(No Model.) 3 Sheets—Sheet 1.

J. I. KELLEY.

GUIDING AND GAGING IMPLEMENT FOR MASONS.

No. 458,464. Patented Aug. 25, 1891.

Fig. 1

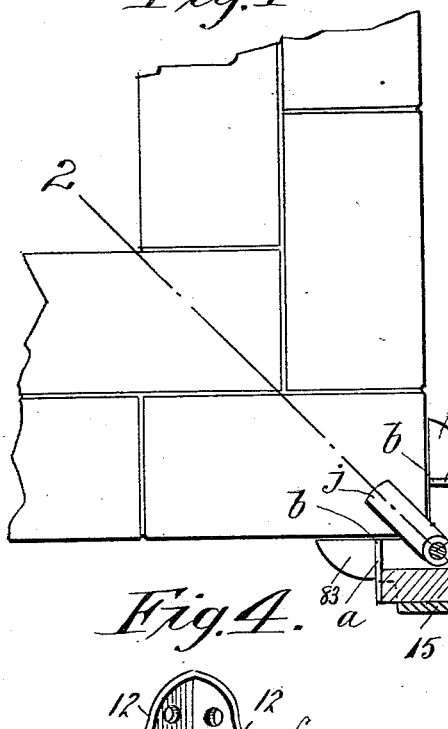
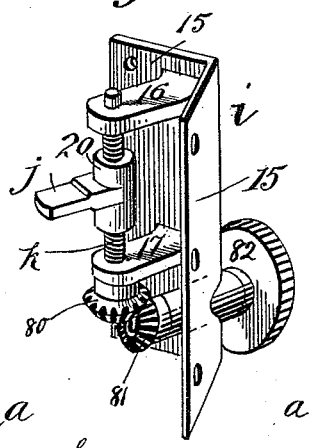


Fig. 3.



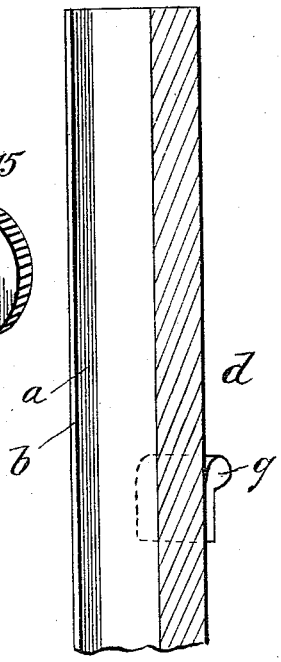


Fig. 4.

