Jan. 19, 1943. P. C. HULL 2,308,810

DESK SET

Filed July 2, 1942

Fig. 1.

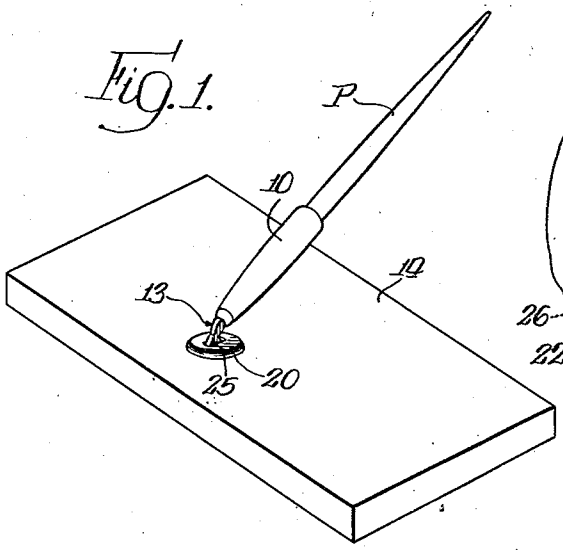


Fig. 4.

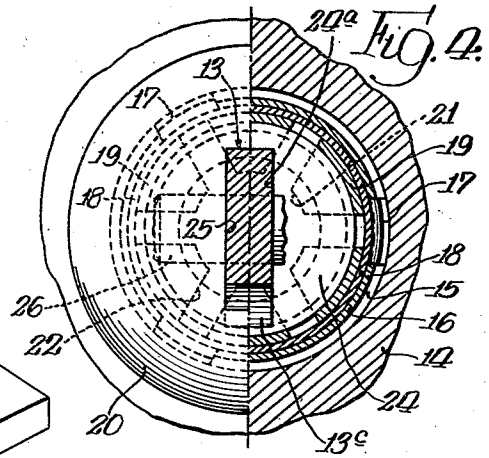


Fig. 2.

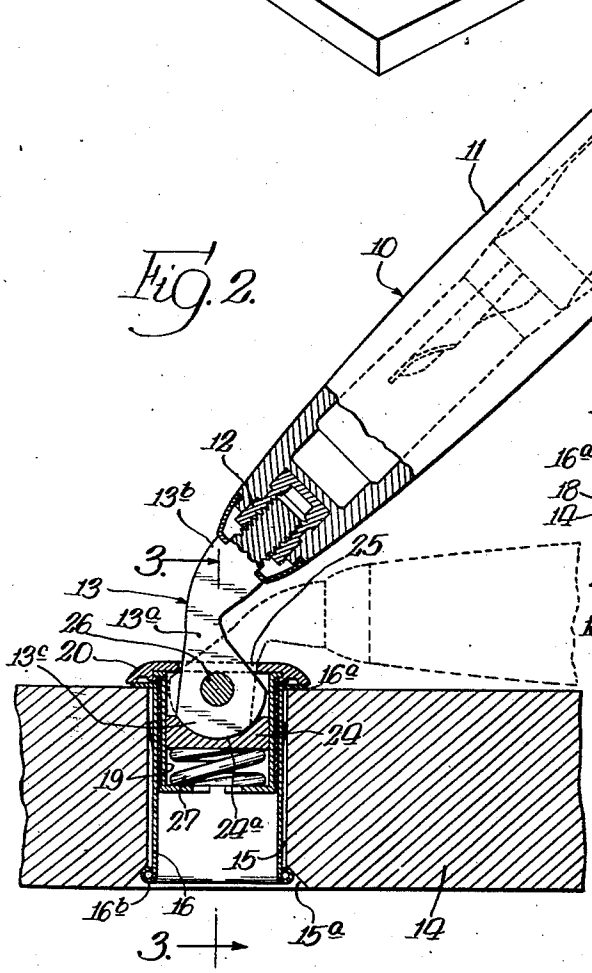
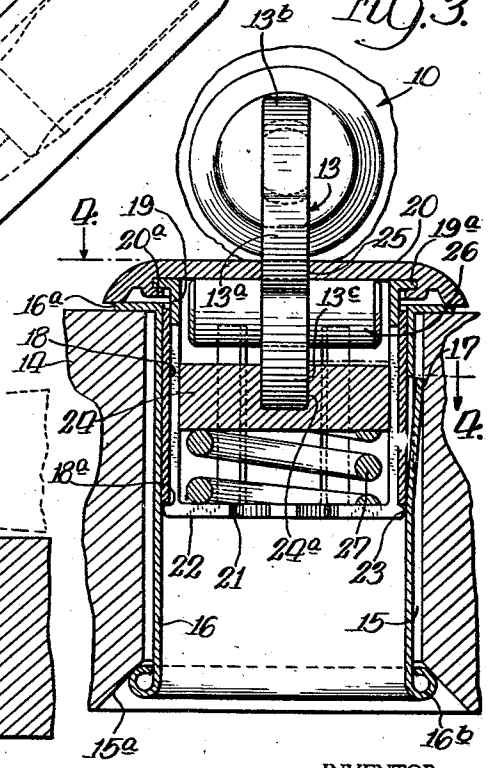


