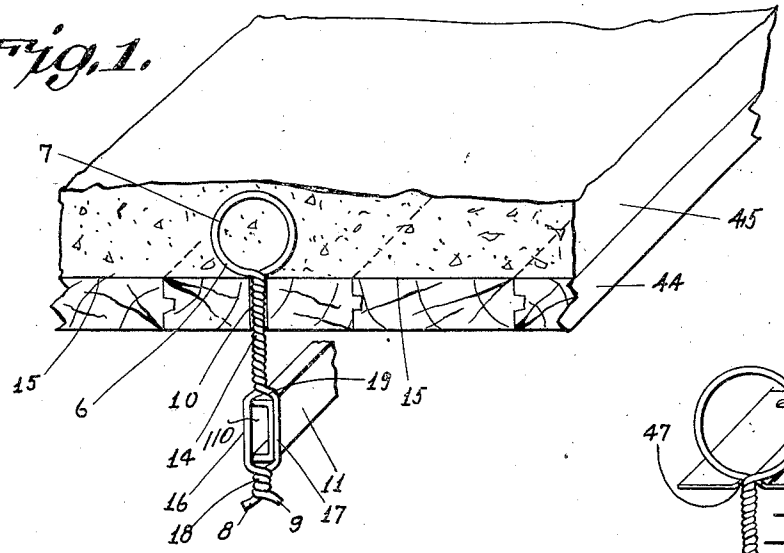
June 24, 1930. M. S. GOLDSMITH 1,767,065

CEILING TIE AND SPACER

Filed Aug. 2, 1922

Fig. 1.



