Sept. 27, 1927. 1,643,880

W. G. ELDER

CORNER GUIDE AND PLUMB RULE

Filed Nov. 22, 1926 3 Sheets-Sheet 1

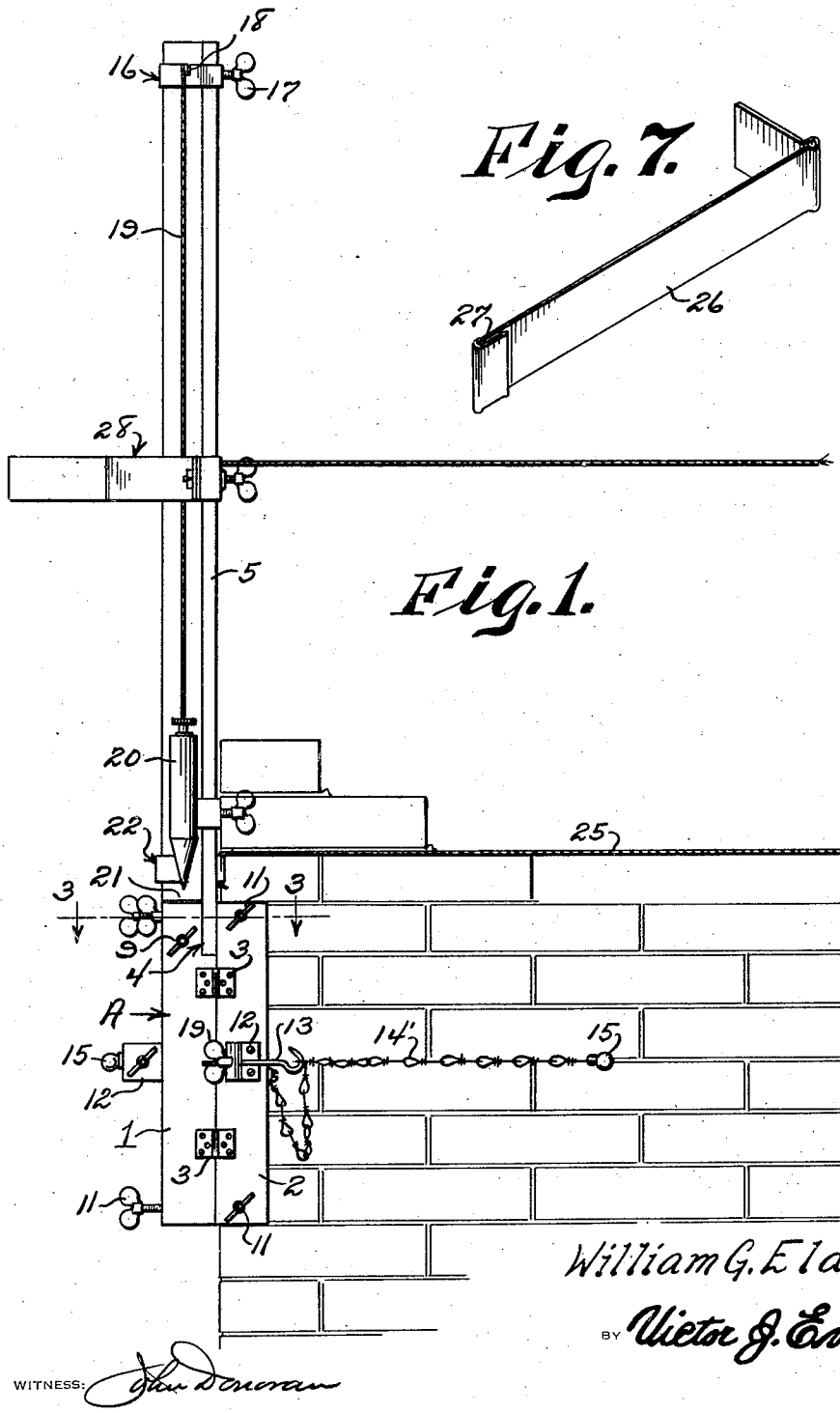


Fig. 7.

Fig. 1.

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Fig. 2.

