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H. P. NEPTUNE
SPACER FOR FORM BOARDS
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2,271,089

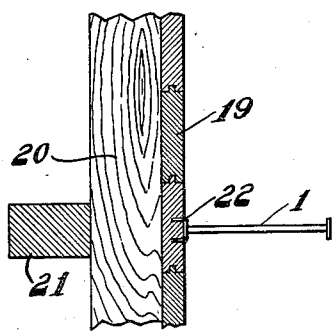


Fig. 1.

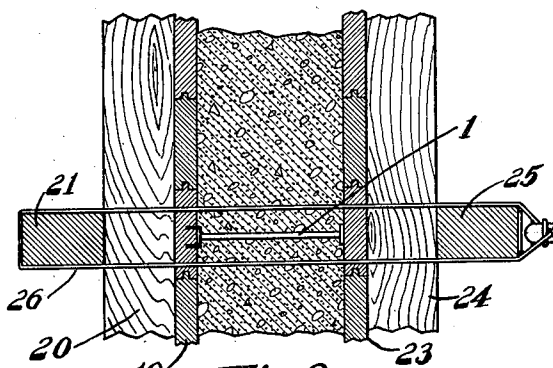


Fig. 2.

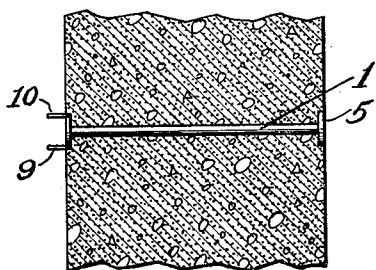


Fig. 3.

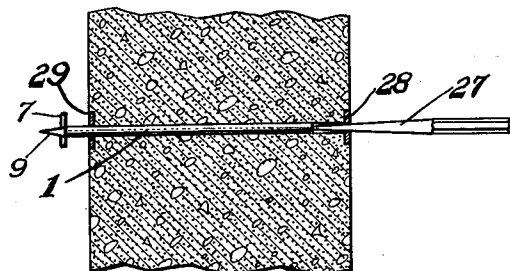


Fig. 4.

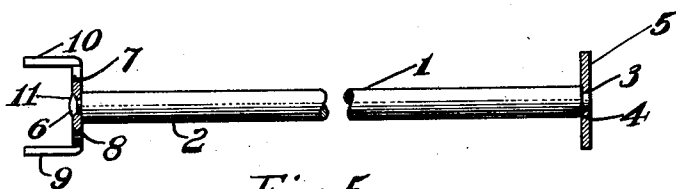


Fig. 5.

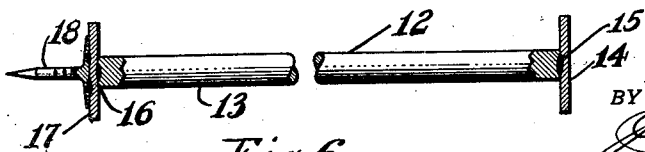


Fig. 6.

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SPACER FOR FORM BOARDS

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5 Claims. (Cl. 25—131)

This invention relates to spacers for form boards between which form boards concrete or other substance is adapted to be poured.

It is essential in the forming of concrete walls that the wall thickness be maintained, and to this end it is customary to use some device where-
by the form boards between which the concrete is poured are suitably held apart, to the end that the resulting concrete wall, when the form boards are torn away, will assume the section desired by the contractor.

An object of the present invention is to provide a spacer for form boards which is light and strong, will not retard the flow of concrete or cause voids in the concrete during a pouring thereof, which will have ample bearing surface to assure accurate spacing between the form boards, and which is so constructed as to not injure the forms.

Another object is the provision of a spacer which may be readily removed from the concrete after the concrete wall has set, thus preventing rust stains.

The invention also incorporates other novel features as will appear from the detailed description of the device.

The invention is inexpensive in cost of manufacture, capable of producing superior and accurate results, and is trouble free in use.

With the above mentioned and other objects in view, the invention consists in the novel and useful provision, formation, construction, association, and relative arrangement of parts, members and features, all as shown in certain embodiments in the accompanying drawing, described generally, and more particularly pointed out in the claims.

In the drawing:

Figure 1 is a fragmentary view, partly in section, of a form board together with studs and waler with one form of spacer projecting outwardly from a form board.

