

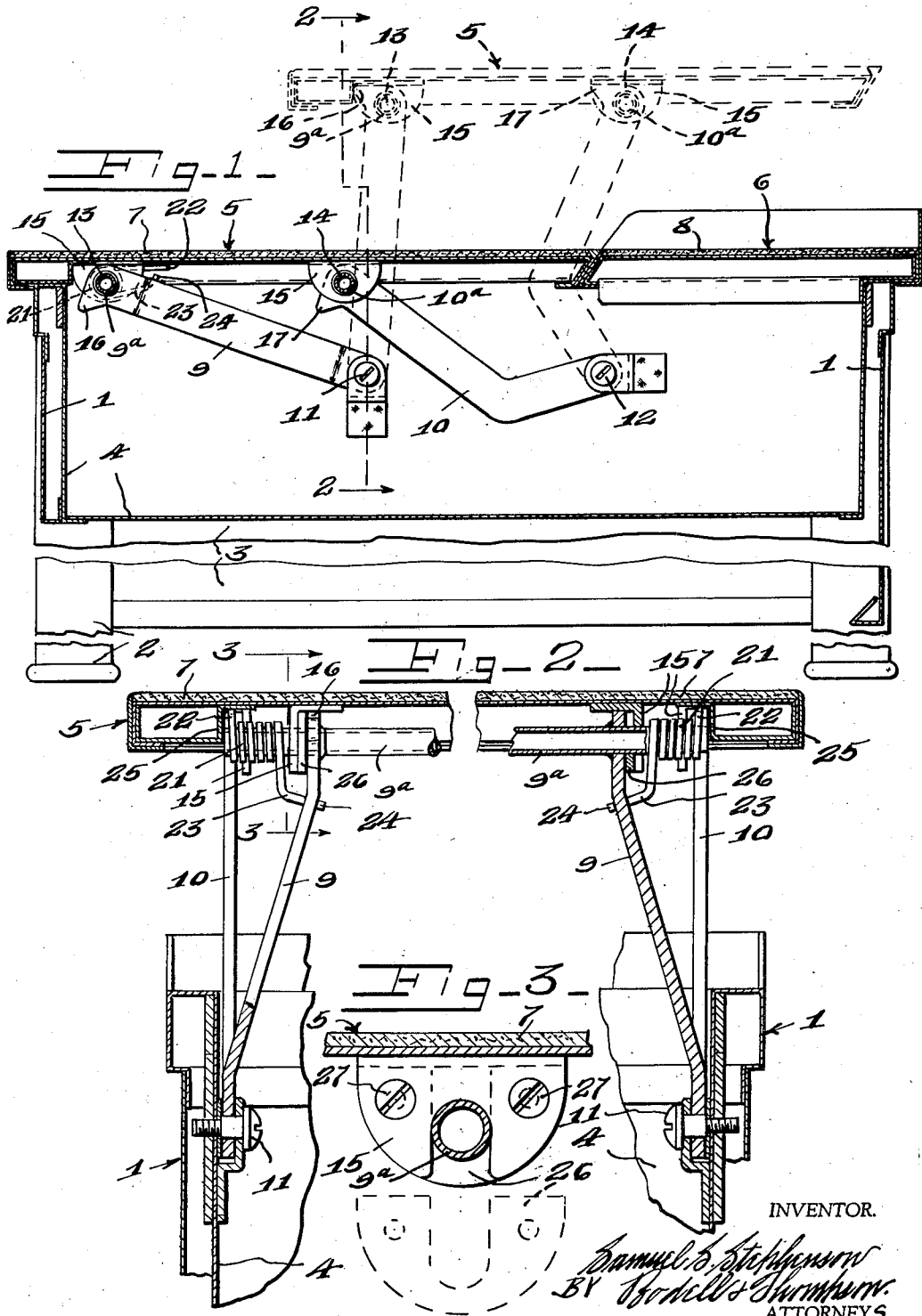
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DESK CONSTRUCTION

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DESK CONSTRUCTION

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1 Claim. (Cl. 45—91)

This invention relates to desks wherein the desk top can be raised and lowered and is guided in its movement by links below the desk top and preferably links having a parallelogram action, and has for its object an arrangement of a spring or springs acting on a link or links to counterbalance the desk top, by which the spring is readily removable and replaceable.

It further has for its object the arrangement of a coiled counterbalancing spring on a stud coaxial with one of the pivotal connections of one of the links and located on the outer side of the link, so that the spring can be readily sleeved on and off the stud and anchored to the link and to a part, as the desk top.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a fragmentary sectional view taken on a plane extending from the front to the rear of the desk construction.

Figure 2 is a fragmentary sectional view taken on the plane of line 2—2, Figure 1.

Figure 3 is a sectional view taken on the plane of line 3—3, Figure 2.

