

No. 684,835.

Patented Oct. 22, 1901.

C. E. LITTELL.  
CLAMP FOR GLUING COLUMNS OR PILLARS.

(Application filed June 28, 1901.)

(No Model.)

Figure 2.

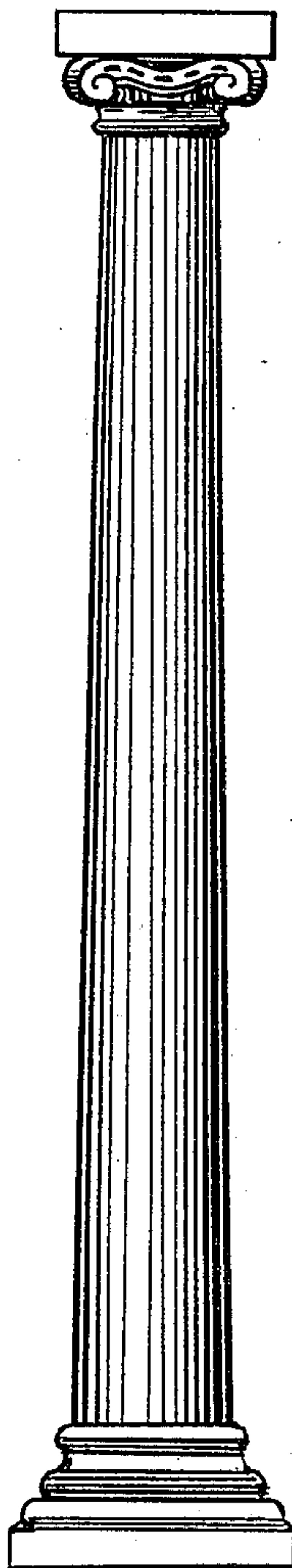
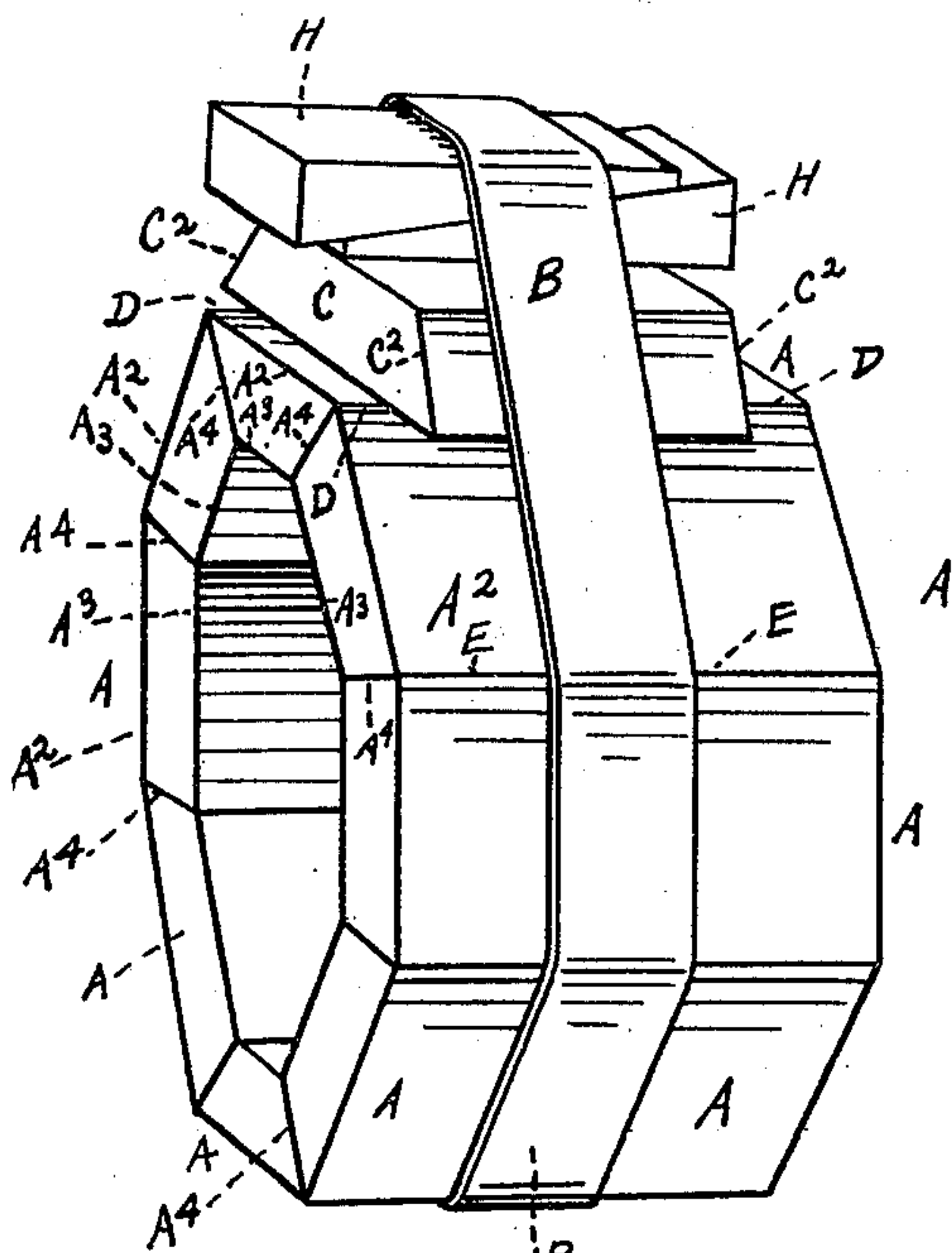


