

Marcl. 15, 1938.

G. F. BARNETT

2,110,863

STUDING SOCKET

Filed July 29, 1935

Fig. 1.

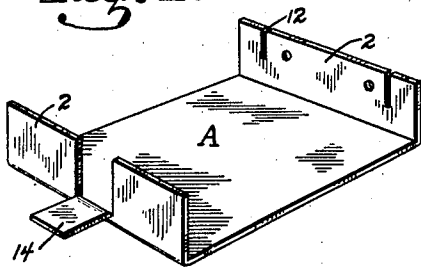


Fig. 2.

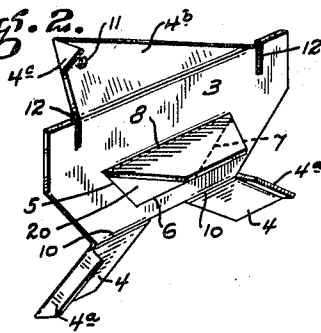


Fig. 3.

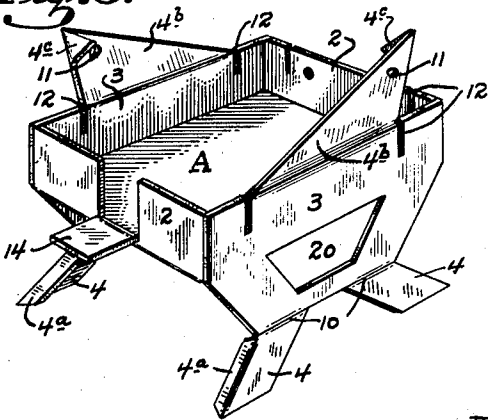


Fig. 4.

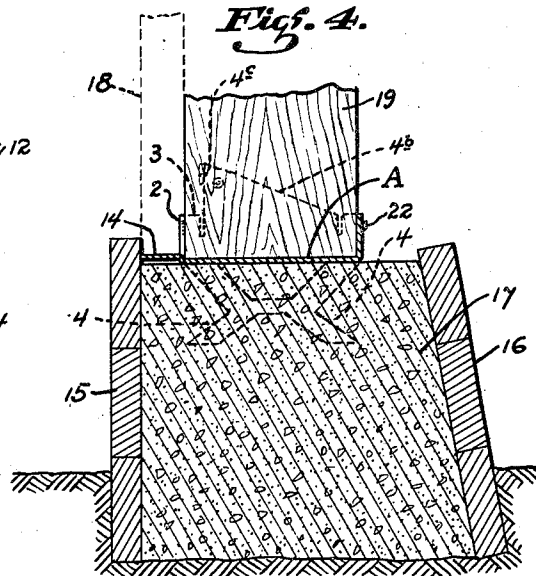


Fig. 5.

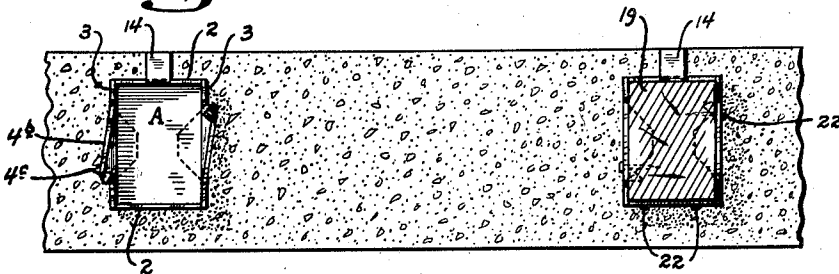
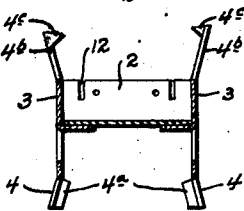


Fig. 6.



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2,110,863

STUDDING SOCKET

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Application July 29, 1935, Serial No. 33,716

10 Claims. (Cl. 72-108)

This invention relates to sockets for the reception of studding members in the frame of a building, or the like, and particularly to sockets which are adapted to be placed in the concrete foundation of a building and anchored therein.

In the construction of buildings employing a wood frame, and particularly the base portion thereof, it is common practice after the concrete has been poured to place mud sills directly on the concrete before it is set so that the sills will become partially embedded and a substantially uniform footing insured. This practice causes the lumber forming the sills to absorb a considerable amount of water and when they dry out warping and twisting takes place, causing considerable difficulty when the underpinning or studding is to be erected. Further, the mud sills are almost always subjected to considerable dampness or moisture and as such have a tendency to rot out or become infected with termites, or other wood destroying insects, thereby requiring replacement within a few years. Also, it might be pointed out that the only method practiced when securing the studding to a mud sill is that of toe-nailing. This method is none too secure at the best.

