

No. 735,899.

PATENTED AUG. 11, 1903.

J. C. PAUL.
FOUNDATION SQUARING DEVICE.
APPLICATION FILED OCT. 22, 1902.

NO MODEL.

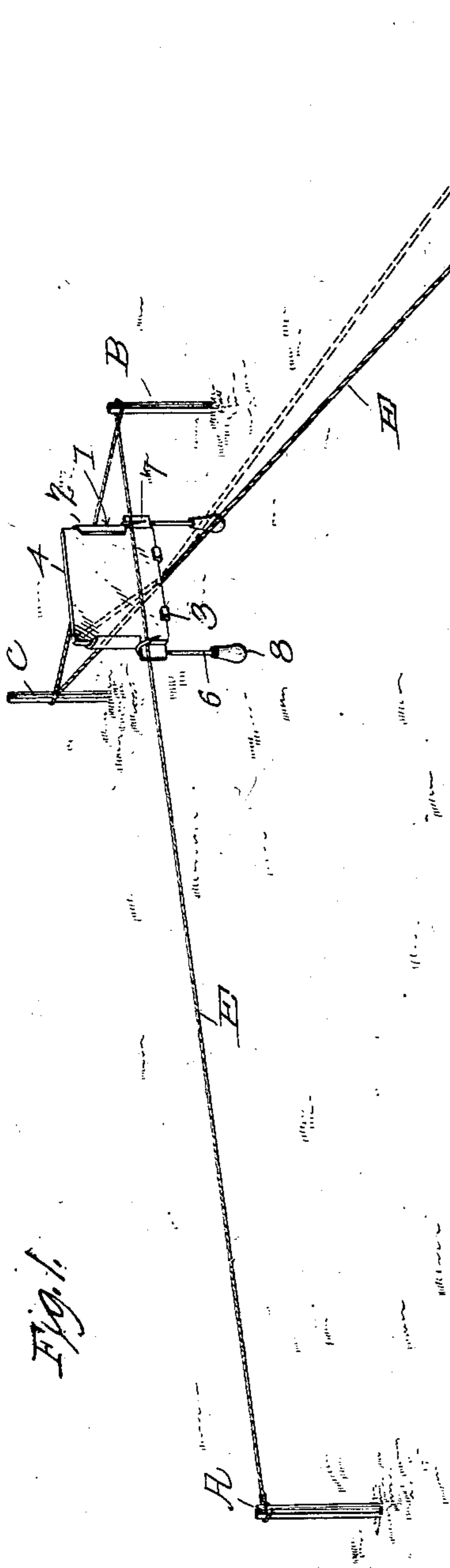


Fig. 3.