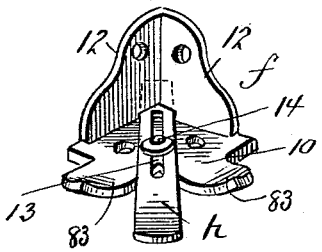
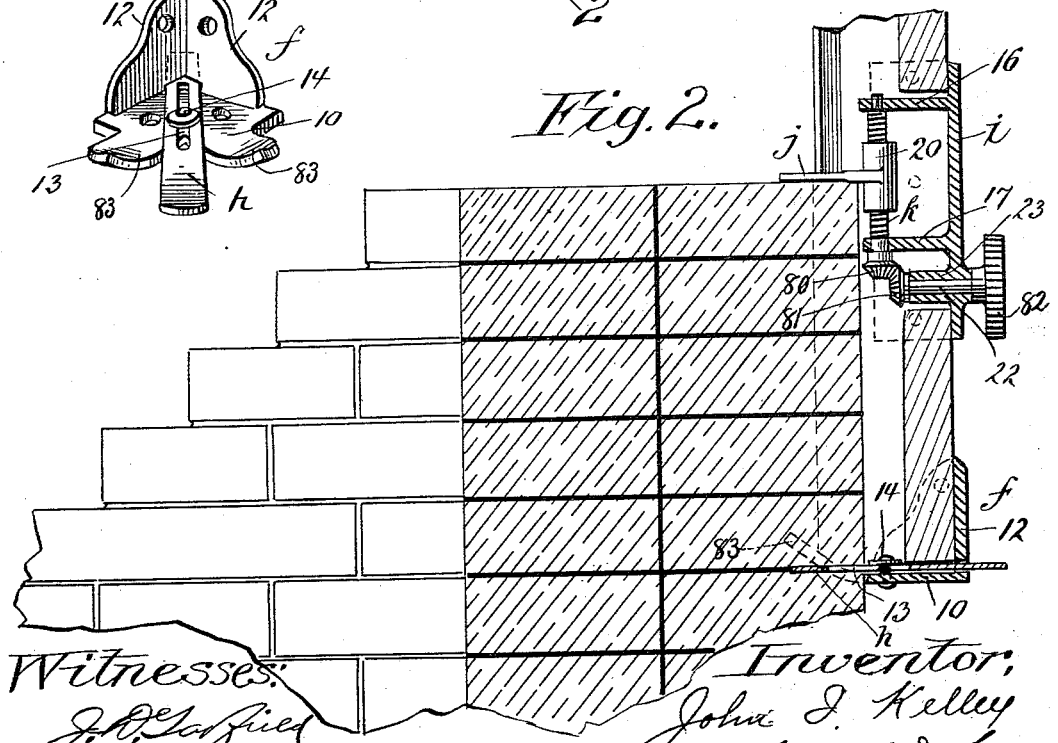


Fig. 2.



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(No Model.) 3 Sheets—Sheet 2.

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GUIDING AND GAGING IMPLEMENT FOR MASONS.

No. 458,464. Patented Aug. 25, 1891.

Fig. 5.

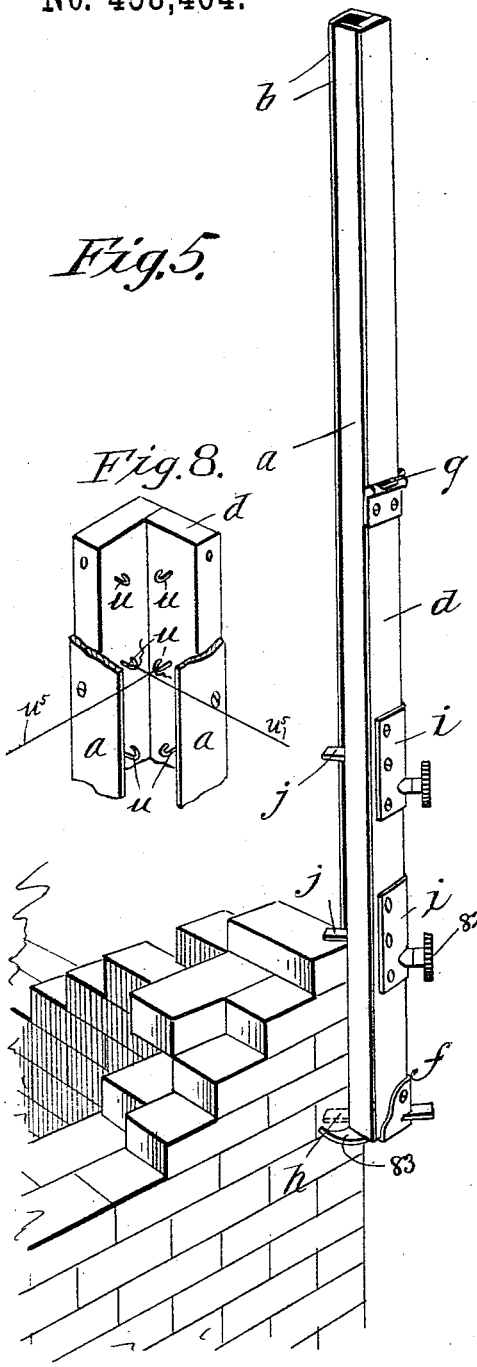


Fig. 8.