Fig. 3.



INVENTOR.

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UNITED STATES PATENT OFFICE

2,308,810

DESK SET

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Application July 2, 1942, Serial No. 449,467

11 Claims. (Cl. 120—108)

My invention relates to desk sets for writing instruments and it has to do particularly with desk sets of the type disclosed in Letters Patent No. 1,956,084, granted to Ivan D. Tefft on April 24, 1934.

One of the objects of my invention is to provide an improved desk set of the foregoing character and which includes a receptacle mounting that may readily be attached to and detached from a base by moving the same toward and from the base with slight pressure, while permitting angular and rotational movements of the pen-receiving receptacle relative to the base.

Another object is to provide an improved swivel means for mounting a pen receptacle on a base, which swivel means is of simplified construction, embodies a minimum number of parts, and is inexpensive to manufacture.

Still another object is to provide a swivel form of receptacle mounting for desk sets which includes socket means and receptacle supporting means mounted within the socket means, the socket means being mounted substantially wholly within an opening in the base, and the receptacle supporting means being so constructed and mounted that the pen-receiving receptacle may be moved from an upright position to a position substantially parallel with the base, and vice versa.

A further object is to provide a desk set of the foregoing character wherein the socket means is rotatably mounted within the base opening while the receptacle supporting means is mounted non-rotatably within the socket means.

Another object is to provide improved means for releasably attaching the socket means in the base opening.

A more specific object is to provide a swivel mounting for a desk set receptacle which includes a socket member having a plurality of spring fingers adapted to snap-engage a latch element in the base, a swivel element mounted in the socket member, and spring means in the socket member yieldably supporting and tensioning movements of the swivel element relative to the socket member and the base and also tending to yieldably hold the spring fingers releasably engaged with the base-carried latch element.

Other objects and advantages will become apparent as this description progresses and by reference to the drawing wherein—

Figure 1 is a perspective view of one form of desk set structure embodying my invention;

Fig. 2 is an enlarged sectional view of the structure shown in Fig. 1, which view is taken through the pen-receiving receptacle and its mounting;

Fig. 3 is an enlarged section taken substantially on line 3—3 of Fig. 2; and

Fig. 4 is a section taken substantially on line 4—4 of Fig. 3.

The structure shown in the drawing generally includes a base, a receptacle unit, and a swivel type mounting unit by which the receptacle unit is mounted on the base for both angular and rotational movements with respect to the base. The receptacle unit is adapted, preferably, for supporting a fountain pen, but, as will be well understood, it may well be used to support a pencil or other writing instrument.

More particularly, the receptacle unit includes a receptacle 10 (Fig. 2) adapted to receive and support a fountain pen 11. The lower or closed end of the receptacle 10 is provided with a threaded socket or bushing member 12 in which is received the upper or threaded end of a goose-neck-shaped swivel element 13 which forms part of the swivel unit for mounting the receptacle 10 upon a base 14.