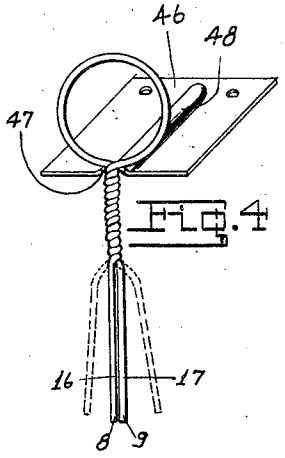


Fig. 4

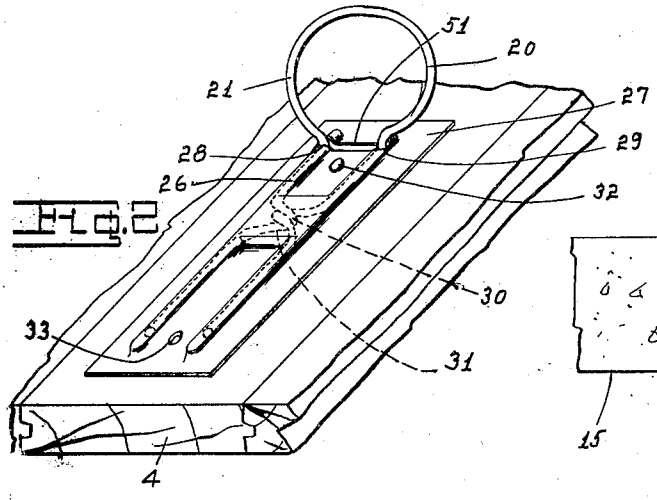


Fig. 2

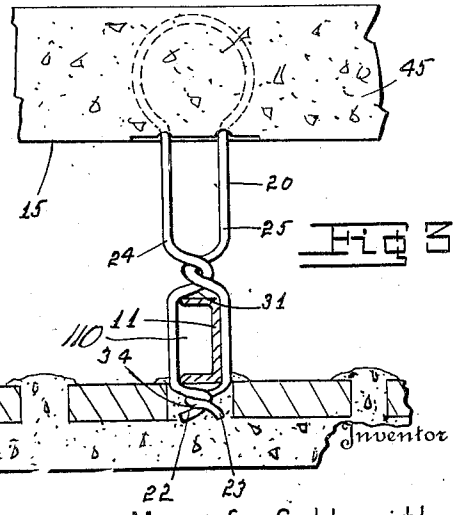


Fig. 3

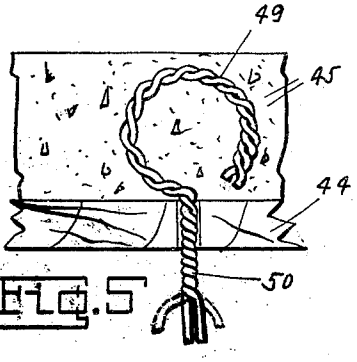


Fig. 5

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Patented June 24, 1930

1,767,065

UNITED STATES PATENT OFFICE

MAX S. GOLDSMITH, OF CINCINNATI, OHIO, ASSIGNOR TO THE GOLDSMITH METAL LATH COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO

CEILING TIE AND SPACER

Application filed August 2, 1922. Serial No. 579,144.

An object of my invention is to provide a ceiling tie such as is employed in plastic construction, which will also serve as a spacer.

Another object of my invention is to provide a simple and efficient device for the purpose stated.

Another object of my invention is to provide a device which may be economically and expeditiously manufactured and applied.

These and other objects are attained by means described herein and disclosed in the accompanying drawing, in which:

Fig. 1 is a sectional view of a plastic mass having embedded in it a device embodying my invention.

Fig. 2 is a perspective view of a modified form of device embodying my invention.

Fig. 3 is a sectional view of plastic masses showing the device disclosed in Fig. 2, in its applied form.

Fig. 4 is a view showing an insert of the type disclosed in Fig. 1 together with a cap embodying my invention, prior to the mounting thereof.

Fig. 5 is a sectional view of a plastic mass in which another form of device embodying my invention is embedded.

In the plastic arts it is customary to provide a mold of which the wooden strips 44 form a part, and into which mold the plastic mass 45 is poured. In order to suspend a ceiling or other structure from the plastic mass, recourse to many devices has been taken, all of which require the employment of various retaining elements to position the inserts corresponding to the inserts 6 disclosed herein. Altho such retaining elements may be employed with my device, and under some conditions it may be preferable to use such retaining means, such retaining means are not indispensable to my device.

As disclosed herein my invention comprises an insert 6 which may consist of a single wire bent upon itself whereby to form a loop or eye 7 intermediate its ends 8 and 9, which ends 8 and 9 are inserted thru a hole 10 bored in the form 44. The eye 7 formed on the insert serves to preclude the insert from dislodgment in relation to the form and to the plastic mass 45 which is poured into the form, and also functions as a holding element which when embedded in the set plastic, will support the channel 11, the lath 12 and the plastic mass 13 forming the ceiling mass below the floor or plastic mass 45. The ends 8 and 9 in immediate proximity to the eye 7 are twisted upon one another as shown at 14, this intertwining or twisting serving to establish a determinable distance at which the channel 11 is to be disposed below the lower face 15 of the plastic mass 45. At the time the insert is mounted upon the form 44, the extreme ends of the arms 16 and 17 are free, said ends being bent upon one another as shown at 18 after the channel 11 has been brought into engagement upon the seat 19 formed at the lower end of the twisted section 14.

The insert 20 disclosed in Figs. 2 and 3 comprises an eye 21 formed intermediate the ends 22 and 23 of the arms 24 and 25. The arms are bent upon the eye 21 whereby the arms may be contained within a depression 26 formed in the cap 27. The cap has apertures 28 and 29 thru which the arms may be inserted prior to the intertwining of the arms as shown at 30 whereby to form a seat 31. The cap is mounted upon the mold 44 by means of nails 32 extending thru slots 33 formed in the cap. After the plastic mass 45 has been poured upon the cap, the arms are withdrawn from the depression in the cap, and the channel bar 11 is disposed between the arms 24 and 25 below the seat 31, whereupon the ends of the arms are twisted or intertwined upon one another as shown at 34 whereby to secure the channel upon the insert. By providing the seat 31, the channel may be spaced at any determinable distance from the plastic mass 45. The lath 12 is secured to the channel 11 as is common in the art, and the plastic mass 13 is applied to the lath 12.

