Feb. 6, 1940. G. J. SENGBUSCH 2,188,962

INKSTAND

Filed July 8, 1938

Fig. 2.

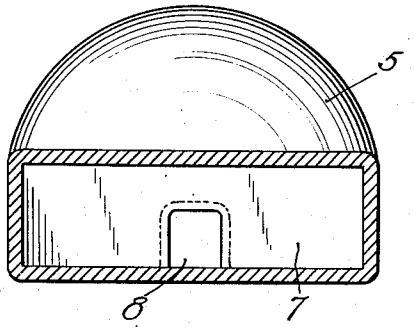


Fig. 1.

Fig. 3.

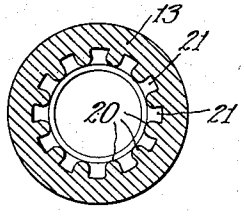
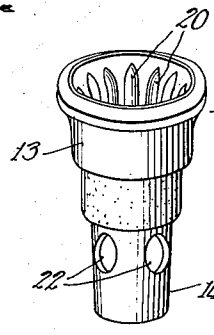


Fig. 4.



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INKSTAND

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4 Claims. (Cl. 120—4)

This invention relates to improvements in inkstands or pen sets and more particularly to such sets in which a pen is supported with its pen point immersed in ink and the pen held in readily accessible position from which it may be withdrawn for instant use.

This application is, in part, a continuation of my co-pending application Serial Number 84,809, filed June 12, 1936, now Patent No. 2,147,931, dated February 21, 1939.

The main objects of the invention are to provide an improved, durable and efficient ink holding receptacle; to provide means for holding a pen in predetermined accessible position with its point normally immersed in ink and for holding the pen in such a way that ink will not accumulate on the inside walls of the pen supporting member or on the end portion of the pen holder; to provide an improved ink holding receptacle and improved pen supporting means of the character indicated which will be easy to manufacture and incorporate in an inkstand; to provide such an improved device which may be constructed economically and at a cost within commercial practicability so as to insure the usefulness thereof; and, in general, it is the object of the device to provide an improved inkstand of the character indicated.

Other objects and advantages of the invention will be understood by reference to the following specification and accompanying drawing, wherein there is illustrated an inkstand embodying a preferred form of the improved construction.

In the drawing:

Figure 1 is a sectional view through an inkstand of the pen-in-ink type;

Figures 2 and 3 are sections on the lines 2—2 and 3—3, respectively, of Figure 1; and

Figure 4 is a perspective of an improved socket element comprising a portion of the improved structure.

The inkstand shown in the drawing comprises a main receptacle portion 5 and an auxiliary portion 6, the said portions 5 and 6 being separated from each other by an intermediate wall 7. The wall 7 is provided with an opening 8 of predetermined height as shown for establishing communication between the main receptacle 5 and the auxiliary receptacle 6.

The main and auxiliary receptacle portions 5 and 6 and the intermediate wall 7 are preferably formed as an integral or unitary structure, the same being preferably molded of a suitable composition of hard rubber or other plastic material which will effectively resist corrosion by ink.

One way of manufacturing the structure is to provide a mold hollowed out to conform to the exterior shape of the main and auxiliary receptacles 5 and 6 and to line such a mold with uncured or partially cured plastic material of the selected composition. The mold may be lined with a single sheet of the material or with separate sheets cut to facilitate the pressing of the sheets into intimate contact with the walls of the mold. In the event that separate pieces are used for lining the mold, they should, of course, be pressed into intimate engagement and union wherever they have meeting portions.

The intermediate wall 7 may be put in place as a separate element, and in order to support the intermediate wall against sagging or collapsing while the material is in a plastic state, it is built up around a reinforcing plate 9 of suitable sheet metal. When the mold is thus lined and supplied with the parts forming the intermediate wall 7, a small amount of water may be placed in the dome-shaped portion 5 and the bottom forming sheet of the receptacle applied to close the lined mold. A suitable mold cover may then be applied to close the mold whereupon it is subjected to suitable heat treatment for curing the plastic composition. The heat changes the water into steam to develop internal pressure for pressing the receptacle material into intimate engagement with the walls of the mold and also to insure union of the separate parts of which the device may be formed. The metal reinforcing element 9 is important in the construction of the device in that it supports the partition wall until the latter becomes firm or set incident to the curing operation, after which the reinforcing plate is not of importance.

