No. 799,413. PATENTED SEPT. 12, 1905.

C. A. SPENCER.

FENCE POST.

APPLICATION FILED MAY 31, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

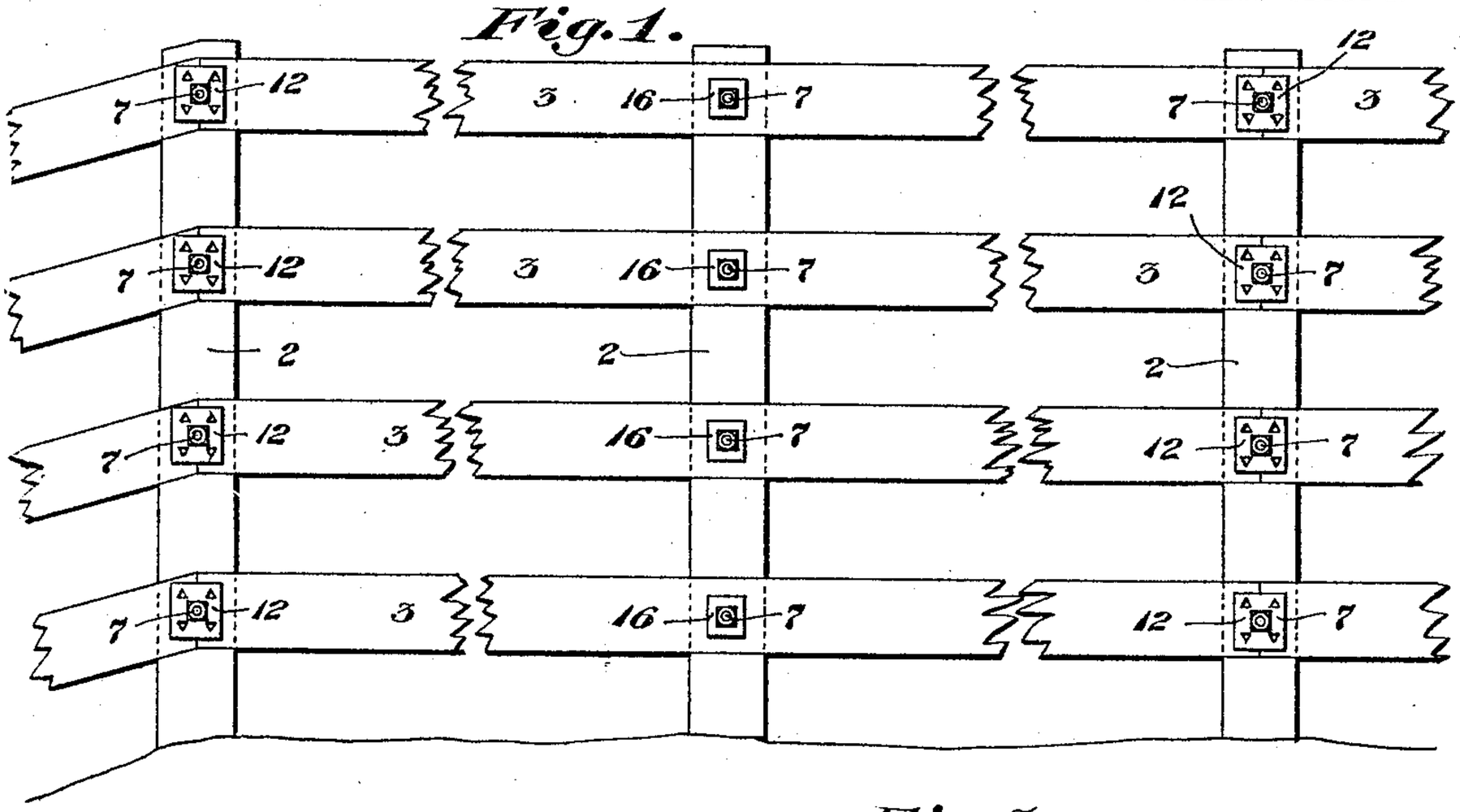

Fig. 2.