The swivel mounting unit is disposed within an opening 15 (Figs. 2 and 3) in the base 14 and it is so constructed and arranged that it is located substantially wholly within the base opening while permitting the receptacle to be swung rotatably as well as vertically from an upright position to a position substantially flat upon the base 14, and vice versa. Specifically, a sleeve or liner 16 is mounted in the base opening 15, and it is provided at its upper end with a horizontal flange 16a which seats upon the top of the base 14 around the opening 15. The sleeve 16 is secured in the base opening by turning over its lower end to form a bead 16b which seats in a beveled undercut portion 15a at the bottom of the base opening 15. By attaching the sleeve 16 in this manner, the wall of the sleeve is disposed substantially parallel with and in spaced relation to the wall of the base opening 15, and the sleeve 16 is maintained in this condition and is held against lateral shift movement by an annular series of spring fingers 17 struck therefrom which press against the wall of the base opening 16, as shown in Fig. 3. The upper portion of the sleeve 16, and particularly that portion from which the spring fingers 17 are formed, is provided with an internal sleeve or liner 18 which serves as a bearing for a rotatable socket member 19 which is mounted therein. The lower end of the sleeve 18 provides a squared shoulder 18a which serves as a latch element which cooperates with the socket member 19 to

releasably latch the latter in place in the base opening, as will be described hereinafter.

The socket member 19 (Fig. 3) takes the form of a cylindrical cup-shaped member having an opening 20 in its central bottom portion. The upper end of the socket member 19 is provided with an annular, outwardly extending flange 19a to which is secured a substantially flat, shallow cylindrical head 20, the outer rim of which extends slightly downward so as to seat upon the flange 16a of the base-carried sleeve 16. The head 20 is provided on its underside with an annular depending flange 20a within which the flange 19a of the socket member 19 is received, the lower end of the head flange 20a being turned over and upon the flange 19a to securely fasten the head 20 to the socket member 19. The side wall of the socket member 19 for the greater part of its length as well as its bottom portion is slotted at a plurality of points 21 to provide a plurality of spring fingers 22. The outside diameter of the side wall of the socket member 19 is such that this member fits snugly within the sleeve-like bearing 18, and the bottom of the socket member is provided with an enlarged annular bead 23. The socket member 19 is of such length that, with the foregoing arrangement, when the socket member is fully inserted within its bearing sleeve 18, with the head member 20 resting on the flange 16a, the arcuate beaded portions 23 on each of the spring fingers 22 is seated behind the lower edge or latch shoulder 18a of the sleeve 18. In this way, the socket member 19 and the parts attached thereto are retained in position within the base 14, the spring fingers 22 yielding inwardly upon the application of slight pressure to the mounting unit to disengage the socket member 19 from the bottom of the sleeve 18, permitting the same to be slid outwardly therefrom. In the same way, when the mounting unit is applied to the base, the spring fingers 22 yield inwardly, permitting the socket member 19 to be slid into the sleeve 18, and when the socket member is fully inserted the beaded portions on the bottoms of the spring fingers engage behind the latch shoulder 18a of the sleeve 18 to thereby yieldably retain the socket member 19 and parts attached thereto in the base.

