June 3, 1952 R. G. EMERSON 2,599,050

COMPOSITE TEMPLATE AND GAUGE

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FIG. 1

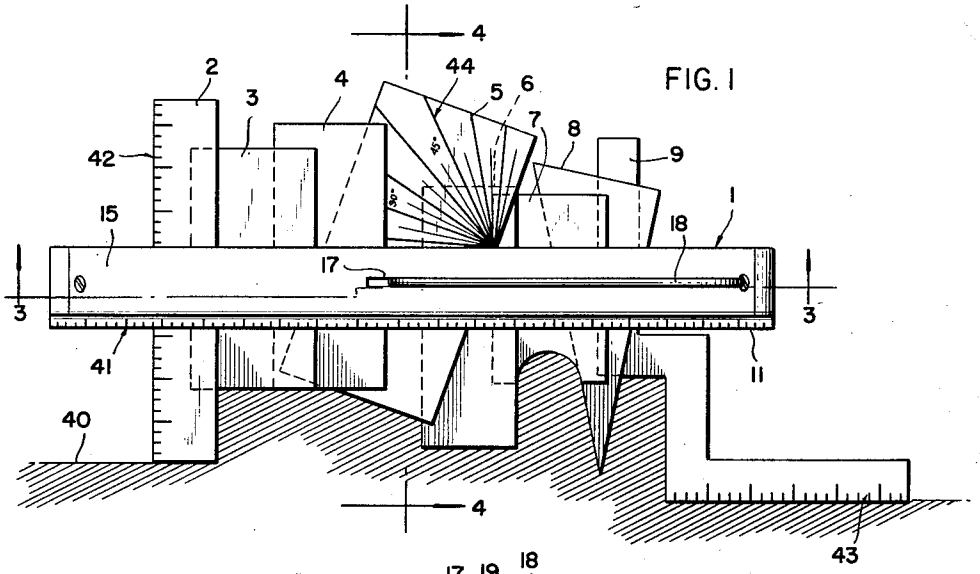


FIG. 2

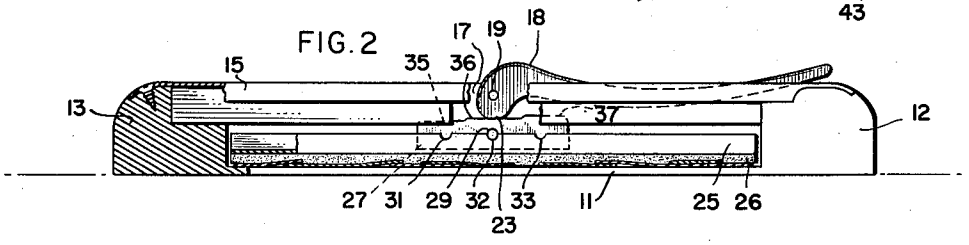


FIG. 3

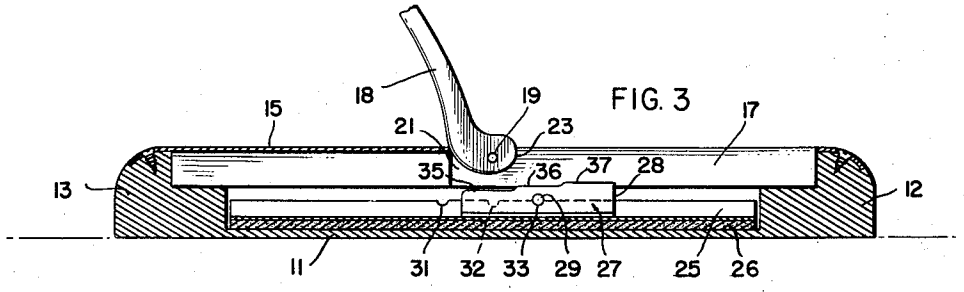
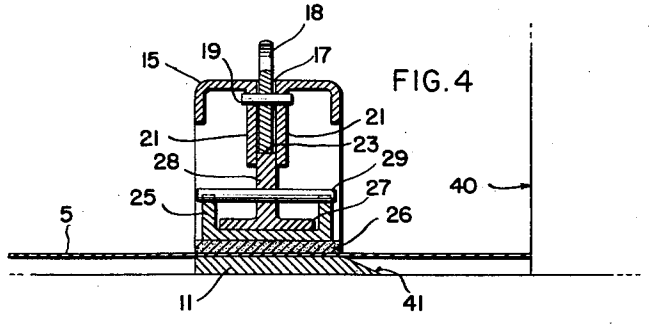