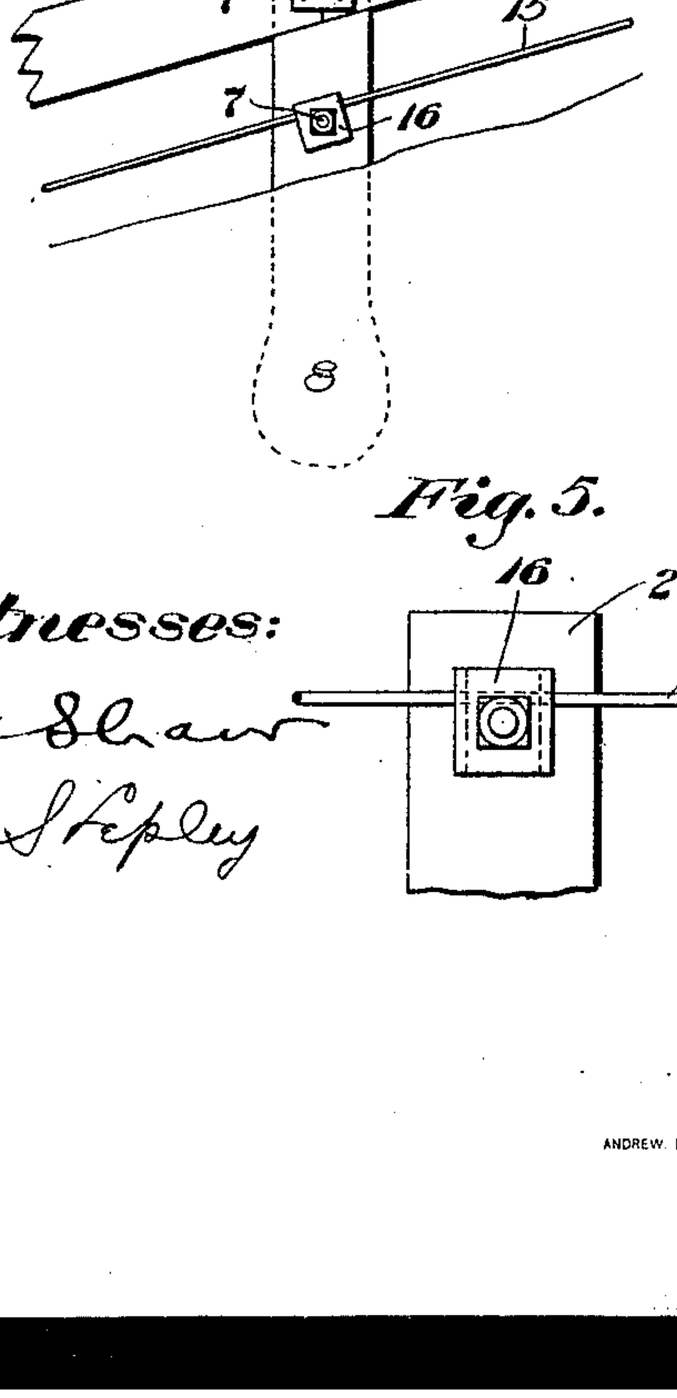

Fig. 3.

