March 16, 1965 R. GUYOT 3,173,677

DRAFTING-SHEET CLAMP

Filed April 19, 1963

FIG. 1.

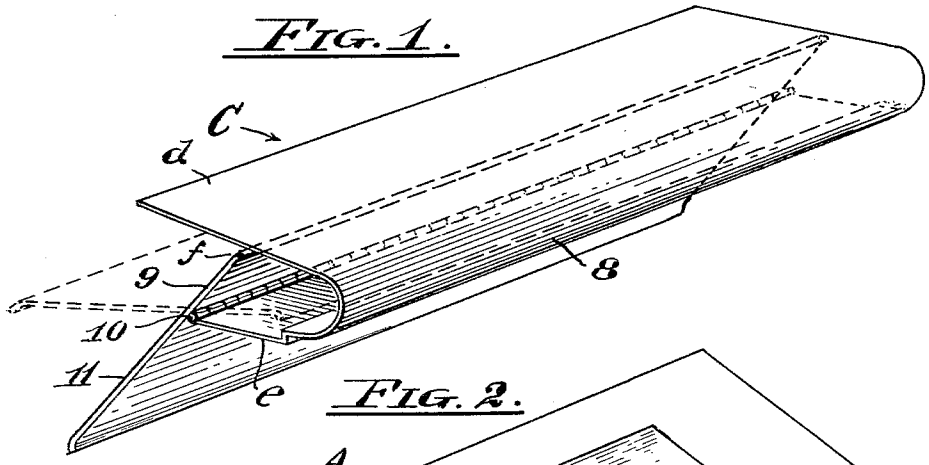


FIG. 2.

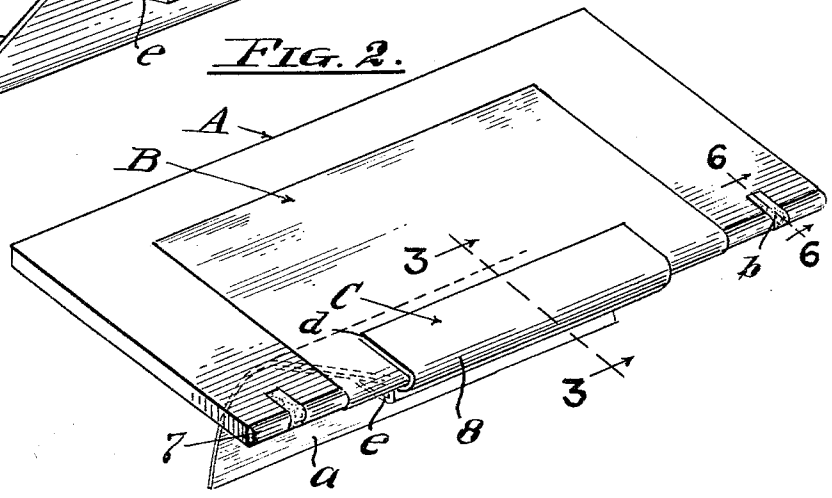


FIG. 3.

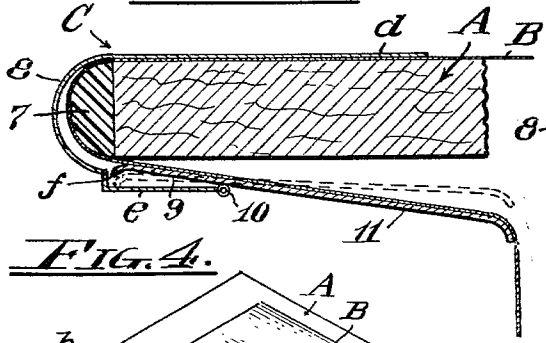


FIG. 5.

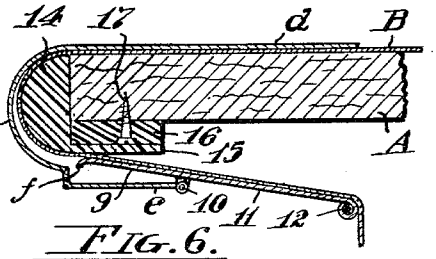


FIG. 4.

