June 24, 1930. G. J. SENGBUSCH 1,767,190

PEN SUPPORT

Filed Nov. 16, 1928

Fig. 1

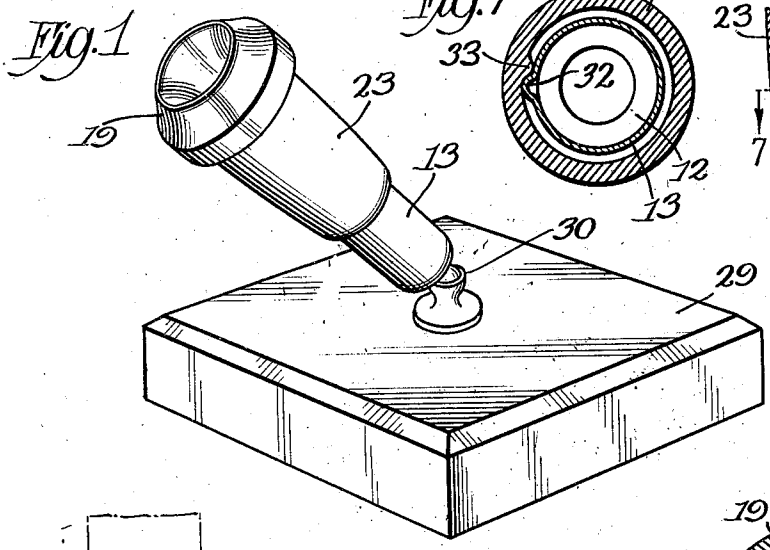


Fig. 7

Fig. 6

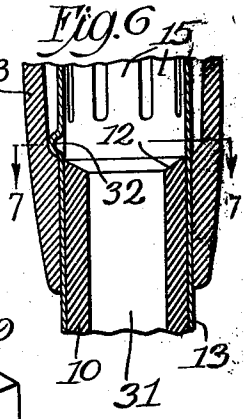


Fig. 2

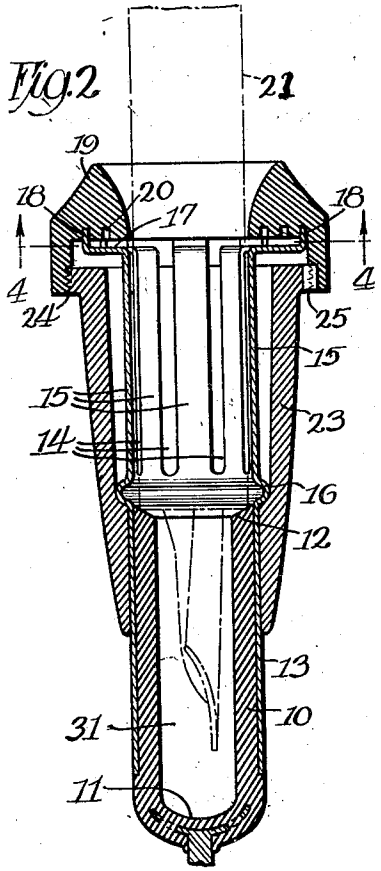


Fig. 3

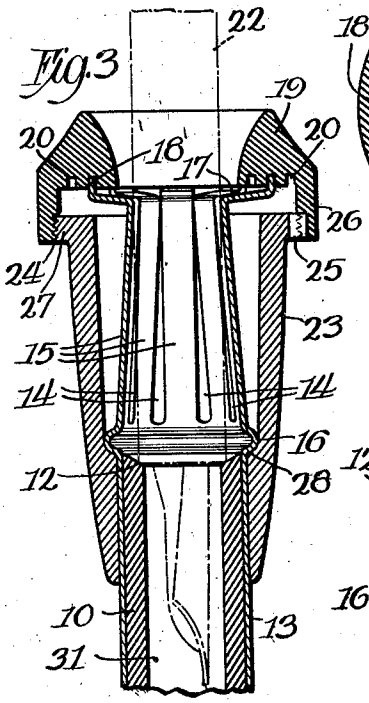


Fig. 4

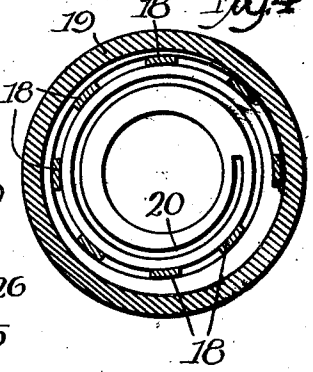
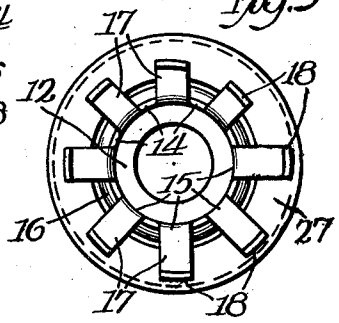


Fig. 5



Inventor:
Gustav J. Sengbusch
By Fisher, Cluff, Evans & Pond Attys.

