

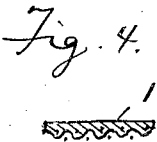
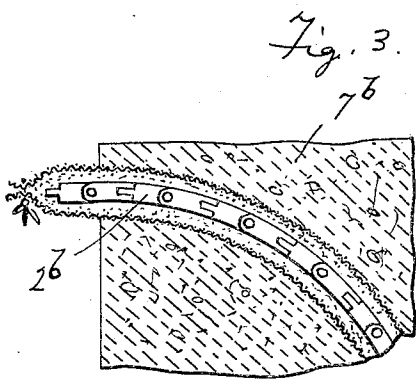
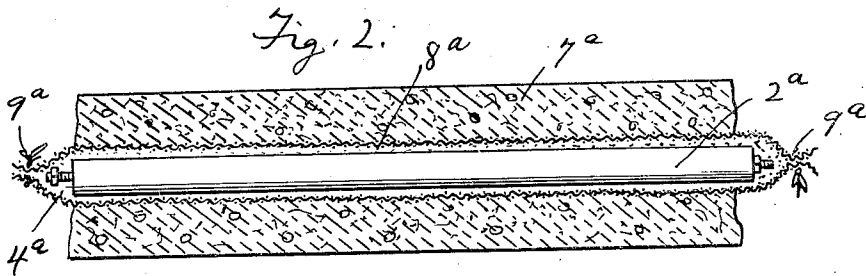
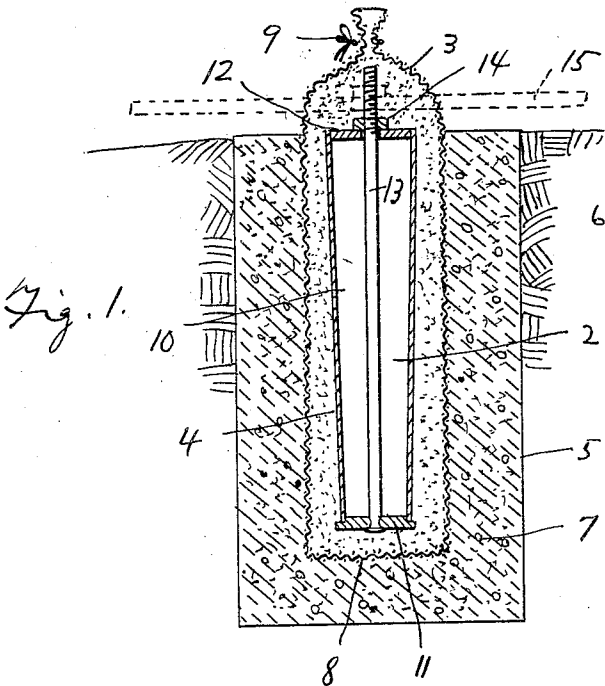
April 21, 1931.

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1,801,346

COLLAPSIBLE CORE FOR CONCRETE AND OTHER PLASTIC WORKS

Filed Feb. 18, 1928



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COLLAPSIBLE CORE FOR CONCRETE AND OTHER PLASTIC WORKS

Application filed February 18, 1928. Serial No. 255,350.

One object of my said invention is the provision of a practically advantageous collapsible core for use in the forming of holes and ducts or conduits in bodies of cement, concrete, and other plastic material.

To the attainment of the foregoing, the invention consists in the improvements as hereinafter described and definitely claimed.

In the accompanying drawings, forming a part of this specification:

Figure 1 is a view illustrating one embodiment of my invention as positioned in a hole in a ground with the view of forming a hole in a body of concrete or other plastic material for the reception of a post or pole, after the concrete or other plastic material is hardened or set.

Figure 2 is a view illustrative of an embodiment of my invention for forming a straight duct or conduit in a body of concrete or other plastic material.

Figure 3 is a view illustrating a modification of my invention, characterized by a flexible mandrel and designed for use in forming a curved duct or conduit in a body of concrete or other plastic material.

Figure 4 is an enlarged fragmentary view making clear the coating of the flexible envelope of my improvement, which coating is preferably resorted to in order to prevent the envelope from adhering to the concrete or plastic material which surrounds it.

Similar numerals of reference designate corresponding parts in Figures 1 and 4 to which reference will first be made.

Each of the several embodiments of my invention comprises a central member, a flexible envelope for surrounding the central member in spaced relation thereto, and a readily removable filler of mobile character, such as granular sand, arranged in the envelopes and between the same and the central member.

The general scheme of my invention contemplates the arrangement of the central

member in the flexible envelope, the packing of the sand or other appropriate filler in the envelope and between the same and the central member, the sealing of the envelope and the positioning of the core as a whole properly for the formation in a body of concrete or other plastic material of a hole or a duct or conduit.

The flexible envelope is susceptible of being formed of textile material and is preferably formed of such material for the sake of cheapness, and when textile material is employed for the envelope as illustrated, I prefer to coat the textile material with any suitable coating material as designated by 1 in Figure 4, this with a view to precluding adherence of concrete or other plastic material to the envelopes as when the filler is removed and it is desired, to withdraw the distended envelope from the hole, duct or conduit in a body of concrete or other plastic material.

