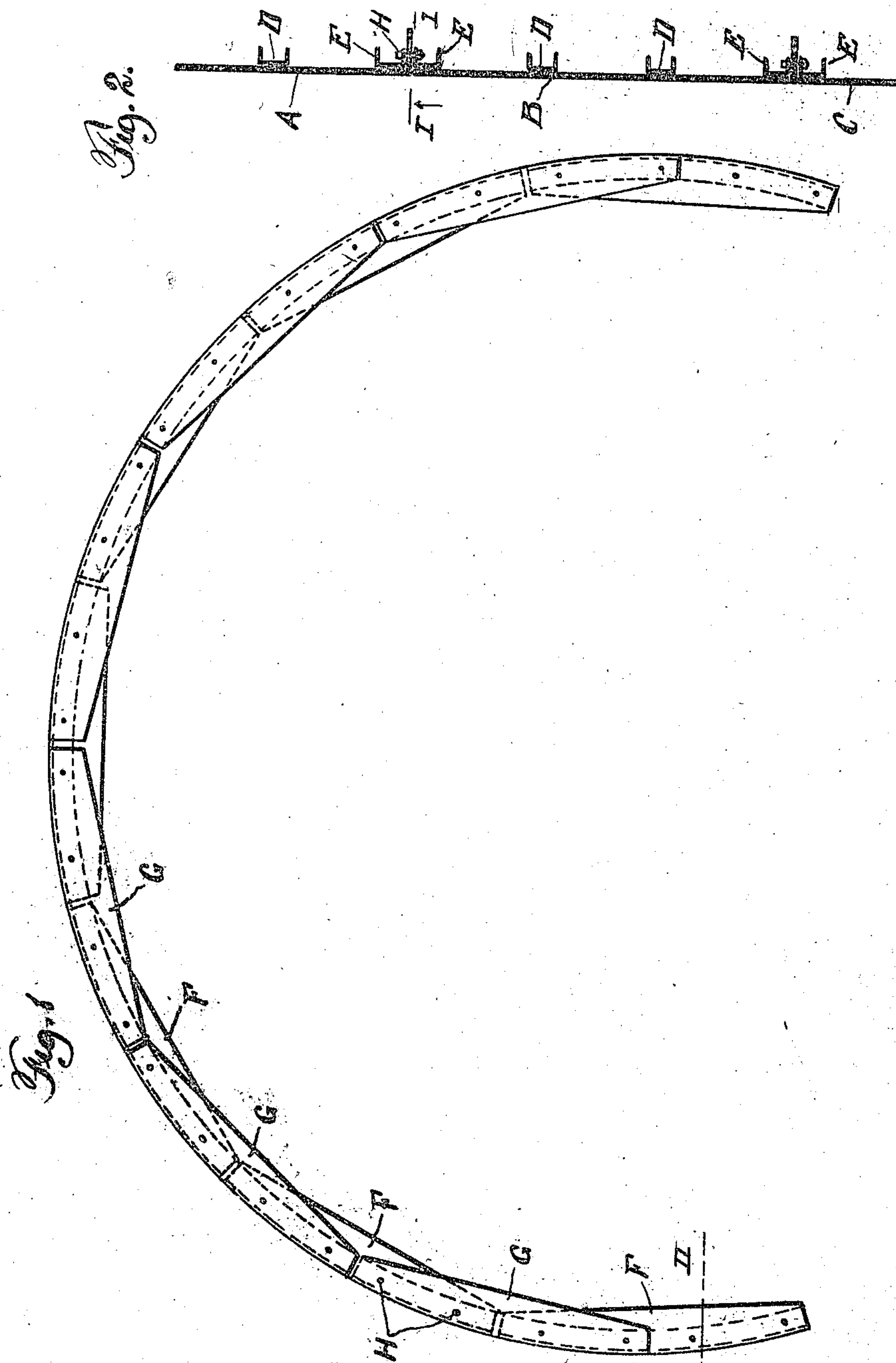


J. B. BLAW.  
 CENTERING DEVICE.  
 APPLICATION FILED JAN. 18, 1909.

946,003.

