

P. O'D. O'CONNOR.  
 COLLAPSIBLE FORM OR CENTER.  
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942,922.

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Fig. 3.

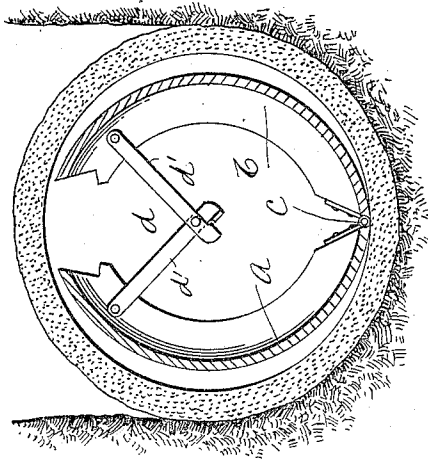


Fig. 2.

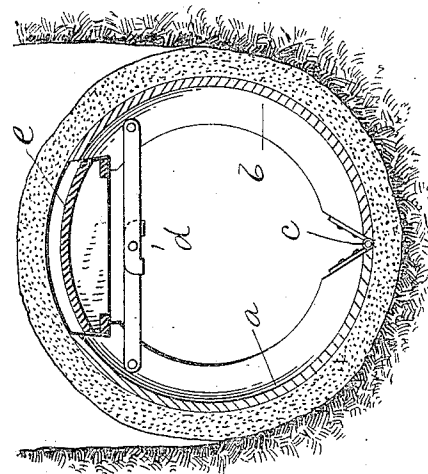


Fig. 1.

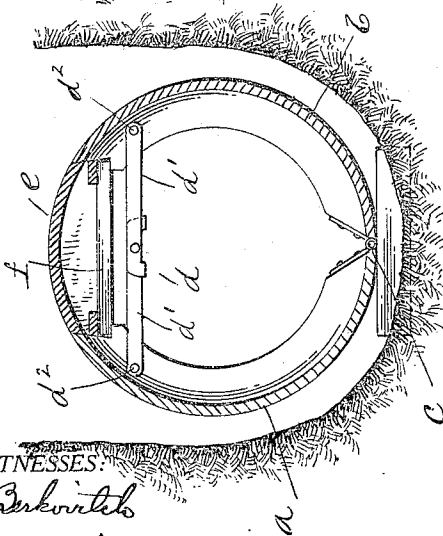


Fig. 4.

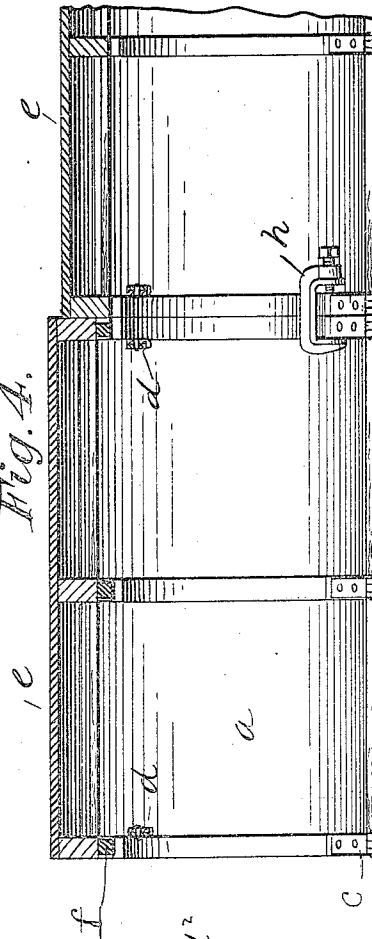
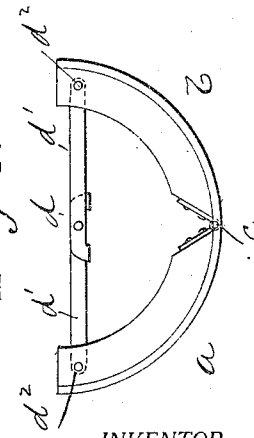


Fig. 5.



