FIG. 1.

INVENTOR
George T. Blake

BY
Baldwin Night, Diller & Brown
ATTORNEYS
DEVICE FOR ATTACHMENT TO THE CORNER OF A BUILDING TO FACILITATE THE CONSTRUCTION THEREOF

George T. Blake, Orchard Dene, Station Road, Padworth, Reading, England
FILED MAY 31, 1966, SER. NO. 553,996
14 Claims. (Cl. 33--85)

ABSTRACT OF THE DISCLOSURE
A gauge construction attached to the corner of a brickwork building, for facilitating the accuracy of measurements, as the brickwork progresses. The gauge is hung by means of a upper course of bricks, and includes a vertical member having flanges at substantially right angles to each other, with portions secured to the flanges the plates being adjustably engageable with a brick wall portion and the flanges being secured to the brick wall portions by rod members adjustably engaged in slotted members carried by the flanges, at hooked ends of the rod members. Connection means are provided for securing horizontal members to the vertical member, and for securing a movable slider to each horizontal member.

The invention relates to a gauge device for attachment to the corner of a brickwork building, whereby to facilitate progressive construction of said corner by providing a vertical corner datum.

In the construction of brickwork buildings, difficulty is experienced in providing a vertical corner datum which is in actual alignment with the desired corner. When constructing corners, vertical accuracy of the corner is sometimes established by taking measurements, as the construction of the brickwork proceeds upwardly, from fixed datum lines which are established by means disposed remote from the actual corner line. This is a complicated procedure and prevents the building construction from proceeding as quickly as desired.

It is an object of this invention to provide a gauge device for attachment to the corner of a brickwork building whereby to facilitate progressive construction of said corner by providing a vertical corner datum, said device comprising a bar provided with two flange portions defining between them the desired corner angle, the flange portions carrying means enabling their securement to the brickwork, whereby to support the bar in a substantially vertical position.

In order to make the invention clearly understood, reference will now be made to the accompanying drawings which are given by way of example and in which:

FIG. 1 is a perspect view of the gauge device of the invention, suitable for use in the construction of external corners;

FIG. 2 is a perspective view of the gauge device of FIG. 1 showing an attachment for facilitating the vertical alignment of the device;

FIG. 3 is a perspective view showing the attachment of FIG. 2 to a larger scale than FIG. 2;

FIG. 4 is a perspective view of a further attachment for the gauge device of FIG. 1 for adjustably holding a bricklayer's line;

FIG. 5 is a plan view of the attachment of FIG. 4.

The gauge device of FIG. 1 comprises a bar 1 of rectangular cross section, which may be hollow, the bar having flange portions 2 welded thereto so as to define a right angle between them. Each of the flange portions 2 has a contact plate 3 adjustably secured thereto by means of studs 4 passing freely through openings in the flange portions 2. The contact plates 3 have recessed central regions so that only the end regions 5 thereof are effective for providing contact surfaces. Thumb screws 6 which are threaded through openings in the flange portions 2 are provided for engaging the contact plates 3 so as to control their spacing from the flange portions 2 and urge the contact plates 3 into engagement with the brickwork, to allow vertical alignment of the bar 1.

Each flange portion 2 has a bracket 7 secured thereto, the bracket 7 having a slot 8 which can be engaged by a hooked end 9 of a threaded rod 10. The threaded rods 10 pass through plates 11 which are inserted in the brickwork 12, the threaded rods being retained in the plates 11 by wingnuts 13.

The gauge device is used by erecting several courses of brickwork, placing the contact plates 3 into engagement with the brickwork so that the end portions 5 of the contact plates 3 engage the brickwork, the contact plates 3 enclosing between them the corner of the brickwork thus far constructed. The plates 11 are inserted in the brickwork after raking out the mortar from the appropriate brickwork joint and the hooked ends 9 of the threaded rods 10 are engaged in the slots 8 of the brackets 7. The wingnuts 13 are then tightened so that the gauge device is drawn into firm engagement with the brickwork corner.

A spirit level is then placed on the bar 1, or alternatively a spirit level may be permanently carried thereby, and the thumb screws 6 are adjusted in such a manner that the bar 1 is brought to a truly vertical condition. Construction of the brickwork can then proceed, using the corner edge 14 of the bar 1 as a vertical datum line for the brickwork corner.

