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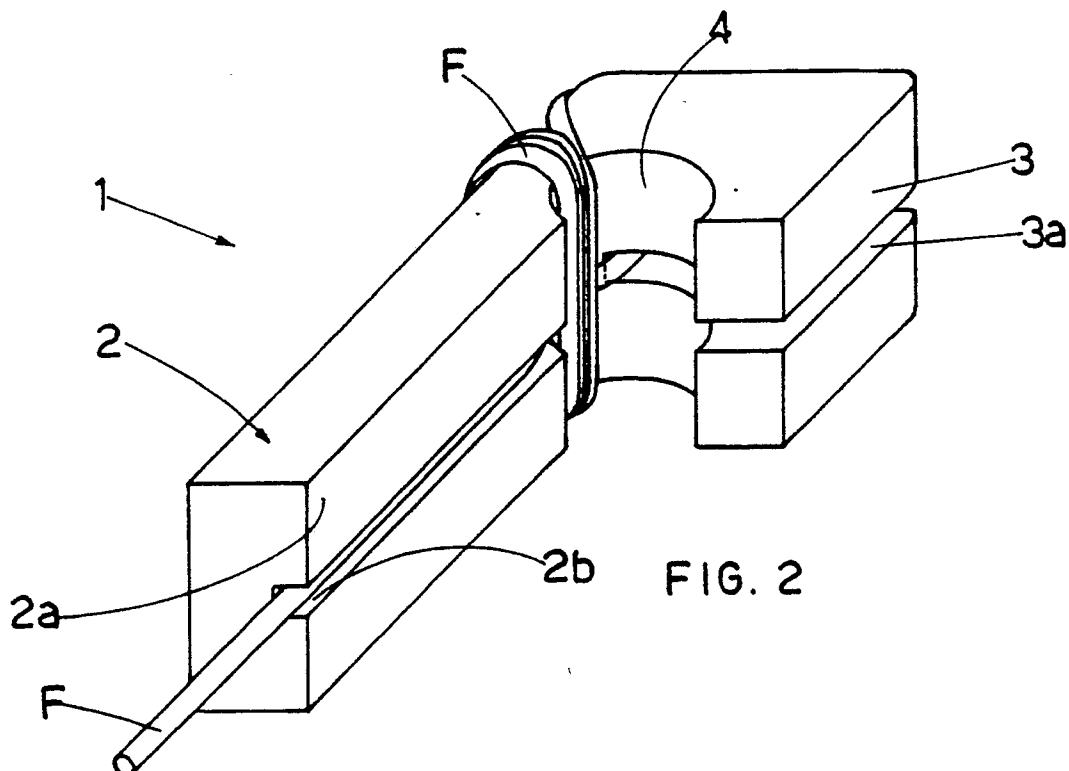
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54 **Stirrup for use in building for the attachment and stretching of the string used as reference for the correct alignment of walls.**

57 This invention concerns a square for use in the building trade for hooking and stretching the string

used by bricklayers as reference for levelling planes.



**FIG. 2**

## Square for Use in the Building Trade for Hooking and Stretching the Reference String Used by Bricklayers for Levelling Planes

This patent application for an industrial utility model concerns a square for use in the building trade for hooking and stretching the reference string used by bricklayers for levelling planes.

The invention was designed and produced to resolve a very important problem for those in the building trade, in a technical and practical manner, once and for all; this involves the problem that bricklayers have when building a wall in stretching a horizontal string as reference so that they can build the wall correctly.

A well built wall must obviously have perfectly aligned horizontal and vertical rows of bricks; to achieve this, up to now, bricklayers have always used, and continue to use successfully, a string which they stretch and tighten horizontally as reference for the positioning of the bricks of the first row.

Obviously when the first horizontal row of bricks has been completed, the bricklayer has to move the string up as reference for the next row of bricks.

This means that in the case of a wall consisting of many horizontal rows, the reference string must be moved continuously upwards as the wall is built.

The very fact that the string needs to be moved continuously is the practical difficulty that this invention has been designed to overcome; in fact, to date, since no specific tool was available for positioning and moving the reference string up, the majority of bricklayers generally used two simple wooden poles - placed upright at the longitudinal ends of the wall to be constructed - on which the ends of the string were tied, and then stretched.

Obviously, every time the next row of bricks was to be built, the bricklayer has to loosen the two ends of the string from the wooden poles and then knot them again at a higher level.

Although there is nothing difficult in this, it is however intricate and above all can lead to inaccurate alignment of the string which may at times compromise the precision of the wall quite significantly.

As mentioned, the square according to the invention was designed to hook the ends of the above string, efficiently and to ensure that the string is well tightened and easy to move along the wall that is being built.

It is therefore proposed as a specific operating tool which can overcome all those practical problems and risks related to the use of the traditional methods for stretching and aligning the string; the square according to the invention is a cheap and simple to use tool which allows workers to save

time while guaranteeing accurate results and is something which operators in this sector have never had to date.