Patented June 24, 1930 1,767,190

UNITED STATES PATENT OFFICE

GUSTAV J. SENGBUSCH, OF MILWAUKEE, WISCONSIN

PEN SUPPORT

Application filed November 16, 1928. Serial No. 319,899.

This invention relates to pen supports for receiving and supporting a pen in upright and conveniently accessible position. The principal object of my present invention is to provide an improved pen support which is adjustable so that it is capable of receiving and supporting various sized penholders. More specifically, the object of my invention is to provide a pen support in which the lower end of the penholder is seated on a seat and serves to close an opening into or through which the pen point projects, together with adjustable means for aligning the penholder substantially co-axial with the seat on which the penholder rests so that the end of the penholder will engage the seat around substantially the entire circumference of the end of the penholder, so that the space below said opening will be practically sealed apart from the atmosphere so far as communication is possible between said space and the atmosphere through said opening.

Other objects and advantages will be understood by reference to the following specification and accompanying drawing, in which I have illustrated a pen support embodying a selected form of my invention.

In the drawing:

Fig. 1 is a perspective, showing in a general way a pen support embodying the features of my invention.

Fig. 2 is a longitudinal axial section through the pen support proper.

Fig. 3 is a section similar to a part of Fig. 2, but showing the parts in an adjusted position.

Fig. 4 is a section on the line 4—4 of Fig. 2.

Fig. 5 is a plan of the parts shown in Fig. 2, the cap part being removed.

Fig. 6 is a fragmentary sectional view illustrating a slight modification of the structure shown in Figs. 1 to 5 inclusive, and Fig. 7 is a section on the line 7—7 of Fig. 6.

My present invention is in the nature of an improvement over the structure shown in my co-pending application Serial No. 164,411 filed Jan. 29, 1927, and contemplates a socket comprising a non-metallic receptacle 10 having its lower end closed as shown at 11, and provided at its upper end with an inwardly and downwardly inclined annular seat 12. The receptacle 10 is preferably made of hard rubber or bakelite and is preferably of substantially cylindrical shape. A metallic tubular member 13 fits tightly over a portion of the receptacle 10 and is slotted as shown at 14—14 to provide a plurality of upwardly extending finger parts 15—15.

In the present instance, I slot the upper part of the metallic tubular member so as to provide eight such fingers. A shoulder 16 is formed adjacent the lower ends of the fingers in the metallic tubular member 13 by swaging a portion of the tubular member outwardly, or in any other suitable manner. The upper ends of the fingers are bent at substantially right angles to provide lateral outwardly-projecting portions 17, and the outer end portions of the lateral projections 17 are bent upwardly to provide upwardly-extending end portions 18 which are thus laterally offset outwardly with respect to the fingers 15.

The tubular metal member 13 is preferably of such metal that the fingers 15 are flexible or resilient so that they may be adjusted inwardly to reduce the effective inside diameter of the tube at the upper ends of the fingers. For effecting such adjustment, I provide an apertured cap member 19 which is provided in its bottom face with a spiral groove 20 preferably consisting of two substantially complete convolutions. The spiral groove 20 is adapted to receive the laterally offset end portions 18 of the fingers, the portions 17 of the fingers varying in length, as clearly shown in Figure 5, to cause each of the said end portions 18 to register with a part of the spiral groove. I prefer that the portions 17 be so proportioned that when the fingers extend straight upwardly, that is to say, when the fingers are in their normal position as part of the tubular member 13, the end portions 18 will fit in the outer convolution of the spiral groove. It will then be understood that the fingers are in their outer-

