Oct. 7, 1952 K. E. SCHNEIDER ET AL 2,612,695

LINE HOLDER

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FIG. 5.

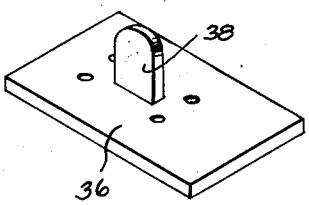


FIG. 3.

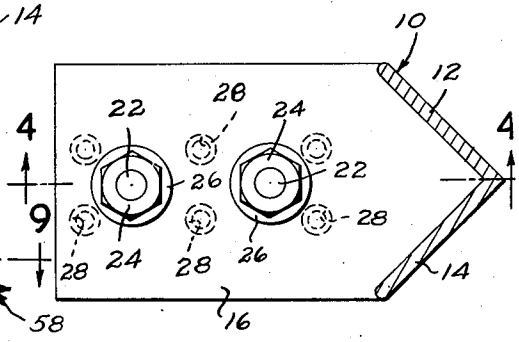


FIG. 1.

FIG. 2.

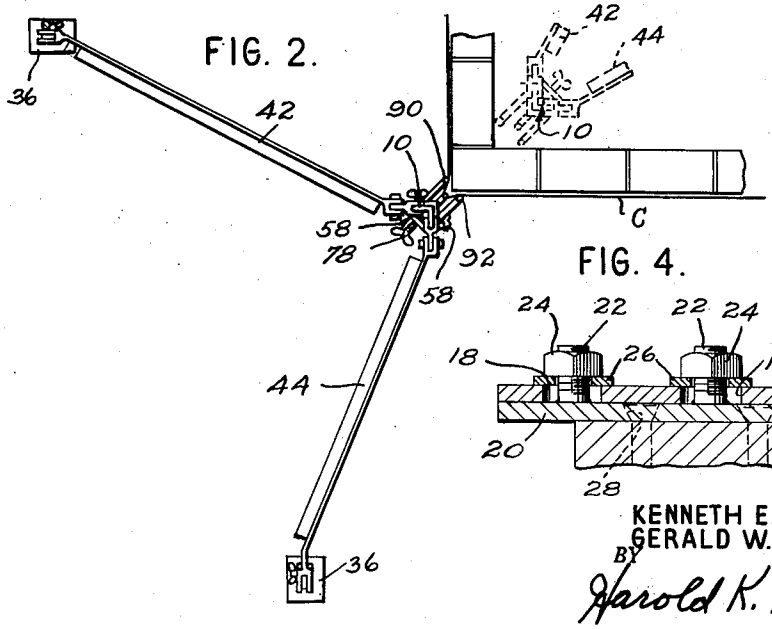


FIG. 4.

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FIG. 6.

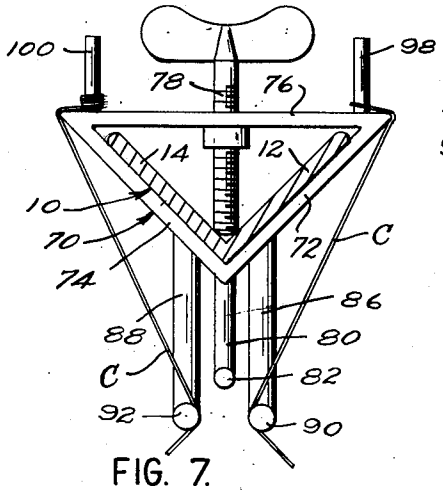


FIG. 8.

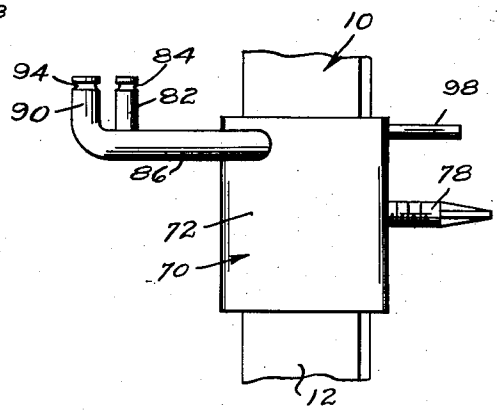


FIG. 7.

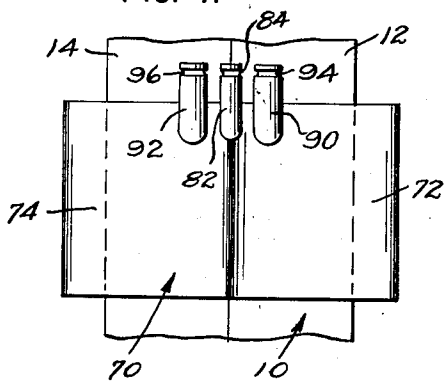


FIG. 9.