One or more blocks (not shown) may be mounted on the bar 1 and slidably movable along the length thereof, of a flexible gauge line, when the device is in use, being stretched between each block and a correspondingly positioned block mounted on a second device according to the invention, which is secured to a further corner of the building.

The bar 1 may be provided with spaced markings which correspond with the levels of layers of bricks in the completed building.

The device may be removed and, if desired, remounted at a higher position on the building as the construction of the building proceeds.

Although the bar 1 of the gauge device can be brought to a condition of vertical alignment by means of the thumb screws 6, the vertical alignment is facilitated by the attachment of FIGS. 3 and 4. This attachment comprises an angular member 201 adapted to engage against two adjoining faces of the gauge device bar and to be bolted at a selected height thereon by bolts 202 which pass through holes 203. A portion 204 which extends from the angular member 201 carries a thumb screw 205 which can be screwed into abutting engagement with a course of brickwork 212, so as to provide a point on which the gauge device hangs while the rods 10 are fitted as above described. The thumb screw 205 provides means for adjusting the height of the bar 1, thus facilitating fitting of the rods 10 and plates 11 when setting up the device. The portion 204 extends from the angular member 201 in the direction of a line which bisects the angles of the angular member 201. The thumb screw 205 is in threaded engagement with a hole 206 in the portion 204, and a plurality of such threaded holes 206 may be provided at different positions on the extending portion 204.

Another attachment for the gauge device of FIG. 1 may be provided as shown in FIGS. 4 and 5. This attachment comprises an arm 301 having formations at one end thereof, enabling the arm 301 to be fixed at any desired height on the bar 1 (see FIG. 1) with the arm
3,349,494 3 301 extending substantially horizontally. A slide 302 is mounted on the arm 301 so as to be slideable therealong, the slide 302 having a thumb screw 303 which enables fixing of the slide 302 at any desired point on the arm 301. This attachment serves for holding bricklayer’s line to any given projection in any one of four directions, since the arm 301 can slide up and down the bar 1 of FIG. 1 and the slide 302 can be moved to any point along the arm 301. The slide 302 has a notch 304 at its upper edge.

For the arm 301 up and down the bar 1, the formations at the said end of the arm 301 are shaped in such a manner as to releasably but positively engage the bar 1. For this purpose, the said formations comprise a stop 305 provided part-way along the arm 301 and adapted to abut against one face of the bar 1, a portion 306 of the arm 301 extending at right angles from the general plane of the arm 301 and arranged to abut against the opposite face of the bar 1, and an end portion 307 extending from the portion 306 at an obtuse angle, the said extending portion 307 carrying a thumb screw 308 for firmly engaging the bar 1.

The distance between the edge of the stop 305 and the edge of the end portion 307 should be at least equal to the diagonal of the bar 1, so that the attachment can be engaged with the bar 1 without having to be passed over the end thereof, the above said angle being preferably an obtuse angle and not a right angle.

Various modifications are possible. For example, instead of a single contact plate 3 for each flange portion 2, individual contact plates may be carried by the thumb screws 6, the ends of the thumb screws remote from the finger engagement portions thereof being rotatably secured to the individual contact plates. The arrangement of the threaded rods 10 may be different to that illustrated, it being simply necessary that an adjustable traction member is provided between each flange portion and a point on the brickwork, so that the device can be drawn into engagement with the brickwork corner. In certain cases, the threaded rods may be replaced by means which pass through the brickwork substantially perpendicularly to the flange portions 2. This may, however, necessitate that the flange portions are broader than shown in FIG. 1 so that the point of passage of the said means through the brickwork is sufficiently remote from the brickwork corner.