most position of adjustment and the effective inside diameter of the tubular metal part 13 at the upper ends of the fingers is at its maximum. By rotating the cap 19 counter-clockwise, as shown in Figure 4, it will be understood that the ends 18 of the fingers will be caused to move radially inwardly so that the effective inside diameter of the tube at the upper ends of the fingers 15 will be accordingly reduced. In Figure 2 of the drawing, the fingers 15 are shown in their outermost position of adjustment wherein they are adapted to support a pen 21 (indicated in broken lines) of relatively large diameter, the pen being supported substantially co-axial with the tubular member 13 and annular seat 12 on the upper end of the receptacle 10. In Figure 3, the fingers 15 are shown in their innermost position of adjustment wherein they are effective to support a relatively thin pen 22 (shown in broken lines) in position substantially co-axial with the tubular member 13 and annular seat 12 of the receptacle 10. It will be understood that the lower ends of both the large pen 21 and small pen 22 will thus be maintained seated on the annular seat 12 with substantially the entire circumference of the lower end of the pen in engagement with the said seat. It will be apparent from the above description and an inspection of the drawing that the fingers 15 are positively adjustable from their outermost position shown in Figure 2 to their innermost position as in Figure 3, and also positively adjustable in the reverse direction; that is to say, from their innermost or contracted position to their outermost position. By means of the interlocking connection between the ends 18 of the fingers and the cap 19, adjustment of the fingers is accomplished without depending upon the resiliency of the said fingers.

The sleeve member 23 is rotatably mounted on the metallic tubular part 13 immediately below the shoulder 16, and the cap 19 is secured to the upper end of the sleeve in any suitable manner; for instance, by means of screw-threading, as shown at 24. The cap and sleeve may be locked against separation by means of a pin 25 which is positioned in an aperture located partly in the depending flange 26 of the cap member and partly in the laterally outwardly-projecting flange 27 of the sleeve member. The pin 25 has preferably a tight fit in the said aperture so that it will not readily be displaced, and obviously the pin serves to prevent separation of the cap from the sleeve by preventing the said parts from being relatively rotated. The shoulder 16 engages an internal shoulder 28 provided in the sleeve 23 to limit upward axial movement of the sleeve and cap, and the engagement between the ends 18 of the fingers and bottom of the spiral groove in the cap prevents downward axial movement of the said parts.

The above described adjustable socket structure may be adjustably mounted on a base 29 of any suitable material through the agency of a ball-and-socket joint 30, or in any other suitable manner to permit the desired extent of adjustment of the socket part relative to the base. The base is preferably of some heavy material, or is counterweighted so that it will be effective to maintain the pen socket and pen in upwardly-projecting position in spite of any overhanging weight of the pen or socket part. The metallic part 13 is preferably of a non-rusting metal, or of any other metal which is treated with a suitable rust-proofing process, so that ink or moisture from the ink which contacts with such metal will not cause corrosion of the same. By inspection of Figure 2, it will be readily understood that the chamber 31 in the receptacle 10 is sealed apart from the atmosphere by the lower end of the penholder which is seated on the seat 12 and serves to close the upper end of the said receptacle. Hence, my pen-supporting socket is particularly adapted for use in connection with fountain pens and pens of the class disclosed in my co-pending application Serial No. 159,680, filed Jan. 7, 1927, for the reason that the pen point and exposed ink-carrying parts are effectively sealed apart from the atmosphere in the said chamber 31, whereby evaporation of the ink is prevented and the pen point kept moist and in condition for immediate use at all times.

It may be desirable in some instances to provide means for limiting the extent of rotation of the said sleeve and cap structure independently of the stop which occurs by engagement between one of the finger end pieces 18 and the adjacent end of the spiral groove 20. In Figures 6 and 7, I have shown one form of such means, which consists of a short lug or shoulder 32 formed in the tubular metal part 13 instead of the annular shoulder 16, and a lug 33 formed on the inside of the sleeve 23. It will be apparent that the lug 32 will limit upward movement of the sleeve 23 by engagement with the shoulder 28 and that the lug 33 in the sleeve will permit the sleeve to be turned through only one complete rotation (less the length of the lug 32). By this construction, I avoid the possibility of bending or twisting the fingers 15 which sometimes is possible, in the first described construction, by excess turning of the cap and sleeve.

I am aware that changes may be made in the form, construction and arrangement of the parts and features of my invention without departing from the spirit thereof, the scope of which should be determined by reference to the following claims, which should

be construed as broadly as possible consistent with the state of the art.