FIG. 4



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COMPOSITE TEMPLATE AND GAUGE

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13 Claims. (Cl. 33—175)

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This invention relates generally to templates and gauges and more particularly it relates to templates and gauges which may be adjusted to reproduce the profile or measurements of an irregular surface.

In the crafts of carpentry, carpet laying, floor tiling, ship carpentry and may others there is the frequent problem of transferring the outline or profile of a fixed, relatively immovable object such as a door frame to a floor covering such as tile or linoleum floor covering so that the tile or linoleum may be fitted accurately to the contour of the door frame. It is conventional practice on the part of craftsmen to take measurements for cutting the floor covering which requires the expenditure of appreciable periods of time. In fact, a time study would show that the time expended in fitting floor covering to a single door frame equals the time expended in laying the floor covering around the entire circumference of a room.

The prior art includes certain forms of gauges or templates which may be adjusted to conform with the profile of an irregularly shaped object, but these prior art devices do not present a continuous surface adapted to guide the continuous motion of a pencil or other marking device. The prior devices usually comprise a plurality of rods or pointers which may be adjusted or manipulated to abut a plurality of points only on an irregular surface. Thus, only these points may be transferred to another surface for purposes of reproduction. Such devices cannot reproduce accurately the position of substantially every point on an irregular surface.

Accordingly it is the principal object of this invention to provide a composite template or gauge which may be adjusted to have a plurality of different profiles and which forms a continuous surface for guiding a marking device.

Another object of this invention is to provide a composite template or gauge having a plurality of individual, plane, profile templates of various shapes and a clamping device for clamping the templates adjacent to one another or in overlapping relation to one another to form a continuous surface for guiding a marking device.

Still another object of this invention is to provide a composite template or gauge having a plurality of profile templates which may be ruled to provide measurements of objects having irregular profiles.

In accordance with this invention there is provided a composite template or gauge comprising a clamp having spaced jaws. There is also provided a plurality of profile templates having various shapes and sizes and adapted to be arranged between said jaws and manipulated with respect to one another to form an irregular and unbroken margin or surface at their extremities.

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For a better understanding of the invention, together with other and further objects thereof, reference is made to the following description, taken in connection with the accompanying drawings, and its scope will be pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a top plan view of a composite template as it is applied for reproducing the outline of an irregular surface.

Figure 2 is a front view with parts broken away.

Figure 3 is a cross-section taken on line 3—3 of Figure 1.

Figure 4 is an enlarged cross-section taken on line 4—4 of Figure 1.

In accordance with this invention there is provided a composite template comprising a press or clamp 1 and profile templates such, for example, as 2, 3, 4, 5, 6, 7, 8 and 9 which are adapted to be adjusted between the jaws of clamp 1 in abutment with the various component surfaces of, for example, a door frame, window frame or the like. By adjusting each profile template until it abuts the appropriate surface, and clamping the templates, there is obtained a profile of the door frame, for example, which may be transferred to carpet or linoleum, for example, which is to be laid up to the door frame.