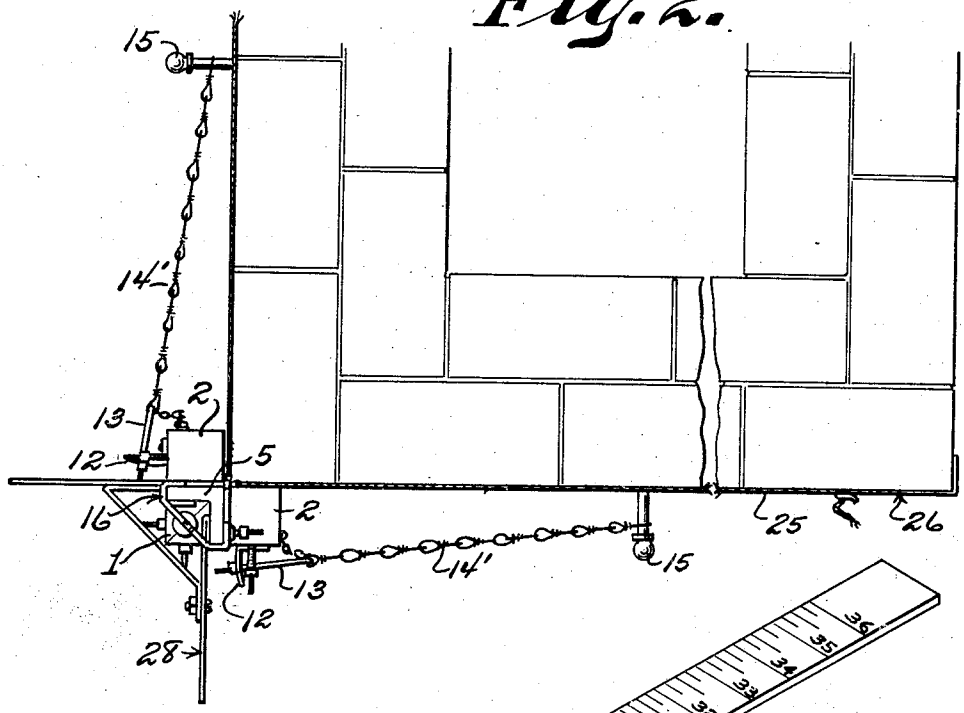


Fig. 5.

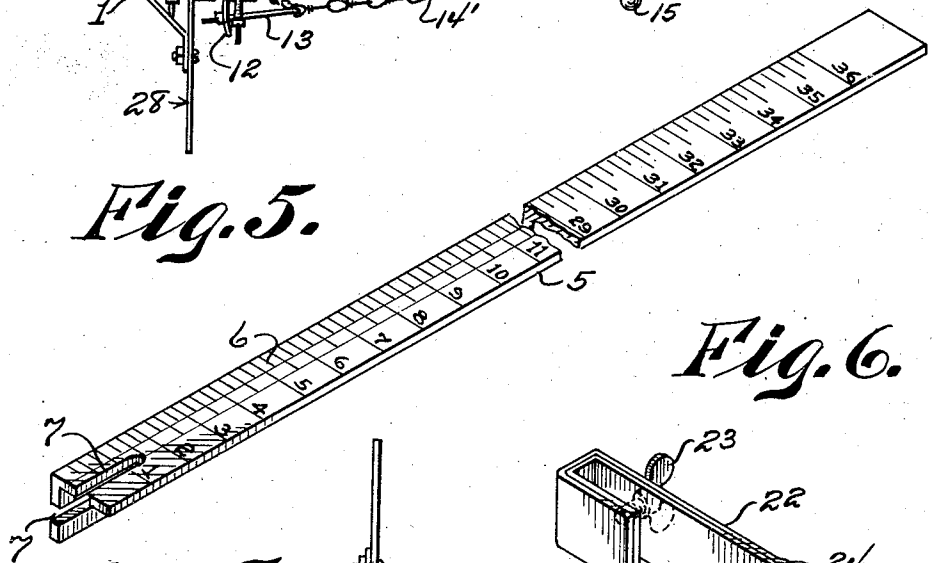
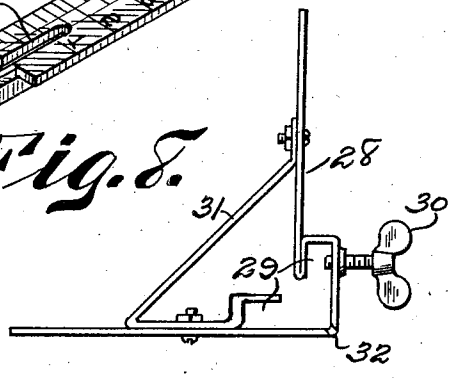


Fig. 6.

Fig. 8.



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Fig. 3.