Fig. 6.

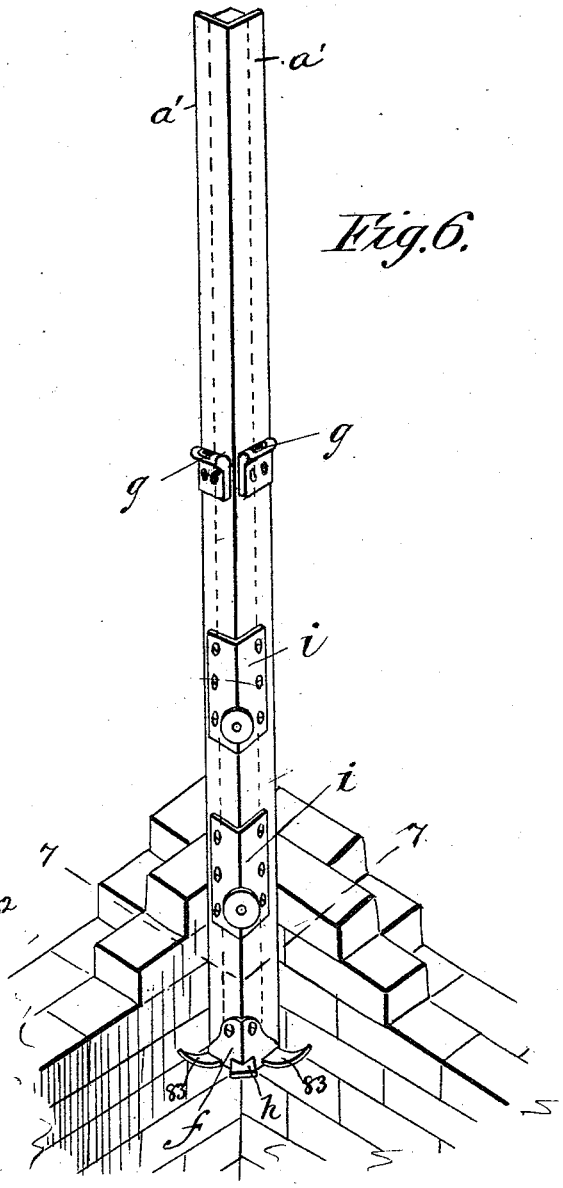
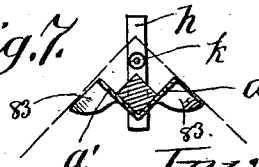


Fig. 7.



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GUIDING AND GAGING IMPLEMENT FOR MASONS.

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Fig. 9.

