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2,362,992

DRAFTING DEVICE

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Fig. 1.

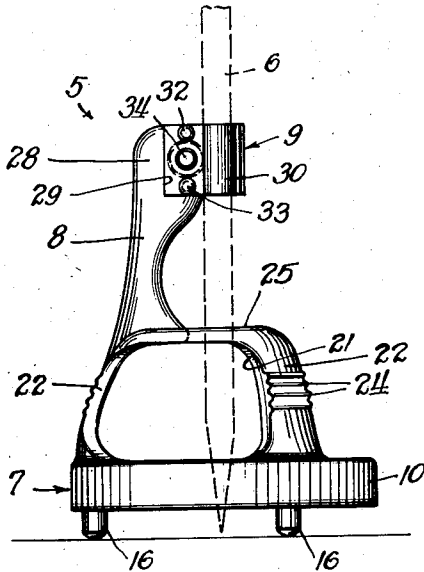


Fig. 2.

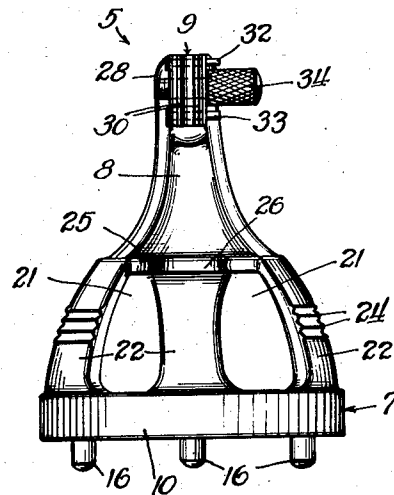


Fig. 4.

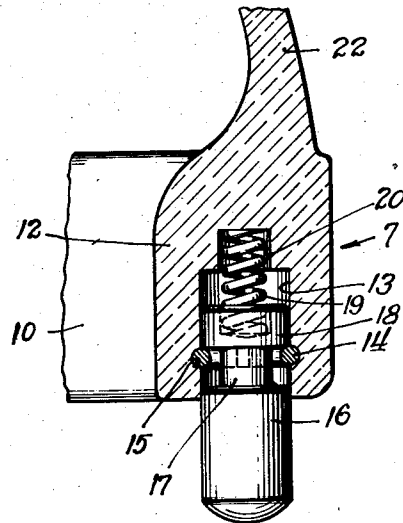
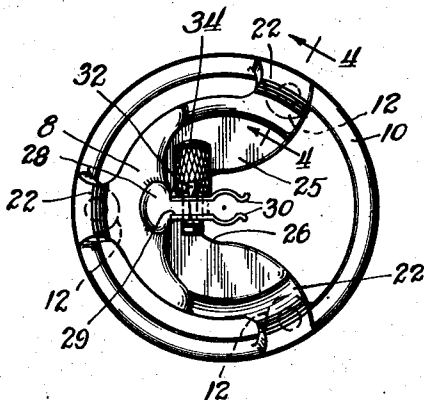


Fig. 3.



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DRAFTING DEVICE

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11 Claims. (Cl. 120—107)

This invention relates to a drafting device and is particularly concerned with a contour pen holder comprising a resiliently supported frame adapted to hold a centrally mounted downwardly pointing pen or pencil for perpendicular downward drawing or tracing engagement of the pen or pencil point with drafting paper or tracing cloth disposed underneath the device.

The various objects and features of the invention will be described with reference to the accompanying drawing, wherein

Fig. 1 shows an elevational view of an embodiment of the new drafting device;

Fig. 2 illustrates the device likewise in elevational view taken at right angle to the view shown in Fig. 1;

Fig. 3 is a top view of the device; and

Fig. 4 represents a cross-section taken through one of the posts of the supporting frame along the lines 4—4 shown in Fig. 3.

The new device comprises a holder portion generally indicated in Figs. 1 and 2 by the numeral 5, which is adapted to hold the pen or pencil 6, and a base or supporting portion generally indicated by the numeral 7.

The holder portion includes the upwardly extending arm 8 provided at its top with a head 28 and a lateral extension 9. The base includes a tubular ring-like member 10, a plurality of resiliently mounted radially symmetrically disposed legs 16, and a plurality of upwardly projecting posts 22. These posts are symmetrically disposed and form circumferential cutouts 21 and a platform-like intermediate portion 25 which is centrally open as shown at 26. The posts 22 may be exteriorly roughened or grooved as indicated at 24 so as to provide a firm grip for manipulating the device. The arm 8 extends upwardly in alignment with one of the posts 22, as particularly shown in Fig. 2, in such a manner as to avoid obstruction of the view through the device in a downward direction. The supporting and the holder portion so far described may be made of one piece, of any desired material, preferably of transparent material, including plastic material.

Clips 30 are disposed in cutouts 29 of the lateral extension 9 projecting from the head 28 on top of the arm 8. One of these clips is provided with guide pins 32, 33, projecting through the extension 9, and with a threaded opening for receiving the threaded shank of the knurled knob 34. The other clip is provided with apertures for receiving the guide pins 32, 33. The pen or pencil 6 is held in the clips 30 and is

secured by tightening of the screw member 34; it is thus removably held in the curved forward sections of the clips 30 which project beyond the extension 9.

