

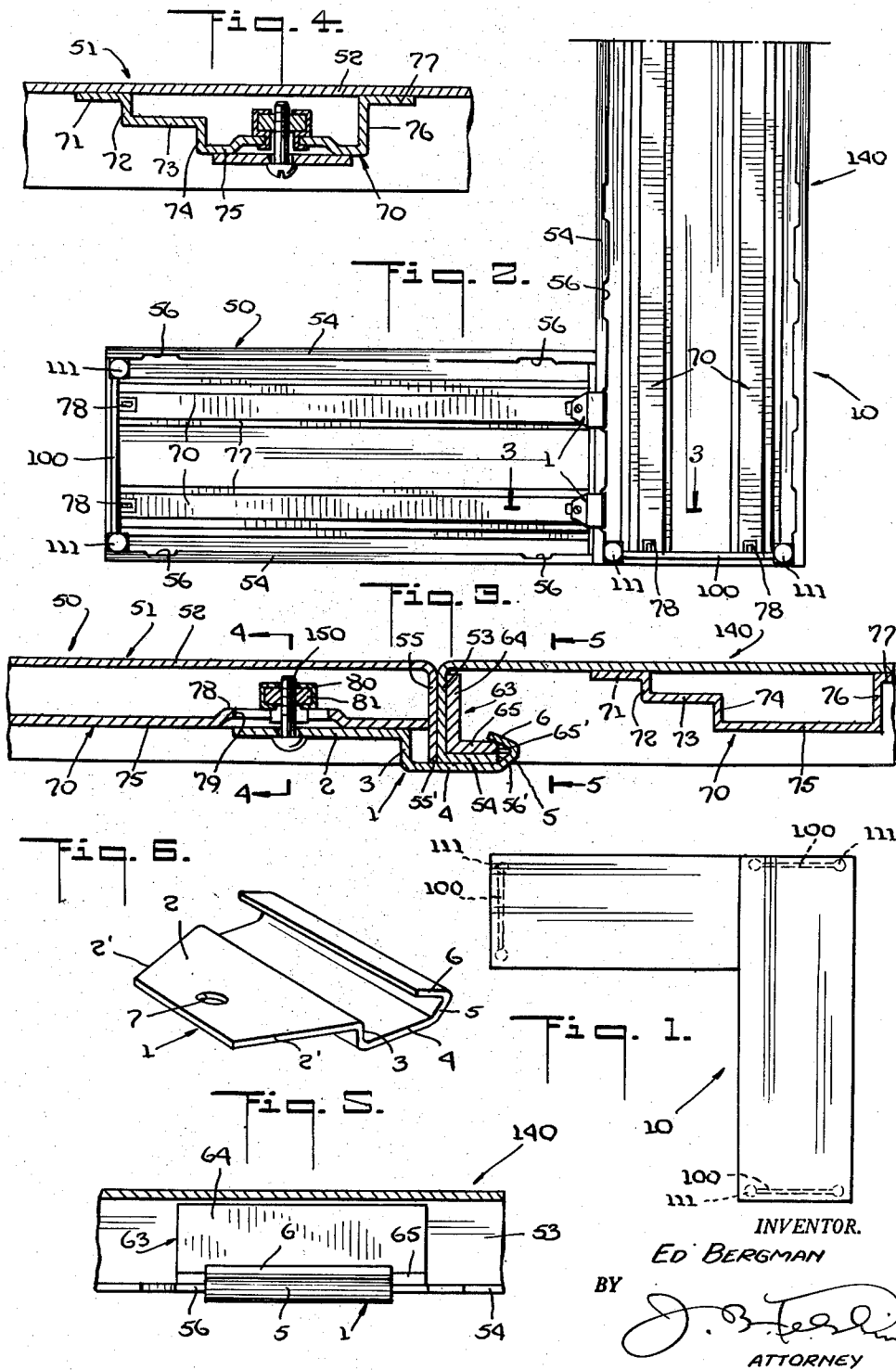
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DEVICES FOR CONNECTING DESK TOPS TOGETHER

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DEVICES FOR CONNECTING DESK TOPS TOGETHER

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5 Claims. (Cl. 311-4)

This invention relates to knock-down office equipment. In my prior copending application S. N. 354,682, filed May 13, 1953, entitled "Knock-Down Office Equipment," there is disclosed a device of the character described and comprising a pair of desk tops detachably connected to one another. The desk tops are of different lengths and the end of the shorter desk top is connected to the side of the longer desk top adjacent the end of the latter. The attaching means is disclosed in said prior application as comprising a pair of Z-shaped brackets each secured to the end of the shorter desk top and connected to a respective one of a pair of channel brackets, the latter being secured to the side of the longer desk top.