Figure 2 is a fragmentary sectional view illustrating concrete poured between form boards, with a spacer between said form boards.

Figure 3 is a fragmentary section of concrete with a spacer extending transversely there-through.

Figure 4 is a fragmentary section of concrete illustrating a method whereby the spacer may be removed from the concrete, and

Figures 5 and 6 show two forms of spacers embodying the invention, details of construction being shown in fragment and in section.

Referring first to Figure 5, I have shown a spacer for use in separating form boards, which spacer is designated as an entirety by the numeral 1, and includes an elongated shank 2, one end of which is reduced in diameter at 3 to provide a shoulder 4, whereby a washer 5 may be secured on said reduced diameter portion. The opposite end of the shank is provided with a reduced diameter stud 6, with an impaling device 7 secured to said stud. This impaling device includes a cross piece 8, which may be in the form of a disc, and a pair of tines 9 and 10 spacedly secured to the said cross piece. The cross piece is formed with an opening through which the stud passes after which the stud is upset, as shown at 11, to hold said cross piece securely between the stud and the end of the shank.

In the form of the invention illustrated in Figure 6, which is here designated as an entirety by 12, the same includes a shank 13. One end of said shank has secured thereto a disc 14 by welding or otherwise, as illustrated at 15, while the opposite end of the shank at 16 has secured by welding or otherwise a disc 17. The front face of said disc 17 has secured thereto by welding or otherwise an impaling member 18 which, in the present form of the invention, has the appearance of a long shank tack or nail.

In utilizing either form of the invention, say the form illustrated in Figure 5, one set of form boards 19 are erected, together with the usual studding and waler 20 and 21. The impaling tines 9 and 10 are driven into one of the form boards, as illustrated in Figure 1, at 22 by merely using a hammer against the opposite end of the shank, which carries the washer 5. When the second set of form boards are erected, as illustrated in Figure 2, at 23, together with the studs 24 and waler 25, a tie wire 26 may be passed around the walers and brought in tension so that the said form boards will bear tightly against the spacer, it being noted that a form board bears against the washer 5 in the showing of Figure 2. The concrete is then poured between the form boards and around the spacer or spacers, of which there would, of course, be a plurality, until such time as the wall is self-supporting without deformation, and the walers, studs and form boards may be removed. The wall will then have the appearance shown in Figure 3.

As it is best to remove all extraneous articles from the concrete, a simple punch, such as shown

in Figure 4 at 27 may engage the reduced diameter stud 3 and by striking upon the end of the punch, drive the shank outwardly of the concrete, as shown in Figure 4. Once having started movement of the shank, it is a simple matter, through the medium of any implement, to complete the withdrawal of the shank from the concrete wall. It has been found that the washer 5 may be easily removed from the small depression 28 in the concrete. Ordinary cement may be utilized to hide both the small depression made by the washer and the depression 29 made by the cross piece of the impaling member.

The form of the invention illustrated in Figure 6 operates upon an identical principle and is adapted to be positioned between the form boards as illustrated in Figure 2. When it is desired to remove the shank from the concrete wall, a center punch may strike the head or disc 14 sufficient to break the weld between said disc and the end of the shank. The procedure of withdrawal is the same as for that form shown in Figure 1.

I claim:

1. A spacer adapted to be interposed between two form boards, including a rod, a cross piece provided with a pair of spaced apart outstanding tines carried on one end of said rod, and a cross-piece at the opposite end of said rod.

2. A spacer adapted to be interposed between two form boards, including a rod, a disc on one end of said rod, means securing the disc to the rod in such a manner that said disc is released from said rod when the rod is axially driven in one direction relative to the disc.

3. A spacer adapted to be interposed between two form boards, including a rod, a cross piece carried by one end of said rod, a cross piece provided with an impaling portion carried by the opposite end of said rod, and means for securing one of said cross pieces to the rod in such a manner that said cross piece is released from said rod when the rod is axially driven in one direction relative to the cross piece.

4. A spacer adapted to be interposed between two form boards including a rod, a disc carried at one end of said rod, and tines diametrically disposed on said disc and outwardly projecting therefrom.

5. A spacer adapted to be interposed between two form boards and to be detachably impaled in one of said form boards and to rest freely against the other form board, including a spacer rod, a disc abutment on one end of said rod, means for releasably holding the disc to the rod, and an impaling pin carried by the opposite end of the rod.

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