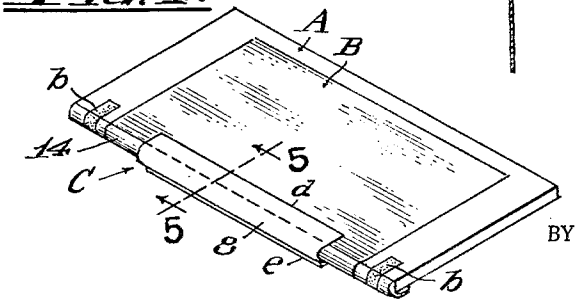
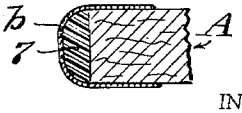


FIG. 6.



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DRAFTING-SHEET CLAMP

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5 Claims. (Cl. 269—254)

This invention relates to a clamp for fastening drafting sheets to the forward margins of drawing boards particularly where the lower portions of the sheets are extended around and beneath such margins as when the draftsman is working on the upper portion of a sheet spread on the top surface of the board.

The invention is particularly applicable for use in connection with drafting tables embodying a board supported in an elevated horizontal or slightly inclined position on which may be spread a drafting sheet of such large size that the upper portion of the sheet can not be conveniently reached by a draftsman positioned in front of the table. In such cases it is customary to drape the lower portion of the sheet over the forward edge of the board to bring the upper portion of the sheet within the draftsman's reach.

The primary object of the invention is to provide a simple yet efficient device whereby the lower and intermediate portions of a drafting sheet may be firmly clamped relative to the forward edge of the drafting board and at the same time be protected against smudging, curling, tearing, or otherwise damaged during the drafting process, which allows the upper part of a large drafting sheet to be disposed upon the forward portion of the drafting board in convenient reach of the draftsman, and which can be applied to effect clamping engagement with drafting sheets of various dimensions and also applied to various free standing drafting boards or tables having unobstructed forward margins.

Another object is to provide a clamping device embodying an elongated channel element having side members adapted to be positioned astride the forward edge of a drafting board with one of said side members seated on a drafting sheet imposed on the board, wherein said last named side member is removably held under pressure against the drafting sheet extending therebeneath and with the contiguous surfaces of said side member and drafting sheet abutting in superficial contact with each other.

Another object is to provide a clamping device which can be readily applied to a drafting board and automatically held in place thereon without the use of screws or other extraneous fastenings, and in such manner that it can be instantly removed from the board so that drawings on the lower portion of the drafting sheet, which are normally covered by the device, can be readily exposed for examination.

Another object is to provide a clamping device whereby the use of drafting tape and thumb tacks may be dispensed with whereby change of drafting sheets and proper alignment of drawings is greatly facilitated.

Another object is to provide a construction in the clamp whereby when it is applied to fasten a drawing sheet having its lower portion draped over and extending below the forward margin of a drawing table, such portion will be positioned and supported adjacent the underside of the table, and where such extended portion is several feet or more in length, the end portion thereof will be suspended in rearward spaced relation to the front of the table so as to be clear of the knees of a draftsman seated at the table.

With the foregoing objects in view, together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed, and illustrated by way of example in the accompanying drawing, in which:

FIG. 1 is a perspective view of the drafting-sheet clamp as seen from the front, end and top thereof;

FIG. 2 is an isometric view showing the clamp as applied;

FIG. 3 is an enlarged detail in section taken on the line 3—3 of FIG. 2;

FIG. 4 is an isometric view showing the clamp as applied to a drawing board having a modified form of rounded forward edge;

FIG. 5 is an enlarged detail in section as seen on the line 5—5 of FIG. 4; and

FIG. 6 is a detail in section taken on the line 6—6 of FIG. 2.

Referring to the drawing more specifically, wherein corresponding reference characters indicate corresponding parts throughout the several views, A indicates a drafting board of the type which is supported in an elevated position and slightly inclined and having a forward edge presented to the draftsman who occupies either a standing or sitting position leaning over the board to work on a drafting sheet B imposed on the surface of the board. Ordinarily, such drafting boards have a forward edge which is flat and perpendicular to the top surface of the board, in which event it is desirable to equip such edge with a rounded molding 7 so that where the sheet B is disposed on the board with its forward end portion *a* overlying the edge of the board it will conform to the curved surface of the molding 7 without creasing or wrinkling of the sheet particularly where the present invention is to be applied to the board. In event the board does not have a rounded forward edge, such may be provided by applying a length of molding 7 having the desired contour, to extend longitudinally of the forward edge of the board and seated thereagainst. As here illustrated the molding is removably held in place by strips *b* of adhesive tape passed transversely over the molding and adhered thereto and to the upper and lower surfaces of the board as particularly shown in FIG. 6.