The present invention resides in an improved means for attaching the end of the shorter desk top to the side of the longer desk top. That is, instead of the pairs of Z-shaped brackets and channel brackets disclosed in said prior application, a single pair of securing brackets are substituted therefor and are provided with a novel shape to coact with the structure of the desk tops so as to connect the latter in assembled relation but permitting them to be quickly and easily disconnected when so desired.

This means for attaching the two desk tops in assembled relation is of extreme importance in the mode of marketing the equipment and its manner of use by the purchaser. The equipment is of a knock-down nature in that it is sold and shipped to the user in the form of several disassembled components which the user himself may then assemble in any selected one of several possible arrangements to adapt the equipment to the functional requirements and space facilities of the particular office in which the equipment is to be installed.

It is therefore an object of the present invention to provide knock-down office desk equipment of the character described and comprising a pair of separate desk tops together with a novel means for quickly, simply, and easily connecting the two desk tops together in assembled relation.

Another object is to provide a device of the character described wherein the connecting means comprises a single integral unitary bracket having means for detachably attaching an end of one of these desk tops to a side of the other desk top.

Still another object is to provide equipment of the character described wherein the desk tops may be connected to each other in any selected one of several possible arrangements employing two, three, or even more of said desk tops in various attached assembled relations.

Another object is to provide office equipment of the character described which may be easily assembled by the purchaser or user without special tools or skills, and which may be readily disassembled, and which shall be strong and rugged and yet relatively inexpensive to manufacture, and which shall be practical and efficient to a high degree in use.

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Other objects and advantages of the present invention are inherent in the structure as claimed and disclosed or will become apparent to those skilled in the art as the detailed description proceeds in connection with the accompanying drawings wherein:

Fig. 1 is a top plan view of the desk equipment and shows a pair of desk tops connected to each other in assembled relation;

Fig. 2 is a bottom plan view of the equipment;

Fig. 3 is a vertical sectional view on line 3-3 of Fig. 2;

Fig. 4 is a vertical sectional view on line 4-4 of Fig. 3;

Fig. 5 is a vertical sectional view on line 5-5 of Fig. 3; and

Fig. 6 is a perspective view of the novel securing bracket which has been substituted for the Z-shaped bracket and channel bracket of said prior application.

Referring now to the drawing in more detail, the reference numeral 10 indicates office equipment embodying the present invention. It is to be understood that the arrangement of the equipment 10 is merely illustrative of one of the many arrangements possible since by the addition of other component parts similar to those described herein, the equipment may be built up and extended to make various other arrangements. The particular arrangement illustrated in the drawing is merely illustrative for purposes of explanation and description and to build it up further requires merely the duplication or addition of some of the component parts disclosed herein.

Since the novelty of the present invention over the equipment disclosed in said prior copending application resides solely in the means for securing the desk tops together in assembled relation, only that portion of the present equipment which directly coacts with the novel securing means is disclosed in the present application, reference being made to said prior application for a more detailed description of the equipment as a whole. It will further be noted that those parts of the present application which are identical to equivalent parts of said prior application are given the same reference numerals to aid in referring to said prior application for a fuller comprehension of many of the structural details of the equipment 10 which may be only briefly described in the present application.

The equipment 10 comprises a pair of desk tops 50 and 140 of substantially identical construction except that desk top 50 is somewhat shorter than desk top 140. Each of the desk tops 50, 140 comprises a desk top panel 51 of sheet metal and including a top wall 52 of rectangular shape. Extending downwardly from the front and rear ends of top wall 52 are front and rear walls 55 at both opposite ends of each desk top 50, 140. It will be noted that both desk tops 50, 140 are of rectangular shape and are somewhat elongated whereby the "ends" referred to throughout the specification and claims designates the shorter pair of the four edges of the rectangle and the "sides" referred to indicate two longer edges thereof.