Patented Jan. 11, 1910.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

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## CENTERING DEVICE.

Specification of Letters Patent.

Patented Jan. 11, 1910.

946,003.

Application filed January 18, 1909. Serial No. 472,797.

*To all whom it may concern:*

Be it known that I, JACOB B. BLAW, 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 Centering Devices, of which the following is a specification.

The invention relates to centering devices for use in the formation of concrete conduits and the like. It has for its principal object; the provision of improved stiffening means for the shell or lagging. One embodiment of the invention is illustrated in the accompanying drawing, wherein—

Figure 1 is a section on the line I—I of Figure 2 looking in the direction of the arrow, and

Figure 2 is a longitudinal section on a reduced scale, taken on the line II—II of Figure 1.

Briefly stated, the centering comprises a plurality of sections which may be detachably secured together in series, end-to-end. Each of these sections consists of a metal shell or lagging which is preferably stiffened intermediate its ends by means of channel bars or other flanged ribs. The sections are also provided at their ends with flanged stiffening members adapted to be secured together, and other stiffening means are provided intermediate the stiffening members, for giving additional strength to the sections when secured together in series.

My invention relates particularly to the stiffening construction at the ends of the centering sections, which construction will be hereinafter described in detail.

Referring to the drawing, and particularly Figure 2, A, B, C, are lagging sections arranged end-to-end as indicated and provided intermediate their ends with the circumferential stiffening channels D. The opposing ends of the sections are also provided with stiffening channels E. Interposed between the flanges of the channels E are two series of stiffening plates F, G, which series of plates are arranged with break joints as indicated in Figure 1, the purpose being to provide a continuous stiffening rib of substantially uniform resistance. The flanges of the channels E are rigidly secured to the plates F and G and to each other, by means of the bolts H. The centering is thus readily made separable in sections, while a

high degree of rigidity is imparted by means of the stiffening plates F and G at the ends of the sections. By means of this arrangement the shell is made sufficiently resistant to do away with the necessity of providing cross braces which are undesirable, as they obstruct the passage through the centering, and are objectionable for other reasons. It will be apparent that the invention is not limited to the use of stiffening plates of the shape illustrated in Figure 1, nor is it limited to the arrangement shown wherein the plates overlap thus making break joints, although this is the preferred arrangement. It is also obvious that different forms of stiffening ribs other than the channels may be used if desired.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent, is the following:

1. A curved stiffening rib for centering comprising a pair of flanged sections with their flanges in opposition, a succession of overlapping plates between the flanges, and means for securing the flanges to the plates.

2. The combination with a pair of curved centering sections end to end and provided at their meeting ends with flanged sections, of a succession of overlapping stiffening plates between the flanges, and means for securing the flanges to the plates.

3. The combination with a pair of curved centering sections end to end and provided at their meeting ends with a pair of flanged sections, of a succession of stiffening plates between the flanges of the pair of sections, and means for securing the flanges to the plates.

4. The combination with a pair of centering sections end to end and each provided at its end with a flanged section, of a series of plates between the flanges of the two sections, and means for detachably securing the flanges against the plates.

5. A curved stiffening rib for centering comprising a pair of flanged sections with their flanges in opposition, two series of plates making break joints with each other interposed between the flanges, and means for rigidly securing the plates and flanges together.

6. The combination with a pair of curved centering sections end to end and provided at their meeting ends with flanged sections,

of a succession of two series of plates making break joints with each other interposed between the flanges, and means for detachably securing the plates and flanges together.

5 7. A curved stiffening rib for centering comprising a pair of flanged sections with their flanges in opposition, two series of plates making break joints with each other interposed between the flanges, and means

for securing each plate to the flanges at a plurality of points intermediate its ends.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

JACOB B. BLAW.

Witnesses:

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