The hollow molded structure thus formed may then have an opening 10 bored in the top wall of the auxiliary receptacle part 6 to receive a sleeve-like socket 11. As shown, the opening 10 is bored to position the socket 11 at an angle so that a pen 12 supported by the socket 11 will be held in an inclined, readily accessible position. The socket 11 may also be formed of a suitable grade of hard rubber which resists corrosion by ink and it includes upper and lower portions 13 and 14, respectively.

The upper portion 13 has its mouth flared as indicated at 15 to facilitate insertion and centering of the lower end 16 of the pen. The upper portion of the socket is also provided with a series of circumferentially spaced, inwardly extending ribs 20, the same extending lengthwise in the socket for about one-half its length.

The pen 12 comprises a holder 17 and a pen point 18, the latter being seated in the lower end portion of the holder in any suitable manner, for example, as shown in my United States Letters Patent No. 1,915,338, issued June 27, 1933. As shown in Figure 1, the lower end portion of the holder 17 is provided with a reduced diameter extension 19, the same being of slightly less diameter than the inside diameter of the inner edges of the ribs 20, so that said reduced end portion 19 does not engage or seat on said ribs. The shoulder-formed end 16 of the holder 17 is, however, adapted to engage said ribs 20 so that the socket and holder may be said to have circumferentially spaced points of interengagement.

The lower portion of the socket 14 is of slightly tapering diameter as shown, and of such internal diameter that the pen point 18 is adapted to engage a portion of the socket as shown at 21 when the shoulder 16 of the holder is seated on the ribs 20 in the upper portion of the socket. Hence, the upper and lower socket portions cooperate to support the pen in predetermined inclined position as shown.

Ink from the main receptacle 5 flows into the auxiliary receptacle 6 to the height permitted by the height of the passageway 8, it being understood that air may enter the main receptacle 5 only when permitted to do so through the auxiliary receptacle 6 and the passageway 8. Hence, a substantially constant level of ink will be maintained in the auxiliary receptacle 6. As shown in the drawing, the pen supporting socket 11 is so proportioned and seated in the inkstand that the pen point will normally be immersed in ink. Upon withdrawal of the pen from the inkstand, the pen is immediately ready for use.

In prior art devices it has been more or less customary to position a pen in a socket by providing the pen holder with an extension fitting in the upper portion of the socket so as to constitute a stopper to prevent evaporation of the ink when the pen is in place. In such constructions it has been found that ink accumulates on the surface of the pen holder extension and on the inside walls of the socket with the result that the pen holder becomes bound to the socket and can be removed therefrom only with difficulty. For the same reasons it became difficult to reinsert the pen after use. It has been commonly assumed that the cause for such accumulation of ink was due to the wiping of ink from the pen point onto the inside walls of the socket and from thence to the pen holder extension. However, I have found that even though a pen holder is carefully inserted and withdrawn so as to prevent such wiping of ink on the walls of the pen socket, the pen holder would nevertheless in time become bound in the socket as stated. I have ascertained that this results largely from the condensation on the walls of the socket of ink vapor, rising from the surface of the ink supply in the receptacle 6. Such vapor also penetrates to the smallest crevices present between the walls of the socket and a pen holder extension such as above referred to, and much of it condences and dries with the aforesaid results.

In the improved structure above described, a provision is made by means of the ribs 20 and the resulting open passageways 21 between the adjacent ribs to permit the free passage of ink vapor from the receptacle 6. By permitting the ink vapor to escape easily, practically no condensation occurs, with the result that the pen is kept clean and does not become bound to the socket. In brief, the new structure may be said to be a ventilated structure which prevents the fouling which occurs in conventional structures of the prior art. The small amount of ink lost through vaporization and ventilation as explained is negligible and in any event is more than compensated for by the cleanliness and uninterrupted usefulness of the improved structure. To facilitate the ventilation or flow of ink vapor as above explained, the lower portion of the socket is provided with openings 22 which are so positioned as to be at least partially above the normal level of ink in the auxiliary receptacle 6.

Said openings are also preferably positioned within about one-half the circumference of the socket so as to provide an adequate area of unbroken, smooth surface on the remainder of the circumference of the socket for engagement by said pen point.