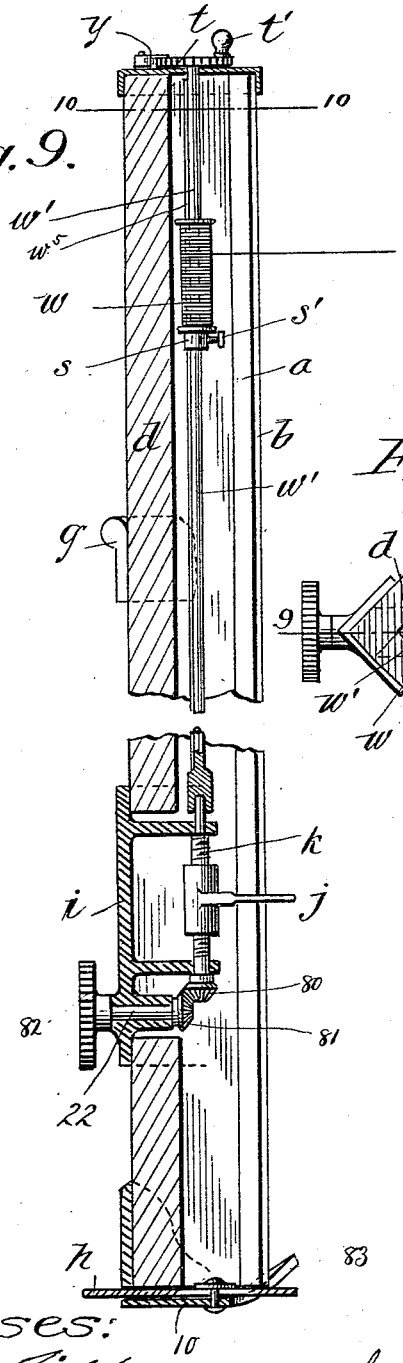
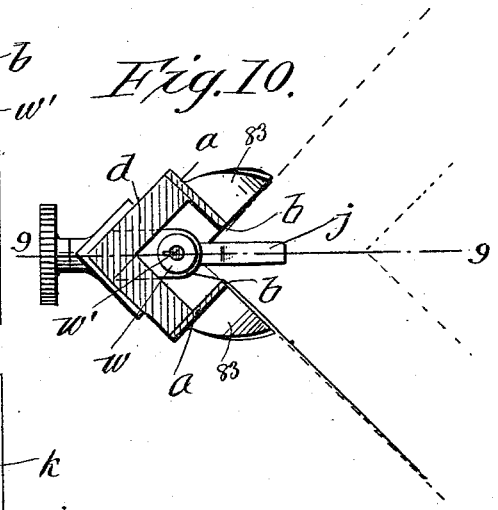


Fig. 10.



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UNITED STATES PATENT OFFICE.

JOHN I. KELLEY, OF SPRINGFIELD, MASSACHUSETTS.

GUIDING AND GAGING IMPLEMENT FOR MASONS.

SPECIFICATION forming part of Letters Patent No. 458,464, dated August 25, 1891.

Application filed February 16, 1891. Serial No. 381,633. (No model.)

To all whom it may concern:

Be it known that I, JOHN I. KELLEY, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Guiding and Gaging Implements for Masons, of which the following is a specification.

This invention relates to implements for masons' use, to be employed while building the corner of a structure with brick or blocks of stone, &c., whereby the corner may be accurately projected vertically, and whereby the sides adjacent the corner may with certainty meet at the right or other particular angle desired.

The present invention particularly relates to improved devices for supporting and retaining the gage in its working position. Under the said improved devices the gage may be most readily set, and will remain certain and rigid in its engagement at and with the side of the structure.

The construction and advantages will be more fully understood on reference to the accompanying drawings, and the following particular description made in connection therewith.

The invention consists in the construction and combination of parts, all substantially as will hereinafter be made apparent and defined by the claims.

In the drawings, Figure 1 is a plan view of the corner portion of a brick-work structure, showing in plan and horizontal section the gage as applied thereon. Fig. 2 is a vertical section taken diagonally through the brick-work and the gage, the plane of section being indicated by the line 2 2, Fig. 1. Figs. 3 and 4 are perspective views of portions of the gage wherein are embodied essential features of this invention. Figs. 5 and 6 are perspective views of implements embodying this invention constructed and adapted for gaging and guiding, respectively, at the outside and at the inside of the structure. Fig. 7 is a cross-section on line 7 7, Fig. 6. Figs. 8, 9, and 10 are perspective and sectional views illustrative of improvements hereinafter particularly set forth.

Forms of guides or gages to which the present improvements are applicable are illustrated in Letters Patent of the United States, granted to me November 25, 1890, No. 441,492, although the present novel supporting and confining devices may be combined with a gage or guide of somewhat different form. The form of gage illustrated in Figs. 1 and 2 in the said Letters Patent is shown in the accompanying drawings in Figs. 1, 2, and 5 and the views on Sheet 3, while the form of gage shown in Figs. 3 and 4 of said Letters Patent is in the accompanying drawings illustrated in connection with the present improvements in Figs. 6 and 7, and more specifically referring to the gage shown in the first and third sheets of the present drawings and in Figs. 5 and 8, which gage is for use at the "outer corner." *a a* represent the guide and gage plate or bar held by being secured to the angular carrying-bar *d* in planes at right angles to each other with their edges parallel and separated.

