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(54) Title: WIPING TOOL FOR PLASTERING WALLS, THE SURFACES OF WHICH ARE INCLINED TO EACH OTHER

(57) Abstract: Wiping tool comprising a flat plate with two surface sides and edges, a first and a second edge of which enclose a right angle, and wherein the flat plate comprises: a spirit level for setting the first or second edge level with the horizontal; an adjusting block which can be clamped on the first or second edge.

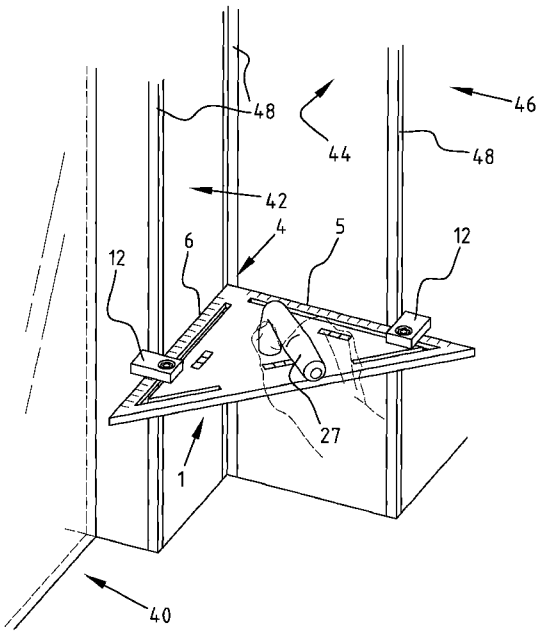

FIG. 2

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WIPING TOOL FOR PLASTERING WALLS, THE SURFACES OF WHICH ARE INCLINED TO EACH OTHER

The invention relates to a wiping tool for plastering walls, the surfaces of which are positioned at an angle to each other.

In the building industry a plasterer uses diverse tools for diverse operations when finishing walls having surfaces positioned at angles with plasterwork. The plasterer carrying out the plastering does this in at least two phases: 1) applying the plaster material to the walls and placing a profile on the corner points between the walls, and 2) wiping the plaster layer along the profiles which have been placed. The profiles are usually placed upright and mark the thickness and orientation of the plaster layer which is to be applied and which is obtained after finishing. The profiles are also referred to here as angle profile because they mark the angles between the different surfaces. An frequently occurring example for a plaster of a wall surface at a right angle to surrounding surfaces is a reveal in a frame, i.e. the short inner wall lying at an angle to the wall.

When placing the profiles on the corner points the plasterer needs a spirit level and a preformed plate with a right angle in order to check whether the profiles which are placed upright are exactly vertical and whether surrounding surfaces are in turn at a right angle to the vertical. The plasterer then uses a wiping tool such as a spatula to wipe the plaster into a flat layer. In order to achieve a good result the plasterer will have to wipe the whole surface along the profile in a repetitive process of wiping and checking each time the evenness and the vertical position of the surface. A straightedge is per se known for levelling surfaces over a greater width, although precisely following the surfaces lying at a right angle and marked by the angle profiles is not easy, and leaves room for variation.

The known method thus leaves much to be desired for the plasterer because it is relatively time-consuming work, various specific tools are needed for the purpose and the final result can still differ from what is marked with the angle profiles. Due to

the gradual hardening of the plaster it is moreover desirable not to allow too much time to elapse between the first application of the mortar and the completion of a wiped surface.

The invention has for its object to provide a wiping tool which wholly or partially obviates the stated drawbacks.

The invention provides for this purpose a wiping tool according to the appended claims.

According to a first aspect, the wiping tool according to the invention comprises a flat plate with two surface sides and edges, a first and a second edge of which enclose a right angle, and wherein the flat plate comprises:

a spirit level for setting the first or second edge level with the horizontal;

an adjusting block which can be clamped on the first or second edge.