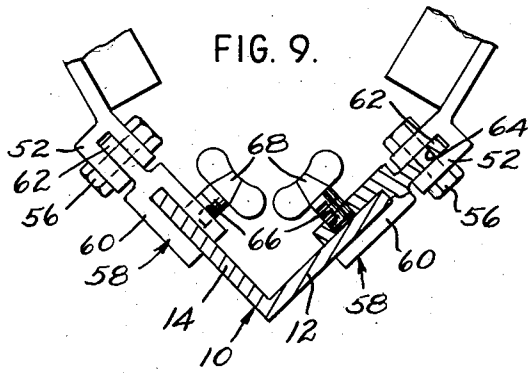


FIG. 10.

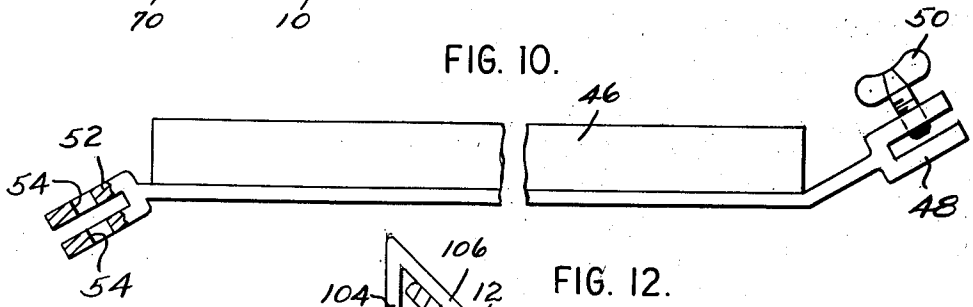


FIG. 11.

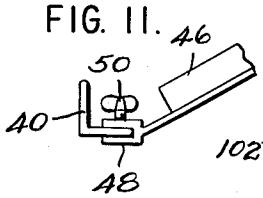
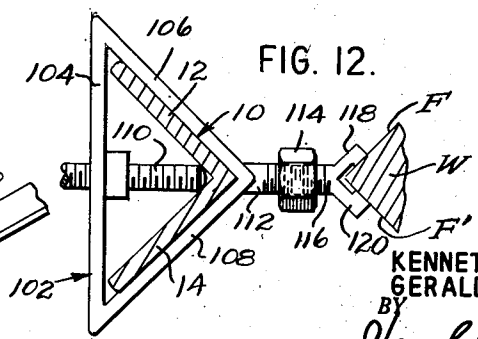


FIG. 12.



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2,612,695

LINE HOLDER

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Application February 12, 1951, Serial No. 210,512

1 Claim. (Cl. 33—85)

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This invention relates to a line holder and more particularly to a holder for a cord or line such as is employed by masons and others engaged in construction where the work must be arranged in a straight line.

In the construction of buildings and the like it is the present practice of a mason to first construct at opposite ends of a foundation or other wall a corner comprising several courses of brick or like building units, and then to stretch a cord between said corners to act as a guide with which the intervening bricks or building units are aligned as they are laid. Such methods of construction require that the corners be carefully built so that they are plumb and level as well as in proper alignment as otherwise the completed wall will prove faulty.

The primary object of this invention is to support a line or cord in proper position with relation to a wall to be constructed so that the bricks or building units may be laid in proper alignment throughout the entire length of the wall including the corners thereof.

Another object is to support a line or cord at the proper level in surrounding relation to the structure being built.

A further object is to so support the line or cord that it defines the perimeter of the structure under construction.

Still another object is to hold a line or cord in such a position along all walls of the structure that it will define the inner faces of the walls.

The above and other objects may be attained by employing this invention which embodies among its features standards positioned adjacent the corners of a building structure, means connected to the standards and engaging the supporting surface for holding said standards vertical, a carriage mounted on each standard for movement vertically thereon, means carried by each carriage for engaging its respective standard and holding the respective carriage in vertically adjusted position on its respective standard, fingers carried by the carriages and projecting toward the building structure, and hooks on the fingers for holding a line or cord in building structure perimeter defining position.

Other features include brace members carried by the standards for engaging the building structure adjacent the corners thereof and holding the standards vertical, and means carried by the brace members and engaging the standards for holding said brace members in vertically adjusted position on said standards.

Still other features include a base plate adapted

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to be fixed to a supporting surface beneath each standard, a plate carried by each standard at the lower end thereof and resting on its respective base plate, and means carried by each base plate and extending through the plate resting on the base plate for holding the standards in adjusted position on their respective base plates.