Extending downwardly from both sides of top wall 52 are a pair of vertical walls 53. The lower ends of the latter are integrally formed with horizontal flanges 54 which extend inwardly toward the center line of desk tops 50, 140. Flanges 54 of desk top 50 are formed adjacent the opposite ends thereof and at the inner edges thereof with shallow longitudinal notches 56. The flanges 54 of desk top 140 are similarly formed with a plurality of notches 56 both at the end portions and throughout intermediate portions thereof.

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Welded or otherwise secured to desk tops 50, 140 are a series of angle members 63 each of which is located in alignment with a respective one of the notches 56. Each angle member 63 comprises a vertical flange portion 64 abutting against side wall 53 and a horizontal flange portion 65 lying in superimposed relation to flange 54. As shown in Fig. 3, the inner end 65' of horizontal flange portion 65 is coextensive with the rectilinear edge 56' of its respective notch 56.

Attached to the underside of top wall 52 of each of the desk tops 50, 140 are a pair of similar, symmetrically disposed elongated stiffeners 70 formed of sheet metal and each comprising an outer flange 71 contacting the underside of top wall 52. Extending downwardly from flange 71 is a wall 72 from which a horizontal wall 73 extends inwardly. Extending downwardly from wall 73 is a wall 74 from which extends inwardly another horizontal wall 75. Extending upwardly from wall 75 is a vertical wall 76 and extending from the latter is a flange 77 welded to top wall 52. The stiffeners 70 extend the entire length of desk tops 50, 140 substantially to the end walls 55 thereof.

Each of the bottom horizontal walls 75 of stiffeners 70 is formed adjacent the opposite ends thereof with a short upwardly pressed substantially rectangular wall portion 78 in the form of a raised rectangular boss or projection. Each of the wall portions 78 is formed with an elongated rectangular opening 79. Slidably mounted on the upper surface of wall portion 78 at said opening 79 is a nut holder 80 in which is rotatably mounted a nut 81 the function of which will be described below.

As shown in Fig. 2, one end of the shorter desk top 50 is provided with a planar downwardly extending leg panel 100 having a pair of gliders 111 mounted to opposite sides of the lower edge thereof for engagement with the floor surface to support said end of desk top 50 at the conventional height above the floor. Both opposite ends of the longer desk top 140 are similarly provided with leg panels 100 having gliders 111, only one of the ends of desk top 140 being shown in Fig. 2 for clarity and economy in illustration. For information as to further structural details of leg panels 100, reference is hereby made to said prior copending application S. N. 354,682.

The end of the shorter desk top 50 may be attached to the side of the longer desk top 140 in any selected one of several predetermined positions along the latter. In addition, several desk tops 50 may be connected to a single desk top 140 at several positions and at the same or opposite sides of desk top 140 or, if desirable in view of the functional requirements and space facilities of the particular office in which the equipment 10 is to be installed, the ends of desk top 140 may be attached to either side of the shorter desk top 50 in any one of several possible arrangements. It will thus be seen that a plurality of desk tops 50, 140 may be assembled in many different ways to provide assembled desk structures of various sizes and shapes. For purposes of illustration and comprehension of the present invention, there is shown in the drawing merely one of the simpler arrangements in which one end of the shorter desk top 50 is connected to the side of the longer desk top 140 adjacent the end of the latter, it being understood that the scope of the invention as delineated in the appended claims is not to be so limited unless expressly so recited therein.

The means for securing the desk top 50 to desk top 140 comprises a pair of securing brackets indicated generally by the reference numeral 1. Each of the brackets 1 is in the form of an integral unitary element comprising a horizontally extending web portion 4 having an upwardly extending wall portion 3 along one edge thereof. The upper edge of wall portion 3 is formed integral with a horizontally extending flange portion 2, the latter having outwardly converging lateral sides at 2'. The opposite edge of web portion 4 is formed integral with an

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upwardly and outwardly extending inclined portion 5 from which extends the inwardly and upwardly extending inclined portion 6. Flange portion 2 is provided with an opening 7 extending therethrough.

When the end of desk top 50 is connected in assembled relation to a side of desk top 140, flange portion 2 of bracket 1 abuts against the undersurface of bottom wall 75 of stiffener 70, it being understood that each of the brackets 1 is associated with a respective one of the two stiffeners 70 of desk top 50. The opening 7 of each bracket 1 is in register with a respective one of the slots 79 and receives a screw 150 engaged by nut 81. It will be obvious that when nut 81 is rotated, screw 150 will be drawn upwardly thereby so as to clamp flange portion 2 against the underside of bottom wall 75. It will also be seen that the position of each bracket 1 relative to the end wall 55 of desk top 50 may be adjusted by sliding nut holder 80 within slot 79 before fixedly clamping bracket 1 thereto by rotation of nut 81.

