N. F. AMBURSEN.

HANGER FOR CONCRETE CONSTRUCTION.

APPLICATION FILED JUNE 3, 1919.

1,374,894. Patented Apr. 19, 1921.

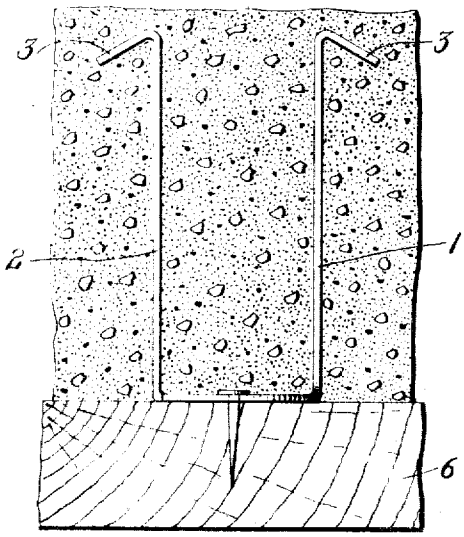


Fig. 1.

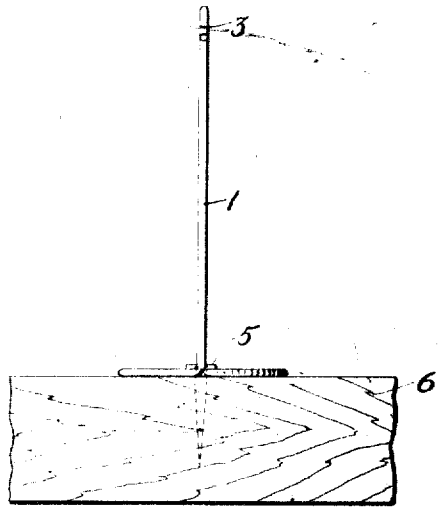


Fig. 2.

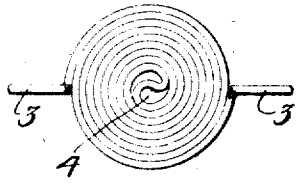


Fig. 3.

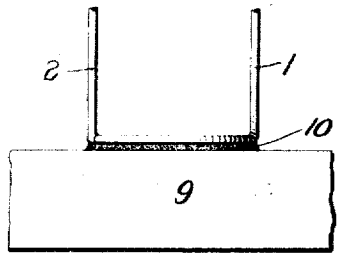


Fig. 6.

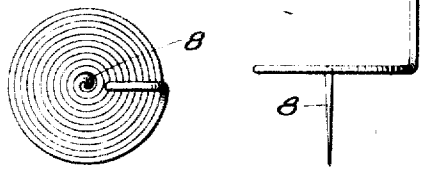


Fig. 5.

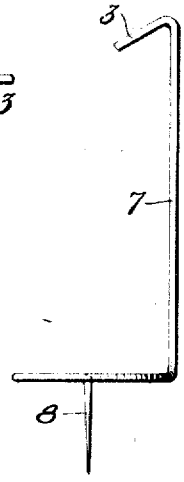


Fig. 4.

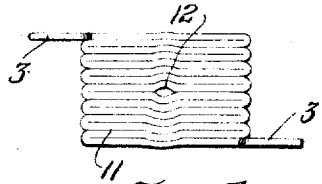


Fig. 7.

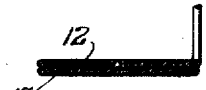


Fig. 8.

WITNESS

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HANGER FOR CONCRETE CONSTRUCTION.

1,374,894. Specification of Letters Patent. Patented Apr. 19, 1921.

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To all whom it may concern:

Be it known that I, NILS F. AMBURSEN, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Hangers for Concrete Construction, of which the following is a specification.

This invention has reference to hangers for use in concrete work made of wire or similar rod sections, and adapted to be embedded in the concrete with a strand or a plurality of strands suspended or free of the concrete in position to be wrapped around or otherwise caused to engage an article or member to be supported, such for example, as a wood strip or metal channel or rolled section intended to form a support for a ceiling.

One of the objects of this invention is the provision of a device of the character specified which can be readily placed in position in the mold and held against displacement during the pouring of the concrete, and yet which, when the mold is finished, will permit of ready loosening of the supporting strand of the wire in position for use.

Another object of this invention is the provision of a device of the character specified in which the loose or free end or ends of the wire is placed in a compact or massed position such as a helical coil when the device is set up in the mold, which coil can be later unwrapped or opened out to leave the securing ends of the wire free.