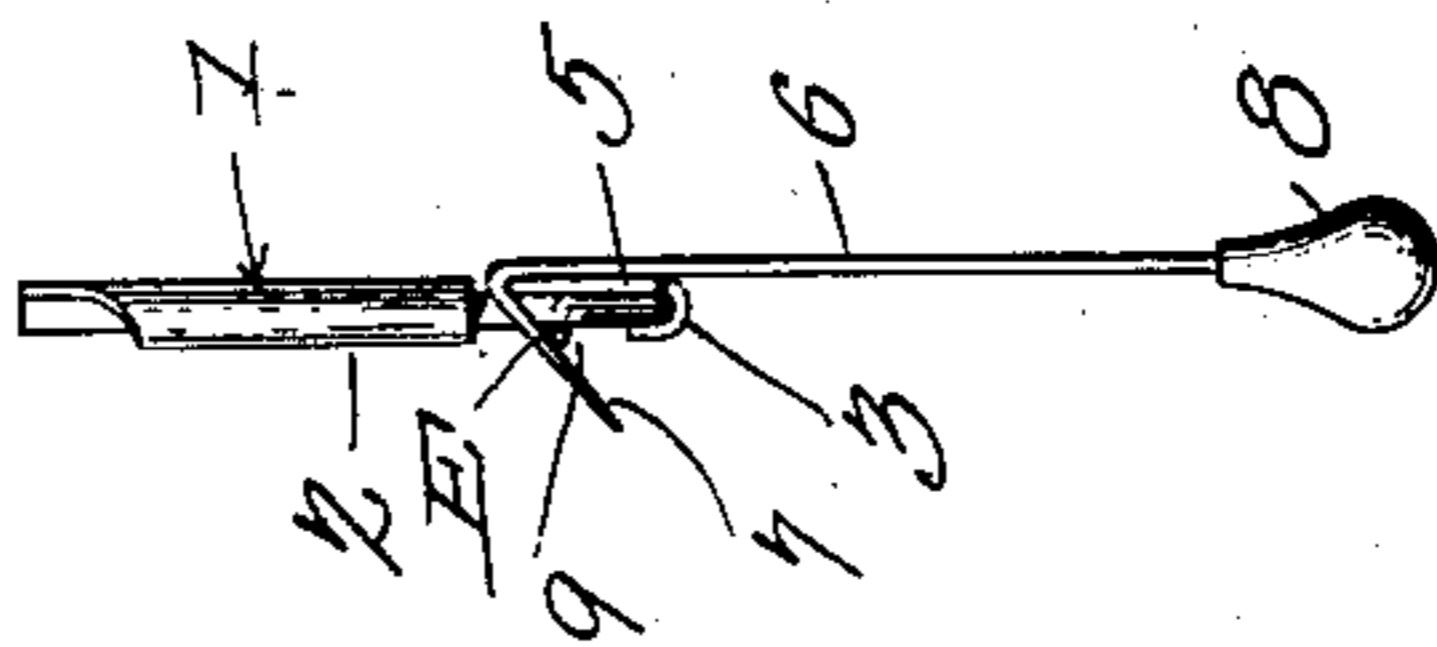
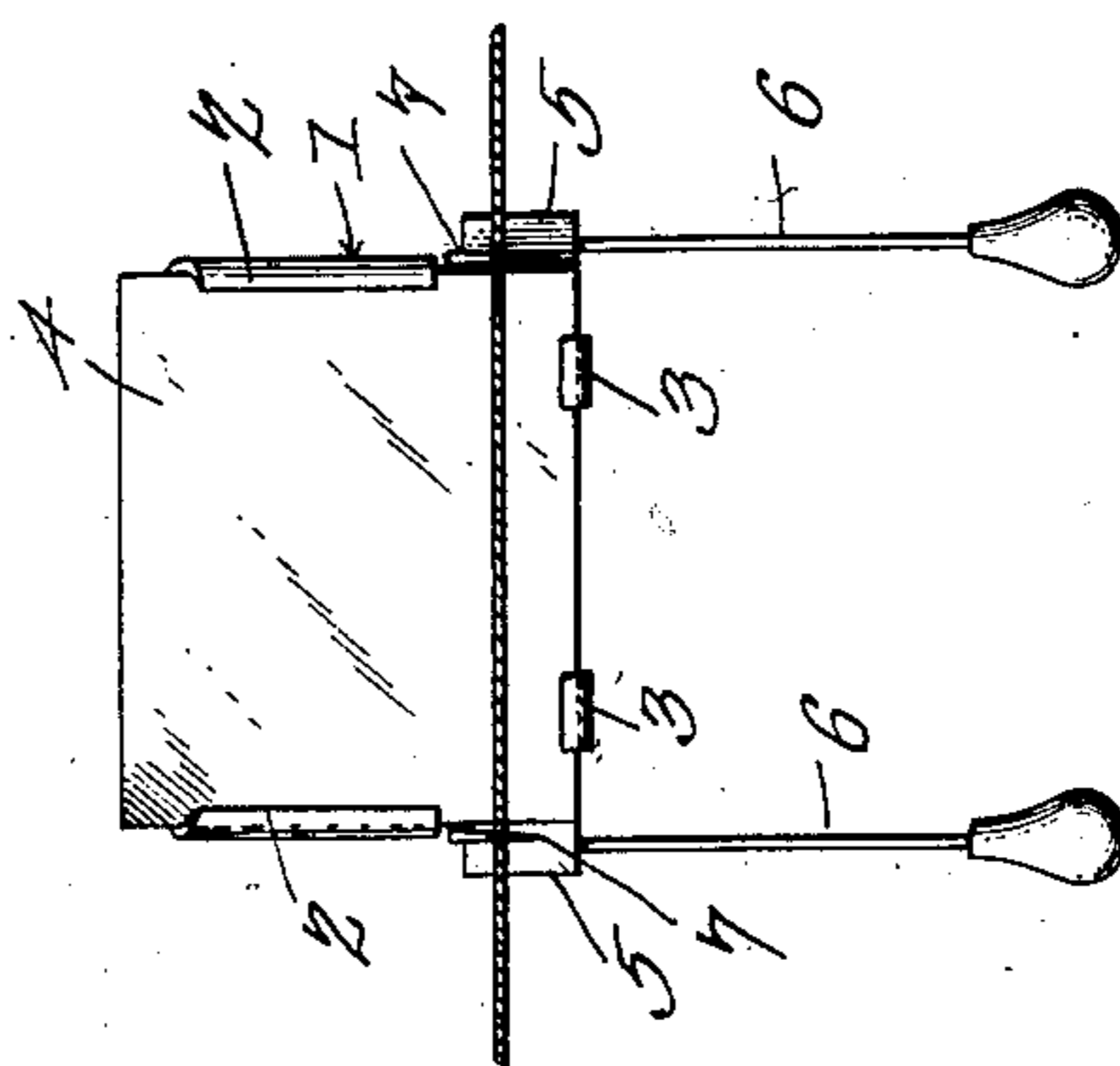


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN C. PAUL, OF BICKNELL, INDIANA.

FOUNDATION-SQUARING DEVICE.

SPECIFICATION forming part of Letters Patent No. 735,899, dated August 11, 1903.