The object of the present invention is generally to improve the construction of the underpinning of a building of the character described to increase the life and strength thereof, and in particular to provide a series of sockets which are adapted to be placed in the concrete after the pouring of the foundation so as to be anchored in and become a part thereof, said sockets receiving the lower ends of the studs and rigidly securing them with relation to the foundation.

The studding sockets employed are shown by way of illustration in the accompanying drawing, in which—

Fig. 1 is a perspective view of the bottom portion and ends of the sockets;

Fig. 2 is a perspective view of one of the side sections of the socket;

Fig. 3 is a perspective view showing the several portions forming the socket in assembled condition;

Fig. 4 is a sectional view of a concrete foundation showing placement of the socket therein;

Fig. 5 is a plan view of a portion of a foundation showing the manner in which the sockets are positioned;

Fig. 6 is an end view of the socket in section.

Referring to the drawing in detail, and particularly Fig. 1, A indicates the bottom portion of the socket, 2-2 the end portions, 3-3 the sides,

and 4 a series of leg or anchor members formed integral with the sides. The several members forming the socket are preferably constructed of sheet metal, the bottom A and the ends 2 and 2a, as shown in Fig. 1, being made in one piece and the sides 3-3, including the legs 4 being made in separate pieces by punch and die operations in the usual manner. The three sections forming the socket are assembled as shown in Fig. 3 by welding the sides to the bottom sections and the ends 2-2.

By referring to Fig. 2, it will be noted that a portion of the metal forming the legs is cut along the lines indicated at 5, 6, and 7, and that the cut piece is bent inwardly along the line 8 to assume a position at right angles to the side. This inwardly bent portion extends in under the bottom section A of the socket and is welded thereto. When the several parts forming the socket are assembled and welded this assists in securing the side sections to the bottom and at the same time materially reinforces the bottom section and adds greater strength. The legs 4 form a part of each side section of the socket and they are provided with flanges 4a and the legs themselves are bent outwardly on the lines indicated at 10, to increase the efficiency of the anchorage between the socket and the concrete with which it is placed.

The side sections are also provided with upwardly extending sections 4b which terminate in an inwardly bent sharpened point 4c, which is adapted to be driven into the wood when the studding is inserted, and nail holes may also be provided as indicated at 11. These may or may not be used depending upon the building ordinance in the city, town or district in which used. The sides and ends are also provided with slits, as shown at 12, to provide a certain amount of latitude and circumferential expansion, this being desirable as the underpinning or studding employed is not always sawed to exact dimension. A gauge leg may also be provided, as shown at 14, to permit exact positioning of the sockets with relation to the outer surface of the foundation as will hereinafter be described.

When building a concrete foundation, it is common practice to first erect the forms or cribbing, indicated at 15 and 16, and then to pour in the concrete indicated at 17. If studding sockets, such as here shown, are to be employed they are placed on top of the concrete before it is set, the socket being forced downwardly into the concrete until the bottom surface rests thereon, care being taken at the same time that the gauge legs

14 engage the inner face of the cribbing 15 so that the correct amount of space is provided for the reception of the sheeting indicated by dotted lines at 18, which is nailed to the outside of the studs indicated at 19. When the concrete is set the leg members will be anchored in the concrete and form a part thereof, the anchorage being exceedingly strong and efficient as the concrete will pass through the openings between the legs indicated at 20, and it will also surround the flanges 4a and the angularly bent legs themselves.

The studding sockets will usually be spaced apart about sixteen inches when placed in position as this is common practice, but obviously the spacing may be changed to suit varying conditions and so may the size of the sockets. If three by four studding is used, the inside dimension of the sockets will be three by four; if two by six studding is employed, the dimension of the socket will be the same, etc.

After the studding sockets have been placed and the concrete set, the studding indicated at 19 may be placed in the sockets and the points 4c may be driven into the wood of the studding by a hammer, or the like, and nails may also be driven in at the parts indicated at 22, if desired. The studding is thus rigidly secured to the foundation and will under no circumstances slip or give way. Furthermore, the studding sockets will form a substantial anchorage for the lower ends of braces when they are placed in position. Where dampness is encountered it may be desirable to galvanize, enamel, or otherwise, coat the sockets to protect them against rust.

Again, where termites or other wood destroying insects are encountered it may be desirable to pour a small amount of insecticide in the bottom of the sockets before the studding is placed in position, this being very desirable as the insects have a tendency to enter at the end portion of the grain. Before the insecticide is poured into the socket the gauge leg or lug 14 is bent upwardly from a horizontal position to a vertical position to close the opening formed in the front wall 2 by cutting the same to provide the leg or lug 14.

The sockets, due to the method of manufacture, will all be accurate in size and uniform in appearance and there will be no shrinkage due to the fact that sheet metal or a similar material is employed. A true line-up is quickly and readily acquired by means of the gauge legs 14. Once the vertical studding is cut to desired length there will be an impossibility of variation, and this will eliminate sagging in the building. The socket anchorage formed by the socket makes it a perfect base for diagonal bracing since after the studding is placed in the sockets it becomes an immovable unit with the same and thereby eliminates shifting of the studs. This is important as shifting invariably occurs at corners of the structure and other places where mud sills are joined.