Such a tool can be used for both the first and second phases of the work of the plasterer: in the first phase he uses the tool to set the angle profiles. The spirit level is used to set the first edge enclosing the right angle level with the horizontal, and the second edge (which is at a right angle to the first edge) is then employed to place the profile precisely vertically. In horizontal direction the width of the surface which has to be wiped is then set on the wiping tool. For this purpose the adjusting block, which functions as a stop protruding outside the plane of the plate, is clamped at a suitable position to one of the two edges so that the distance between adjusting block and the right angle corresponds to the width of the surface to be wiped. It is thus moreover possible to check whether the placing of the angle profile is such that the surface has a uniform width. In the second phase the thus set wiping tool is then moved in vertical direction in order to level the plaster layer, wherein the plate is held in horizontal position, with the right angle directed toward the angle between the surfaces and the adjusting block as a stop against the profile. The plaster is wiped here along the edge to which the adjusting block is clamped. The adjusting block can otherwise also be employed to adjust the distance along the first edge between adjusting block

and right angle, while the plaster material is being wiped along the second edge. A uniform plaster layer is thus ensured which is directed vertically toward the previously set profile along which movement takes place. The adjusting means simplify the vertical movement of the wiping tool because they function as a guide along the profiles. In phase 2 the spirit level functions as an additional monitoring means for monitoring the horizontal position of the plate.

The plate can be aluminium, stainless steel or a stiff plastic. It is important here to keep the weight as low as possible while still having a sufficient stiffness of the plate.

The wiping tool is preferably provided with a handle connected to the plate, so that the plasterer is provided with a good grip. The handle can more preferably be adjusted to different angles relative to the plate so that a left-handed and a right-handed person can for instance make use thereof. For this purpose the connection between handle and the plate for instance takes a pivoting form, or the form of a ball joint, with setting means for fixing the set position of the handle.

The wiping tool is more preferably provided with adjusting blocks for the first and second edge. Such an embodiment makes it possible to adjust a guiding by the adjusting blocks relative to two profiles, this further improving the final wiping result because the advantages of adjusting an adjusting block along a first and a second edge are combined.

In addition, it is recommended to provide the wiping tool with two spirit levels for setting the first and second edge level with the horizontal. This simplifies the use in the first phase: when adjusting a profile in both the left-hand corner and the right-hand corner of a frame (forming a mirror image to each other), the tool does not have to be reversed but only rotated a quarter-turn, wherein the handle is held on the same side of the user. This is both time-saving and physically easier for the user.

The spirit levels are more preferably arranged recessed into the surface side of the plate. In particular preference the spirit levels are visible from the two surface sides of the plate. The

recessed spirit levels achieve that the surface side of the plate has no protrusions, this being advantageous during storage and use. The plate is thus easy to keep clean and no residues of plaster material for instance remain adhered.

The adjusting blocks of the wiping tool according to the invention are advantageously provided in a slot of the plate for sliding along the first or second edge. The adjusting blocks thus form a non-releasable whole with the tool, whereby the blocks do not get lost and are immediately available. Furthermore, the slot more preferably allows the blocks to be slidable along edges other than the first or second ones so that, if desired, the blocks can be absent along the first or second edge. If desired, the tool is provided with more than one slot in which the adjusting blocks are provided.

The plate of the wiping tool according to the invention preferably takes the form of a right-angled triangle. The triangular form allows the plate to comprise a right angle with relatively long first and second edges, while the third edge - i.e. the oblique side of the right-angled triangle - simultaneously allows a great deal of space for handling of the plate or for allowing a handle to protrude outside the surface of the plate. The triangular form moreover requires less material than a quadrangular form, wherein the same length of the first and second edges is required.

The plate of the wiping tool according to the invention more preferably has a thickness which decreases toward the edges. Such an embodiment of the edges produces a better result during wiping of the plaster layer because less accumulation of material on the edge takes place, and the material moves more easily toward the middle of the plate.

The plate of the wiping tool according to the invention is more preferably provided with a measuring rule along the first and second edge. The adjusting means can thus be positioned exactly along the first or second edge in order to adjust a predetermined distance to the surface to be wiped or to adjust a predetermined width of the surface to be wiped.

Apart from the use in plastering walls, the wiping tool is advantageously provided with a slidable block from which a cutting blade can be retracted and extended. The blade is hereby suitable for marking and cutting plasterboard, and thus an equally useful tool for a system builder making reveals from plasterboard. The savings and advantages for a system builder making reveals of plasterboard are the same as the above described advantages for the plasterer. This moreover gives added value to the tool because it comprises an integrated cutting blade and so reduces the number of separate tools.

