

A. D. CAYWOOD.  
WALL PLUG OR SOCKET.  
APPLICATION FILED DEC. 29, 1910.

1,000,715.

Patented Aug. 15, 1911.

Fig. 1.

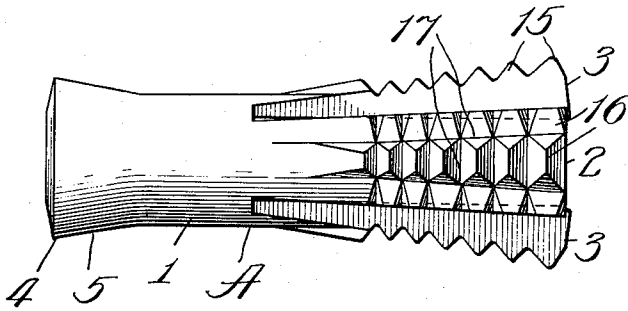


Fig. 2.

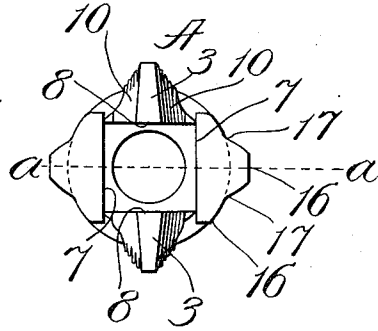


Fig. 3.

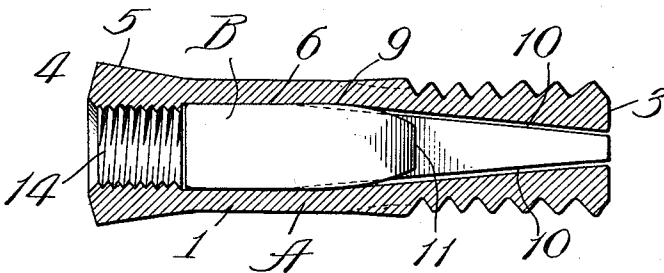


Fig. 4.

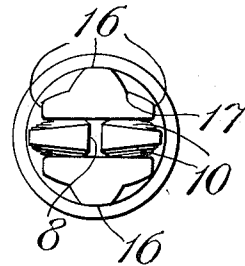
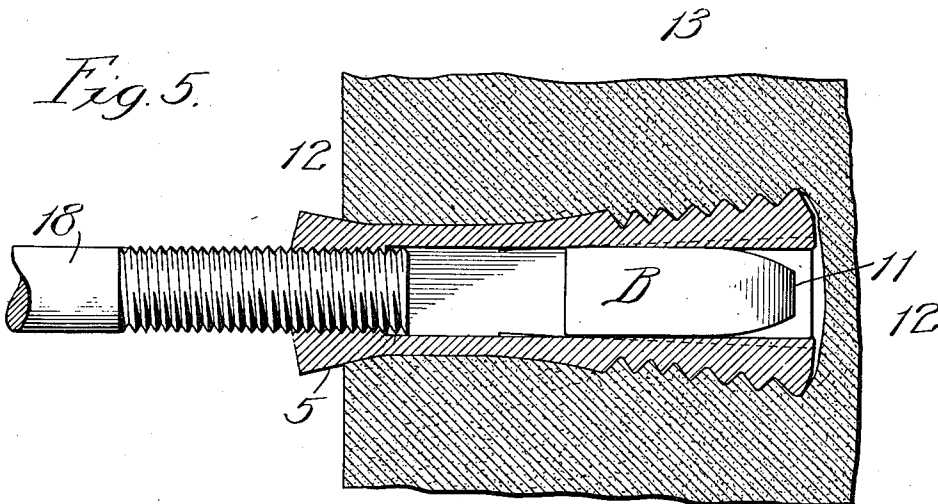


Fig. 5.



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# UNITED STATES PATENT OFFICE.

ALBERT D. CAYWOOD, OF CHICAGO, ILLINOIS.

WALL PLUG OR SOCKET.

1,000,715.

Specification of Letters Patent. Patented Aug. 15, 1911.

Application filed December 29, 1910. Serial No. 599,920.

*To all whom it may concern:*

Be it known that I, ALBERT D. CAYWOOD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Wall Plugs or Sockets, of which the following is a specification.

My invention relates particularly to expansion wall plugs or sockets adapted to be inserted in an opening in a wall and expanded therein to afford a fastening member.

My primary object is to provide an improved and simplified device of the character indicated, which can be cheaply manufactured and readily applied to afford a secure fastening, the device being of such a character as to obviate danger of loss of parts.

The invention is illustrated in its preferred embodiment in the accompanying drawing, in which—

Figure 1 is a side elevational view of an expansion shell or sleeve forming part of my invention; Fig. 2, an end elevational view of the same—Figs. 1 and 2 showing the shell in the form in which it is cast; Fig. 3, a longitudinal view showing the device after the wedge has been inserted and the serrated sleeve-sections, or furcations, have been closed together to enable the shell to be inserted in the wall-opening; Fig. 4, an end elevation of the device in the condition shown in Fig. 3; and Fig. 5, a sectional view showing the device secured in an opening in the wall.

