Aug. 24, 1943. S. W. HAAS 2,327,963

DRAWING BOARD COVER

Filed May 9, 1940

FIG.1.

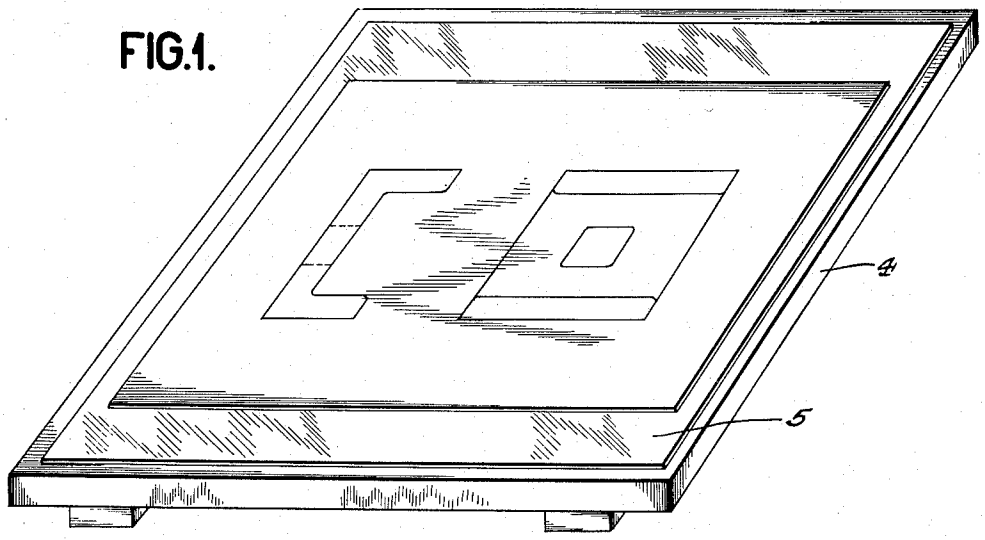


FIG.2.

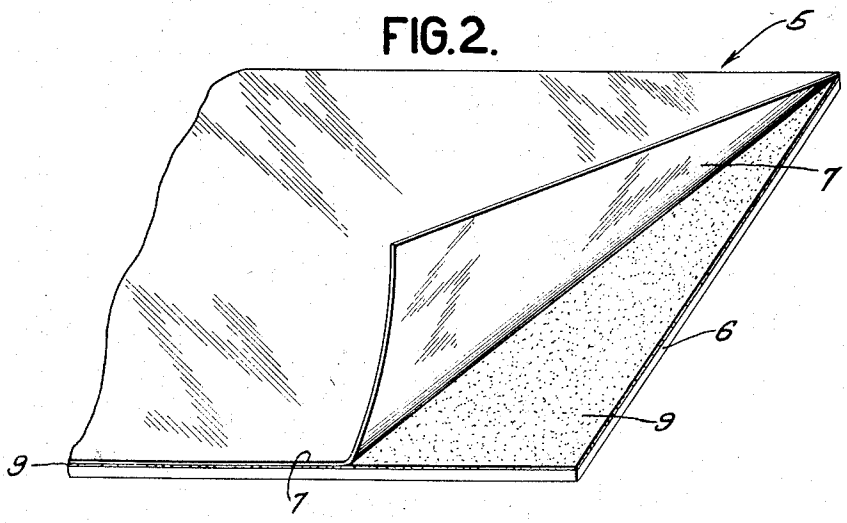
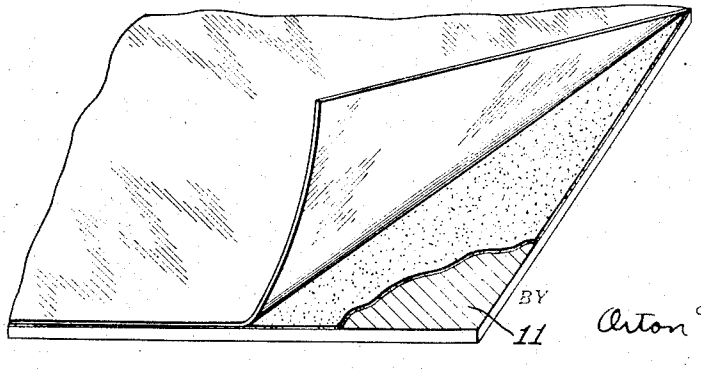


FIG.3.



INVENTOR.
S. WARD HAAS
Arton and Griswold
ATTORNEYS

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DRAWING BOARD COVER

Sherwin Ward Haas, Philadelphia, Pa., assignor to Keuffel & Esser Company, Hoboken, N. J., a corporation of New Jersey

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5 Claims. (Cl. 45—131)

This invention relates to surfaces for drawing boards, so called, and to the construction of drawing boards and accessories therefor to provide a surface for a drawing board or the equivalent having superior properties.