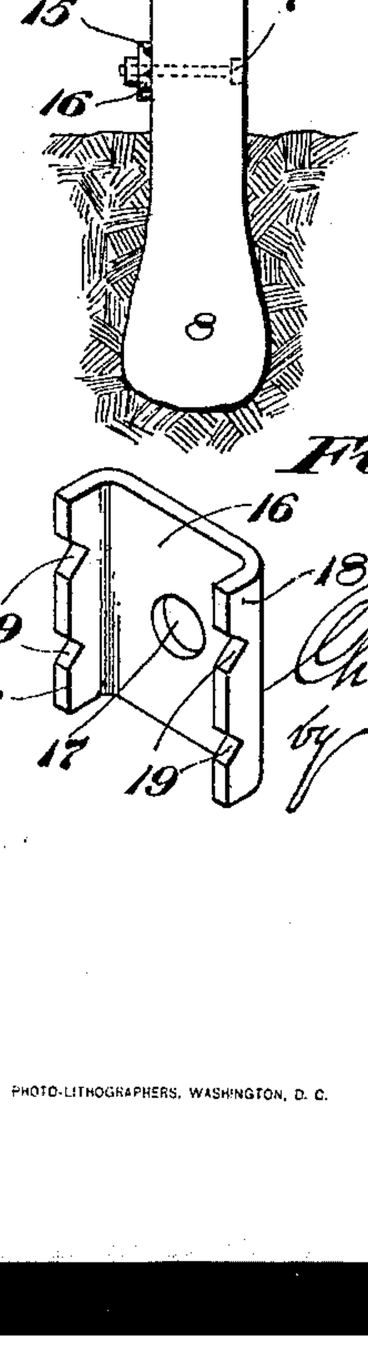

Fig. 4.

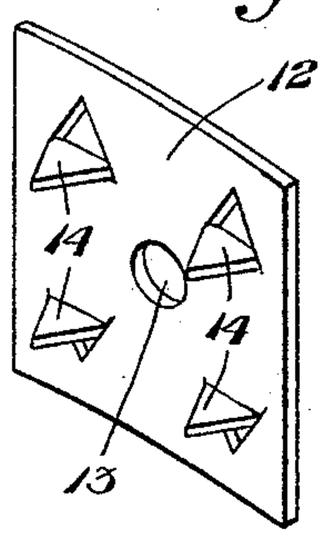

Fig. 5.

Fig. 6.

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3 SHEETS—SHEET 2.

Fig. 7.

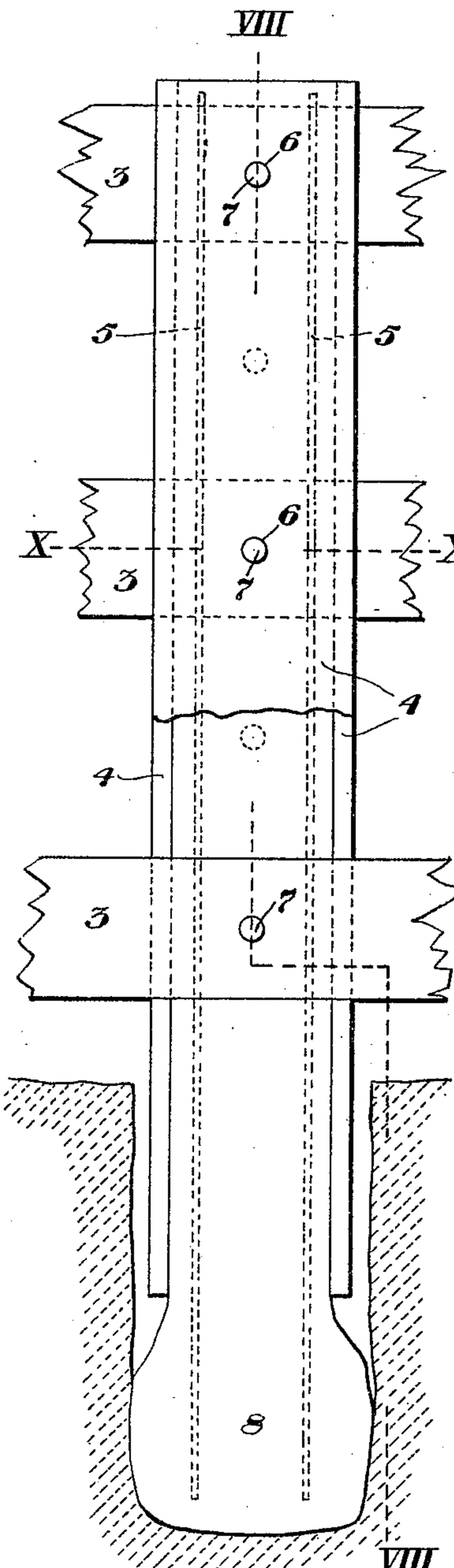


Fig. 8.