Application filed October 22, 1902. Serial No. 128,328. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. PAUL, a citizen of the United States, residing at Bicknell, in the county of Knox and State of Indiana, have
5 invented a new and useful Foundation-Squaring Device, of which the following is a specification.

This invention relates generally to a device for squaring foundations of buildings and
10 other structures, and particularly to a novel means for running lines exactly at right angles to each other.

The object of the invention is in a ready, simple, thoroughly feasible, and practical
15 manner and without the employment of a transit or compass to run building-lines at right angles to each other and to effect such result in a manner that is at once expeditious and certain.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts
20 of a device for squaring foundations of buildings and other structures, as will be herein-after fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate correspond-
25 ing parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape,
30 proportion, and exact manner of assemblage without departing from the spirit thereof, and in these drawings—

Figure 1 is a view in perspective exhibiting diagrammatically the manner in which the
35 device is employed in use. Fig. 2 is a view in front elevation of the device. Fig. 3 is an edge view thereof.

The means employed in carrying the invention into effect embodies a reflecting device
40 and a line. The reflecting device comprises a frame or support 1 of metal, having side and bottom guides 2 and 3, respectively, to be engaged by a reflector 4, in this instance consisting of a piece of mirror. The bottom por-
45 tion of the frame is provided with two laterally-extending flanges 5, with each of which

is associated a counterbalancing device consisting of a shank 6, rigidly connected to the support and having its upper terminal formed into a forward and downward projecting hook
55 7 and its lower terminal having connected with it a bob 8, which may be of any suitable contour, preferably pear-shaped, as shown. The shanks 6 are of a metal, preferably of wire, and the hooks 7 project beyond the mirror
60 and form in conjunction therewith crotches 9, the function of which will presently appear. The form of reflecting device herein shown is one of many that may be employed, and it is understood that the invention is not to be
65 limited to any particular arrangement.

To explain the manner of the operation of the device, the diagrammatic exhibition of Fig. 1 is furnished. As therein illustrated, four posts or stakes A, B, C, and D are em-
70 ployed, with which is associated the line E. The posts A B will represent one side of the wall or foundation to be built, and the posts C D the other side. To dispose the portion C D exactly at right angles to A B, the line
75 E is connected at one end with the post A, thence carried around the post B, thence backward and around the post C, and thence forward, being passed under the stretch of line between A and B, the point of intersection
80 of the line between A and B and C and D to be the corner of the wall or foundation. The hooks of the reflector are then brought into engagement with the line E at its point of in-
85 tersection with the stretch between the posts C and D, with its lower edge resting thereon, the crotches 9 operating to draw the line closely up against the mirror or reflector. The line at D is then drawn taut, and by ob-
90 serving the reflection in the mirror between the stretch of line from A to B extending across the mirror and the stretch of line from the mirror back to D it can readily be ascer-
95 tained when the two members of the line are exactly at right angles to each other. If true, there will be no deflection exhibited on the mirror; but if not exactly true the stretch of line from the mirror to D will appear de-
100 flected at the lower edge of the mirror, as indicated in dotted lines in Fig. 1, and by moving the line one way or the other until this is corrected the desired angle is determined, af-

ter which the post or stake D is driven in the ground and the line secured thereto. To complete the other three corners of the wall, the same procedure will be observed. By the employment of the bobs 8 the reflector is always caused to retain a position exactly at right angles to the line E.

In the above explanation of the use of my foundation-squaring device it has been assumed that the positions of the line A B and the point C are known and that a line is to be located which shall pass through the point C and be perpendicular to the line A B. If, however, instead of knowing the position of the point C, which is outside of the line A B, we are given the point where the lines C B and A B intersect, the position of the required line may easily be determined by driving the stake C at the point given in the line A B, then placing the reflector immediately over it, and proceeding as before. In each case the perpendicularity of the required line to the given line will be indicated when the image of the line seen in the reflector and the line itself are apparently one straight line.

While the device of this invention is exceedingly simple in construction, it will be found thoroughly efficient in use and may be relied upon for running accurate building lines.

Having thus described the invention, what I claim is—

1. A device of the character specified, comprising a reflector, counterbalancing means, and line-engaging devices.

2. A device of the character specified, comprising a frame, a mirror associated therewith, and counterbalancing devices having their upper terminals provided with line-engaging hooks disposed at an angle to the face of the mirror.

3. The combination with a line, and an intersecting line, of means on one of the lines for denoting the angle of the other line.

4. The combination with a line, and an intersecting line, of a vertical reflector carried by one of the lines and in the path of the other line to indicate the angle thereof with relation to the other line.

5. A device for indicating angles comprising a reflector, means for supporting said reflector and counterbalancing-weights depending from the reflector.

6. In a device of the character described, the combination with a reflector, of engaging devices carried by the reflector and weights carried by the reflector and below the engaging devices to maintain the reflector in a vertical plane.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN C. PAUL.

Witnesses:

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