The socket footing will insure a uniform distribution of the load imposed thereon. The installation of the socket is so simple that any unskilled person can perform the same. The studding may be nailed to the sockets, if desired, but in most cases will be unnecessary. After the socket is placed in the concrete it becomes a part of the latter, and is therefore a perfect anchor. (In zones subjected to tremors of heavy traffic, the socket will prevent studding from jumping

and rattling like on a wooden sill of ordinary use.)

While the invention has been described as studding sockets, I wish it to be understood that it may be used for fence posts, gate posts, road signs, or the like, where a concrete foundation or block is employed, and similarly, that the materials and finish of the several parts employed may be such as the manufacturer may decide, or varying conditions or uses may demand.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. A support of the character described comprising a sheet metal socket adapted to receive the end of a stud, said socket comprising a bottom portion having upwardly extending sides and ends, said sides and ends being slotted to permit circumferential expansion or contraction of the sides and ends, and means for securing the support to the foundation of a building.

2. A support of the character described comprising a sheet metal socket adapted to receive the end of a stud, said socket comprising a bottom portion having upwardly extending sides and ends, downwardly extending leg members formed integral with the sides of the socket, said legs having openings formed therein and said legs being bent to flare outwardly, said flaring legs with the openings therein forming anchor members when the socket is placed in concrete.

3. A support of the character described comprising a sheet metal socket adapted to receive the end of a stud, said socket comprising a base portion having upwardly extending sides and ends, downwardly extending leg members formed integral with the sides of the socket and functioning as anchor members in a concrete foundation, and a cut-out portion formed between the legs and bent in under the base and secured thereto to reinforce the base.

4. A support of the character described comprising a sheet metal socket adapted to receive the end of a stud, said socket comprising a base portion having upwardly extending sides and ends, downwardly extending leg members formed integral with the sides of the socket and functioning as anchor members in a concrete foundation, and an upwardly extending central portion on each side, said upwardly extending portions terminating in inwardly bent sharp points adapted to be driven into the sides of the studs.

5. A support of the character described comprising a sheet metal socket adapted to receive the end of a stud, said socket comprising a base portion having upwardly extending sides and ends, downwardly extending leg members formed integral with the sides of the socket, legs having openings formed between them and being bent to flare outwardly, and right angular bent flanges on the edges of the bent portions of the legs, said flanges and the flaring legs together with the openings formed between them forming anchor members when the socket is placed in concrete.

6. A socket forming an anchor member between a plastic foundation and a stud, said socket resting upon and supported by the foundation and receiving the lower end of the stud and provided with means for anchoring it to the foundation, and a gauge lug extending from the front of the socket to the front of the foundation and spacing the socket from the front of the foundation the necessary distance to provide a space for exterior sheathing and for a final finishing coating of plastic material so that the final fin-

ishing coating will be substantially flush with the front of the foundation.

5 7. A socket forming an anchor member between a plastic foundation and a stud or the like and comprising a bottom resting upon and supported by the foundation and upwardly extending walls, said socket receiving the lower end of the stud and shielding the same from moisture contained within the plastic foundation, and leg members consisting of extensions of opposite walls of the socket and extending downwardly therefrom for embedding in the plastic foundation and functioning as anchor members in the foundation.

15 8. A socket forming an anchor member between a plastic foundation and a stud or the like and receiving the lower end of the stud, said socket comprising a bottom resting upon and supported by the foundation and upwardly extending walls, said bottom and walls shielding the stud from moisture contained within the plastic foundation and forming a receptacle to receive an insecticide to prevent termites and other insects and the like from entering the lower end of the stud.

25 9. A socket forming an anchor member be-

tween a plastic foundation and a stud and comprising a bottom resting upon and supported by the foundation and upwardly extending sides and ends, said sides, ends, and bottom forming a receptacle receiving the lower end of the stud and shielding the same from moisture contained within the foundation, the receptacle being also adapted to receive an insecticide to prevent termites and other insects and the like from entering the lower end of the stud, and leg members extending downwardly from and connected with the socket and embedded in the plastic foundation and functioning as anchor members.

10 10. A socket forming an anchor member between a plastic foundation and a stud and receiving the lower end of the latter and comprising a bottom resting upon and supported by the foundation, upwardly extending walls cooperating with the bottom to shield the stud from moisture contained within the foundation, upwardly projecting extension sections extending from the walls of the socket and provided with inwardly disposed pointed lugs arranged to be driven into the stud for securing the stud in the socket, and means for securing the socket to the foundation.

25 GEORGE F. BARNETT.