Changes in the described structure may be made without departing from the spirit of the invention, the scope of which should be determined by reference to the following claims, the same being construed as broadly as possible consistent with the state of the art.

I claim:

1. A pen set comprising a pen and a socket for supporting said pen in predetermined position, said pen comprising a holder and a pen point extending from the lower end of said holder, said holder having a lower end extension of reduced cross-section so as to provide a shoulder adjacent the lower end of the holder, said socket comprising a sleeve-like member into which the pen point and said lower end extension of the holder may be inserted, the upper portion of said socket being provided internally with a series of circumferentially spaced ribs having upper end portions adapted to engage said shoulder to limit insertion of said lower end extension into the socket and said ribbed portion of the socket serving to position the pen laterally relative to the axis of the socket but being adapted to freely receive said extension so as to facilitate insertion and removal of the pen, said spaced ribs serving to provide open passageways intermediate adjacent ribs to permit the passage of ink vapor therethrough, thereby to reduce the normal tendency of ink to accumulate on the inside wall of said socket and on the lower end of the holder.

2. A pen set comprising a pen and a socket for supporting said pen in predetermined inclined position, said pen comprising a holder and a pen point extending from the lower end of said holder, said holder having a lower end extension of reduced cross-section so as to provide a shoulder adjacent the lower end of the holder, said socket comprising a sleeve-like member into which the pen point and said lower end extension of the holder may be inserted, the upper portion of said socket being provided internally with a series of circumferentially spaced ribs having upper end portions adapted to engage said shoulder to limit insertion of said lower end extension into the socket and said ribbed portion of the socket serving to position the pen laterally relative to the axis of the socket but being adapted to freely receive said extension so as to facilitate insertion and removal of the pen, the lower portion of said socket being adapted to be engaged by the pen point, whereby said lower and upper socket portions cooperate to support the pen in said predetermined position, said spaced ribs serving to provide open passageways intermediate adjacent ribs to permit the passage of

ink vapor therethrough thereby to reduce the normal tendency of ink to accumulate on the inside wall of said socket and on the lower end of the holder.

3. A pen set comprising an ink receptacle, a pen and a socket for supporting said pen in predetermined inclined position relative to said receptacle, said pen comprising a holder and a pen point extending from the lower end of said holder, said holder having a lower end extension of reduced cross-section so as to provide a shoulder adjacent the lower end of the holder, said socket comprising a sleeve-like member into which the pen point and said lower end extension of the holder may be inserted, the upper portion of said socket being provided internally with a series of circumferentially spaced ribs having upper end portions adapted to engage said shoulder to limit insertion of said lower end extension into the socket and said ribbed portion of the socket serving to position the pen laterally relative to the axis of the socket but being adapted to freely receive said extension so as to facilitate insertion and removal of the pen, the lower portion of said socket being normally immersed in ink contained in said receptacle and being provided with one or more openings located therein so as to be at least partially above the normal level of ink in said receptacle and also within approximately one-half the circumference of said socket portion so as to provide adequate, unbroken socket area adapted to be engaged by the pen point, whereby said lower and upper socket portions cooperate to support the pen in said predetermined position, said spaced ribs serving to provide open passageways intermediate adjacent ribs to permit the passage of ink vapor therethrough thereby to reduce the normal tendency of ink to accumulate on the inside wall of said socket and on the lower end of the holder.

4. An inkstand comprising top, bottom and side walls of non-metallic material integrally united to form, in effect, a seamless receptacle, a non-metallic material partition enclosed within said receptacle for separating the same into an ink supply chamber and a pen dipping well, said partion being, in effect, integrally joined to the top and side walls of the receptacle so as to prevent leakage between the upper portion of said partition and the adjacent wall portions of the receptacle, all of said parts being initially of plastic material and being cured after assembly thereof, said partition having a reinforcing member embedded therein and serving to sustain said partition during the plastic condition thereof so as to insure permanence of the initially assembled relation of at least the upper portion of said partition to the other parts, there being a passageway in the lower portion of the receptacle establishing communication between said chamber and well and one opening only affording access to the interior of the inkstand and communicating directly with the dipping well portion thereof, said access opening constituting a filling opening and also a pen dipping opening, said passageway being arranged with its uppermost wall at a predetermined height for controlling the depth to which ink will normally flow through said passageway from said ink supply chamber into said pen dipping well.

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