I claim:
1. A gauge device for attachment to the corner of a brickwork building whereby to facilitate progressive construction of said corner by providing a device comprising a bar having at least two adjoining faces provided with two flange portions defining between them the desired corner angle, the flange portions carrying means enabling their securement to the brickwork whereby to support the bar in a substantially vertical position, the device also including an attaching member comprising an angular member mounted in engagement with two adjoining faces of the bar of said gauge device, the angular member having a portion extending therefrom to a screw threaded member which can be screwed into abutting engagement with the top surface of the uppermost brick of a course of brickwork, providing means for suspending the bar when setting-up the gauge device.
2. A gauge device as claimed in claim 1, wherein the securement means have cut-out portions defining slot formations engaging by adjustable rods adapted to be mounted at regions of the brickwork remote from the said corner.
3. A gauge device as claimed in claim 1, wherein means are provided on the flange portions for adjusting the attitude of the flange portions relative to the brickwork, whereby to facilitate vertical alignment of the bar.
4. A gauge device as claimed in claim 3, wherein the attitude adjusting means comprise contact plates captively carried by the flange portions and engaged by screw threaded means extending through the flange portions, said screw threaded means enabling setting of the spacing between the contact plates and the flange portions.
5. A gauge device as claimed in claim 4, wherein each flange portion carries a single contact plate engageable in the vicinity of its ends by two spaced apart screw threaded members mounted in the respective flange portion.
6. A gauge device as claimed in claim 4, wherein the contact plates are held captive relative to the flange portions by means of studs which are secured to the contact plates and which pass freely through openings in the flange portions, the studs having heads of a larger diameter than the said openings.
7. A gauge device as claimed in claim 1, wherein the securement means comprise threaded rods adapted to extend between plates insertable in the brickwork at regions remote from the corner and brackets carried by the said flange portions, the threaded rods having end formations releasably engageable in corresponding formations in said brackets, and adjusting means are provided, carried by said threaded rods, for applying a tractional force to the respective flange portion when said adjusting means is tightened, to draw the gauge device into firm engagement with the brickwork corner.
8. A gauge device as claimed in claim 7, wherein the end formations comprise hooked ends engageable in slots which comprise the corresponding formations provided in the said brackets.
9. A gauge device as claimed in claim 1 wherein the flange portions are so disposed as to include an angle of 90° between them, whereby the gauge device is suitable for use in the construction of an external brickwork corner.
10. A gauge device as claimed in claim 1, wherein the extending portion extends from the angular member in the direction of a line which bisects the angles of the angular member.
11. A gauge device as claimed in claim 1, comprising an attachment in the form of an arm having formations at one end region thereof enabling the arm to be fixed at any desired height on the bar of the gauge device with the arm extending substantially horizontally.
12. A gauge device as claimed in claim 11, wherein a slide is mounted on the arm so as to be slideable therealong, the slide having releasable fixing means enabling fixing of the slide at any desired point on the arm.
13. A gauge device as claimed in claim 12, wherein the slide has a lining-up notch at its upper edge.
14. A gauge device as claimed in claim 12, wherein the formations at the said one end of the arm comprises a stop provided partly along the arm and arranged to abut against one face of the bar of the gauge device, a portion of the arm extending at right angles from the general plane of the arm and arranged to abut against the opposite face of the bar of the gauge device, and an end portion extending from the first said portion preferably at an obtuse angle, the said extending portion carrying adjustable means for firmly engaging the bar of the gauge device.

References Cited

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Inventor</th>
<th>Assignee</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>458,464</td>
<td>8/1891</td>
<td>Kelley</td>
<td></td>
<td>33-85</td>
</tr>
<tr>
<td>1,336,004</td>
<td>4/1920</td>
<td>Victoria</td>
<td></td>
<td>33-85</td>
</tr>
<tr>
<td>1,643,880</td>
<td>9/1927</td>
<td>Elder</td>
<td></td>
<td>33-85</td>
</tr>
<tr>
<td>1,644,456</td>
<td>10/1927</td>
<td>Winter</td>
<td></td>
<td>33-85</td>
</tr>
<tr>
<td>1,739,829</td>
<td>12/1929</td>
<td>Fedderman</td>
<td></td>
<td>248-361</td>
</tr>
<tr>
<td>2,039,369</td>
<td>5/1936</td>
<td>Travani</td>
<td></td>
<td>24-263</td>
</tr>
<tr>
<td>2,761,314</td>
<td>9/1956</td>
<td>Ruble</td>
<td></td>
<td>33-85</td>
</tr>
<tr>
<td>2,893,125</td>
<td>7/1959</td>
<td>Kampel</td>
<td></td>
<td>33-85</td>
</tr>
<tr>
<td>3,127,684</td>
<td>4/1964</td>
<td>Ernst</td>
<td></td>
<td>33-85</td>
</tr>
</tbody>
</table>

LEONARD FORMAN, Primary Examiner.

HARRY N. HAROIAN, Examiner.