The gooseneck-shaped swivel element 13 is provided with angularly disposed arms 13a and 13b and secured in the socket member 19 for angular movements of the same and the pen receptacle in the following manner: The lower arm 13a of the swivel element 13 is provided with a head 13c, the lower part of which is of arcuate shape. This arcuate shaped head 13c is seated within a complementary shaped groove 24a formed centrally in an annular swivel seat or support member 24 mounted within the socket member 19 for free vertical shift movement. The swivel element 13 is formed flat, and the head 20 of the socket member 19 is provided with a central rectangularly-shaped slot 25 in which the lower arm 13a of the swivel element 13 is received. The head 13c of the swivel element 13 within the socket member 19 is provided with a laterally extending swivel or fulcrum pin 26 which is adapted to seat against the underside of the socket head 20, bridging the slot 25 therein. The seat member 24 is yieldably held engaged with the arcuate swivel head 13c and the pin 26 is yieldably held against the underside of the socket head 20 by a spring 27 disposed under tension between the bottom of the socket member 19 and the swivel seat or support 24. It will thus be seen that by mounting the arcuate portion of the swivel head 13c in a complementally shaped slot 24a in the swivel support 24 and by yieldably urging the support 24 upwardly to yieldably engage the pin 26 with the head 20, the swivel element 13, and in turn the receptacle 10, may be moved up and down from an upright position, such as shown in full lines in Fig. 2, to a position substantially flat upon the base, as shown in dotted lines in that figure, and vice versa. The tensioning action of the spring 27 is such as to hold the swivel means and receptacle 10 in any of the angular positions to which the receptacle may be moved. The extent of up and down movement of the receptacle 10 is determined by the opposite edges of the arm 13a of the swivel element 13 engaging the ends of the slot 25 in the head 20. While the shape of the swivel element 13 and the length of the slot 25 are preferably as illustrated in the drawing, the angular relationship of the arms 13a and 13b as well as of the slot 25 may be varied to suit any particular condition of use without departing from my invention as defined in the claims hereinafter set forth.

I believe that the operation of my invention will be well understood from the foregoing description. The socket member 19, being of cylindrical form and mounted within the cylindrical bearing sleeve 18, is free to move rotatably relative to the base. This rotational movement is tensioned by the spring fingers 22 so that the receptacle 10 will be yieldably retained in any rotative position to which it may be moved. Rotational movement of the receptacle 10 and the mounting unit may be effected merely by grasping the receptacle and moving the same rotatably, this movement being facilitated by the slot 25 which prevents relative rotation between the receptacle and the socket member 19. It will also be seen that the spring 27 which acts on the swivel seat member 24 is seated upon the lower horizontal, inwardly extending portions of the spring fingers 22 so that this same spring 27 tends to yieldably urge the spring fingers 22 outward and into more secure engagement with the bearing sleeve 18. This action increases the tension of the spring fingers against the bearing sleeve 18 and thereby insures the tensioned rotational movement of the socket member 19 without interfering with the inward flexing or yielding of the spring fingers for ready attachment and detachment of the receptacle and mounting unit, as above explained. The spring 27 is of less diameter than the socket member 19 so as to not interfere with the free inward flexing movement of the spring fingers 22 when the socket member 19 is attached to and removed from the base.

It will also be seen from the foregoing that the structure described is quite simple, that it embodies but very few parts and that the structure as a whole is adapted for highly efficient operation for long periods of time without attention on the part of the user. The structure may be easily and cheaply manufactured. The socket portion of the mounting unit is mounted substantially wholly within the base, thereby materially improving the appearance and efficiency of the device and enabling the same to be manufactured from fewer materials and at less cost. Notwithstanding the foregoing arrangement, the pen-receiving receptacle, through the gooseneck swivel and its mounting, may be moved angularly from an upright to a substantially flat condition upon the base, and vice versa, as well as rotatably.

I claim:

1. A mounting unit for attaching a pen-receiving receptacle to a base having an opening therein which comprises a socket member having a cylindrical body portion adapted to be substantially fully slip-fitted into the base opening for rotational movement therein and a shallow head having a central elongated slot carried by said body portion and adapted to seat upon the top of the base with its upper surface projecting thereabove to a slight extent, a flat swivel element of less width than the length of said slot having one end projecting through said slot into said socket member within the confines of the base opening and its other end projecting outwardly beyond said slot above the base and adapted for attachment to the pen-receiving receptacle, and means disposed wholly within the confines of the base opening for supporting said swivel element in said socket member for tensioned or angular up and down movement, said swivel element being adapted to engage the opposite ends of said slot for limiting the extent of said up and down movement.