I claim as my invention:

1. In a pen support of the class described, the combination of an elongated tubular member having means therein for receiving the lower end of a penholder to thereby support the same, positioning means adjustable to larger or smaller size within predetermined limits for adapting the device to support pens of various cross-sectional sizes substantially coaxial with said tubular member, and adjusting means, constituting part of the pen support, selectively operable to positively adjust said positioning means to larger or smaller size within said limits.

2. In a pen support of the class described, the combination of an elongated tubular member having an annular seat therein for receiving the lower end of a penholder to support the latter, means adjustable inwardly or outwardly, transversely of the length of said tubular member, for engaging a part of the penholder to align the same substantially coaxial with said tubular member, and adjusting means, constituting part of the pen support, selectively operable to positively effect said inward or outward adjustment.

3. In a pen support of the class described, the combination of a tubular member having an annular seat therein for receiving the lower end portion of a penholder to support the same, inwardly and outwardly adjustable means for engaging a part of the penholder spaced upwardly from said lower end portion, thereby to align said part substantially coaxial with said tubular member, and means, constituting part of the pen support, selectively operable to positively effect said inward or outward adjustment.

4. In a pen support of the class described, the combination of a tubular member having an annular seat therein for receiving the lower end portion of a penholder to support the same, radially inwardly and outwardly adjustable means for engaging a part of the penholder spaced upwardly from said lower end portion, thereby to align said part substantially coaxial with said tubular member, and means, constituting part of the pen support, selectively operable to positively effect said inward or outward adjustment.

5. In a pen support of the class described, the combination of an elongated tubular member provided with an annular seat therein for receiving the lower end of a penholder to thereby support the same, a plurality of radially adjustable fingers inside of said tubular member for engaging a part of the penholder to align the same substantially coaxial with said tubular member, and rotatable means associated with said fingers and selectively operable to positively adjust said fingers inwardly or outwardly.

6. In a pen support of the class described, the combination of an elongated tubular member provided with an annular seat therein for receiving the lower end of a penholder to thereby support the same, a plurality of radially adjustable fingers inside of said tubular member for engaging a part of the penholder to align the same substantially coaxial with said tubular member, and rotatable means, axially stationary relative to said tubular member, selectively operable to positively adjust said fingers inwardly or outwardly.

7. In a pen support of the class described, the combination of an elongated tubular member provided with an annular seat therein for receiving the lower end of a penholder to thereby support the same, a plurality of fingers inside of and adjustable inwardly and outwardly transversely of the length of said tubular member, said fingers being adapted to engage a part of the penholder to align the same substantially coaxial with said tubular member, and means having sliding engagement with said fingers and selectively operable to effect positive inward or outward adjustment thereof.

8. In a pen support of the class described, the combination of an elongated tubular member provided with an annular seat therein for receiving the lower end of a penholder to thereby support the same, a plurality of fingers inside of and adjustable inwardly and outwardly transversely of the length of said tubular member, for engaging a part of the penholder to align the same substantially coaxial with said tubular member, and movable means interlocked with said fingers and selectively operable to effect positive inward or outward adjustment of said fingers.

9. In a pen support of the class described, the combination of an elongated tubular member provided with an annular seat therein for receiving the lower end of a penholder to thereby support the same, a plurality of radially inwardly and outwardly adjustable, circumferentially arranged fingers inside of said tubular member for engaging a part of said penholder spaced upwardly from the lower end thereof, thereby to align said part substantially coaxial with said annular seat, and rotatable means interlocked with said fingers and selectively operable to effect positive inward or outward adjustment of said fingers.

10. In a pen support of the class described, the combination of an elongated tubular member having an annular seat therein for receiving the lower end of a penholder to support the same, a plurality of circumferentially arranged, radially inwardly and outwardly adjustable upwardly-extending

fingers, some of said fingers having their upper end portions laterally outwardly offset but projecting upwardly, portions of said fingers being adapted to engage a part of said penholder spaced upwardly from said seat for aligning said part substantially coaxial with said seat, an apertured cap member adjacent the top of said tubular member, rotatable but axially stationary relative to said fingers and provided with a spiral groove receiving said upper ends, whereby rotation of said cap member is effective to positively adjust said upper ends inwardly or outwardly within predetermined limits and according to the direction of rotation of said cap member.