Two spirit-levels *g g* are employed on the implement, the leveling-lines of which are at right angles to each other, as indicated in Sheet 2 of the drawings and in said former patent.

The manner of use of the implement is illustrated in Figs. 1, 2, and 5, the bricks as they are laid being placed to contact by their external vertical surfaces back from their corners with the working edges *b b* of the gage, whereby the corners will be truly and perpendicularly erected.

Now, respecting the improved means for confining the gage at the corner of the structure, *f* represents a shoe or casting, which is secured to a lower part of the implement, preferably at its bottom, the same being shown in detail and detached in Fig. 4, consisting of the horizontal bottom plate 10 and the angularly-disposed vertical portions 12 12, the said shoe being formed to partially embrace or inclose the bottom of the holder-bar *d* of the gage, and it is confined thereon by screws or otherwise. The said shoe has or is provided with a laterally-projected thin tongue *h*, which is adapted to extend and enter between courses of the brick at the lower part of the structure corner. The said tongue *h* is shown as horizontally movable, so that it

may be projected between the courses a greater or less distance beyond the corner. The said tongue-piece is movably connected to the foot-piece 10 of the shoe by itself being slotted, as at 13, the foot-piece 10 supporting the rivet or stud 14, which passes through the slot. After a few courses of brick have been laid, or more or less, as the case may be, the gage-bar is applied in its vertical plumbed position, and then the tongue *h* is driven in between the courses, penetrating the then soft mortar. It is to be understood that the said tongue *h* is extended beyond the outside of the gage or opposite from the working edges thereof, whereby the same is readily accessible to be driven or withdrawn.

Above the described supporting device at the foot of a the gage-bar at a certain distance—say equal to the distance between four or five courses of brick—an angular shoe or casting *i* is secured on the bar. This casting *i* consists of angularly-disposed plates 15 15, to be screwed fast to the gage-bar, and the brackets 16 17, inwardly extended and to be disposed in a suitable recess in the gage-bar. A vertical screw-shaft *k* has bearings for rotation in said bracket-arms, but is held against endwise movement.

j represents a thin bar or tongue, which is carried by and as an extension of the hub 20, which has a screw engagement with the screw-shaft. The screw-shaft on its one end has a bevel-pinion 80, with which engages a similar pinion 81 on the horizontal arbor 22, which has a bearing in the hub 23 of the said casting *i*, and which is provided with a knob or hand-wheel 82 for insuring its convenient rotation. Rotation of the said hub 20 on the screw-shaft being impeded by the striking of the tongue *j* against the working-edges *b* of the gage as the screw-shaft is turned in either direction, the said hub and tongue correspondingly move vertically. Therefore in building after a few courses of brick have been laid beyond and above the foot of the gage, so that the last brick at the corner lies closely under the tongue the hand-wheel is turned, thereby insuring the lowering of the tongue and the placing of it in a confining engagement with the said adjacent corner-brick. The gaging implement is then the more securely held in its proper position, as is plain, and the brick-laying is then proceeded with, the next corner-brick then being placed upon the said tongue *j*, which tongue is of a thickness no greater than a layer of mortar between the courses.

The implement may, as indicated in the drawings, Figs. 5 and 6, be provided with a duplicate of the confining-tongue *j* and supporting and operating devices therefor, so that as the brick-laying proceeds considerably beyond the foot of the gage, and as the leverage on the gage increases, due to the impact of bricks thereagainst at a point considerably beyond the lower portion of the gage-bar at which the first confinement is had, as described, the gage will even then be sustained rigidly and against being canted or forced out of plumb.