The press or clamp 1 includes a casing having a base member or fixed jaw 11, end blocks 12 and 13, and bridge 15. The bridge is slotted at 17 to accommodate a lever 18, the purpose of which will be described subsequently. Lever 18 may be pivoted to bridge 15 by means of, for example, a pin 19 extending into or through the downwardly extending ears 21 formed integrally with bridge 15. Lever 18 extends beyond its pivot to form a cam surface 23 which is eccentric with respect to the pivot as illustrated in the drawing.

For clamping the individual profile templates in any desired position there is provided an elongated channel or movable jaw 25 to which is attached a similarly elongated resilient cushion 26. Cushion 26 should be sufficiently resilient to accommodate the profile plates in overlapping relation and its surface should have sufficient friction to prevent movement of the profile templates after they are clamped in a desired posi-

tion. Rubber, cork or similar materials have the desired characteristics. For applying pressure from lever 18 to the channel 25 there is provided a clamping block 27 having an upwardly extending column 28 (Figure 4) which is adapted to abut the cam surface 23 of lever 18. Block 27 is provided with a pin 29 which is adapted to rest in any one of the slots 31, 32 or 33. The upper surface of block 27 is divided into three portions 35, 36 and 37, portion 36 being higher than portion 35 and portion 37 being higher than portion 36. Thus, block 27 may be shifted longitudinally to place pin 29 in slot 31, 32 or 33 and align portion 35, 36 or 37 with cam surface 23, thereby to insure pressure contact between surface 23 and one of the surfaces 35, 36 or 37, regardless of the spacing between cushion 26 and base 11.

The profile plates 2, 3, 4, 5, 6, 7, 8 and 9 are provided for insertion between base 11 and cushion 26 so that they may be adjusted as shown in Figure 1 in abutment with the door frame 40 with each of the profile plates aligned with each of the surfaces of the door frame. The plates preferably are of assorted lengths and widths and also of assorted shapes. For example, there may be rectangular, triangular and curved shapes. Also, there may be plates of irregular linear form such, for example, as plate 9 which has the advantage that surfaces of greater length than the length of base 11 may be reproduced. In general, it may be stated that the shapes of the profile plates are dependent on the nature of the job on which the template is being used.

The utility of this device may be further increased by providing ruled graduations on the base 11 as illustrated at 41 and also on one or several of the plates 2, 3, 4, 5, 6, 7, 8 and 9 as illustrated at 42, 43 and 44. Thus, depths, lengths and angles on the door frame may be measured.

To utilize this invention, lever 18 may be placed in approximately the position shown in Figure 3 and any or all of the desired profile templates 2, 3, 4, 5, 6, 7, 8 and 9 may be inserted between base 11 and cushion 26, either side by side, or in overlapping relation, as shown in Figures 1 and 2. Then the press or clamp 1 may be placed adjacent the door frame and the profile plates may be manipulated by the fingers of the user until each plate is in such a position that its end or side, as the case may be, is flush with the opposing surface of the door frame. Then lever 18 may be moved to its clamping position where cam surface 23 exerts full pressure on one of the surfaces 35, 36 or 37 of block 27, as illustrated in Figures 1 and 2. This moves jaw 25 downwardly and forces cushion 26 into frictional contact with each of the profile plates whereby they are held firmly in final position. This is insured by the provision of the surfaces 35, 36 and 37 of varying heights. For example, if only two profile plates are used there is minimum spacing between cushion 26 and base 11, particularly if the plates do not overlap. In this case, block 27 is moved to place pin 29 in slot 31 thereby to align surface 37 with cam surface 23. If, on the other hand, eight or ten profile plates are to be used in overlapping relation, as illustrated in Figures 1 and 2, it may be necessary to move block 27 to such a position that pin 29 may rest in slot 32 or 33 to align surface 35 or 36 with cam surface 23. Thus, there is provided sufficient spacing between cushion 26 and base 11 to accommodate a comparatively large number of profile plates in any desired relative positions.