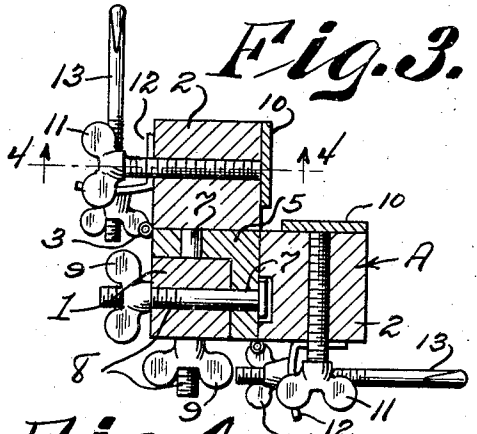


Fig. 9.

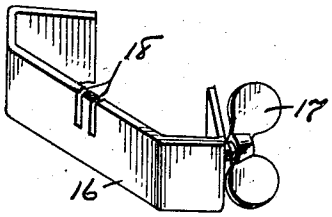


Fig. 4.

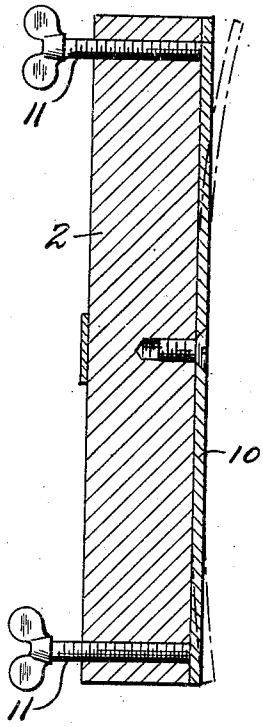
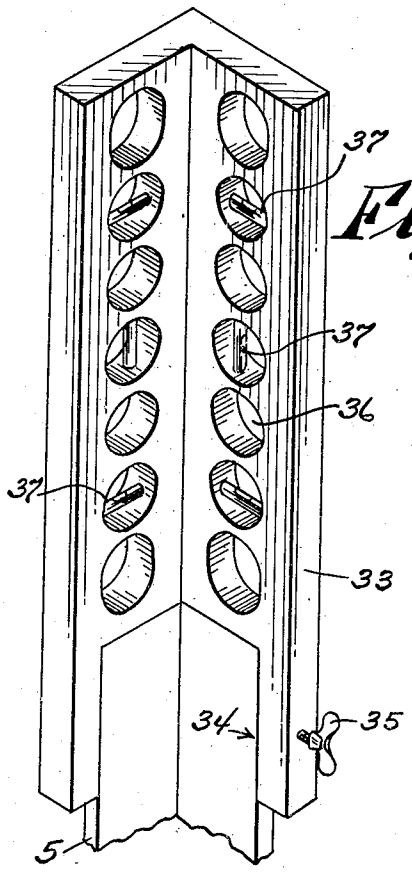


Fig. 10.



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1,643,880

UNITED STATES PATENT OFFICE.

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CORNER GUIDE AND PLUMB RULE.

Application filed November 22, 1926. Serial No. 149,957.

My present invention has reference to a combined corner guide and plumb rule for the use of masons in erecting buildings. An object is the provision of a device of this character which will not obstruct the corner of the wall being built and which will permit of an apprentice or a mason of comparatively little experience to build a corner in as perfect a manner and with more expediency than the same can be built by an expert mechanic without the use of the improvement.

A further object is the provision of a device for this purpose that may be employed either inside or outside of a masonry construction in the course of erection and which embodies a plurality of removable members, which when disassociated may be separately employed for performing useful functions in a building construction.

A further object is the provision of a device for this purpose whereby the corners of a building may be built after the walls thereof have been erected.

A still further object is the provision of a device for this purpose which will serve as an accurate guide in the erection of corners of a building, pilasters at such corners, offset or inset panels, slopes or tapers in the wall construction, etc., as well as a device which also enables the mason to accurately calculate the height of openings, joists and rafters in the building construction.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a side elevation showing the application of my improvement.

Figure 2 is a top plan view thereof.

Figure 3 is a section on line 3—3 of Figure 1.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a perspective view of the staff or straight edge.

Figure 6 is a similar view of the line holder.

Figure 7 is a similar view of another line holder.

Figure 8 is a similar view of a special line holder employed when pilasters or panels are erected in the wall construction.

Figure 9 is a similar view of the holder for the plumb bob line.

Figure 10 is a similar view of the level.