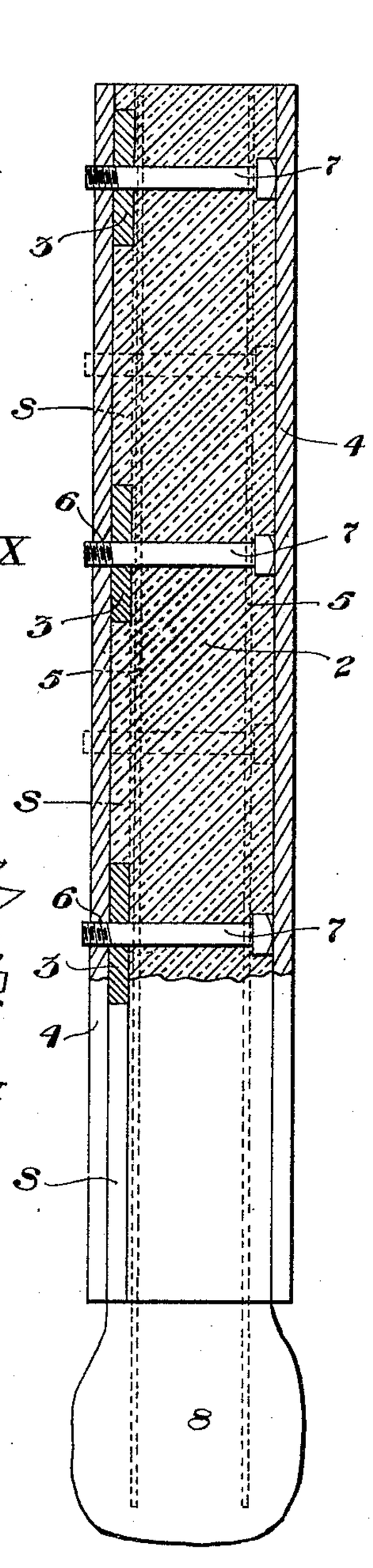


Fig. 9.

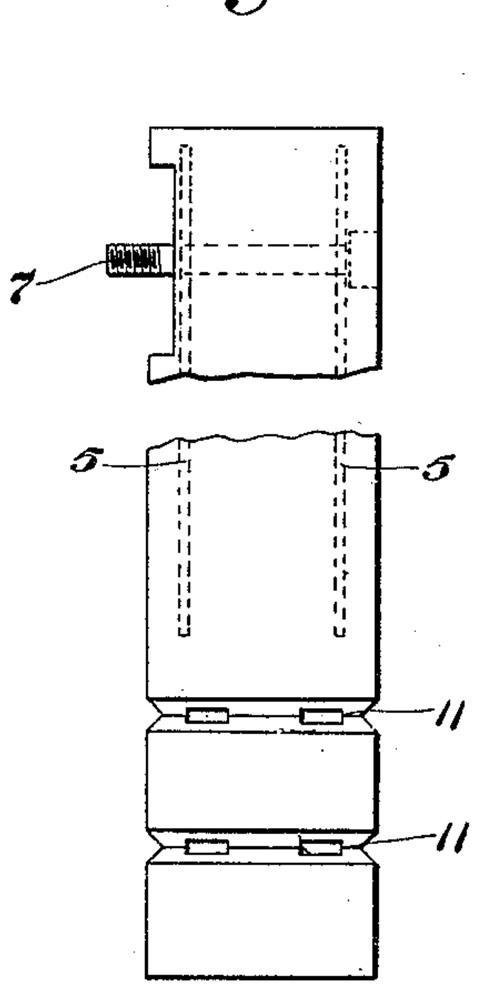


Fig. 10.