In the embodiment shown in Figure 1, the central member of my improvement is designated by 2 and the envelope is designated by 3 and the filler of finely divided material, such as sand is designated by 4.

It will also be understood that in Figure 1, the reference character 5 designates a hole in a piece of ground 6 and the reference character 7 designates the body of concrete or other plastic material disposed in the said hole 5.

The core shown in Figure 1 is characterized by an envelope of bag form, i. e., an envelope closed at one end 8 and having its opposite and upper end susceptible of being contracted and closed and held in such state by a string 9 or other appropriate means, precedent to the closing of the said bag like envelope, the central member 2 is positioned therein, and sand or any other finely divided filler that is not liable to harden is packed in the envelope and around the central member, and then after the bag like envelope is

5 tied, to confine the filler about the central member, the core is adapted to be used as a unit and manifestly is susceptible of being handled with the same facility as the one piece core.

10 After my novel core has been positioned within the hole 5 as shown in Figure 1, and sand or other plastic material has been placed while in a plastic state in the hole and about the core, the core is left in the cement or other plastic material until such material hardens or sets. Subsequent to the setting or hardening of the cement concrete or other plastic material, the tied end of the bag like envelope is opened, and the central member 2 is withdrawn from within the sand or other filler contained in the envelope and also from within the envelope and when this is done it will be apparent that the envelope will be unsupported from within and may therefore be collapsed so that it may be readily withdrawn from the body of concrete, cement or other plastic material, and this in such manner as to not disintegrate the concrete or other plastic material so that the hole formed therein will be characterized by smooth walls.

25 Within the purview of my invention, the central member may be of any type or construction compatible with its purpose. The central member 2 in the embodiment of Figure 1, however, is made up of a hollow shell 10, tapered in the direction of its length and open at both ends, a head 11 for closing one end of said shell, a head 12 for closing the opposite end of the shell, a rod connected in appropriate manner to the head 11 and extending through the shell and also through the head 12 said rod being numbered 13 and being provided with an upper threaded portion as illustrated, and a nut 14 engaged with the threaded portion of the rod and superposed on the head 12 so as to retain the latter in and flush with the upper end of the shell.

35 The central member of the construction described is advantageous because of its lightness and because its paper form facilitates its withdrawal from the filler in the envelope and the said type of central member is also advantageous because it lends itself to the positioning of the central member in an upright position, or in positions at various angles of inclination. In this connection, it will be understood that the upper end of the rod 13 may be passed through an aperture in a bar, such as shown in Figure 1 and designated by 15. The said bar is preferably provided with a plurality of apertures and is fastened in any approved manner in a perfectly level or horizontal position.

40 When the use of a bar, such as 15 is resorted to for the purpose indicated, the said bar is passed through the upper portion of the envelope and is arranged in engagement with the rod 13 prior to the packing of the

filler in the envelope or at least prior to the packing of the upper portion of the filler in said envelope.

It will also be apparent that within the purview of my invention, the mouth of the envelope may be tied about the rod 13 at any point in the length of the latter and that the upper portion of the rod 13 may be positioned in the aperture of the bar 15 at a point entirely above the envelope.

75 The embodiment of my invention illustrated in Figure 2 is designed for the formation of straight ducts or conduits in a body of concrete or other plastic material, the plastic material being designated by 7a. In this embodiment, the core is formed by central, and preferably, though not necessarily, central cylindrical member 2a of metal or other material, a filler 4a of granular sand of appropriate material about the central member, and a flexible and collapsible envelope 8a surrounding and confining the sand and tied or otherwise closed at its end, as designated by 9a. In the practical use of this embodiment, the core is prepared by packing sand or other filler in the envelope and about the central member and tied or otherwise securing the ends of the envelope and in the use of the said core, the same is placed in a form, about which the concrete or other plastic material is tamped or poured, and in some instances a portion of the concrete may be poured into the form or other receptacle and the core may be embedded in said concrete or other plastic material, after which the remainder of the concrete or other plastic material may be poured or otherwise placed in the receptacle, so that after the concrete or other plastic material is set, the core will serve the purpose hereinbefore ascribed to it, or in other words, after the envelope is opened at one end and the central member is withdrawn, the envelope will collapse so that the envelope and its contents may be readily withdrawn from the body of concrete or other plastic material, so as to leave a smooth bore conduit or duct in the body of concrete or other plastic material.

85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335 340 345 350 355 360 365 370 375 380 385 390 395 400 405 410 415 420 425 430 435 440 445 450 455 460 465 470 475 480 485 490 495 500 505 510 515 520 525 530 535 540 545 550 555 560 565 570 575 580 585 590 595 600 605 610 615 620 625 630 635 640 645 650 655 660 665 670 675 680 685 690 695 700 705 710 715 720 725 730 735 740 745 750 755 760 765 770 775 780 785 790 795 800 805 810 815 820 825 830 835 840 845 850 855 860 865 870 875 880 885 890 895 900 905 910 915 920 925 930 935 940 945 950 955 960 965 970 975 980 985 990 995

The central member in Figure 2 is shown as provided with reduced threaded ends, and either of these may be employed for the connection of a withdrawing device (not shown) or for the purpose of connecting the central member illustrated to one or more other central members according to the length that is desired for the core to have.