Having clamped the profile plates in the proper position, the user of this device is provided with a complete profile of the outline of the door frame. By laying the clamped profile plates on a piece of floor tile or other floor covering, the profile may be traced on the tile so that the tile may be cut accurately to fit the surfaces of the door frame. It is to be noted that this invention provides an adjustable template which forms a continuous guide for tracing purposes whereas prior art devices of this type establish only spaced points of the surface to be reproduced.

When it is desired to utilize this invention as a gauge for taking measurements of an irregular surface, the ruled edges such as 41, 42 and 43 may be read and the readings may be added or subtracted to compute the dimensions which are desired.

For the purpose of illustrating the use of this invention, the description refers to a door frame and the laying of tile or other floor covering. It should be understood however that there are many other uses for this invention in other fields such, for example, as in the crafts of shipbuilding, aircraft building, plumbing, electrical work and machine work.

In connection with the profile plates, it is to be noted that they may be prefabricated to provide a set of standard plates, and the workman on a particular job may fabricate for himself special plates of sheet metal or other suitable material especially adapted for his immediate problem.

While there has been described what is at present considered the preferred embodiment of this invention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the spirit and scope of this invention, and it is, therefore, aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What is claimed is:

1. A composite template comprising a clamp having jaws adapted to be moved with respect to each other, and a plurality of plane profile templates having differently shaped operative peripheries positioned with said peripheries in overlapping relation to one another between said jaws and adapted to be manipulated with respect to one another to form an irregular and unbroken margin at their extremities.

2. A composite template comprising a first clamping jaw, a second clamping jaw, a plurality of profile plates having differently shaped operative peripheries and positioned between said jaws with said peripheries in overlapping relation to one another for abutment with a surface of irregular configuration whereby the abutting edges of said profile plates form a continuous profile having said irregular configuration, and means for clamping said jaws together.

3. A composite template comprising a bridge member, an elongated base plate attached to said bridge member to form a fixed clamping jaw, a lever pivoted adjacent one of its ends to said bridge member, a plurality of profile plates having differently shaped operative peripheries and positioned under said bridge member with said peripheries in overlapping relation to one another for abutment with a surface of irregular configuration whereby the abutting edges of said profile plates form a continuous profile having said irregular configuration, and a movable jaw

disposed over said profile plates in operative relation with the pivoted end of said lever for clamping said profile plates between said jaws.

4. A composite template comprising a bridge member, an elongated base plate attached to said bridge member and spaced from said bridge member to form a fixed clamping jaw, a pin fixed to said bridge member, a lever pivoted on said pin and projecting above said bridge member, said lever including a cam surface, a plurality of profile plates having differently shaped operative peripheries and positioned on said base plate for abutment with a surface of irregular configuration whereby the abutting edges of said profile plates form a continuous profile having said irregular configuration, a movable jaw disposed over said profile plates, and a clamping block of graduated thickness disposed between said movable jaw and said cam surface for clamping said profile plates between said jaws.

5. A composite template comprising an external casing, said casing including an elongated bridge member, an elongated base plate attached to said bridge member and spaced from said bridge member to form a fixed clamping jaw, a press positioned between said bridge member and said base plate, said press comprising a pin fixed to said bridge member and a lever pivoted adjacent one end thereof on said pin with the other end of said lever projecting above said bridge member, said one end of said lever including a cam surface, a plurality of profile plates having rectangular, triangular or curved operative peripheries and positioned on said base plate for abutment with a surface of irregular configuration whereby the abutting edges of said profile plates form a continuous profile of said surface of irregular configuration, a movable jaw disposed over said profile plates, and a clamping block of graduated thickness disposed between said movable jaw and said cam surface for clamping said profile plates between said jaws.