In the drawings:

Figure 1 is a fragmentary side view of one corner of a building structure showing one element of this improved line holder in proper position relative to the adjacent corner,

Figure 2 is a top plan view of Figure 1,

Figure 3 is an enlarged horizontal sectional view taken substantially on the line 3—3 of Figure 1,

Figure 4 is a longitudinal sectional view taken substantially on the line 4—4 of Figure 3,

Figure 5 is a perspective view of one of the brace and stake connecting elements,

Figure 6 is an enlarged horizontal sectional view taken substantially on the line 6—6 of Figure 1,

Figure 7 is a fragmentary front view of Figure 6,

Figure 8 is a fragmentary side view of Figure 6,

Figure 9 is an enlarged fragmentary sectional view taken substantially on the line 9—9 of Figure 1,

Figure 10 is an enlarged plan view of a typical brace bar,

Figure 11 is a fragmentary plan view of a typical brace bar showing it connected to a modified form of bracing stake, and

Figure 12 is an enlarged horizontal sectional view through a standard showing in plan a brace member thereon.

Referring to the drawings in detail a standard designated generally 10 and comprising a relatively heavy angle bar having perpendicularly extending legs 12 and 14 is provided at one end with an attaching plate 16 which extends perpendicularly relative to the angle bar and is provided with longitudinally spaced openings 18 of relatively large dimensions.

A base plate 20 of substantially the same contour as the attaching plate 16 is provided on its upper side with upwardly extending longitudinally spaced studs 22 which project through the openings 18 in the attaching plate 16 and are equipped with nuts 24 and washers 26 for clamping the plates 16 and 20 against one another. The plate 20 is provided on opposite sides of the studs 22 with longitudinally extending rows of longitudinally spaced openings 28 for the recep-

tion of spikes or nails by which the base plate may be attached to a wooden stake 30 which in most instances serves as the anchorage for the lower end of the standard 10. In some instances it may be necessary to employ an iron or steel stake in which event the base plate 20 will be welded thereto in substantially the position shown by stake 30 in Figures 1 and 4.

Stakes 32 and 34 which are similar in construction to the stake 30 are driven into the ground in spaced relation to the stake 30 and substantially as illustrated in Figure 2, and attached to the top of each stake 32 and 34 is a plate 36 carrying an upstanding ear 38. It will be understood of course that in place of each stake 32 and 34 and the plates 36 and ears 38 a stake 40 (Fig. 11) formed of angle iron may be substituted when the conditions of the ground are such as to render impractical the use of the wooden stakes. In such event a leg of the angle iron stake 40 will serve the same purpose as the ear 38 on the plate 36.

In order to hold each standard 10 plumb and truly vertical, a brace bar 42 is connected at one end to the leg 12 of its respective standard 10 and at its opposite end to the plate 36 carried by the stake 34 or a stake 40 in a similar location. Likewise a brace bar 44 is connected to the leg 14 of the standard 10 and the plate 36 of the stake 32 or a stake 40 similarly located. Each brace bar 42 and 44 comprises an elongated angle iron 46 which carries at one end a bifurcated jaw member 48 in which an ear 38 or a leg of the stake 40 is received and held by a thumb screw 50. The opposite end of each brace bar 46 is provided with a similar bifurcated jaw member 52 opposite legs of which are provided with openings 54 which align axially and receive an attaching bolt 56 by which a coupling member designated generally 58 is connected thereto.

Each coupling member 58 comprises a substantially U-shaped body 60 from the bight portion of which projects longitudinally an ear 62 having an opening 64 therein through which extends an attaching bolt 56 in order to pivotally couple thereon an adjacent angle iron 46. One leg of each U-shaped body 60 is provided with an internally screw threaded opening 66 in which the shank of a thumb screw 68 is threaded. In erecting the device the coupling members 58 are connected to the legs 12 and 14 of the standard 10 as illustrated in Fig. 9 in vertically spaced relation to the attaching plate 16 as illustrated in Fig. 1 with the brace bars 42 and 44 disposed substantially as shown in Figs. 1 and 2 to hold the standard 10 in vertical position.

A carriage designated generally 70 is mounted to slide vertically on each standard 10 between the attaching plate 16 and the couplings 58 and each such carriage comprises a substantially triangular frame which includes a pair of convergent side bars 72 and 74 which are joined at their divergent ends by a base bar 76 through which extends a thumb screw 78 in axial alignment with the convergent ends of the side bars 72 and 74. The shank of the thumb screw 78 is threadedly engaged with the base bar 76 so that it may be made to impinge on the standard 10 adjacent the junction of the legs 12 and 14 thereof in order to hold the carriage 70 at the desired height thereon. Projecting outwardly from the carriage 70 at the junction of the side bars 72 and 74 thereof along an axis which lies above and in a vertical plane with the axis of the thumb screw 78 is an arm 80 which carries at its end remote from the carriage a vertical finger 82 having a cord or line receiving groove 84 formed therein adjacent its end remote from the arm 80. Similar arms 86 and 88 project from the bars 72 and 74 respectively in spaced parallel relation to the arm 80 and carry at their ends remote from the carriage 70 vertically extending fingers 90 and 92 which like the fingers 82 are provided adjacent their ends remote from their respective arms with cord or line receiving grooves 94 and 96 respectively. It is to be noted that the arms 86 and 88 are of greater length than the arm 80 so that when the device is in position adjacent the corner of a building a cord or line lying in the grooves 84, 94 and 96 will be held in the exact position to which a wall is to be constructed. Carried by the base bar 76 adjacent opposite ends thereof and projecting outwardly therefrom in perpendicular relation therewith are spaced parallel anchoring pins 98 and 100 to which a line or cord may be anchored in any suitable manner.