In the form illustrated, the device comprises a shell A and a wedge B. The shell preferably comprises a tubular portion 1 having an intact or uncut wall, and two pairs of sleeve-sections, or furcations, 2 and 3 extending from one end of the intact sleeve-portion 1. The sleeve-portion 1 is preferably of circular form exteriorly, and has an enlarged head 4 preferably provided with a tapering exterior surface 5. The shell is preferably formed by a casting operation, with the furcations in the open condition, the shell having an interior chamber 6 which is preferably of square cross-section, and the inner surfaces 7 and 8 of the furcations forming extensions of the walls of the chamber 6. The walls of the furcations taper from approximately their point of junction 9 with the sleeve-portion 1 to their extremities, the walls being larger in a radial direction at the extremities of the

furcations than at the points of junction with the sleeve-portion 1. The furcations 3 are relatively narrow, and have tapering lateral surfaces 10, so that the furcations 3, while deeper or thicker in a radial direction at their extremities, are narrower in width at their extremities than they are at their points of junction with the sleeve-portion 1.

As appears from Fig. 2, the shell, after casting, is adapted to admit the wedge B, which is of square cross-section. The wedge has a tapered end 11, which points toward the split end of the shell. The shell is malleable, and after the wedge is inserted the furcations are squeezed together, the furcations 3 lying between the furcations 2. After the furcations are forced together, the device appears substantially as represented in Figs. 3 and 4, being of substantially uniform external diameter from the point of junction of the sleeve-portion 1 with the head-portion 4, thus adapting the device to be inserted in a bore or socket 12 in the wall 13. The head 4 of the device is provided with a bore, which is threaded, as indicated at 14.

The exterior circumferential surfaces of the furcations are serrated, or roughened, to increase the gripping action against the wall of the bore 12 after expansion of the furcations. Thus, the furcations 3 have transverse notches affording serrations 15; and the furcations 2 have transverse notches affording teeth or serrations 16, the exterior surfaces of said furcations 2 being longitudinally grooved or cut-away, also, as indicated at 17.

The completed device, as shown in Figs. 3 and 4, is adapted to be inserted in a bore 12 in a wall, with the head 4 outermost. By means of a punch, or drift, the wedge B may be forced longitudinally between the furcations, and owing to the tapering formation of the inner surfaces of said furcations, the furcations will be spread or separated and the serrations thereof caused to indent or enter the surrounding walls of the bore 12. The bore 12 is usually of slightly greater diameter than the shell, and the tapering head of the shell is adapted to fit snugly in the outer end of the bore. It will be understood that my construction provides for the expansion of the furcations of the shell before strain, which might tend to dislodge the shell, is placed upon it. After the shell has been secured in the bore provided for it,

the bolt or pipe 18 may be screwed into the threaded bore 14. If desired, the bolt 18 may be employed to force the wedge longitudinally to expand the furcations 2 and 3.

5 It may be added that the shell A is so designed as to provide the proper draw to its surfaces in the casting operation, the mold separating on the line  $a-a$ , as indicated in Fig. 2. Of course, the chamber 6 and the  
10 internal surfaces 7 and 8 of the furcations are formed by a suitable core of square cross-section.

The foregoing detailed description has been given for clearness of understanding  
15 only, and no undue limitation should be understood therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

- What I regard as new, and desire to secure by Letters Patent, is—

20 1. A device of the character set forth comprising a shell having at one end two pairs of integrally formed furcations, one pair of said furcations having its members  
25 diametrically opposite each other and relatively narrow, and the other pair of furcations having its members embracing the first-named members in the non-expanded  
30 position of the furcations, in combination with an internally located wedge adapted to be moved longitudinally with relation to said furcations.

35 2. A device of the character set forth comprising a shell having a chamber with angular walls and two pairs of furcations projecting from one end of said shell, said furcations enlarging radially from their  
40 base portions to their extremities, one pair of said furcations having tapering lateral walls embraced by the internal lateral walls of the other pair of furcations, in combina-

tion with an internally located wedge of angular formation which is longitudinally movable with relation to said furcations.

3. A device of the character set forth, 45 comprising a shell having at one end a threaded bore and at the other end two pairs of furcations provided with roughened exterior surfaces, one pair of furcations being smaller than the other pair and having tapering lateral surfaces embraced by the internal surfaces of the other pair of furcations, in combination with an internal wedge adapted to be forced longitudinally toward the extremities of the furcations to  
50 expand the furcations. 55

4. A device of the character set forth, comprising a shell provided at one end with a head having a tapering external surface, said head having a threaded bore, and provided at the other end with a plurality of furcations having converging internal surfaces, said furcations provided with external serrations, in combination with a wedge located in the shell and movable longitudinally between said furcations. 65

5. A device of the character set forth, comprising a malleable cast iron shell provided at one end with a threaded bore and having a chamber with squared walls, said  
70 shell having two pairs of furcations at its opposite end with converging flat inner surfaces and serrated exterior surfaces, one pair of said furcations having converging lateral walls embraced by the internal walls of the  
75 other pair of furcations, in combination with an internally located wedge of substantially square cross-section.

ALBERT D. CAYWOOD.

In presence of—

JOHN WILSON,  
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