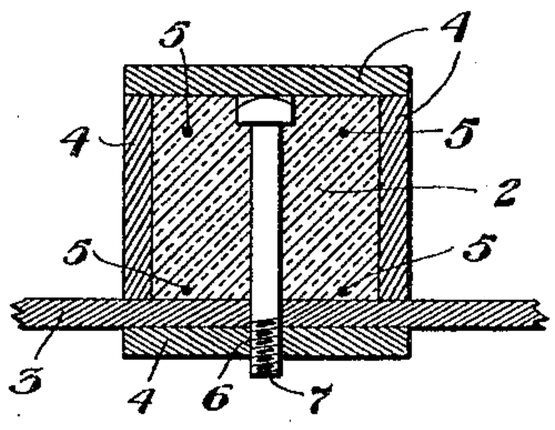
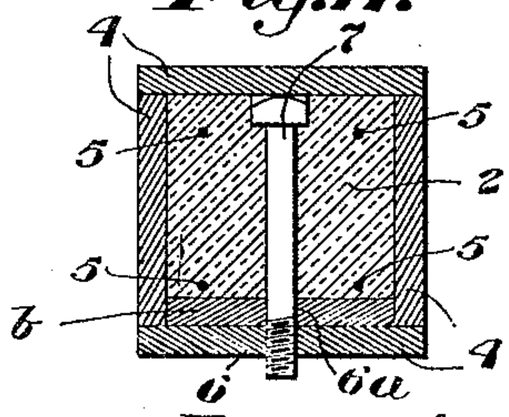


Fig. 11.



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No. 799,413. PATENTED SEPT. 12, 1905.

C. A. SPENCER.

FENCE POST.

APPLICATION FILED MAY 31, 1905.

3 SHEETS—SHEET 3.

Fig. 12.