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# UNITED STATES PATENT OFFICE.

PHILIP O'DONNELL O'CONNOR, OF HARTFORD, CONNECTICUT.

COLLAPSIBLE FORM OR CENTER.

942,922.

Specification of Letters Patent.

Patented Dec. 14, 1909.

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To all whom it may concern:

Be it known that I, PHILIP O'DONNELL O'CONNOR, a citizen of the United States, and a resident of Hartford, in the county of  
5 Hartford and State of Connecticut, have invented certain new and useful Improvements in Collapsible Forms or Centers, of which the following is a specification.

In the construction of sewers and like  
10 works from cement, brick or other materials it is advisable, and in many cases necessary, to have a form or center to give the proper shape or contour to the interior of the work. Various devices have been provided for this  
15 purpose, some intended for one particular use and others for another particular use.

The object of my invention is to provide a form or center of the simplest construction capable of being easily and quickly operated and which is adapted for use for substantially any and every purpose for which  
20 such devices are desired.

In the drawings—Figure 1 is a cross sectional view showing the center in position  
25 for use. Fig. 2 is a cross sectional view showing the center after the arch has been formed, the removable section being dropped down ready to be withdrawn. Fig. 3 is a view similar to Fig. 2, the removable section  
30 having been withdrawn and the center being collapsed. Fig. 4 is a central vertical section showing two centers connected end to end, one of them being extended and the other being partially collapsed. Fig. 5 is a  
35 detail view of a modification showing the center made in the form of a semi-circle.

The form or center which I have invented comprises two sections *a b* which are hinged together along one edge, as by the hinges *c*,  
40 the hinging joint being as near as possible to the exterior of the form in order that the slightest movement of the two sections toward each other will decrease the outside measurement of the form and so cause it to  
45 immediately break away from the material which has been built up around it at every point.

Collapsible braces *d* are provided to hold the form or center in its expanded position.  
50 These braces comprise a pair of rigid arms

*d' d'* which are pivoted together, their opposite ends being pivotally secured near the free edges of the sections, as at *d<sup>2</sup> d<sup>2</sup>*. I prefer to provide a brace at least at each end of the form. It will be seen that by this  
55 construction the free edges of the sections are separated from one another but at the same time the form is rigid and thoroughly adapted to special uses. For instance, it is often desirable to use a semi-circular form  
60 such as illustrated in Fig. 5, the lower part of the work being first completed, the form being then collapsed, removed and reversed to build the upper part of the work. When a complete form is desired I provide a re-  
65 movable section *e* to fill in the space between the free edges of the hinged sections. Preferably I support this removable section on struts *f* which rest on shoulders *g* formed on the free edges of the hinged sections. 70  
When it is desired to remove the form the struts are knocked out, the removable section dropping down free from the work so that it may be readily removed; the braces  
75 will then collapse and the hinged sections swing together, when the form can be readily removed.

In some cases, as in sewer work where a number of forms are set up end to end and a considerable section of the sewer built up  
80 around them at the same time, I provide means for connecting two or more of these forms end to end, as by a U-shaped clamp *h*, so that a number of forms can be drawn out together after the work has set. These  
85 clamps fit down over ribs *a'* in the interior of each form at its ends.

The sections are preferably made of stiff rigid material to prevent any buckling or springing. The shape of the cross sections  
90 of these forms or centers is not material; in some cases they may be cylindrical, in others egg-shaped, or they may be made in any shape desired.

It will be seen that the herein described  
95 device is extremely simple in its construction, is adapted to a large variety of uses, and is very quickly and easily operated.

I claim as my invention:—

In a form or center two sections hinged 100

together, a rigid collapsible brace connecting the free edges of said sections and holding them a fixed distance apart, oppositely disposed shoulders formed on the free edges of  
5 said hinged sections, struts extending between said free edges and resting on said shoulders, and a removable section filling

the space between said free edges and supported by said struts.

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Witnesses:

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