Figure 1





# UNITED STATES PATENT OFFICE.

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## CLAMP FOR GLUING COLUMNS OR PILLARS.

SPECIFICATION forming part of Letters Patent No. 684,835, dated October 22, 1901.

Application filed June 26, 1901. Serial No. 66,039. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. LITTELL, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Clamps for Gluing Columns or Pillars, of which the following is a specification.

The several features of my invention and the various advantages resulting from their use conjointly or otherwise will be apparent from the following description and claims.

In the accompanying drawings, making a part of this specification, and in which similar letters of reference indicate corresponding parts, Figure 1 represents in perspective a clamp embodying my invention. In this view the application also of my clamp is illustrated. Fig. 2 represents in elevation one of the many kinds of columns in the construction of which my invention is applicable. Such columns made of staves or long pieces, as A, (see Fig. 1,) and beveled at the edges, so as to fit together and forming in the rough a many-sided figure, have heretofore been used. Fig. 3 illustrates a tongue-and-groove joint between adjacent beveled staves employed in forming a column. Fig. 4 illustrates a slip-tongue joint between adjacent beveled staves employed in forming a column. Fig. 5 is a view in perspective of a portion of the devices shown in Fig. 1, but illustrates the employment of a screw as a substitute for the wedges shown in Fig. 1.

In making such it has been customary to employ a circular clamp around the staves placed against each other. Between this circular clamp and the outer surface or back of each stave an ordinary wedge was inserted, which pressed that stave into position. Some of the wedges drove their respective staves too far forward, and then these wedges had to be loosened and the other wedges advanced. The necessity for using a clamp occurs because in gluing such staves together to form such columns they must be held together under great pressure while the glue is being dried. This was also true where the staves were tongued and grooved or where a slip-tongue was used. Furthermore, in both of these latter cases the tongues were frequently broken as the wedges were advanced. Such a

continued manipulation upon guesses as to how far each wedge should be driven occupied much time and involved the expenditure of much labor and necessitated the use of a great number of wedges.

My invention obviates the disadvantages named.

I will now proceed to describe my invention in detail.