As will be seen from the drawing, the pen or pencil 6 projects perpendicularly downwardly centrally of the opening 26 and centrally of the ring-like base member 10.

The legs 16 are mounted resiliently, each in a radially inwardly extending enlargement 12 provided on the base member 10. Each enlargement is for this purpose provided with a boring 13 equipped with a circular groove 15 and a bottom recess 20, as shown in Fig. 4. Each leg forms a head 16, a recess 17, and a guide section 18. The latter is provided with a recess for receiving one end of a spring 19, the other end of which is disposed in the recess 20 at the bottom of the boring 13. A split ring 14 is disposed in the groove 15, forming a means for retaining the leg axially movable in position in the base 10.

Each of the legs 16 is assembled with the frame by placing the spring 19 into the recess on the guide section 18, and the split ring 14 into the annular recess 17. The split ring is then radially contracted and the leg with the spring and split ring is slipped into the boring 13 until the split ring 14 snaps into position in groove 15. The leg is now held in resilient axially movable engagement in the ring-like base 10 of the frame. The ring-like member 10 is made relatively thin so as to avoid obstructing the downward view through the device. The enlargements 12 serve well for the mounting of the legs 16 and do not detract from the desired visibility.

It should be noted that the pen or pencil point is disposed centrally of the ring-like base member, and that the legs 16 are positioned in this base member radially equally spaced from the center thereof and circumferentially symmetrically distributed with respect thereto.

The device may be used in numerous drafting operations, including the tracing of contours and the like. The structure is simply placed upon the drafting paper or upon the tracing cloth, after properly inserting the pen or pencil in the clips 30, and is then manipulated by means of the base or the posts 22. The exteriorly roughened or grooved posts facilitate a firm grip thereon. As previously mentioned, the downward view upon the lines to be drawn or traced is facilitated by the open structure of the device. The posts are separated by large openings so that the view is not obstructed. The transparent material of which the device may be made further facilitates

operation without obstruction. The device can be easily moved laterally in any direction, being supported on the relatively small legs which present small surfaces to the drafting paper or tracing cloth, and the pen or pencil point can be brought down perpendicularly, permitting accurate work as required, e. g., in contour tracing. Angular tilting of the pen or pencil, and consequent distortion, is avoided due to the fact that the pencil or pen point is disposed centrally of the legs 16 forming the elastic supporting points of the device.

The supporting frame including the tubular base member 10 has been shown as of circular shape. It is clear that this member may be made of angular configuration. The term "tubular" as used herein is intended to cover both round and angular forms.

Changes may be made within the scope and spirit of the following claims in which I have defined what I believe to be new and desire to have protected by Letters Patent of the United States.

I claim:

1. A drafting device for holding a pen or the like comprising a tubular base member, an arm upwardly extending therefrom, an extension on said arm which projects laterally therefrom, and means on said extension for removably securing such pen thereto in perpendicularly downwardly directed position centrally of said base member.

2. The structure defined in claim 1, together with a plurality of enlargements projecting from said base member laterally inwardly thereof, and means forming a leg projecting from each of said enlargements axially of said base member.

3. The structure defined in claim 1, together with a plurality of angularly symmetrically disposed legs projecting edgewise from said base member.

4. The structure defined in claim 1, together with a plurality of angularly symmetrically disposed legs projecting edgewise from said base member, and means for elastically mounting each of said legs in said base member.

5. The structure defined in claim 1, together with a plurality of posts upwardly projecting

from said base member to support said arm thereon.

6. The structure defined in claim 1, together with supporting means projecting from said base member and merging with said arm midway thereof.

7. The structure defined in claim 1, together with a plurality of upwardly and inwardly extending posts projecting from said base member, said arm forming the upward continuation of one of said posts.

8. A drafting device of the class described which is especially adapted for use as a contour pen holder, said device comprising a tubular relatively short base member, supporting means extending from the upper edge of said base member upwardly and slightly inwardly thereof, an arm extending from said supporting means upwardly and slightly inwardly thereof, an extension on said arm which projects laterally therefrom substantially at the top thereof, and means on said extension for removably securing thereto a pen or the like in perpendicularly downwardly extending position centrally of said base.

9. The structure defined in claim 8, wherein said base member, said supporting means, and said arm are made of one piece and formed of suitable preferably transparent material.

10. The structure defined in claim 8, wherein said base member, said supporting means, and said arm are made of one piece and formed of suitable preferably transparent material, together with mounting means formed on said base member and projecting therefrom laterally and inwardly thereof, and a leg elastically movably disposed in each of said mounting means and axially downwardly projecting therefrom.

11. The structure defined in claim 8, together with a plurality of legs projecting in axial direction from the lower edge of said base member, each of said legs comprising a guide portion disposed within a boring in said base member, spring means in said base member acting upon said leg, and means for retaining said leg axially movable within said boring.

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