6. A composite template comprising an external casing, said casing including an elongated bridge member, an elongated base plate attached to said bridge member and spaced from said bridge member to form a fixed clamping jaw, a press positioned between said bridge member and said base plate, said press comprising ears depending from said bridge member, a pin fixed between said ears, and a lever pivoted adjacent one end thereof on said pin with the other end of said lever projecting through a slot in said bridge member, said one end of said lever including a cam surface projecting beyond the pivot point of said lever, a plurality of profile plates having rectangular, triangular or curved operative peripheries and positioned on said base plate for abutment with a surface of irregular configuration whereby the abutting edges of said profile plates form a continuous profile of said surface of irregular configuration, a movable jaw disposed over said profile plates, and a clamping block of graduated thickness disposed between said movable jaw and said cam surface for clamping said profile plates between said jaws.

7. A composite template comprising an external casing, said casing including an elongated bridge member terminating in spaced and opposed end blocks, an elongated base plate attached to said blocks and spaced from said bridge member to form a fixed clamping jaw, a press positioned between said bridge member and said base plate, said press comprising ears depending from said bridge member, a pin fixed between said ears, and a lever pivoted adjacent one end thereof on said pin with the other end of said lever projecting through a slot in said bridge member, said one end of said lever including a cam surface eccentrically related to the pivot point of said lever, a plurality of profile plates having rectangular, triangular or curved operative peripheries and positioned on said base plate for abutment with a surface of irregular configuration whereby the abutting edges of said profile plates form a continuous profile of said surface of irregular configuration, a movable jaw disposed over said profile plates, and a clamping block of graduated thickness disposed between said movable jaw and said cam surface for clamping said profile plates between said jaws.

8. A composite template and gauge comprising a clamp having jaws adapted to be moved with respect to each other, and a plurality of plane profile templates having differently shaped operative peripheries positioned in overlapping relation to one another with said peripheries between said jaws and having measuring indicia thereon and adapted to be manipulated with respect to one another to form an irregular and unbroken margin at their operating peripheries.

9. A composite template and gauge comprising a first clamping jaw, a second clamping jaw, a plurality of profile plates having differently shaped operative peripheries and positioned between said jaws with said peripheries in overlapping relation to one another for abutment with a surface of irregular configuration whereby the abutting edges of said profile plates form a continuous profile having said irregular configuration, said profile plates having measuring indicia thereon, and means for clamping said jaws together.

10. A composite template and gauge comprising a bridge member, an elongated base plate attached to said bridge member to form a fixed clamping jaw, a lever pivoted adjacent one of its ends to said bridge member, a plurality of profile plates having differently shaped operative peripheries and with said peripheries positioned in overlapping relation to one another under said bridge member for abutment with a surface of irregular configuration whereby the abutting edges of said profile plates form a continuous profile having said irregular configuration, said profile plates having measuring indicia thereon, and a movable jaw disposed over said profile plates in operative relation with the pivoted end of said lever for clamping said profile plates between said jaws.

11. A composite template and gauge comprising a bridge member, an elongated base plate attached to said bridge member and spaced from said bridge member to form a fixed clamping jaw, a pin fixed to said bridge member, a lever pivoted on said pin and projecting above said bridge member, said lever including a cam surface, a plurality of profile plates having differently shaped operative peripheries and positioned on said base plate for abutment with a surface of irregular configuration whereby the abutting edges of said profile plates form a continuous profile having said irregular configuration, said profile plates having measuring indicia thereon, a movable jaw disposed over said profile plates, and a clamping block of graduated thickness disposed between said movable jaw and said cam surface for clamping said profile plates between said jaws.

12. A composite gauge comprising a clamp having jaws adapted to be moved with respect to each other, and a plurality of measuring devices having differently shaped operative peripheries positioned with said peripheries in overlapping relation to one another between said jaws and adapted to be manipulated with respect to one another to indicate measurements.

13. A composite gauge comprising a clamp having jaws adapted to be moved with respect to one another and a plurality of measuring devices of various sizes and having differently shaped operative peripheries positioned between said jaws with said peripheries in overlapping relation to one another and adapted to be placed in abutment with an object to be measured and manipulated with respect to one another to indicate measurements of said object.

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