11. In a pen support of the class described, the combination of a recessed member having an annular seat adjacent its upper end for receiving the lower end of a penholder to support the same, a plurality of circumferentially arranged fingers extending upwardly from said member for engaging a part of the penholder to align said part substantially coaxial with said annular seat, said fingers being flexible so as to be adjustable radially inwardly and outwardly, and means for selectively and positively effecting such inward or outward adjustment comprising a rotatable sleeve embracing said fingers, an apertured cap secured to the upper end of said sleeve and rotatable therewith, said cap being provided in its under side with a spiral groove receiving the upper ends of said fingers, some of said upper ends being laterally outwardly offset with respect to the fingers so as to fit into said spiral groove.

12. In a pen support of the class described, the combination of a recessed member having an annular seat adjacent its upper end for receiving the lower end of a penholder to support the same, a plurality of circumferentially arranged fingers extending upwardly from said member for engaging a part of the penholder to align said part substantially coaxial with said annular seat, said fingers being flexible so as to be adjustable radially inwardly and outwardly, and means for selectively and positively effecting such inward or outward adjustment comprising a rotatable sleeve embracing said fingers, an apertured cap secured to the upper end of said sleeve and rotatable therewith, said cap being provided in its under side with a spiral groove receiving the upper ends of said fingers, some of said upper ends being laterally outwardly offset with respect to the fingers so as to fit in said spiral groove, said cap and sleeve being held against axial movement downwardly relative to said fingers by engagement between the upper ends of said fingers and said cap member, and means for locking said cap and sleeve against upward axial movement relative to said fingers.

13. In a pen support of the class described, the combination of a main base, and a pen socket adjustably mounted on said base, said socket comprising a nonmetallic receptacle having a closed bottom and an annular seat at its upper end, a metallic tubular member telescoped over a portion of said receptacle and provided with a plurality of adjustable finger portions extending upwardly above said annular seat, a laterally outwardly projecting shoulder on said metallic tubular member adjacent the lower ends of said fingers, a sleeve having its lower end fitting around said tubular member and engaging the bottom of said shoulder and thereby locked against upward axial movement relative to said tubular member, an apertured cap member secured to the upper end of said sleeve so as to be rotatable therewith, the bottom face of said cap being provided with a spiral groove of substantially two convolutions, said groove being adapted to receive the upper ends of said fingers, some of which are laterally outwardly offset so as to fit into said groove, whereby rotation of said cap and sleeve is effective to adjust said fingers inwardly or outwardly according to the direction of rotation of the cap.

14. In a pen support of the class described, the combination of a pen receiving socket, means in said socket for engaging a part of the pen to limit inward movement of the pen in the socket, means inside of said socket for engaging a part of the pen to hold the same substantially coaxial with the socket, said means being adjustable to receive pens of various cross-sectional sizes, and manually operable adjusting means carried by said socket, operatively connected to said pen engaging means, for positively effecting adjustment of said pen engaging means selectively to receive pens of larger or smaller cross-sectional sizes.

15. In a pen support of the class described, the combination of a pen receiving socket, means in said socket for engaging a part of the pen to limit inward movement of the pen in the socket, means inside of said socket for engaging a part of the pen to hold the same substantially coaxial with the socket, said means being adjustable to receive pens of various cross-sectional sizes, and manually operable adjusting means carried by said socket, operatively connected to said pen engaging means, for positively effecting adjustment of said pen engaging means selectively to receive pens of larger or smaller cross-sectional sizes, said adjusting means serving to hold said pen engaging means in fixed adjusted position.

16. In a pen support of the class described, the combination of a pen receiving

socket, means in said socket for engaging a part of the pen to limit inward movement of the pen in the socket, means in said socket for engaging a part of the pen to hold the same substantially coaxial with the socket, said means being adjustable to engage and support pens of various cross-sectional sizes in said coaxial relation, rotatably adjustable means carried by said socket and connected to said pen engaging means for positively effecting adjustment of said pen engaging means to receive pens of larger or smaller cross-sectional sizes, and means for limiting rotation of said rotatable adjusting means.

17. In a pen support of the class described, the combination of a pen receiving socket, means in said socket for engaging the lower end of a pen to limit inward movement of the pen in the socket, adjustable means in said socket for engaging a part of the pen spaced upwardly from the lower end thereof to hold said part substantially coaxial with the socket, and adjusting means carried by said socket for positively effecting adjustment of said pen engaging means from position for coaxially supporting a pen of predetermined cross-sectional size, to position for coaxially supporting a pen of larger cross-sectional size.

GUSTAV J. SENGBUSCH.