The first point to specify is that in order to stretch the string perfectly, a pair of these squares positioned opposite to each other, must be used. The squares have a particular shape which makes it possible to "hook" them to the two bricks on the opposite ends of the first horizontal row, between which all the other bricks will be laid, following the reference string alignment.

The square according to the invention has a transverse "L" shaped cross-section which makes it possible to couple the same, with its internal sides perfectly straight, to a standard brick at the 90° angle between the front and side faces of the brick.

This square is fitted on the brick so that the internal side of the longer leg terminates against the front surface of the brick - so as to act as a string guide - while the internal side of the shorter leg terminates against the side surface of the brick, so as to act as the string stretching and hooking device of the item, to the brick.

In this regard it should be noted that the particular characteristic of the item according to the invention is that no specific fixing method is necessary to secure it to the end bricks of the wall in that it is the tension of the string between the two squares that attracts and secures them firmly against the respective sides of the wall without any risk whatsoever of becoming accidentally unhooked and falling.

On the other hand, since these squares are not secured to the sides of the wall, it is extremely easy to unhook them from the same - simply by pulling and lengthening the string - so that they can slide upwards, and then stretching the string at a higher level.

For major clarity the description of the invention continues with reference to the enclosed drawings, which are intended for illustrative purposes only and not in a limiting sense, where:

- figure 1 is a front view of a wall on which a pair of opposing squares according to the invention, have been placed;

- figure 2 is an axonometric representation of the invention with the end of the string hooked;

- figure 3 is an axonometric illustration of the square according to the invention hooked to a brick.

With reference to figure 2, the square (1) according to the invention consists of a prismatic block with an "L" shaped profile having a flat (2) leg which is longer, projecting from an almost

cubic body (3) which is in fact the shorter and thicker leg of the "L" shaped structure.

The internal face (2a) of the flat leg (2) has a longitudinal centre groove (2b) along the inside of the cubic body (3) which consequently has a deep slot (3a) at the centre the same being is coplanar to the above groove (2b).