In addition, using the cutting blade material such as plasterboard can also be cut to size with corresponding surfaces manufactured with the tool.

The wiping tool according to the invention advantageously comprises a measuring rule on the plate at the position of at least one edge. More advantageously, the first and second edge are provided with a measuring rule so that the adjusting blocks can be exactly adjusted as desired. If the plate takes a triangular form, it is advantageous to also provide this side with a measuring rule.

The invention will be illustrated hereinbelow with reference to the accompanying drawings, in which:

Fig. 1 is a top view of a preferred embodiment of the wiping tool according to the invention.

Fig. 2 is a three-dimensional view of the wiping tool according to fig. 1 during use.

Figure 1 shows a wiping tool 1 of a plate 2 forming a right-angled triangle. The plate can be of aluminium, stainless steel or a stiff plastic. Plate 2 thus comprises a right angle 4 enclosed by a first edge 5 and a second edge 6. Further provided in the plate is a slot 10 in which adjusting blocks 12 are clamped using clamping means 14. The clamping means are for instance nut-bolt connections which engage in slot 10 such that the adjusting blocks are connected slidably to plate 2. By way of example the left adjusting block is displaced to a position outside first edge 5. On second edge 6 the adjusting block protrudes in

order to serve, at this distance from right angle 4, as guide during wiping of a plaster layer. Spirit levels 15 are received recessed into plate 2 and a measuring rule 20 is arranged along the first and second edges. Finally, tool 1 comprises a handle 25 consisting of a handgrip 27, a connecting arm 29 and a fixable pivot shaft 31 connected to plate 2.

Figure 2 shows a wiping tool according to figure 1, wherein the same components are designated with the same reference numerals. The figure shows tool 1 during use, wherein a glass window 40 bounded by a frame 42 and an adjacent reveal 44 of the connecting wall 46 are shown as surfaces at a right angle to each other. Profiles 48 have already been arranged on the corner points of the surfaces of frame 42 and wall 46 by the plasterer, wherein he has used the wiping tool to adjust and set the vertical position of profiles 48. Adjusting blocks 12 are clamped fixedly such that they can function as a guide along the profiles. The plasterer need now only place the wiping tool in horizontal position, with corner point 4 placed in the right angle, in order to achieve a properly wiped plaster wall on reveal 44 with two upward movements. A good result can likewise be obtained on the adjacent side of frame 42.

By using the wiping tool according to the invention the plasterer can achieve a time-saving of about 50% when carrying out phases 1 and 2, i.e. adjusting profiles and wiping the plaster layer.

Claims

1. Wiping tool, comprising a flat plate with two surface sides and edges, a first and a second edge of which enclose a right angle, and wherein the flat plate comprises:
a spirit level for setting the first or second edge level with the horizontal;
an adjusting block which can be clamped on the first or second edge.
2. Wiping tool as claimed in claim 1, provided with a handle connected to the plate.
3. Wiping tool as claimed in claim 2, wherein the handle is adjustable to different angles relative to the plate.
4. Wiping tool as claimed in any of the foregoing claims, provided with adjusting blocks which can be clamped on the first and second edge.
5. Wiping tool as claimed in any of the foregoing claims, provided with two spirit levels for setting the first and second edge level with the horizontal.
6. Wiping tool as claimed in any of the foregoing claims, wherein the spirit level or spirit levels are arranged recessed into the surface side of the plate.
7. Wiping tool as claimed in any of the foregoing claims, wherein the adjusting block or adjusting blocks are provided in a slot of the plate for sliding along the first or second edge.
8. Wiping tool as claimed in any of the foregoing claims, wherein the plate takes the form of a right-angled triangle.
9. Wiping tool as claimed in any of the foregoing claims, wherein the plate has a thickness which decreases toward the edges.
10. Wiping tool as claimed in any of the foregoing claims, wherein a measuring rule is arranged on the plate at the position of at least one edge.

