July 7, 1925. 1,544,855

J. F. MURRAY

MOLDING CONDUITS

Filed Sept. 9, 1924

Fig. 1.

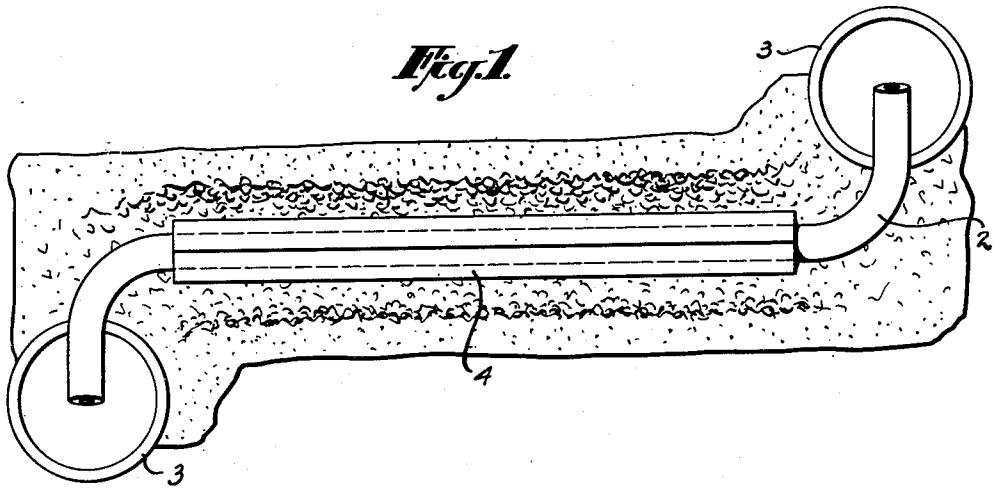


Fig. 2.

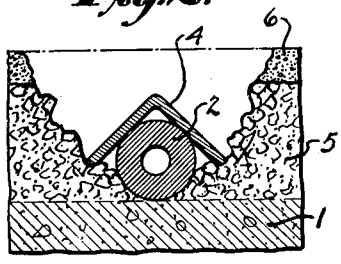


Fig. 3.

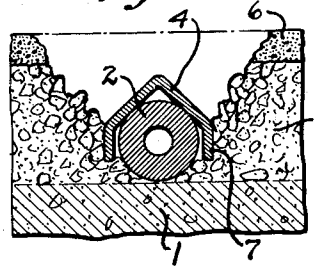
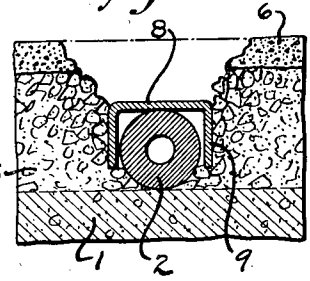


Fig. 4.



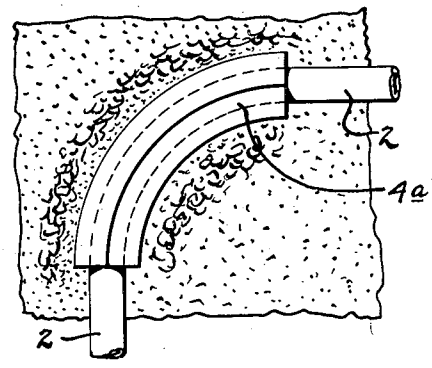


Fig. 5

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By his Attorney

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UNITED STATES PATENT OFFICE.

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MOLDING CONDUITS.

Application filed September 9, 1924. Serial No. 736,691.

To all whom it may concern:

Be it known that I, JOHN F. MURRAY, a citizen of the United States, and a resident of Brooklyn, county of Kings, New York, have invented certain new and useful Improvements in Molding Conduits, of which the following is a specification.