In these drawings, A indicates a base or holder for the staff, this holder comprising the center member 1 and the two side members 2, these side members being hinged to the member 1 by the hinges 3. The upper end of the member 1 is cut away at its inner sides to form the socket 4 for the lower end of the staff or straight edge 5 which is of angle shape in cross section, with its outer sides provided with the graduations 6. Each flange of the staff, at its lower end, is provided with the slot 7 for receiving the bolt 8 which passes through the reduced part of the member 1 and has a wing nut 9 at its outer end so that by tightening this wing nut, the head of the bolt will engage the flange of the staff and thus clamp the staff to the base when the slotted end of the staff is inserted in the slot 4. The inner face of each member 2 has a spring plate 10 connected at its center to the member, so that its ends are free and these ends can be forced outwardly away from the member by means of the upper and lower bolts 11 which pass through threaded holes in the members. Each side member carries a bracket 12 which has an outwardly extending part to receive a hooked bolt 13, the threaded part of which receives a wing nut 14 so that by turning the nut, the bolt can be adjusted in the bracket. The hooked parts of these bolts are adapted to engage the chains 14', each of which has one end connected with a side member and its other end is adapted to engage a pin 15 which is adapted to be driven into a wall. Thus by driving a pair of pins in the wall being constructed and fastening the end of each chain to a pin and then placing a link of the chain over the hook of each bolt 13 and tightening the nut 14, the slack of the chain will be taken up and the base member will be clamped firmly to the corner of the wall, as clearly shown in Figures 1, 2 and 3. By

hinging the side members to the center member, it will be seen that the base member can be adjusted to fit rightangle corners as well as corners of other angles.

After the base has been fastened in place, the staff is placed in the socket 4 and then the nuts 9 are tightened on the bolts 8 to clamp the staff to the base. A bracket or holder 16 is slipped over the upper end of the staff and is clamped in place by means of the set screw 17 and the said bracket is provided with the notches 18 to receive the upper end of a plumb line 19, the plumb being shown at 20. A plate 21 carrying a plumb mark is placed on the upper end of the center member 1 for the plumb bob 20 to indicate when the staff is plumb. If the staff is not plumb, then either the upper bolts 11 or the lower bolts are turned to force outwardly either the upper or lower ends of the plate 10 to adjust the clamp on the corner of the wall to make the staff plumb, which will be indicated by the plumb bob and its mark on plate 21.

As will be seen, the staff is spaced from the corner of the wall so that it will not obstruct the corner and will permit the bricklayer to pass his trowel between the wall and the staff to put the mortar in place. A line holder 22, of U-shape, with one limb longer than the other is adapted to be clamped to the staff by the set screw 23, with the eye 24 at the extremity of the longer limb at the corner of the staff so that a line 25 can be passed through the eye and extend along both walls of the building or a single line can be fastened to the eye and can be used upon either one wall or the other. The free end of the line can be fastened in place by a pin or other device, but if the opposite corner has been completed, I prefer to use a holder, such as shown at 26 in Figure 7, which is of L-shape and has its short arm engaging one part of the corner and its long arm the other, said long arm having a hook 27 at its end for receiving the free end of the line, as shown in Figure 2. Of course, if the opposite corner has not been completed, a second device can be placed at this corner to receive a line holder to support the second end of the line.

I may also use a special line holder, as shown at 28 in Figure 8, and which is also shown in Figures 1 and 2. This holder is of angle shape, with its limbs of considerable length, with its corner formed with the sockets 29 to receive the staff, a set screw 30 being carried by the holder to clamp it to the staff. A brace 31 connects the two arms together to strengthen the device. The corner of this holder is provided with a slot 32 to receive the line and as this corner is placed at the corner of the staff, it will be seen that this line can be used on either wall or by placing a knot at the center of the line and placing this line in the notch 32, the line can be extended over both walls or a pair of lines can have their knotted ends placed in the notch 32 and used for both walls. When projections are to be formed in a wall, another line can be fastened to one of the arms so that this line will be spaced from the main wall.

I also provide an angle member 33 which has a socket 34 in one end thereof to receive the upper end of the staff, a set screw 35 being provided for clamping said member 33 to the staff. Each flange of the member 33 is provided with a plurality of holes 36, some of which carry the level glasses 37. The level glasses 37, arranged in the center holes, are vertical ones while the other level glasses are horizontal ones. This member 33 can be used to true the staff in place of the plumb bob and it can also be used as a separate tool by removing it from the staff.