The drafting-sheet clamp embodying the invention is designated generally at C, which clamp, preferably formed of thin sheet metal, embodies an elongate open ended channel element 8 of U-shaped or rounded cross section adapted to be positioned longitudinally astride the forward edge of the board A at various points along the length thereof. The channel element 8 extends horizontally when in use and accordingly has upper and lower side members *d* and *e* of which the upper side member comprises a flat plate which is designed to overlie the upper face of the board A and to seat on the portion of the sheet B lying adjacent or overlying the forward edge of the board in superficial contact therewith throughout the contiguous areas of the underside of the side member *d* and the upper face of the sheet B. The plate side member *d* is sufficiently thin to permit when seated of ready sliding thereover of the conventional T-square or parallel straight-edge employed in drafting operations and has about the same width as such implements.

The lower side member *e* of the channel element 8 is designed to project beneath and underlie the under side of the board A in spaced but proximate relation thereto.

This lower side member *e* of the channel element 8 constitutes a support for a vertically swinging sheet-metal clamping leaf 9 which is hingedly connected to the outer edge of the member *e* by a piano-hinge 10. The leaf 9 overlies the member *e* and has a straight outer margin *f* co-extensive with the channel element 8, which margin, when the clamp is applied, extends adjacent the forward edge of the board A in parallel relation thereto. The leaf 9 is designed to be swung upward to bring its outer

margin *f* into clamping engagement with the board continuously throughout the length of such margin to thereby removably clamp the channel element **8** in place on the board and at the same time clamp the sheet B between the plate member *d* and the surface of the board and also, where the sheet B is extended around and under the forward edge of the board, to clamp such extended portion of the sheet between the margin *f* of the leaf and the underside of the board. This actuation of the leaf **9** may be effected by various means. As here shown such means comprises a weight adapted to automatically rock the leaf **9** upwardly on the hinge **10**, which weight in this instance consists of a panel extension **11** projecting from the hinged margin of the leaf **9** and extending outwardly from the side of the hinge **10** opposite the leaf **9**. The panel extension **11** projects a greater distance from the hinge **10** than the leaf **9** and has greater weight than the leaf so as to act to normally tilt the leaf upward. In some cases the panel extension **11** may be equipped with a supplemental weight **12** as where increased leverage or shorter width of panel is desired.

The panel **11** not only serves as a means for clamping the sheet B but also acts as a support for the free end portion of the drafting sheet B when the sheet is of a length to overlie and rest on the panel, and where the sheet is of a length to depend from the outer margin of the panel the latter will further serve to space the dependent portion of the sheet rearward of the forward edge of the board A so that such dependent portion will be out of the way of a person seated at the board, and where a length of the sheet B is imposed on the panel **11**, the weight of the sheet will co-act with that of the panel to clamp the leaf **9** in abutting engagement with the drafting sheet B and the board A.

The channel element **8** may be of any desired practical length according to requirements, but irrespective of its length, by the recited construction, the clamping action of the device is continuous from end to end of the channel element by reason of the clamping leaf **9** being coextensive with its co-operating plate member *d*.

In the application and operation of the invention, on a drafting sheet B being placed and aligned on the board A, the channel section **8** of the clamp C is advanced astride the forward edge of the board with the upper side member *d* thereof overlying and resting on the sheet B, and with the clamping leaf **9** abutting the underside of the board, or where the outer forward portion *a* of the sheet overlies the rounded edge or molding **7** or **14**, abutting such sheet portion *a* and clamping it against the underside of the board or against the flange **15** where the arrangement shown in FIG. 5 is employed.

In some instances, however, the channel element of the clamp C may be applied to the forward edge of the board before the sheet B is imposed on the board, in which event the forward edge of the sheet may be fed under the upper side member *d* of the clamp and around and under the forward edge of the board and over the leaf **9** which in this instance will be depressed into the position shown in dotted lines in FIG. 3; the lower side member *e* being spaced beneath the board a distance such as to permit such depression of the leaf **9**.

When the clamp is applied and engaged with the drafting sheet B, the portion of the sheet extending beneath the upper side member *d* of the channel element **8** is shielded against smudging, curling and tearing as well as such portions as extend around and under the forward edge of the board.

When it is desired to dismount the clamp C, the panel **11** is lifted so as to depress the leaf **9** out of clamping engagement with the sheet B and the board A whereupon the channel element **8** may be readily withdrawn outwardly from astride the forward edge of the board, thus releasing the sheet B for adjustment of the sheet on the board or its removal therefrom.