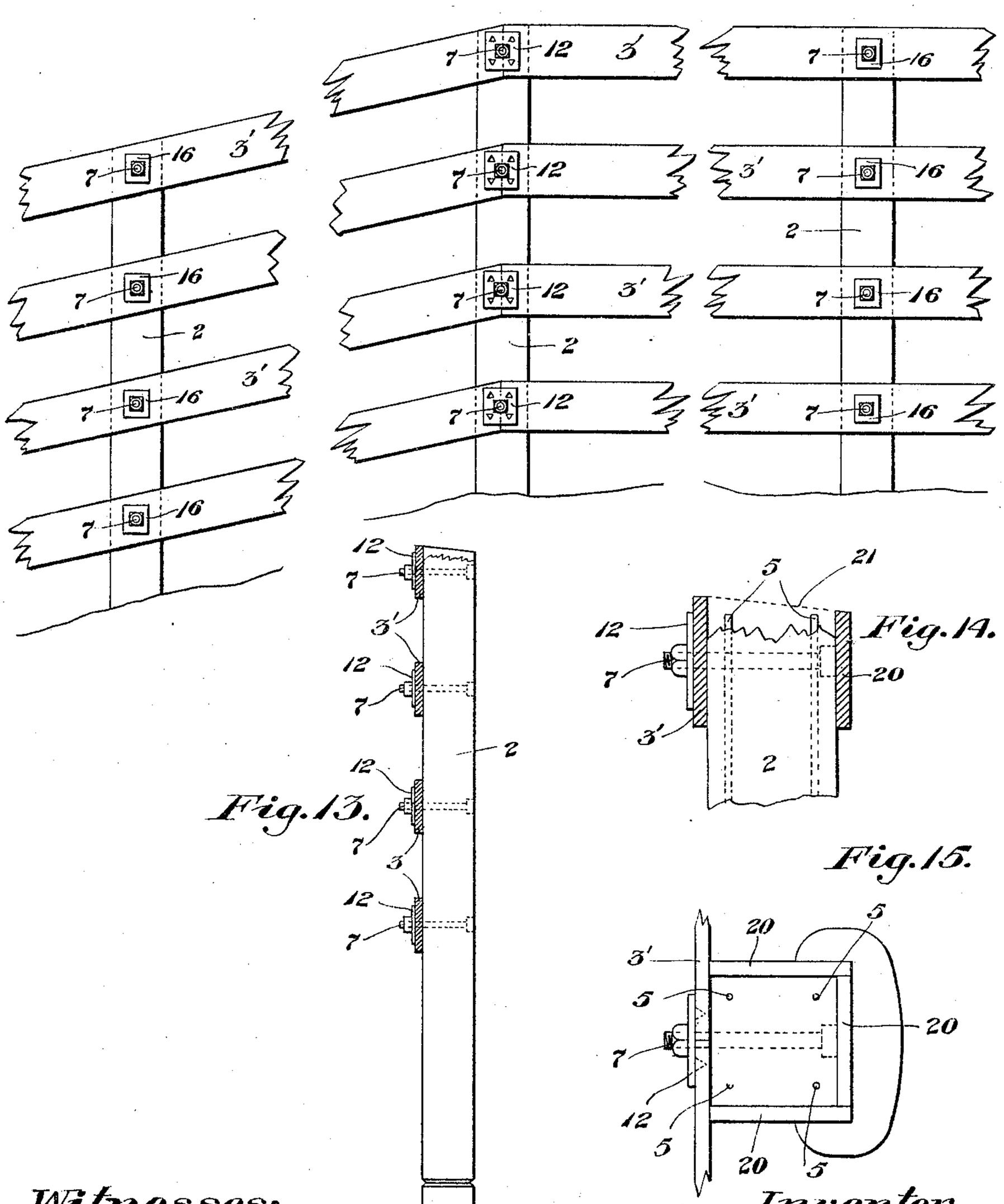

Fig. 13.

Fig. 14.

Fig. 15.

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UNITED STATES PATENT OFFICE.

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FENCE-POST.

No. 799,413. Specification of Letters Patent. Patented Sept. 12, 1905.

Application filed May 31, 1905. Serial No. 262,981.

To all whom it may concern:

Be it known that I, CHARLES A. SPENCER, a citizen of the United States, residing at Shields Station, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Fence-Posts, of which the following is a specification, reference being had therein to the accompanying drawings, forming part of the specification, in which—

Figure 1 is a view in elevation of portions of panels of a fence built with my improved post. Fig. 2 is a similar view showing a single post provided with slantingly-arranged fence boards and wires. Fig. 3 is a view of one of the posts at right angles to Fig. 2, partially in section. Fig. 4 is a perspective detail view of one of the securing-clamp plates used with a board fence. Fig. 5 is an enlarged detail view of a portion of the post, showing the manner of attaching wire strands. Fig. 6 is a perspective view of one of the securing-clips for a wire fence. Fig. 7 is an enlarged vertical elevation, partly in section, illustrating the method of constructing the post. Fig. 8 is a vertical sectional view on the line VIII VIII of Fig. 7. Fig. 9 is a view in elevation, partly broken away, showing a modified construction. Fig. 10 is a horizontal cross-section on the line X X of Fig. 7. Fig. 11 is a similar view showing the manner of recessing the post for boards by means of a pattern-board. Fig. 12 is a view similar to Fig. 1, showing the fence-boards merely laid against and secured upon the flat faces of the posts. Fig. 13 is an edge view of one of said posts. Fig. 14 is an enlarged sectional detail view showing the manner of finishing in the field the upper portion of a factory-made post. Fig. 15 is a plan view of Fig. 14, showing the surrounding mold for such top-finishing operation.

My invention refers to improvements in fence-posts and to the method of manufacturing the same.

The post is designed to be made of concrete or cement, either in a factory for transportation to the point of use or in the field along the proposed line of fence, and the invention refers to the method of molding the concrete with internal strengthening metallic members extending longitudinally of its length with holding devices for the fence structure, as bolts, incorporated with the post in the process of manufacture, the post also being provided, if desired, with rabbeted recesses for receiving the fence-boards flush with its outer surface; also to various other features and details, as shall be more fully hereinafter set forth.