2. A mounting unit for attaching a pen-receiving receptacle to a base having an opening therein which comprises a socket member having a cylindrical body portion adapted to be substantially fully slip-fitted into the base opening for rotational movement therein and a shallow head having a central elongated slot carried by said body portion and adapted to seat upon the top of the base with its upper surface projecting thereabove to a slight extent, a flat, gooseneck-shaped swivel element of less width than the length of said slot having one end projecting through said slot into said socket member within the confines of the base opening and its other end projecting outwardly through said slot and adapted for attachment to the pen-receiving receptacle, and swivel means disposed wholly within the confines of the base opening for supporting said swivel element in said socket member for up and down movement thereof, said swivel element having its opposite ends so offset angularly that the receptacle carried thereby may be moved from an upright angular position to a position substantially flat upon the base and vice versa, as determined by engagement of said element with the opposite ends of said slot.

3. A mounting unit for attaching a pen-receiving receptacle to a base having an opening therein which comprises a socket member having a cylindrical body portion adapted to be substantially fully slip-fitted into the base opening for rotational movement therein and a shallow head having a central elongated slot carried by said body portion and adapted to seat upon the top of the base with its upper surface projecting thereabove to a slight extent, a swivel element of less width than the length of said slot and having a pair of angularly disposed arms, one of said arms projecting through said slot with said socket member and provided with a head having an arcuate-shaped end portion and the other arm projecting outwardly through said slot and adapted for attachment to the pen-receiving receptacle, a seat element in said socket member having an arcuate-shaped groove therein adapted to receive, support and confine the arcuate-shaped end of said swivel element, a swivel pin carried by said swivel element head between said seat and the underside of said socket member head, and spring means in said socket member urging said seat toward said swivel element head and said pin toward said socket member head to confine said swivel element for tensioned angular movement relative to said socket member.

4. A mounting unit for attaching a pen-receiving receptacle to a base having an opening which comprises a socket member having a cylindrical body adapted to be slip-fitted into said opening and a shallow head having a narrow elongated slot, said head being adapted to seat upon the top of said base in nearly flush relationship thereto when the socket member is fully inserted in the base opening, a flat swivel element having a pair of angularly disposed arms one of which extends through said slot into said body where it is provided with an arcuate-shaped head and the other of which projects outwardly from said slot where it is adapted for attachment to the receptacle, a freely movable seat member in said socket body and having a groove shaped complementally to, receiving and confining the head on said body-received swivel element arm, a swivel pin carried by said body-received arm of said swivel element and adapted to seat against the underside of said socket member head on the opposite sides of said slot, and spring means urging said seat member toward said swivel element to hold said seat member, swivel element, pin and socket member head in yieldable tensioned engagement with each other, the foregoing arrangement being such that the receptacle carried by said swivel element may be moved from an upright position to a position substantially flat upon the base, and vice versa.

5. In a desk set, a base having an opening therein, a sleeve mounted in said opening with its side wall in parallel spaced relation to the wall of said opening and having a plurality of fingers extending outwardly therefrom and yieldably engaging the wall of said opening to hold said sleeve centered therein, and a mounting unit for a pen-receiving receptacle which includes a socket member slip-fitted into said sleeve for rotational movement therein, a swivel member having one end mounted in said socket member at a point within the limits of said base opening and its other end projecting therefrom and adapted for attachment with a pen-receiving receptacle, a swivel seat member mounted in said socket member and having a groove receiving, confining and guiding said one end of said swivel member for swivel movement, and spring means in said socket member for supporting said seat member for tensioned angular movement of the latter relative to said socket member.

6. A mounting unit for attaching a pen-receiving receptacle to a base having an opening which comprises a socket member adapted to be slip-fitted into the base opening for rotational movement therein and having a body portion slotted longitudinally to provide a plurality of spring fingers adapted to frictionally engage the wall of the base opening, a latch element adapted to be mounted in the base opening, means on said spring fingers for snap-engaging said latch element, a swivel member mounted in said socket member, a swivel seat in said socket member having a groove supporting said swivel member for angular movement relative to said socket member, and spring means supporting said swivel seat for tensioned movement of said swivel member angularly relative to the base, said spring means also engaging said spring fingers for tensioned rotational engagement of the latter in the base opening.