From the foregoing, it will be seen that the device can be quickly put in place at the corner of a wall and after being trued will support the lines in proper position and the line holders can be easily and quickly set through means of the graduations on the staff. This staff will also serve to enable the mason to calculate the heights of openings, joists and the like and the staff can be used as a measuring pole, straight edge and plumb rule. The lines are held in place and will not interfere with the workmen. The tool will work in all corners, angles, chimneys, columns, etc., and it will give the height of portions of walls already built and also of those to be built. It will also hold the lines without requiring the lines to be knotted to any parts of the device, so that they can be easily and quickly separated from the device. The angle spirit level will plumb several ways at one setting and can be easily detached from the staff and used as a regular spirit level.

The level may be used instead of the plumb bob or the two may be used together to insure an accurate setting of the device, and after the corner guide is set up, the level can be removed and used for other purposes.

The cords can be attached to the holder 28 in any desired manner, such as by making notches in the arms of said devices to receive knotted portions of the cords.

The holder shown in Figure 7 can also be used for holding inside lines, and in this case it would be attached to an outside wall with its limb 26 on the inner wall and an outside line could pass through the eye formed at the junction of the two arms of said holder. These holders take the place of pins.

As before stated, with this device, a workman with but little skill can do as good work and work as quickly as a skilled workman can without the device, and with this device

the corners of a building can be built at the same time the walls are being built or the corners can be erected after the walls have been built.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A device of the class described comprising a base of angle shape in cross section, and consisting of a central member and two side members, hinges for connecting the side members with the central member and chain engaging means carried by each side member for fastening the device to a corner of the wall and a staff carried by the base.

2. A device of the class described comprising a base of angle shape in cross section to provide a pair of wall engaging wings, a staff carried thereby, and a screw device at each end of each wing for adjusting the base to and from the wall to place the staff in a true vertical plane.

3. A device of the class described comprising a base of angle shape in cross section to provide a pair of wall engaging wings, a spring plate fastened at its middle to the inner face of each wing of the base, a turn screw at each end of each wing for moving each end of each plate outwardly from the wing, a staff carried by the base and means for fastening the base to a corner of a wall.

4. A device of the class described comprising a base of angle shape in cross section and comprising a central member and two side members hinged to the central member, a spring plate fastened at its center to the wall engaging face of each side member, screw bolts carried at the ends of each side member for forcing the ends of its spring plate outwardly, means for fastening the base to a wall and a staff carried by the base.

5. A device of the class described comprising a base, means for adjusting the same to a corner of a wall, means for fastening the base to said corner, an upright staff of angle shape in cross section detachably connected with the base, a bracket connected with the upper end of the staff and bridging the space formed by the wings of the base and a plumb bob having its line connected with the bracket and lying in the space formed by said wings.

6. A device of the class described comprising a base, means for adjusting the same to a corner of a wall, means for fastening the base to said corner, an upright staff detachably connected with the base, an angle-shaped spirit level stock detachably connected with the upper end of the staff and a plurality of spirit levels carried by each wing of said stock.

7. A device of the class described comprising a base, means for fastening the same to a corner of a wall, a staff carried by the base, an angle-shaped line holder detachably and adjustably connected with the staff, the arms of the holder being of considerable length and providing means for supporting lines at a distance from a wall when the device is attached to the wall.

8. A device of the class described comprising a base, a staff carried thereby, a line holder adjustably and detachably connected with the staff, said holder having an eye for receiving a line, the eye being arranged at the inner corner of the staff which is adapted to be adjacent the corner of the building being constructed so that the line can pass along either wall or both walls.

9. A device of the class described comprising a base, a staff carried thereby, a line holder adjustably and detachably connected with the staff, said holder having an eye for receiving a line, the eye being arranged at the inner corner of the staff which is adapted to be adjacent the corner of the building being constructed so that the line can pass along either wall or both walls and an L-shaped line holder adapted to engage a corner of a building and to hold the free end of a line.

10. A device of the class described comprising a base of angle shape in cross section and comprising a center member and two side members, hinges for connecting the side members with the center member, adjusting devices on each side member for adjusting the base to and from the wall and a staff carried by the base.

11. A device of the class described comprising a base of angle shape in cross section, the upper end of the base having a center mark at its corner forming portion, an upright staff of angle shape in cross section supported by the upper end of the base, with the corner forming portion of the base located within the space formed by the wings of the staff, a supporting member at the upper end of the staff and a plumb bob having its line connected with the supporting member so that the point of the bob will center itself over the mark when the staff is vertical.

12. A device of the class described comprising a base of angle shape in cross section, an upright staff carried thereby and a spirit level stock of angle shape in cross section detachably connected with the top of the staff and having a number of spirit levels on each wing thereof.

In testimony whereof I affix my signature.

WILLIAM GEO. ELDER.