Web portion 4 extends below and engages the lower edge 55' of the adjacent end wall 55 and also the underside of flange 54 of the other desk top 140. The inclined portion 5 of each bracket 1 extends upwardly through a respective one of the notches 56 formed in the adjacent flange 54 of desk top 140. The upper inclined portion 6 of each bracket 1 resiliently engages the inner end of the horizontal flange portion 65 of the respective angle member 63. It will thus be seen that the inclined portions 5, 6 of each bracket 1 form a recess receiving the edge 56' of notch 56 and the inner end 65' of flange portion 65 and thus serve to maintain the side wall 53 of desk top 140 in assembled abutting relation against the adjacent end wall 55 of the other desk top 50.

Since a plurality of notches 56 are provided along both flange portions 54 of desk top 140, it will be obvious that other desk tops 50 may be secured thereto in a similar manner. Also, since the ends of desk top 140 are constructed similarly to the ends of desk top 50, and side flanges 54 of desk top 50 are also provided with notches 56, desk top 140 or others identical thereto may have ends connected to either side of the shorter desk top 50.

It will thus be seen that the present invention utilizes a single bracket 1 in place of the Z-shaped bracket 145 and the channel bracket 160 shown in Fig. 18 of said prior copending application S. N. 354,682. By this substitution, the present invention provides a simpler, more economical, and more rigid means for securing the desk tops 50, 140 in assembled relation and which also permits the desk tops 50, 140 to be attached or detached from each other with less time and difficulty during the assembly operation when the equipment 10 is being set up in the office of the purchaser.

It is to be understood that the specific embodiment of the invention shown in the drawing and described above is merely illustrative of one of the many forms which the invention may take in practice without departing from the scope of the invention as delineated in the appended claims.

I claim:

1. In combination, a first elongated desk top, a second elongated desk top in the plane of the first desk top and at right angles thereto, means to detachably attach one end of the first desk top to a side of the second desk top adjacent one end of the latter, said means to detachably attach the desk tops to each other comprising a single unitary integral bracket having a horizontally extending flange portion at one end thereof, the opposite end of said bracket having a recessed portion, said first desk top having at the underside thereof a horizontal portion lying in abutting relation against said flange portion, means for releasably connecting said flange portion to said first desk top horizontal underside portion, said bracket having at the opposite end thereof means releasably attachable to said side of the second desk top, said releasably connecting means comprising a nut, means

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mounting said nut to said horizontal underside portion for adjusting movement toward and away from said one end of the first desk top, and a screw attached to said flange portion and engageable within said nut, said horizontal underside portion having a longitudinal slot therethrough extending transversely of said one end of the first desk top, a nut holder reciprocally slidable in said slot, said nut being rotatably mounted in said nut holder, said releasably attachable means comprising a recessed portion at the opposite end of said bracket, said second desk top having along said side thereof an inwardly projecting flange engaged within said bracket recessed portion, said bracket recessed portion comprising an upwardly inwardly inclined section integral at its upper inner end with an upwardly outwardly inclined section, said sections forming a recessed groove therebetween receiving an inner edge of said flange of the second desk top, said bracket having a web portion adjacent said recessed portion and integral therewith, said web portion engaging said flange of the second desk top, said flange of the second desk top having a notch extending inwardly from the inner edge thereof, said inclined sections of the bracket extending upwardly through said notch to receive an edge of the latter in said recessed groove, said flange of the second desk top having a plurality of said notches therein spaced along the length thereof, said bracket recessed portion being engageable with a selected one of said notches to connect the first desk to any one of several positions along the side of the second desk top.