Heretofore, it has been customary, in making various mechanical drawings, tracings and the like, to provide a relatively smooth, true, wooden drawing supporting surface, upon which was laid and secured in position, as by thumb tacks, a suitable sheet of paper, tracing cloth or the like on which the pencil or ink lines were made by the draftsman. It was found, however, in using relatively thin paper, such as the tracing papers which are now in such common and extensive use for original layouts, that an ordinary wooden surface was not satisfactory, in all respects, as a drawing surface. This was due to a number of factors. The wood normally employed in drawing boards is desirably soft enough to permit penetration of the thumb tacks used to hold a sheet of drawing paper in position. After repeated use and because of variations in the size and shape of the paper for particular drawings, the surface of the board eventually had a large number of perforations scattered thereover. Frequently objects dropped on the wooden surface of the drawing board would cause indentations. When using a very heavy paper on which to make drawings, these imperfections on the surface of the drawing board were not particularly serious, but in employing drawing papers of light weight or tracing paper it was found difficult to make satisfactory drawings except with a relatively new board. Even with a freshly prepared wooden surface it was difficult, in many instances, to draw correctly positioned lines because the pencil tended to follow the grain of the wood which naturally varied from the straight line which the draftsman desired to follow.

Another objection to the ordinary wooden surface of the drawing board was that it became soiled due to the texture of the wood surface to which dirt and dust clung. Also erasures made from drawings were wiped off the sheet, which might cover only a limited area of the drawing surface, and rapidly smeared and dirtied the exposed portions of the wood surface. Since the wood surface or a sheet of covering paper on which the drawing paper was superimposed would take pencil and ink lines, it was frequently used instead of scratch paper, with the result that the surface soon became soiled or mutilated. This condition is not only objectionable from an aesthetic point of view, but the dirt on the surface is transferred to sheets of drawings which are laid on various areas of the board. Also a soiled, streaky and blackened board made an unsatisfactory background for the making of drawings.

The present invention is directed to a drawing board cover providing a drawing surface which is not subject to the disadvantages as above set forth, but which presents marked advantages in many respects as will hereinafter be set forth or be evident.

It is an object of the instant invention to provide a drawing surface cover which is free from any characteristics of grain thereby making it possible to draw lines in any direction under the sole control of the draftsman and without any influence from the drawing surface.

Another object of this invention is to provide a drawing surface cover of the type which can be readily renewed should there, by any chance, be any ultimate damage to the surface and which renewal may be accomplished at a relatively small cost, as compared with the replacement of a wooden drawing board.

A further object of the invention is to provide a drawing surface cover of such a type that it will not tend to hold dust, dirt or erasure particles and yet if soiled for any reason, can be readily cleaned.

It is also an object to provide a drawing surface cover which improves the clarity of drawings when made on transparent or translucent sheets and which thereby increases the speed at which a draftsman may work either in laying out an original drawing or in making a tracing thereof.

It is an additional object to provide a drawing surface cover which develops or increases the contrast when making a tracing over a relatively translucent original drawing thereby permitting the draftsman to proceed without the necessity of verifying apparent lines by repeatedly lifting the top sheet on which the tracing is being made to refer to the original drawing underneath and which, by eliminating the necessity for so doing, reduces the possibilities of error in making the tracing.

The invention further seeks to provide a drawing surface cover which is useful in connection with either a relatively new base or a base which because of previous use has been damaged and made unfit as a drawing surface for normal purposes.

Yet another object of the invention resides in providing a drawing surface cover having the advantages above set forth but which, in addition,

is particularly useful in connection with a drafting machine which, as is well known, has several supporting areas of small dimensions which must rest upon or slide over the drawing or the adjacent drawing board surface.

These and other objects of the invention and the means for their attainment will be more apparent from the following detailed description taken in connection with the accompanying drawing illustrating various embodiments by which the invention may be realized and in which:

Figure 1 is a view in perspective showing a drawing board to which the drawing surface cover of this invention is applied and on which a drawing is superimposed;

Figure 2 is a fragmentary view showing the laminated drawing surface cover, part of the laminations being separated to show details of construction; and

Figure 3 is a view similar to Figure 2 but showing a modified form of the invention.

Most drawings are originals made in pencil on various types of paper or cloth. It is well known that the paper on which the pencil lines are drawn must be placed on a relatively resilient surface and for this reason draftsmen have uniformly employed wood with its inherent resiliency in preference to the more uniform but non-resilient metal or glass surfaces. The disadvantages often met with in drawing over a wooden surface have been set forth hereinbefore. The present invention retains the advantages of a wood surface, yet, at the same time overcomes many of the disadvantages and produces improved results not heretofore obtained by any drawing surface.