7. A mounting unit for attaching a pen-receiving receptacle to a base having an opening which comprises a cylindrical bearing sleeve mounted in the base opening with its bottom edge exposed to provide a latch shoulder, a tubular socket member mounted in said bearing sleeve and having a shallow head member adapted to seat upon the top of the base, said socket member being of such length that, when its head is resting upon the base its bottom portion projects slightly below the exposed bottom edge of said bearing sleeve, said socket member having its side wall split providing a plurality of spring fingers, means on the bottoms of said fingers adapted to snap-engage behind the latch shoulder of said sleeve when said socket member is fully inserted therein, a swivel member mounted in said socket member below said head wholly within the confines of the base opening and adapted to be attached to the pen receptacle, a swivel seat in said socket member confining, supporting and guiding said swivel member for swivel movement, and spring means in said socket member acting on said swivel seat for tensioning movement of said swivel member.

8. A mounting unit for attaching a pen-receiving receptacle to a base having an opening which comprises a tubular socket member adapted to be slip-fitted in said opening for rotational movement therein, said socket member having its side wall formed to provide a plurality of spring fingers, the lower ends of which extend horizontally inward, latch means adapted to be mounted in the base opening, means on the lower ends of said spring fingers for engaging behind said latch means when said socket member is fully inserted in the base opening to retain said socket member in the base, a swivel member having one end mounted in said socket member and its other end projecting therefrom for attachment to the pen-receiving receptacle, means in said socket member for supporting said swivel member for swivel movement, and spring means in said socket member acting on said supporting means for tensioning movement of said swivel member, said spring means also acting on the lower, inwardly extending portions of said spring fingers to tension the engagement between said fingers and said latch element.

9. In a desk set, a base having an opening, a pen-receiving receptacle and means for mounting said receptacle upon said base for both angular and rotational movements relative to the base, which comprises a latch element in said base opening, a cylindrical socket member rotatably mounted substantially wholly within said base opening and having a plurality of spring fingers adapted to snap-engage said latch element when said socket member is fully inserted in said opening, a swivel element having one end connected to said receptacle and its other end extending into said socket member, a connection affording swivel action between said other end of said swivel element and said socket member permitting angular movement of said swivel member relative to said base and disposed wholly within the confines of said base opening, and spring means disposed wholly within the portion of said socket member mounted within said base opening for supporting said connection for tensioned movement of said swivel element and receptacle angularly relative to said base.

10. In a desk set, a base having an opening, a pen-receiving receptacle, and means for mounting said receptacle upon said base for both angular and rotational movements relative to the base, which comprises a latch element in said base opening, a cylindrical socket member rotatably mounted substantially wholly within said base opening and having a plurality of spring fingers adapted to snap-engage said latch element when said socket member is fully inserted in said opening, a swivel element having one end connected to said receptacle and its other end extending into said socket member, a connection affording swivel action between said other end of said swivel element and said socket member permitting angular movement of said swivel member relative to said base and disposed wholly within the confines of said base opening, and spring means disposed wholly within said base opening for supporting said connection for tensioned movement of said swivel element and receptacle angularly relative to said base, said spring fingers having portions upon which said spring means acts to yieldably hold said spring fingers engaged with said latch element and to also tension rotational movement of said socket member relative to said base.

11. A mounting unit for attaching a pen-receiving receptacle to a base which comprises a socket member having a body portion adapted to be frictionally fitted in the base opening and a shallow head portion having an elongated narrow slot therein and adapted to rest upon the top of the base around the opening therein, a flat swivel member extending through said slot and having one end adapted to be connected to the receptacle and its other end shaped to provide an arcuate-shaped bearing surface, a floating seat member in said socket member having an arcuate-shaped groove adapted to receive and guidingly confine the arcuate end of said other end of the swivel member, a fulcrum pin carried by the end of said swivel member in said socket member and adapted to floatingly abut the head of said socket member on opposite sides of said slot, and spring means in said socket member and acting on said seat member to yieldingly engage said seat member with said swivel member and said pin with said socket member head.

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