The modified core is illustrated in Figure 3, is designed for the production of curvilinear conduits or ducts in the body of concrete or other plastic material 7b, and therefore in said embodiment the central member 2b of the core is of flexible character, i. e., is made up of inwardly connected or otherwise appropriately connected sections, so as to

permit the core as a whole to be curved after the manner illustrated in Figure 3. The embodiment of Figure 3 is used in substantially the same manner as the embodiment shown in Figure 2, and in the use of the embodiment shown in Figure 3, it will be apparent that after the concrete or other plastic material has set, the core by virtue of its collapsible capacity may be withdrawn from the body of plastic material with quite as much facility as the straight core, shown in Figure 2.

It will be further apparent from the foregoing that all of the embodiments of my invention embody the same salient feature, and that all of the embodiments are simple and inexpensive in construction, and are devoid of delicate parts, such as likely to get out of order after a very short period of use.

I have specifically described the preferred embodiments of my invention in order to impart an exact understanding of the said embodiment. I do not desire, however, to be understood as limiting myself to the constructions illustrated and described, my invention being defined by my appended claims, within the scope of which modifications may be made, without departure from my invention.

I claim:

1. A core for use in forming holes, conduits and the like in plastic material comprising a central member, a flexible and collapsible envelope about and spaced from said member, and a mobile filler arranged in the envelope and confined by the same about the central member; the central member being withdrawable from the filler to permit of inward collapsing of the filler and envelope.

2. A core for use in forming holes, conduits and the like in plastic material comprising a central member, a flexible and collapsible envelope about and spaced from said member, and a granular filler arranged in the envelope and confined by the same about the central member; the central member being withdrawable from the filler to permit of inward collapsing of the filler and envelope.

3. A core for use in forming holes, conduits and like in plastic material, comprising a central member, a flexible and collapsible envelope about and spaced from said member, and a filler of granular, free moving material arranged in the envelope and confined by the same about the central member; the central member being withdrawable from the filler to permit of inward collapsing of the filler and envelope, and the said envelope being detachably closed at one end.

4. A core for use in forming holes, conduits and the like in plastic material, comprising an inner non-yielding member, a flexible and collapsible envelope about and spaced from said member, and a free moving filler made up of a multiplicity of units

arranged in the envelope and confined about the inner member, the inner member being withdrawable from the filler to permit of inward collapsing of the filler and envelope, and the said envelope being detachably secured at one end.

5. A core for use in forming holes, conduits and the like in plastic material, comprising an inner non-yielding member, a flexible and collapsible envelope about and spaced from said member, and a free moving filler made up of a multiplicity of units arranged in the envelope and confined about the inner member, the central member being endwise withdrawable from the filler to permit of the inward collapsing of the filler and envelope, and the said envelope being detachably secured at one end.

6. A core for the purpose described, comprising a hollow tapered non-yielding member, a head opposed to the comparatively small end of said member, a head disposed in the large end of said member, a rod connected to the first named head and extending through the second named head, and threaded, a nut engaged with the threaded portion of the rod and superposed on the second named head, a bag-like envelope receiving said member and detachably closed at its mouth, a filler of granular material confined in the bag like envelope and about the central member, the said envelope being collapsible and withdrawable from a body of plastic material after the plastic material has set and after the central member is withdrawn from the filler and envelope.

7. A core for the purpose described, comprising a hollow tapered non-yielding member, a head opposed to the comparatively small end of said member, a head disposed in the large end of said member, a rod connected to the first named head and extending through the second named head and threaded, a nut engaged with the threaded portion of the rod and superposed on the second named head, a bag-like envelope receiving said member and detachably closed at its mouth, a filler of granular material confined in the bag like envelope and about the central member, the said envelope being collapsible and withdrawable from a body of plastic material after the plastic material has set and after the central member is withdrawn from the filler and envelope, in combination with means adapted to cooperate with the said rod for the positioning of the core in a body of plastic material.

8. A core comprising a straight one piece rigid central member, a flexible and collapsible envelope surrounding and spaced from said central member and detachably closed at one end, and a granular freely movable filler contained in the envelope and about said central member; the central member

being withdrawable from the filler to permit of collapsing of the filler and envelope.

9. A core comprising a central member made up of a plurality of sections hingedly connected together to permit the movement of each relatively to the other, an envelope of flexible collapsible material surrounding and spaced from said central member and detachably closed at one end, and a granular
10 freely movable filler packed in the envelope and confined in the envelope and about the central member; the central member being withdrawable from the filler to permit of collapsing of the filler and envelope.

15 In testimony whereof, I affix my signature.
COTTO L. HEATH.

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