of a similar character. Means is provided also for stopping the pivotal motion of the wires as was the case in the other form, this means, in the present instance being shown as a pair of stops 200 mounted on the underside of the arm-rest, although they might be located on the frame with equal advantage. Other features of the invention are shown in these four figures, but will not be described in detail, as they have been referred to above. It may be mentioned that the guide pieces or plates 270 are located above the plane of the frame instead of substantially in the same plane as in the other case, but they serve the same purpose.

While I have illustrated and described certain forms in which the invention may preferably be embodied, I am aware that many modifications may be made therein without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to the particular forms illustrated and described, but

What I do claim is:—

1. The combination with a desk having a drawer case provided with a space between it and the top of the desk, a slide or frame adapted to move horizontally along said space, an arm rest of substantially the same height as said frame and foldable within the same to occupy a position in the same plane, and a parallel motion connection between the slide and the arm-rest, whereby said

arm-rest may be elevated to a horizontal position flush with the top of the desk when the slide is withdrawn.

2. The combination with a desk, of an open-centered frame horizontally slidable within the desk and having vertical side pieces, and an arm-rest of substantially the same height as said frame connected with said frame and adapted to be folded into the center thereof and entirely within the boundaries of said side pieces.

3. The combination with a desk having an opening, of an open-centered frame adapted to slide into said desk through the opening, an arm-rest of a height not greater than that of the frame, a plate at the rear of said frame connecting its opposite sides and extending upwardly therefrom so as to bear on the underside of the desk top and hold the frame in horizontal position when drawn out, and parallel motion connections between the frame and arm-rest by which the arm-rest is adapted to be folded into the open center of the frame to occupy a position entirely within and to be drawn out into a position parallel with the frame and above it.

4. The combination with a desk having an opening in a vertical wall thereof, of an open-centered frame adapted to slide horizontally into the desk through said opening and having vertical side pieces, an arm-rest, connections between the frame and arm-rest for folding the arm-rest entirely within the boundaries of the said side pieces and in said open center, and means for limiting the motion of said arm-rest when swung upwardly from the frame to such position as to bring the top of said arm-rest into the plane of the top of the desk.

5. The combination with a desk having an opening, of a slide or frame adapted to slide into the desk below the top through said opening, an arm-rest of substantially the same height as the slide and foldable within the slide, and means for connecting the arm-rest and slide to cause the elevation of the arm-rest to a position flush and parallel with the top of the desk when the frame is drawn out.

6. The combination with a desk, of a frame slidably mounted therein, an arm rest having a notch accessible from below in all positions thereof, and means whereby a continued pull on the arm-rest will draw the arm-rest and frame out of the desk and elevate the arm-rest to a position flush with the top of the desk.

7. In a desk, the combination of a frame slidable horizontally into the desk, a stop at the rear of the desk, a cushion on the front face of said stop, a stationary cross bar in the path of said stop, links connected with said frame, an arm-rest connected with said links, means on said arm-rest for engaging the links when the arm-rest is drawn out and elevated to hold the arm-rest in a fixed position, cushions on the sides of said arm-rest for engaging the links when the arm-rest is folded, and a cushion on the rear end of said arm rest for engaging the edge of the desk.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

FREDERICK E. WARING.

Witnesses:

MARY H. MUZZY,
FANNIE E. WARING.