Referring to the drawings, 2 represents the post, which, as shown, is set in the ground and is provided with the longitudinal members 3 of boards or of any suitable material, as wire, in each case the post being provided with holding clamps or clips especially adapted for engaging the boards or wires, respectively.

In Figs. 7 and 8 I have illustrated the manner of molding the post, partially in the post-hole itself, but for the main part within a surrounding mold composed of suitable sides 4, of plank or metal plates set in box form, as indicated in Figs. 10 and 11, partially extending downwardly into the post-hole and secured together by any suitable clamping devices adapted to firmly hold the mold in box form during the operation until removed from the finished post. 5 represents longitudinal strengthening members of any suitable number, as four, and consisting of twisted bars or strands of any convenient form, which are first inserted downwardly within the cavity, occupying the positions indicated. These strengthening members are maintained in suitable relation to each other and preferably adjacent to the four corners of the mold by any suitable convenient temporary holding-guides, which are adapted to be gradually removed as the mold is filled. The front board of the mold is provided at suitable points with openings 6, adapted to receive the threaded ends of bolts 7, the heads of which abut against the back boards of the mold or are closely adjacent thereto, and in a plain front post no further provision is made for shaping it. Into the mold as thus formed I pour concrete or cement of any suitable consistency or mixture until the mold is filled to the top, which is then leveled off, as indicated, and the integral concrete post, with its strengthening members and bolts embedded therein, is then allowed to stand in the post-hole until firmly set, after which the sides of the mold 4 are removed, leaving the finished post in position. For the purpose of facilitating the removal of the mold portions the sides 4 extend only partially into the post-hole—say from ten to twelve inches below the surface of the ground—the post-hole itself receiving the base portion of the post, which is thus free to fill out the post-hole cavity, as indicated at the lower portions of Figs. 7 and 8, thus providing an enlarged base 8 for the post, which

becomes firmly embedded in the hole. After removing the mold the earth is then tightly tamped around the post in the manner usual with wooden posts and it will then remain rigidly in place. In making the posts in the shop I mold the post horizontally within suitable molds with intervening blocks *b* set at suitable distances between the front edges of the side boards 4, the blocks *b* being provided with bolt-holes 6ª, arranged to receive the end of a bolt or bolt-pattern, adapted to mold a corresponding cavity through the post. In making the posts in the field they are molded upright, and the fence-boards themselves are set across the front of the mold, the intervening vertical spaces being filled by strips *s* set upon the front edges of the mold sides and extending out flush with the front of the fence-boards. The front of the mold is thus clamped upon the fence-boards and when removed after the molding operation leaves a continuous smooth surface, the boards being already in position. In case it is not desired to set the fence-boards in flush with the faces of the posts their front faces are molded flat throughout, and the boards when attached will of course extend outwardly beyond the posts to the extent of their own thickness. With either construction the fence-boards may be arranged horizontally or at any desired angle, as clearly shown.

For the purpose of easily shortening the post I provide one or more series of perforating holes or notches, or both, across its lower portion, as indicated at 11, Fig. 9, thus weakening the cross-section, so that the post may be readily broken off to the desired length. It will be understood that in such construction the strengthening-bars 5 extend only partially toward the base of the post, as indicated. I have shown at the lower portion of Fig. 13 the manner of breaking off the desired length of the weakened lower extremity of the post by means of a wedge *w*, adapted to be driven inwardly into the laterally-arranged perforating openings.