In order to further brace the standard 10 as the construction progresses a second carriage designated generally 102 comprising a triangular frame composed of a base bar 104 and convergent side bars 106 and 108 is mounted on the standard 10 for vertical movement thereon. Like the base bar 76 of the carriage 70, the base bar 104 is formed with an internally screw threaded opening in which is threadedly engaged a thumb screw 110 which aligns axially with the apex of the triangular frame at the junction of the side bars 106 and 108. Projecting outwardly from said apex in axial alignment with the thumb screw 110 is a threaded stud 112 upon which is threaded a nut 114. A second stud 116 threadedly engages the nut 114 and carries at its end remote from said nut a pair of divergent arms 118 and 120 carrying pads 122 and 124 respectively which engage adjacent faces F and F' of the corner of a wall W. The studs 112 and 116 are oppositely threaded and the nut 114 is likewise oppositely threaded so that by turning the nut 114, the studs may be moved toward or away from one another.

In use the standard 10 is coupled to the base plate 20 as illustrated in Fig. 4 so as to stand in a vertical position. The base plate 20 obviously may be attached to a stake 30 as illustrated in Figs. 1 and 4 or may rest on any suitable surface. The brace bars 42 and 44 are then connected to opposite legs of the standard 10 by the coupling 58 and either clamped to stakes as shown in Figs. 1 and 2 or otherwise anchored in substantially similar positions to a supporting surface to stabilize the standard 10 and hold it vertical adjacent the corner of a building structure substantially as shown. With the carriage 70 mounted on the standard as shown and a standard so mounted adjacent each corner of the building a line or cord C (Figs. 1 and 2) is anchored at one end to an anchoring pin 98 on a carriage and is carried in the groove 94 of the finger 90 thereof to lie along a line defining the side of the wall of the building. Continuing on, the line or cord C enters the groove 96 in the finger 92 of the next adjacent carriage 70 from whence it enters the groove 84 in the finger 82 thereof and passing around the portion of the finger 82 adjacent the carriage 70 it enters the groove 94 of the finger 90 to continue along a line defining an adjacent wall of the building. By thus continuing the line or cord and threading it around the fingers as above described, it can be

brought completely around the perimeter of the building back to the carriage 70 from whence it started where it enters the groove in the finger 92 and is anchored to the anchoring pin 100. By thus having the line or cord C define the perimeter of the building it is evident that bricks or like building units may be laid in successive courses without requiring the building corners to provide line or cord holders. Obviously as the courses are laid one upon another the carriages 70 will be elevated on their respective standards 10 until the structure has been completed. In some instances it may be found desirable to use two carriages 70 upon a single standard 10 in which event the carriage above the coupling members 58 will be inverted so that by raising the lowermost carriage 70 to the highest point permissible and lowering the uppermost inverted carriage 70 to the lowest position permissible, the ends of the fingers 82, 90 and 92 of opposite carriages will contact one another so that the line or cord C may be easily transferred from the fingers on one carriage to those on the adjacent carriage. By thus employing two carriages 70 on each standard 10 the building construction may progress with the least possible interruption.

By employing the line holders as suggested in the broken lines in Fig. 2, it is evident that the line or cord held thereby may define the inner perimeter of the building structure.

While in the foregoing there has been shown and described the preferred form of this invention, it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without

departing from the spirit and scope of the invention as claimed.

We claim:

In a line or cord holder a standard adapted to be supported in a vertical position adjacent a corner of a building, a carriage mounted on said standard to move vertically, means carried by the carriage and engaging the standard for holding said carriage at a selected height on said standard, a pair of arms projecting outwardly from the carriage toward the building, line holding fingers on the arms for holding a cord or line in a position to define one side of the wall of the building, a third arm carried by the carriage between the first mentioned arms, said third arm being of less length than the pair of arms, and a finger carried by said third arm adjacent the end thereof remote from the carriage for holding the cord or line passing between the first mentioned fingers out of the way of the corner of the building.

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