Although I have disclosed but a wire insert, it is to be understood that the insert may be made of other materials, the material having one portion thereof which may be embedded in the plastic, having a seat formed on it which may be passed thru a hole in the mold and which seat serves to

position a channel or other element in a determinable relation to the plastic mass in which the insert is embedded.

In the form disclosed in Fig. 4, a cap 46 is employed with inserts such as disclosed in Fig. 1. The cap is provided with a slot 47 which the arms of the insert may enter and has a groove or depression 48 in which the arms and intermediate portion may lie. In this method of application, the arms and intermediate portion are bent at an angle to the eye, as are the arms of the insert shown in Fig. 2.

The insert in Fig. 5 may comprise a multiple of wires bent about one another thruout their length to such distance as is necessary to form the eye 49 and spacing portion 50. This form of insert may be employed with or without a cap.

When inserts such as shown in Fig. 2 are provided with the form disclosed, prior to mounting upon the cap, the cap may be slit between the apertures 28 and 29 as shown at 51.

By reference to Fig. 1 and Fig. 3 it will be noted that an eye 110 is provided between the ends of the insert, adjacent to the free ends of the arms of the clip and that said eye is spaced from the plastic mass 45. The channels 11 are received in the eyes 110. Whereas the inserts may be made at a factory, all of the eyes may be spaced equidistant from the plastic mass, when applied, whereby to attain an even or level positioning of the channels or retaining elements 11 and consequently the lath 12 may be hung or attached to the channels equidistant from the plastic mass 45 and devoid of waves or undulations. The plaster 13 then may be provided with a plane or flat, even, lower face in which there are no waves or undulations.

What I claim is:

1. In a combined floor and ceiling structure the combination of a concrete floor, a ceiling suspended from and spaced from the floor, and a combined tie and spacer member connecting the floor and ceiling comprising a wire member embedded in the concrete floor and having integral depending members spacing the ceiling from the floor and twisted on each other for suspending the ceiling from the floor.

2. In a concrete floor and suspended ceiling structure wherein the ceiling is spaced from the floor, the combination of a concrete floor, ceiling tie and spacer wires each partly embedded in the concrete, the wires comprising ends projecting from the concrete floor and having seats formed thereon, all seats spaced equidistant from the floor, support bars engaging the seats on the wires and fixed thereon in equidistant spaced relation to the floor by twisting the wires on each other, and a ceiling structure supported by said support bars.

3. The combination with a cap having an opening and a depression therein, of a flexible ceiling tie and spacer extending through the opening and disposed partly in the depression in the cap, the portion disposed within the depression in the cap having a seat formed thereon for receiving a support member and for spacing the support member from the cap when said portion is bent away from said cap, said portion comprising means for drawing the support member against said seat and for holding the support member on the seat, the other portion of the ceiling tie and spacer adapted to be inclosed in a plastic mass for bonding same thereto, the cap adapted to protect the seat from the plastic mass.

4. A unitary ceiling tie and spacer comprising a member for enclosure in a cementitious mass, a seat forming portion spaced from the first mentioned portion and to be disposed without said mass, and means extending beyond the seat forming portion and adapted to be twisted together for attaching a support member to the tie and spacer and for holding the support member in engagement upon the seat forming portion.

5. Wires for bonding a concrete floor and a ceiling in spaced relationship, said wires being looped at one of their ends and each comprising a pair of ends twisted about one another for a predetermined distance whereby a seat is formed on each wire at the end of said twisted portion of the ends, the said pair of ends extending in substantial parallelism beyond the seat and forming means for twisting upon one another beyond a support bar that may be engaged with said seat, the said ends of a plurality of wires when so twisted out of their parallel relationship and upon one another, adapted to hold a support bar in engagement upon said seats and in spaced parallel relation to said looped ends of the wires, the looped ends of the wires being adapted to be embedded in a plastic mass whereby the support bar may be retained in parallelism with the plastic mass.

In testimony whereof, I have hereunto subscribed my name this 29th day of July, 1922.

MAX S. GOLDSMITH.