For the purpose of securely clamping the boards 3 in place I provide the clamp shown in Fig. 4, consisting of rectangular piece of sheet metal 12, having a central bolt-hole 13 and inwardly-extending punched-out teeth 14, adapted to be driven into the meeting ends of the boards 3, which are also notched out to interfit with the bolts. The teeth 14 are so arranged as to substantially aline with the grain of the wood, and when these clamps are driven in and screwed down tight by the nuts of bolts 7 the boards 3 will be securely held in place. For the purpose of securing wires 15 to the post, Fig. 5, I employ a somewhat similar clip 16, formed of sheet metal, having a central bolt-hole 17 and inwardly-turned oppositely-arranged edges 18, having notches 19, preferably of two different sizes, to engage across the wire and rigidly hold it against the post. These notches are so arranged with relation to the bolt-hole cavity that the wire strand will rest against the bolt and in constructing a level fence preferably upon the upper side thereof. In building a slanting fence up or down hill the wires may be laid over or underneath the bolt, according to the direction of the "pull" of the wire, which is thus firmly braced against the bolt and tightly held by the clip.

When it is desired to finish the tops of the posts in various forms to suit the horizontal or slanting arrangement of the top board, the post when made in the factory is left in a shortened unfinished condition, as indicated in Fig. 14, the internal reinforcing elements 5 extending upwardly somewhat in the top of the molded post, the unfinished upper end being purposely left in a roughened condition, as indicated, so as to provide a good holding-surface for the supplemental finishing top. Around the upper end of such post I secure by suitable clamps the supplemental mold 20, consisting of short sections of plank, the fence-board 3′ forming the front edge of the mold, which, with the fence-board, extends upwardly beyond such roughened top to the desired height of the finished post. Into the upper cavity as thus formed I fill such concrete to finish out the post, the top then being leveled off or finished slantingly, as desired, as indicated by the dotted line 21. By this means it will be seen that the tops of the posts may be variously shaped or formed to suit the arrangement of the upper fence-board or in any other manner desired, while the upper section of the post will become hardened around the projecting reinforcing elements 5 and make a firm bond with them and with the roughened upper surface of the originally-molded post. When hardened, the mold-boards 20 are removed, leaving the supplemental top integral with the post itself.

When made in the manner described and provided with the strengthening and holding devices, the post is very solid and adapted to securely hold the other portions of the fence structure. It is practically indestructible, while the wire or board portions may be removed and renewed from time to time, if desired. An especial advantage of the post is the facility with which it is built in the field. It is very cheap, durable, and weatherproof, and well adapted to withstand the shocks to which structures of such nature are subjected.

It will be understood that the post may be changed or varied in different details to suit the requirements of use by the skilled mechanic; but all such changes are to be considered as within the scope of the following claims.

What I claim is—

1. A post of concrete or similar material provided with strengthening devices embedded in

the post for a portion of its length and having laterally-arranged weakening notches or perforations located longitudinally beyond said strengthening devices, substantially as set forth.

2. A post of concrete or similar material provided with internal longitudinal strengthening devices, an enlarged base extending outwardly beyond the faces of the post, securing elements embedded in the post and extending outwardly beyond its surface, with holding devices operable therewith and arranged to secure the longitudinal elements of the fence structure to the post, substantially as set forth.

3. A post of concrete or similar material provided with longitudinally-arranged strengthening devices and laterally-arranged securing-bolts embedded within the post, said bolts extending outwardly beyond its surface, with securing-clamps adapted to be held upon the bolts by nuts and to retain the longitudinal elements of the fence structure, substantially as set forth.

4. A post of concrete or similar material provided with longitudinally-arranged strengthening devices and laterally-arranged securing-bolts embedded within the post, said bolts extending outwardly beyond its surface, and having a supplemental finishing top portion, substantially as set forth.

5. The combination with a concrete post having bolts embedded therein and projecting beyond the surface; of board-securing clips of sheet metal having a bolt-hole and inwardly-projecting points, substantially as set forth.

6. The combination, in a fence-post of concrete or similar material, of a longitudinal body portion of concrete provided with laterally-arranged recesses for the fence elements, longitudinally-arranged strengthening devices embedded in the post, laterally-arranged securing-bolts embedded in the post and projecting outwardly beyond the surface of said recessed portions, with securing-clamps adapted to be held upon the bolts by nuts and to retain the longitudinal elements of the fence structure, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. SPENCER.

Witnesses:
H. C. SHAW,
CHAS. S. LEPLEY.