It is contemplated that the clamp C will, in some cases, constitute part of the drafting equipment of a draftsman, who has occasion to work on different drafting boards having flat faced forward edges, that where no provision is made for rounding such edges, it is desirable for the draftsman to possess a rounded molding **7** for application to any board to which he may be assigned having flat faced forward edges. Since such boards are of various thicknesses, and since it is desirable that the rounded molding have a width exceeding the thickness of the board so that its lower margin will project below the lower margin of the board when the upper margin of the molding is aligned with the upper surface of the board, such molding is accordingly provided.

FIGURES 4 and 5 depict a drawing board A so equipped wherein **14** indicates a molding of requisite rounded contour, which molding is fixedly attached to the front edge of the board as by means of tape *b* as before described. As here shown the molding **14** has a length co-extensive with that of the board A and has a width exceeding the thickness of the forward edge of the board with one margin of the molding aligned with the upper surface of the board and with the other margin of the molding projecting below the underside of the board. This arrangement is desirable where a wider outer paper bearing surface is needed than is afforded by the edge of the conventional drafting board. The lower edge of the molding is provided with a flat flange **15** adapted to project beneath the underside of the board A in spaced relation thereto between which flange and the board is interposed a fillet **16** of requisite thickness. The fillet **16** may be attached to the underside of the board by screws **17**. The flange **15** provides a seat rearward of the rounded edge against which the sheet B may be clamped by the leaf **9**, as shown in FIG. 5.

While the clamp C has been shown and described as applied to the fastening of drafting sheets draped over the edge of the drafting board, it manifestly is adapted for use in clamping the lower margin of a sheet B terminating on the upper surface of the board A adjacent the forward edge thereof. In this instance the leaf **9** bears directly against the board and acts to clamp the sheet B between the member *d* and the upper surface of the board. The sheet B thus engaged is released for adjustment or removal by lifting the panel **11** to depress the leaf **9** and thereby relieve the pressure of the member *d* on the sheet. The sheet B may then be adjusted, removed or replaced without disengaging the clamp C from the board.

An advantageous feature attained by rounding the forward edge of the drafting board, and also curving the channel section **8** of the clamp not only to obviate undesirable sharp corners incident to the flat faced forward ends of conventional drawing boards, but to also substantially seat the channel section **8** against slipping under pressure of a person leaning against the clamp as when bending over the board equipped with the clamp, thus avoiding crimping or creasing the portion of the drafting paper interposed between the clamp and the board.

From the foregoing it will be seen that I have provided a drafting sheet clamp whereby the objects and advantages herein set forth are attained.

I claim:

1. In a clamp for holding a drafting sheet on a drafting board, an elongated open ended channel element adapted to be positioned longitudinally astride the edge of a drafting board, said channel element having an upper side member adapted to overlie and seat on a drafting sheet imposed on the board and having a lower side member adapted to underlie the board in spaced relation thereto, an elongated leaf hingedly mounted on said lower side member for vertical swinging movement thereon, and means for swinging said leaf upwardly to collectively clamp said channel element and drafting sheet relative to said board.

2. The structure called for in claim 1 in which said means comprises a weight attached to said leaf projecting from said pivotal mounting on the side thereof opposite said leaf.

3. In a sheet engaging attachment for drawing boards having a forward edge, an elongated open ended channel element adapted to be positioned astride said edge with a portion thereof in seated engagement with a drafting sheet imposed on the board, and with a side wall portion thereof extending beneath the board, a tiltable leaf having an inner margin hinged on said side wall portion, said leaf having an outer margin co-extensive with said channel element, and an extension on the hinged inner margin of said leaf adapted to swing said leaf to normally dispose the outer margin thereof against the board under pressure to thereby clamp said channel element in its sheet engaging position on the board.

4. The combination with a drafting board having a forward edge and adapted to have a drafting sheet imposed thereon, of an elongated channel element having a pair of spaced parallel side members positioned astride the forward edge of the board, one of said side members

being adapted to seat on a drafting sheet on the board and the other of said side members extending beneath the board in spaced relation thereto, a leaf hingedly mounted on said last named side member for vertical swinging movement toward and away from said board, said leaf having an outer margin co-extensive with said channel element adapted to abut the underside of the board, and means attached to said leaf operable to swing it to move said margin toward or away from said board.

5. The combination called for in claim 4 in which said means comprises a panel projecting from said leaf so that the weight of the panel will act to swing said leaf toward the board.

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FRANK B. SHERRY, *Primary Examiner.*