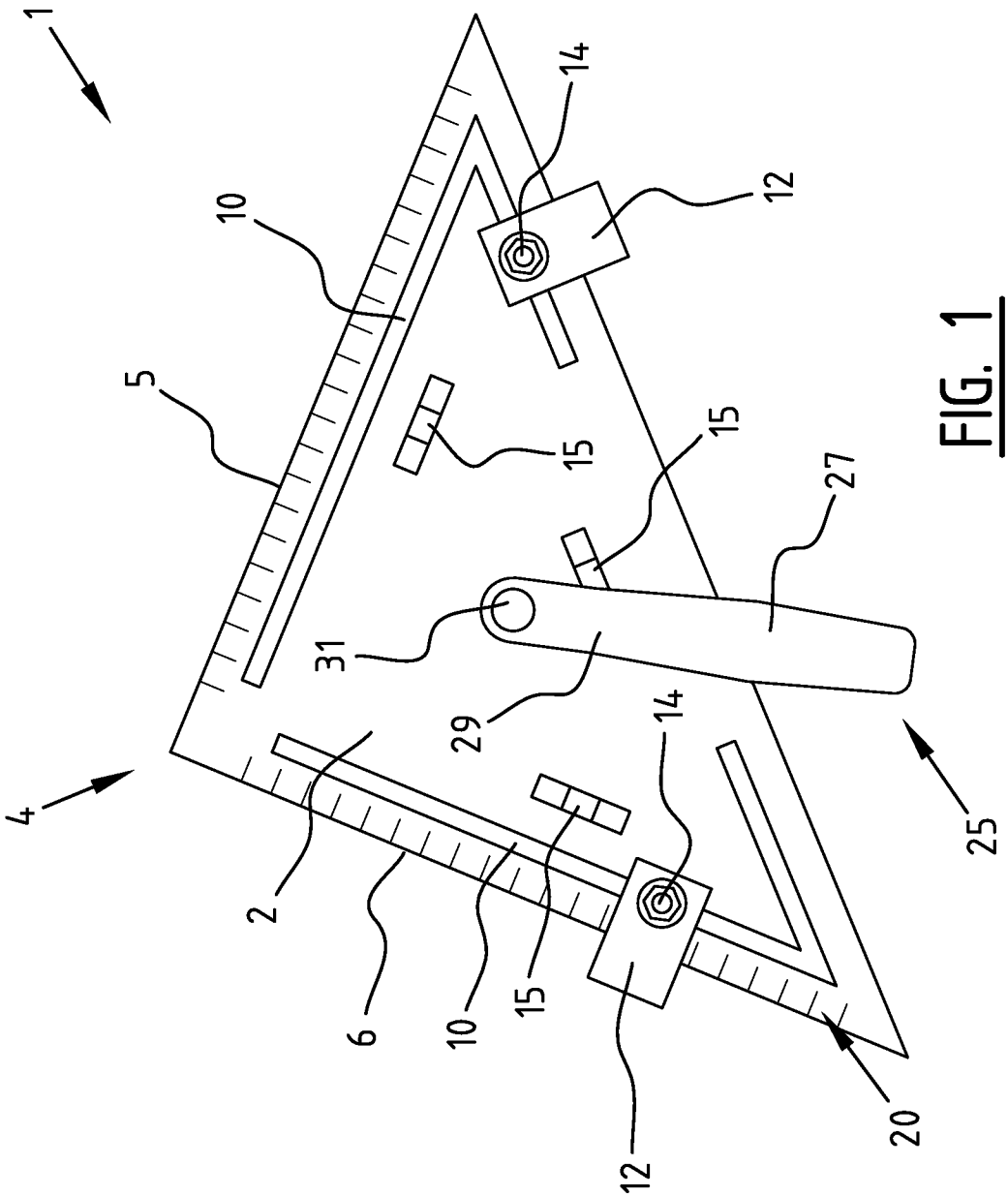

FIG. 1

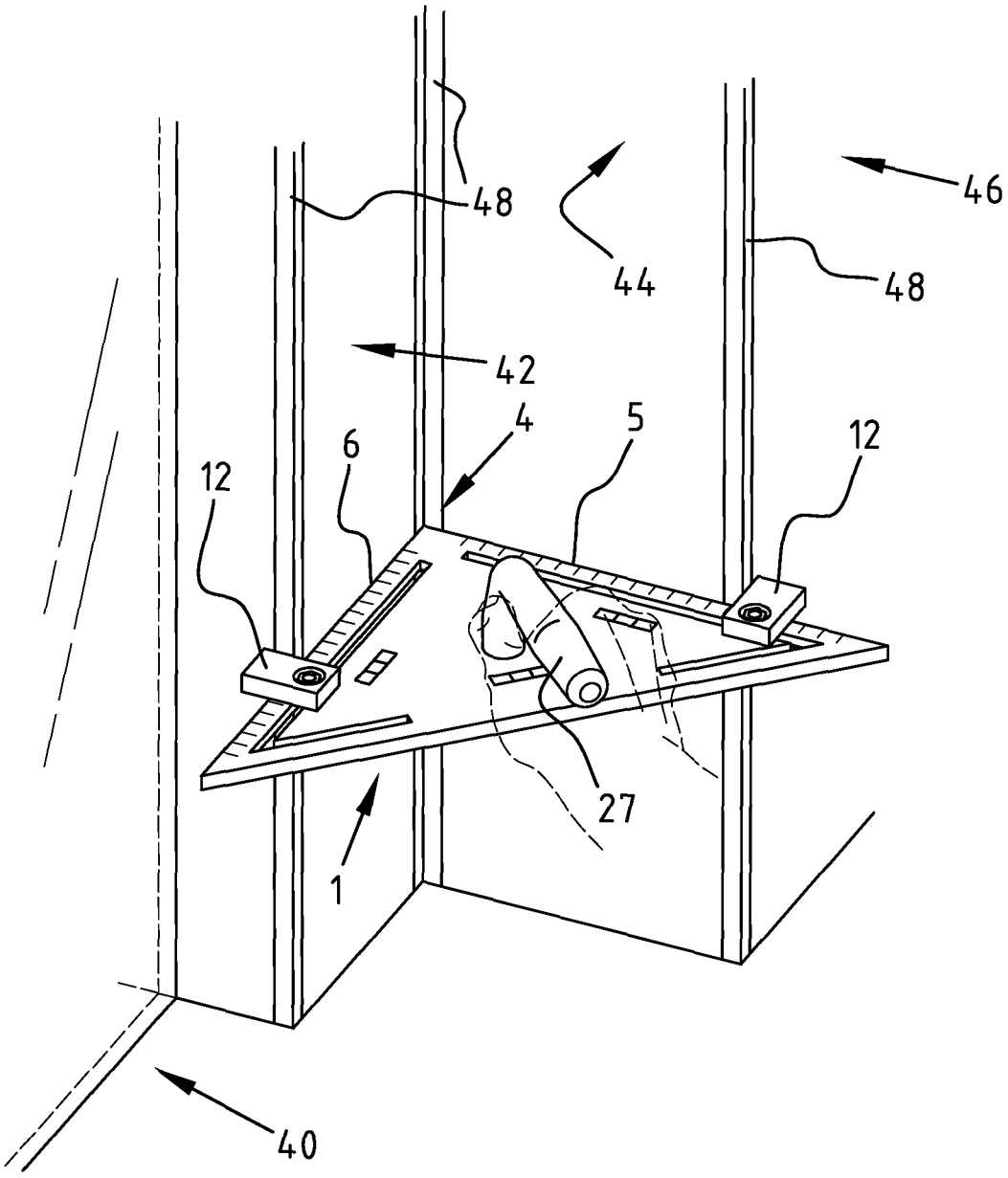

FIG. 2

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
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ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
E04F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 88 07 875 U1 (SEIDL TILMANN) 1 September 1988 (1988-09-01) figures 1,2	1-10
Y	GB 2 216 169 A (BRAYSFORD MALCOLM STANLEY [GB]) 4 October 1989 (1989-10-04) figures 1,2,6	1-10
A	US 2007/192982 A1 (HO CHING-YI [TW]) 23 August 2007 (2007-08-23) figure 2	3
Y	GB 2 074 224 A (LOVERIDGE M J) 28 October 1981 (1981-10-28) page 1, line 105 - page 2, line 28; figure 1	1,2,5,6, 8-10

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	GB 19655 A A.D. 1907 (CAMPBELL ROBERT [US]) 16 January 1908 (1908-01-16) figures 1,2.5 -----	1-3,8

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/NL2011/050229

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