It has been found that an improved drawing surface is obtained by combining with a suitable resilient supporting surface, such as the wooden drawing board or table **4**, the composite cover sheet indicated in its entirety at **5**. While, in practice, the cover sheet **5** will be preferably coextensive with the drawing board **4**, it has been illustrated in Figure 1 as of slightly smaller area for clarity in illustration. The cover **5** comprises a layer of amorphous foil of the type of Cellophane or the other transparent films made from cellulose esters or ethers, as for example cellulose acetate, superimposed upon and adhered to a slightly cushioning or yielding sheet **6** of fibrous material, such as paper. Cellulose acetate commercially known as #88P903, which is a plasticized sheet .00088 inch in thickness, has been found satisfactory. It will be evident, however, that somewhat thicker or slightly thinner sheets of the transparent lamination may be employed provided the important characteristics herein set forth are retained.

In manufacture, a suitable base sheet **6**, Figure 2, of paper, preferably of 50 pound weight, although it may be a heavier or lighter weight paper, such as a full bleached white craft paper, is laminated with a cellulose ester sheet **7**, of the same dimensions.

The paper base **6**, instead of being white in color, may be any light colored paper base **11**, Figure 3, as for instance, buff, light green or other colors which give contrast with the pencil or ink lines of the drawing.

In practical commercial manufacture, the laminating is conveniently accomplished by superposing two travelling webs, one of paper and the other of cellulose ester, with an intermediate layer of an adhesive **9**. Various methods of laminating such a sheet will suggest themselves to those skilled in the art, and a number of suitable adhesives are also available which may be applied to one member or the other in solution and have thermoplastic properties due to the inclusion of resins. Adherence may be obtained by taking advantage of these thermoplastic characteristics. Such an adhesive may be a thermoplastic resinous transparent adhesive of the alkyd or vinyl type in solvents and forming films of .0003 to .0004 inch in thickness. An adhesive may be used which is pressure sensitive. It is preferred that a permanent and transparent seal be made between the two layers. Moreover, the adhesive is desirably substantially colorless.

The base paper sheet has relatively little if any grain, the fibres being arranged in substantially all directions and any possible grain that might have been found in the paper sheet is completely neutralized insofar as it might have any influence in directing a pencil or other drawing instrument by the amorphous foil laminated thereon.

It is to be observed, a sheet of amorphous foil of any type, even if made of a substantial thickness equivalent to both the paper and the cellulose acetate sheet just described, would not form an effective drawing surface, regardless of the base to which it was applied, because of the lack of resiliency of such a relatively thick amorphous foil. When a relatively thin sheet of the foil **7**, as indicated, is superimposed upon the base paper sheet which acts, in a sense, as a cushion, the desired resiliency in the drawing surface is obtained, while the superficial foil layer affords a smooth and, to an extent, slippery surface of the desired degree of hardness ideal for a drawing board surface. The surface of the foil lamination may have a dull finish created as by abrasion, embossing or otherwise, formed either before or after laminating.

Various modifications will occur to those skilled in the art in the composition, configurations and dispositions of the component elements going to make up the invention as a whole and no limitation is intended by the phraseology of the foregoing description or illustrations in the accompanying drawing except as indicated in the appended claims.

What is claimed is:

1. The combination with a drafting board of a relatively thin flexible washable composite drafting board surface member comprising a lamination of relatively stiff amorphous foil superimposed upon a cushioning lamination of relatively yielding fibrous material and adhered thereto, whereby a smooth, resilient drawing surface affording sharp definition of pencilled lines over any kind of supporting surface is afforded and which pencil lines are more clearly erased than lines drawn on a wooden surface.

2. The combination with a drafting board of a relatively thin flexible washable composite drafting board surface member comprising a lamination of relatively stiff amorphous foil superimposed upon a cushioning lamination of relatively yielding paper and adhered thereto.

3. The combination with a drafting board of a substantially paper thin flexible washable composite drafting board surface member comprising a lamination of relatively thin and smooth amorphous foil superimposed upon a cushioning lamination of relatively thin yielding paper and adhered thereto.

4. The combination with a drafting board, of a

relatively thin flexible washable composite drafting board surface member approximating the thickness of heavy paper and comprising a lamination of relatively thin, stiff and smooth amorphous foil superimposed upon a cushioning lamination of relatively yielding fibrous material and adhered thereto, at least one of said laminations being substantially uniformly colored.

5. The combination with a drafting board, of a flexible washable composite drafting board surface member approximating the thickness of heavy paper comprising a lamination of relatively thin, stiff and smooth amorphous foil superimposed upon a cushioning lamination of relatively yielding fibrous material and adhered thereto, said amorphous foil having a dull surface.

SHERWIN WARD HAAS.