The staves are usually made out of boards whose outer sides  $A^2$  and whose inner sides  $A^3$  are flat. The edges  $A^4$  of these staves are beveled. The inclination of these bevels will depend upon the number of staves used in the construction of the columns. The greater the number of staves the less inclination will be given the bevel. The amount of bevel given will be sufficient to enable the staves when put together substantially as shown to form in cross-section a symmetrical figure. The beveled edges  $A^4$  of the staves may be provided with the well-known tongue and groove, as shown in Fig. 4, or with the well-known slip-tongue, (shown in Fig. 3,) or be without any such or equivalent connection. I provide a clamp-loop B, preferably made of suitable hoop or band iron. The edges  $A^4$  of the staves are then coated with glue and are then placed together in a form which gives them approximately the form which they are afterward to assume. The clamp-loops B are slipped over the ends of the column thus far formed and are located at suitable distances along such column. Then the block C is introduced within the clamp-loop and rests upon the outer surface or back of one of the staves A. The under surface of this block must be broader than the back of such stave and must cross the joints at D D, which such stave makes with the adjoining staves. By such extension of the width of this block C the stave under it cannot be forced down between the adjoining staves, because the block C comes into contact with the edges of the adjoining staves, and the latter prevent the block C from thus forcing down the stave which is directly under and prevents these adjoining staves from spreading away from the first-named stave at such joints D D. The edges of the block are preferably beveled at  $C^2$   $C^2$ , as shown, to the better allow the clamp to touch at joints E E on each side



(for the clamp must touch there) and at the same time enable the clamp to bridge and touch the joints D D, heretofore mentioned. Much pressure is now exerted between the clamp-loop and the block C by suitable means. One means of exerting such pressure is the simple one—the wedges. (See Fig. 1.) Here two wedges H H are introduced in opposite directions against the block and within the clamp and are driven home until the joints at the meeting edges of the staves are extremely tight, the grain of the wood of adjoining staves meeting at such places. The two wedges are preferably used instead of one in order to the better prevent the clamp from slipping sidewise—that is, in the direction of the length of the column and off from the block C. Instead of wedges eccentrics or other clamping devices may be employed. One of the best is a pressure-screw, as K, screwed through the clamp-loop B, which latter is provided with a suitable screw-thread for engaging the screw-thread of screw K. Such provision for this female screw may consist in thickening the clamp-loop or in adding to it a nut, as B<sup>2</sup>. The foot of the pressure-screw is suitably stepped in the block C. The head K<sup>3</sup> of the screw may be operated by a lever or wrench, or the head may have a wing or wings or arms to enable it to be rotated. The screw or other pressure-exerting device is operated so as to cause the block C and the clamp-loop to exert a suitable pressure for compacting and thereafter holding securely the staves of the column until the glue, cement or similar adhesive substance is dried and set. After the column has been thus formed the clamps are removed and the column is turned down or fluted, &c., according to the desire of those for whom it is made.

My invention requires only a few parts and these of economical construction. It is easily manipulated. It is entirely effective in operation. Much time, labor, &c., and consequent expense are saved by it.

What I claim as new and of my invention, and desire to obtain by Letters Patent, is—

1. In a clamp for gluing together the staves

of columns, the clamp-loop B, and the block C, whose base is wider than the adjacent stave, and crosses the joints such stave makes with the staves next it, and means for exerting pressure between the clamp-loop and the block, for enabling the pressure of the block and that of the clamp-loop, to symmetrically exert the requisite pressure simultaneously upon all the joints and staves, substantially as and for the purposes specified.

2. In a clamp for gluing together the staves of columns the clamp-loop B, and the block C whose base is wider than the adjacent stave, and crosses the joints such stave makes with the staves next it, the block being further provided with beveled edges C<sup>2</sup>, for enabling the clamp-loop to be in contact with the joints E, E, and means for exerting pressure between the clamp-loop and the block, for enabling the pressure of the block and that of the clamp-loop to symmetrically exert the requisite pressure simultaneously upon all the joints and staves, substantially as and for the purposes specified.

3. A clamp for gluing together the staves of beveled stave-made columns, and consisting of the flexible clamp-loop B, and the block C, bridging the joints D, D, and provided with beveled edges C<sup>2</sup>, C<sup>2</sup>, and means for causing the staves to be symmetrically approximated and held securely together under pressure while being glued together, the end of the loop and the block serving as the abutments wherewith the means for exerting such pressure shall coöperate, substantially as and for the purposes specified.

4. A clamp for gluing together the staves of beveled stave-made columns and consisting of the flexible clamp-loop B, and the block C, bridging the joints D, D, and provided with beveled edges C<sup>2</sup>, and wedging device below the clamp-loop and above the block, substantially as and for the purposes set forth.

CHARLES E. LITTELL.

Attest:

URBANE B. GILLET,   
 ANNA L. MALONEY.