2. In combination, a first desk top, a second desk top, means to detachably attach one end of the first desk top to a side of the second desk top, said means comprising a single unitary integral bracket having a horizontally extending flange portion at one end thereof, the opposite end of said bracket having a recessed portion, said first desk top having at the underside thereof a horizontal portion lying in abutting relation against said flange portion, means for releasably connecting said flange portion to said first desk top horizontal underside portion, said bracket having at the opposite end thereof means releasably attachable to said side of the second desk top, said releasably connecting means comprising a nut, means mounting said nut to said horizontal underside portion for adjusting movement toward and away from said one end of the first desk top, and a screw attached to said flange portion and engageable within said nut, said releasably attachable means comprising a recessed portion at the opposite end of said bracket, said second desk top having along said side thereof an inwardly projecting flange engaged within said bracket recessed portion, said horizontal underside portion having a longitudinal slot therethrough extending transversely of said one end of the first desk top, a nut holder reciprocally slidable in said slot, said nut being rotatably mounted in said nut holder, said bracket recessed portion comprising an upwardly inwardly inclined section integral at its upper inner end with an upwardly outwardly inclined section, said sections forming a recessed groove therebetween receiving an inner edge of said flange of the second desk top, said bracket having a web portion adjacent said recessed portion and integral therewith, said web portion engaging said flange of the second desk top, said flange of the second desk top having a notch extending inwardly from the inner edge thereof, said inclined sections of the bracket extending upwardly through said notch to receive an edge of the latter in said recessed groove, said flange of the second desk top having a plurality of said notches therein spaced along the length thereof, said bracket recessed portion being engageable with any selected one of said notches to connect the first desk to any one of several positions along the side of the second desk top.

3. Structural means for connecting two desk tops comprising a pair of brackets each having a horizontally extending web portion, a vertical portion integral with and extending upwardly from one edge of said web portion,

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a flange portion integral with and extending horizontally outwardly from the upper edge of said vertical portion in a direction away from said web portion, a first inclined portion integral with and extending upwardly and outwardly from the opposite edge of said web portion in a direction approximately opposite said first direction, and a second inclined portion integral with and extending upwardly and inwardly from the upper outer edge of said first inclined portion in a direction approximately transverse to the latter, said flange portion having an opening extending vertically therethrough, a first desk top comprising a horizontal planar top member having a vertical wall portion extending downwardly therefrom along one edge thereof, a second desk top comprising a horizontal planar top member having a vertical wall portion extending downwardly along one edge thereof and abutting said first-recited wall portion, said second desk top wall portion having a flange integral with the lower edge thereof and extending horizontally inwardly away from said first-recited wall portion, a pair of stiffener members secured to the underside of said first desk top member and each comprising a horizontal portion spaced below said underside and having a longitudinal slot therethrough, said stiffener members and said slots extending transversely of said wall portions, each of said brackets being mounted to a respective one of said stiffener members with said flange portion thereof engaging the lower surface of the respective stiffener horizontal portion, said bracket web portions engaging the lower surface of said flange of the second desk top, the inner edge of said last-recited flange extending between said bracket inclined portions, a pair of screws each extending upwardly through a respective one of said openings in said bracket flange portion, a pair of nut holders each slidably mounted in a respective one of said slots, a pair of nuts each rotatably mounted in a respective one of said nut holders and receiving a respective one of said screws in threaded engagement therewith.

4. In combination, a desk top comprising a top wall and a vertical wall extending downwardly therefrom, a second desk top having a top wall coplanar with the top wall of the first desk top, said second desk top having a vertical wall extending downwardly from its top wall and contacting the vertical wall of the first desk top, a flange extending from the lower end of the vertical wall of the second desk top and disposed beneath the top wall of the second desk top, the lower edge of the vertical wall of the first desk top being at the level of the underside of said flange, a stiffener attached to the underside of the top wall of the first desk top and having a wall spaced therebelow, a bracket for attaching said desk tops together, said bracket comprising a portion contacting the underside of said wall of said stiffener, a portion disposed beneath the lower edge of the vertical wall of the first desk top and beneath said flange, a hook portion extending from said last mentioned portion and engaging around the outer edge of said flange, and releasable means for attaching the first portion of said bracket to said wall of said stiffener in adjusted positions in a direction at right angles to said vertical walls, said wall of said stiffener being located at a level above the lower edge of said vertical wall of said first desk top, and said bracket having an intermediate portion between its first and second portions and extending upwardly from the second portion to the first portion.

5. The combination of claim 4, said releasably attaching means comprising a screw passing through an opening in the first portion of said bracket and through a slot formed in said wall of said stiffener and extending at right angles to said vertical walls, and a nut engaged by said screw and mounted for sliding movement at said slot.

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