As indicated in Figs. 6 and 7, the improved devices of this invention are as applicable for a gage for the internal corner of the structure as for working at the outside of the corner. In the implement shown in Fig. 6 the gage or working edges are at the inner borders of the angularly-disposed plates *a a*, which, if further continued, would intersect, while in the implement for interiorly gaging the corner, which is shown in said Figs. 6 and 7, the gage-edges are at the separated borders of the angularly-disposed plates *a' a'*, which borders if continued in the planes of their respective plates would become still farther separated. In both of the implements a clearly defined and true working edge adjacent the corner is provided, and in the laying of the bricks in the usual way and observing that the sides thereof are brought to contact with the gaging portions of the implement the corner may be most readily and truly constructed.

It is preferred to combine with the guide and gage means for supporting the line or cord as to one end of the latter; and in Fig. 8 a portion of the length of the implement is shown as provided with the studs or hooks *u*, to and upon which the ends of the cords w^5 may be connected, the said hooks being placed at intervals corresponding to the distance between courses of the brick. In Figs. 9 and 10 a preferred contrivance for the purpose is illustrated, which consists of a spool or reel *w*, that is splined, as at w^5, or otherwise suitably connected on the vertical spindle *w'*, so that it may be vertically movable, the spool being supported at any desired height by the collar *s* and set-screw *s'*. The spindle is provided at its upper end with the ratcheted disk *t*, having the crank-handle or knob *t'* thereon; and a detent *y* is suitably mounted relative to the ratchet to prevent any retrograde or unwinding movement of the spindle after the line has been drawn and set.

Gages such as described are advantageously employed at two or more corners of a progressing structure for supporting between them the line or lines as required.

What I claim as my invention is—

1. The combination, with a mason's guide and gage having parallel working portions coincident with which to build, of a supporting member which is transversely projected from and movable on said gage proper and adapted to be driven to enter between courses of brick without moving the gage.

2. The combination, with a mason's guide and gage having parallel working portions *a* coincident with which to build, of a supporting member *h*, which is transversely projected from one portion in the length of the gage, and another transversely-extended

tongue *j*, which is adjustable longitudinally of the gage, substantially as and for the purpose set forth.

3. The combination, with a mason's guide and gage, of a transversely-projected tongue-piece movable longitudinally on the gage, and a screw engaging said tongue-piece for securing a longitudinal movement thereof, for the purpose described.

4. A mason's gage and guide adapted to be supported in its working position and having parallel working portions coincident with which to build, the same embodying a stock or holder-bar and plates secured on angularly-disposed sides of said bar and extending therefrom in planes at right angles to each other, and a support for the line sustained on the gage and located within the angle formed by said plates, substantially as described.

5. A mason's guide and gage adapted to be supported in its working position and having parallel working portions which have an extent as great as several courses of brick and coincident with which to build, provided with a rotatable spool or reel for the line, which is vertically adjustable on the implement, substantially as described.

6. A mason's guide and gage adapted to be supported in working position and having parallel working portions, for the purpose set forth, provided with a spool or reel for the line supported for rotation and vertically adjustable on the gage, appliances for insuring the rotation of the spool, and a detent for preventing retrograde movement thereof, substantially as described.

7. The combination, with a mason's guide and gage, of a casting secured thereon and provided with bracket-arms 16 and 17, the vertical screw-shaft having bearings for rotation in said arms, the tongue-piece having a screw engagement with said shaft and transversely extended therefrom, the arbor having bearings in said casting and geared to said screw-shaft, and a wheel or the like on said arbor for conveniently turning same, substantially as described.

8. The combination, with a mason's guide and gage, of a shoe on the bottom thereof comprising the foot-plate 10, the slotted tongue-piece *h*, movable transversely on the said foot-piece and projected both inwardly and outwardly beyond same, and the stud or rivet 14, substantially as and for the purpose set forth.

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