Heretofore it has been usual to place wires in concrete structures with the securing ends projecting outside the mold by boring holes through the forms and inserting the free ends of the wires through the holes, which, particularly in metal forms, is a slow and expensive method, especially where a large number of such supporting wires are needed as is the case in the support of expanded metal for ceilings, and which also interfere with the free handling of the forms in taking them away from the concrete for erection in another place. Another plan sometimes used in providing for the introduction of such supporting wires is to form notches or slots in the forms through which the wires may project while the concrete is being poured. In such prior apparatus another difficulty encountered arises from the danger to the workman from the exposed and free hanging ends of the wires which sometimes catch or trip them and interfere with their work.

In order that my invention may be better understood I will now proceed to describe the same in connection with the accompanying drawings in which I have illustrated the same in preferred form, and in which—

Figure 1 is a sectional view through a portion of a concrete structure having one of my improved supporting devices embedded therein; Fig. 2 is a side elevation showing one of my improved supporting devices fastened to a wooden portion of a mold with an ordinary carpet tack such as may be used to hold the device while the concrete is being poured; Fig. 3 is a plan view of one of my improved devices showing the wire formed with a double helical coil which will leave two free ends projecting out of the concrete when the mold is removed and the coil is pulled out from the center and cut; Fig. 4 is a side elevation of a form of my invention in which a single wire is employed with the end of the wire formed into a supporting pin to take the place of the tack used in Figs. 1 and 2; Fig. 5 is a plan view of the device shown in Fig. 4; Fig. 6 is a view showing one of my improved devices secured to a metal form by means of pitch or other quick hardening plastic material such as will cause the device to adhere to the flat surface of the form; Fig. 7 shows a modified method of massing the strands of the wire together by running them back and forth alternately instead of coiling them as shown in Figs. 3 and 5; and Fig. 8 is a view of a modification in which a double helical coil is employed where a longer free length of wire is desired when the end is unwrapped after removal of the mold.

Referring now more particularly to Figs. 1, 2, and 3 it will be seen that I have therein shown a double wire construction having embedded portions 1 and 2 with bent ends or anchors 3, and a helical coil formed with the two wires in parallelism as shown in Fig. 3, and having an aperture at 4 through which the tack 5 may pass where the device is secured to a wooden mold 6. After the concrete is poured and the mold is removed, the free ends of the wire are pulled out by the form when removing it and the wire may be cut to form the two strands which may then be wrapped around any support-

ing beam or channel or other device, which is to be carried by the hanger.

A single wire may be formed as shown in Figs. 4 and 5 with the part 7 which is to be embedded in the concrete upstanding as shown in Fig. 4, and the free portion coiled in a helical coil as indicated in Fig. 5 with the end at 8 pointed so that it may serve as a means of attachment to the wooden form.

As shown in Fig. 6, the flat coiled portion is secured to the form 9 by means of a layer of pitch 10 or other quick hardening plastic material which, where a large number of the hangers are to be mounted on forms, may be kept readily at hand in a heated condition in a bucket or container into which the coiled portion of the hanger may be dipped for convenient application of the material.

Fig. 7 shows the free end of the wire bent back and forth into a massed position as indicated at 11, it being preferably in the use of such an arrangement to retain at the center as indicated at 12 an aperture for the introduction of a tack or fastening device for securing the hanger when it is used with wooden molds.

Fig. 8 shows an arrangement in which a double helical coil is used composed of the strands 12 and 13 such as will supply a larger length of wire when the same is unwrapped after the concrete is set.

I claim:

1. A hanger for concrete structure comprising a wire having one part constructed for anchorage in the concrete with which it is to be employed and another part massed in close relation in position to be held between the mold and the concrete when the latter is poured and to be released and freed from the concrete when the mold is removed.

2. A hanger for concrete structures comprising a wire having an anchorage portion and a hanger portion formed into a helical coil adapted to be supported against a mold during the pouring of the concrete and to be pulled free of the concrete upon the removal of the mold.

3. A hanger for concrete structures comprising a wire having an anchorage portion and a hanger portion formed of a plurality of turns of wire arranged in massed relation in a plane which is substantially parallel to the mold and adapted to lie between the mold and the concrete and to be pulled free of the concrete upon removal of the mold.

4. A hanger for concrete structures having a part for anchorage in the concrete with which it is to be used and a hanger part comprising an elongated continuous member arranged in massed relation in position to lie between the mold and the concrete when the latter is poured and to be released and freed from the concrete upon removal of the mold.

5. A hanger for concrete structures having a part for anchorage in the concrete with which it is to be used and a hanger part comprising a wire arranged in massed relation in position to lie between the mold and the concrete when the latter is poured and to be released and freed from the concrete upon removal of the mold.

In testimony whereof I have hereunto signed my name.

NILS F. AMBURSEN.