1 designates the body of the desk, which may be of any suitable form, size and construction, it being here shown as of a sheet metal construction including hollow legs 2 and a sheeting 3 connecting them.

4 is a receptacle supported in the upper part of the body and open at its top.

5 designates a desk top or movable desk top section, and 6 a permanent top section covering the rear portion of the receptacle. The sections 5 and 6 are also formed up of sheet metal with suitable top coverings 7 and 8.

The means for guiding the movable top section 5 into and out of closed position comprises a pair of links 9 and 10, there being a pair on each side of the desk top 5. The links are pivoted at like ends at 11 and 12 to the body or within the receptacle and at their outer ends at 13 and 14 to lugs 15 depending from the side margins of the desk top 5. The links are normally arranged in a lying down position and movable to an upright or standing position, when the desk is open, and are so arranged as to have a parallelogram action, and also an over-the-center action, when standing in upright position, that is, when in upright position their upper ends move to the rear side of

a vertical plane containing the pivotal axes 11 and 12. The links 9 and 10 on one side of the body are coupled to the corresponding links on the other side, by means which cause them to swing with minimum differential movement. As seen in Figure 2, the links 9 are connected together by a rod or tube 9^a fixed at each end to one of the links 9 and at its other end to the other link 9. The ends of this rod or tube form a pivotal joint 13 in lugs 15 and the rod or tube forms a rigid connection between the two links 9. Likewise, a similar tube 10^a forms a rigid connection between the links 10.

Suitable means are provided for limiting the relative movement of the links of the desk top, when the desk top is open, and, as here shown, the links 9 and 10 are provided with angularly extending shoulders or projections 16 and 17 at their upper ends, which engage the lower surface of the desk top, when the desk top is open, and hence limit the opening movement of the desk top, these angular arms or stops having such angularity as to limit the relative movement of the links and the desk top when the links have reached the over-center position.

As thus far described, the construction is substantially the same as in my pending application, Serial No. 50,301, filed November 18, 1935.

This invention relates to an arrangement of spring means for counterbalancing the desk top, so that it will close and open without violent action or reaction.

As seen in Figure 2, 21 designates a spring anchored at one end to the desk top and acting at its other end on one of the links 9 and through the rod 9^a acting on the other link 9, as the tube 9^a is rigid with both links, but preferably, there are two springs 21 at each end of the rod 9^a.

In the construction shown in Figure 2, the springs 21 are coiled about opposite end portions of the rod 9^a and each has a radial arm 22 at its outer end pressing upwardly against the desk top, and a similar radial arm 23 at its other end pressing against the link 9. The end portions of the rod 9^a extend outward beyond the links 9 and the lugs 15 form studs around which the springs are coiled. The links 9 are here shown as offset inwardly, as shown in Figure 2, from the side of the receptacle, in order to provide a space between them and the outer ends of the rod for the coiled springs. The springs can be readily removed and replaced by sleeving them off and on the studs. One of the arms 22, 23 interlocks with the part against which it presses,

and as here shown, the arm 23 is shaped at 24 to interlock with the link 9. The ends of the studs are opposed to the inner faces of marginal beads 25 on the desk top section 5 and hence the bead 25 obstructs the axial movement of the spring, when placing it on, or removing it from the stud. In order to facilitate the removal and replacing of the spring, each lug 15 in which the tube or rod 9^a is mounted, is formed with a removable bearing section 26 held assembled with the lug, by screws 27. Upon removing the screw 27, the bearing section 26 can be displaced and the adjacent end of the rod or tube 9^a detached from the lug 15 far enough to permit the end of the rod or tube 9^a to clear the bead 25, so that the spring can be sleeved on or off the end or stud portion of the rod or tube 9^a.

The springs are tensioned to substantially counterbalance the desk top, so that approximately all the force required to open and close the desk is a force required to start it in motion and keep it in motion, so that the desk does not develop such momentum in either opening or closing. Owing to the arrangement of the springs, they can be readily removed and replaced, if broken.

What I claim is—

In a desk, the combination with a suitable body having a desk top movable from closed position

upwardly, means for guiding the desk top during its opening and closing movement including links pivoted at like ends to each side of the desk top and at their opposite ends to the body, a rod rigidly connecting the link at one side of the desk to the corresponding link on the opposite side of the desk and extending through said link with its end portions extending beyond the outer sides of the links, each end portion forming a pivotal connection with the desk top, the desk top having bearings on the under side thereof through which each end portion extends; coiled torsion springs mounted on the projecting ends of the rod and having the portions thereof pressing against the desk top and the adjacent links, the desk top being formed with marginal thickened portions on the under side thereof and the ends of the rod being opposed to the inner faces of said thickened portions, to normally prevent endwise movement of the springs off said projecting end portions said bearings being split and including removable sections operable out of operative position to open the bearings for permitting displacement of the rod and the projecting end portions thereof out of alinement with said thickened portions to make the springs accessible for removal and replacement.

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