In an application of Thomas E. Murray, No. 670,423, there is described a method of molding conduits by the use of an elastic and highly resilient tubular core of sufficient strength to support the external pressure of plastic material and of such a composition that when pulled endwise it will contract transversely so as to break its adhesion to the surrounding material and permit its removal. Such a core, for long conduits, is generally made of high grade rubber composition. One difficulty with cores of this sort where they are of substantial length is that they do not naturally lie flat and straight, probably owing to internal strains set up in the process of manufacture. In fact, such tubing will not naturally assume or retain any predetermined line. I propose, therefore, to provide means for holding such cores in the desired line during the casting operation. The invention is of particular utility in building concrete floors and the like with conduits therein for electric wires because in such structures the conduits, and consequently the cores, are of comparatively small diameter and great flexibility, and also because it is important to keep the conduit along a determined line. The accompanying drawings illustrate embodiments of the invention. Fig. 1 is a plan and Figs. 2, 3 and 4 are transverse sections illustrating an intermediate stage in the process. Fig. 5 is a plan similar to Fig. 1, illustrating a different application of the invention.

In building the floor of a house a bottom layer, 1 of concrete, is cast on a form or center to a desired level at which the conduit is to be located. The flexible core 2 is laid on this lower body of concrete. Suppose that the conduit is to comprise a central straight portion connected by curves at the ends to outlet boxes 3. The core is laid approximately on the desired line and is then adjusted accurately and held in position. The holder is a rigid device embracing the core so as to hold it straight against any natural tendency to kink.

In Fig. 2 the holder 4 is shown in the form of an inverted trough which may be of metal or wood or other material sufficiently rigid to resist the tendency of the core to get out of line. The holder extends down over the upper part of the core, but leaves the lower part exposed at the sides so that the next layer of concrete 5 may be cast so as to embrace the sides of the core to a sufficient height to hold it in line. After this has been done the holder is lifted out of place and the concrete filled up to the desired level and topped off with a finishing coat 6.

The holder may be of various shapes in cross-section. Fig. 3 shows it as an inverted trough 4 with vertical flanges 7 extending downward along the side edges. Fig. 4 shows the holder in the form of a channel with a web 8 resting on the curve and side flanges 9 extending down alongside of the same.

Fig. 5 illustrates the application of a holding device 4^a similar in cross-section to that of Fig. 2 but extending longitudinally in a curved line. It will often be sufficient to hold the core on the curves and to leave it free between the curves and under such tension as to hold it approximately straight without special holding devices embracing it. Or, we may have straight holding devices like 4 for the straight portions and curved devices like 4^a for the curved portions so as to provide external control continuously throughout the length of the core. The holding devices may conveniently be made of ordinary commercial steel shapes. That in Fig. 2 is a commercial angle iron, for example. The shapes in Figs. 3 and 4 may be rolled or may be easily bent up from sheet metal. All these shapes may, as above explained, be built of other materials than metal, They must be heavy enough to hold the core in line.

Although I have described with great particularity and detail certain embodiments in my invention, yet it is not to be understood therefrom that the invention is restricted to the particular embodiments disclosed. Various modifications thereof may be made by those skilled in the art without departure from the invention as defined in the following claims:

1. The combination with a flexible core for molding conduits of a rigid holding means adapted to extend along the core and to embrace it so as to hold it in line.

2. The combination with a flexible core for molding conduits of a rigid holding means adapted to extend along the core and to embrace it so as to hold it in line, said holding means covering the upper part of the core so as to permit the plastic material to be cast about the lower sides of it to hold it in line when the holding device is subsequently withdrawn.

3. The combination with a flexible core for molding conduits of a trough-shaped holding device adapted, in inverted position, to cover the core and to hold it in line.

4. The combination with a flexible core for molding conduits of a holding device of substantially rigid material curved longitudinally and adapted to engage and hold such flexible core in a corresponding curve.

5. The method of molding conduits which consists in casting a layer of plastic material, laying thereon a flexible core, holding said core in line while leaving the lower part thereof accessible for casting plastic material about the lower part of the core to hold it in line, and finally withdrawing the first holding means and completing the casting of the plastic material about the core.

In witness whereof, I have hereunto signed my name.

JOHN F. MURRAY.