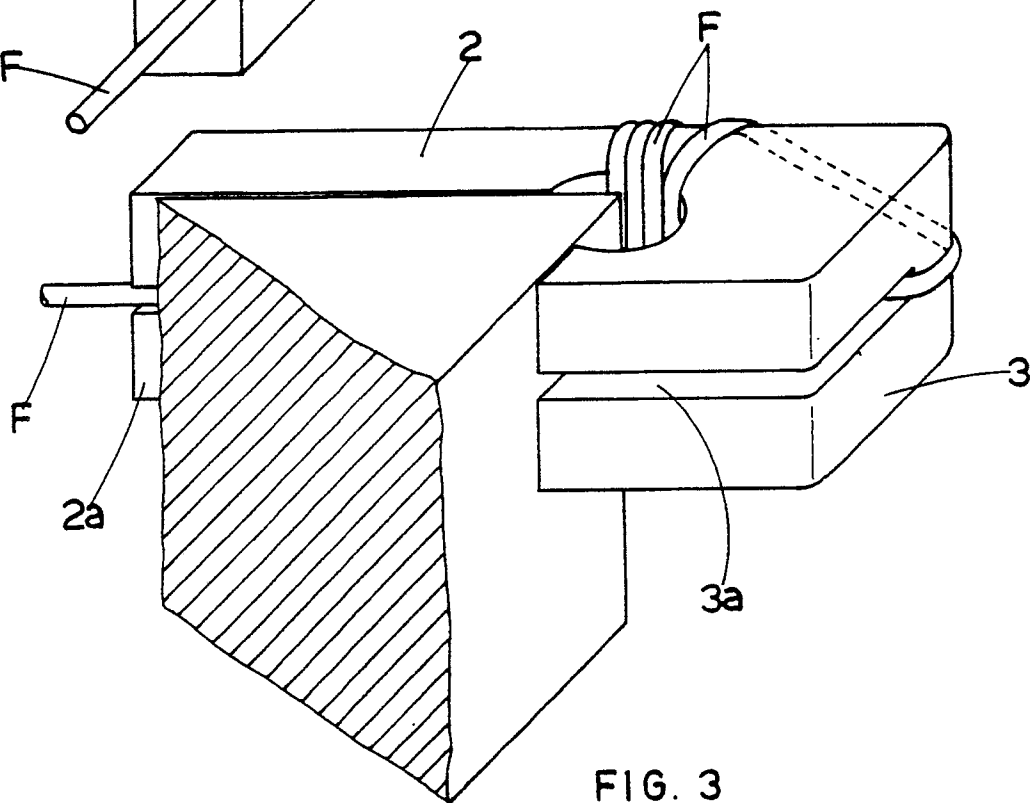
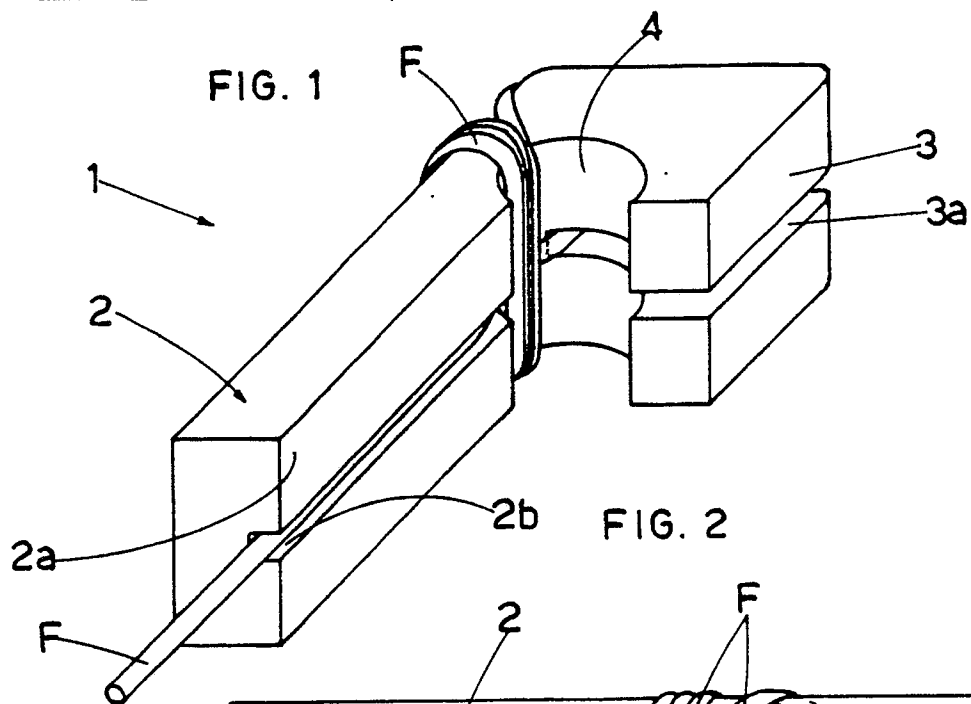
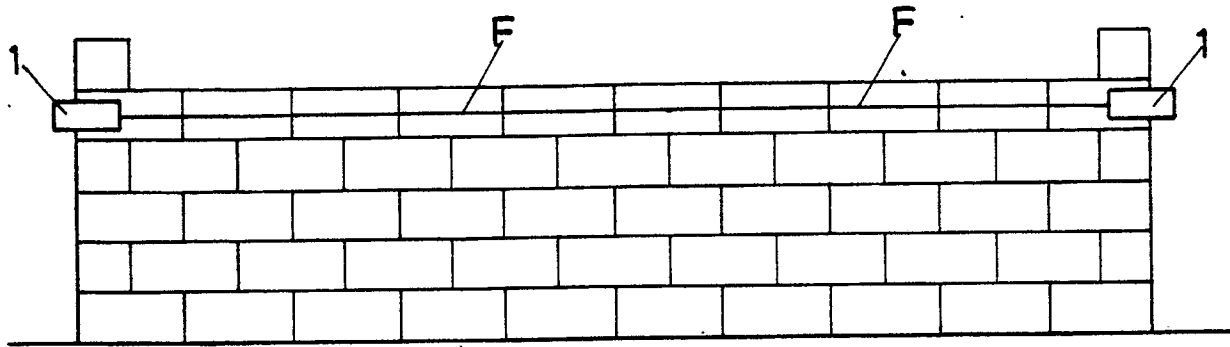
The reference string and guide (F) can be hooked to the square (1) by fitting the end inside the slot (3a). It is then rotated and taken outside the flat leg (3a) and wound several times around the same at the internal angle of the square (1) which has a circular notch (4) for this purpose, which holds and houses the turns of the string (F).

It should be noted that the groove (2b) on the internal face (2a) of the flat leg (2) must be just slightly deeper than the diameter of the string (F) so that the latter does not touch the external face of the bricks.

With reference to figure 3, it should be remembered that the notch (4) on the internal angle of the square (1) must be deep enough to house the turns of the string (F) so that the latter do not prevent the sharp angle of the brick from fitting into right angle of the square (1) perfectly.

## Claims

1) A square used in the building trade for hooking and stretching the reference strings used for levelling planes, consisting of a prismatic block with an "L" shaped profile having a flat and longer leg (2) projecting from an almost cubic body (3) which is the shorter and thicker leg of the "L" shaped structure; the internal angle of the item has a fairly deep circular notch (4) while the internal face (2a) of the above flat leg (2) has a longitudinal centre groove (2b) - acting as the string guide - which continues inside the cubic body (3) having a deep slot (3a) at the centre which is coplanar to the above groove (2b) and which is used to hook the end of the string (F) which is then wound several times - after having being rotated and taken outside the flat leg (2) - around the internal angle of the square (1), having the above circular notch (4).





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number

EP 90 83 0216

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	US-A-3 555 688 (SMATHERS) * Column 2, lines 25-72; column 3, lines 1-32; figures 1-4 *	1	E 04 G 21/18
X	US-A-3 765 096 (SIMMONS) * Column 2, lines 15-68; column 3, lines 1-57; figures 1-3 *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E 04 G
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 20-08-1990	Examiner VIJVERMAN W.C.
<b>CATEGORY OF CITED DOCUMENTS</b>			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	