

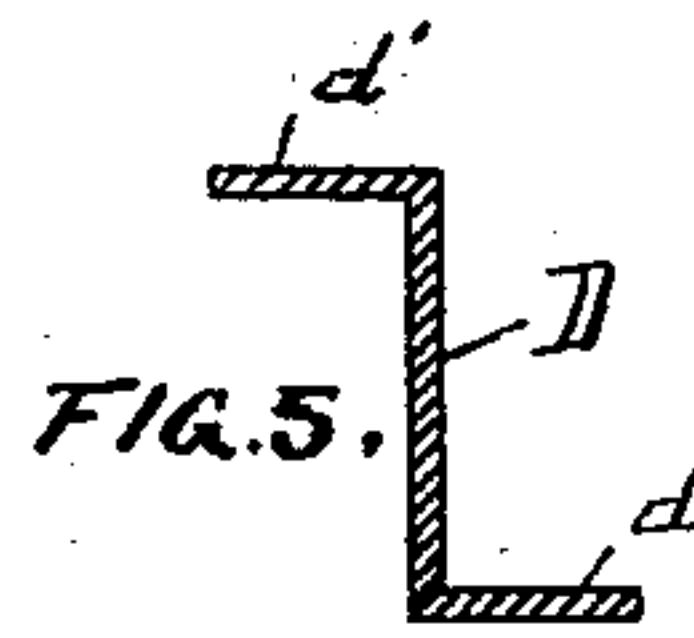
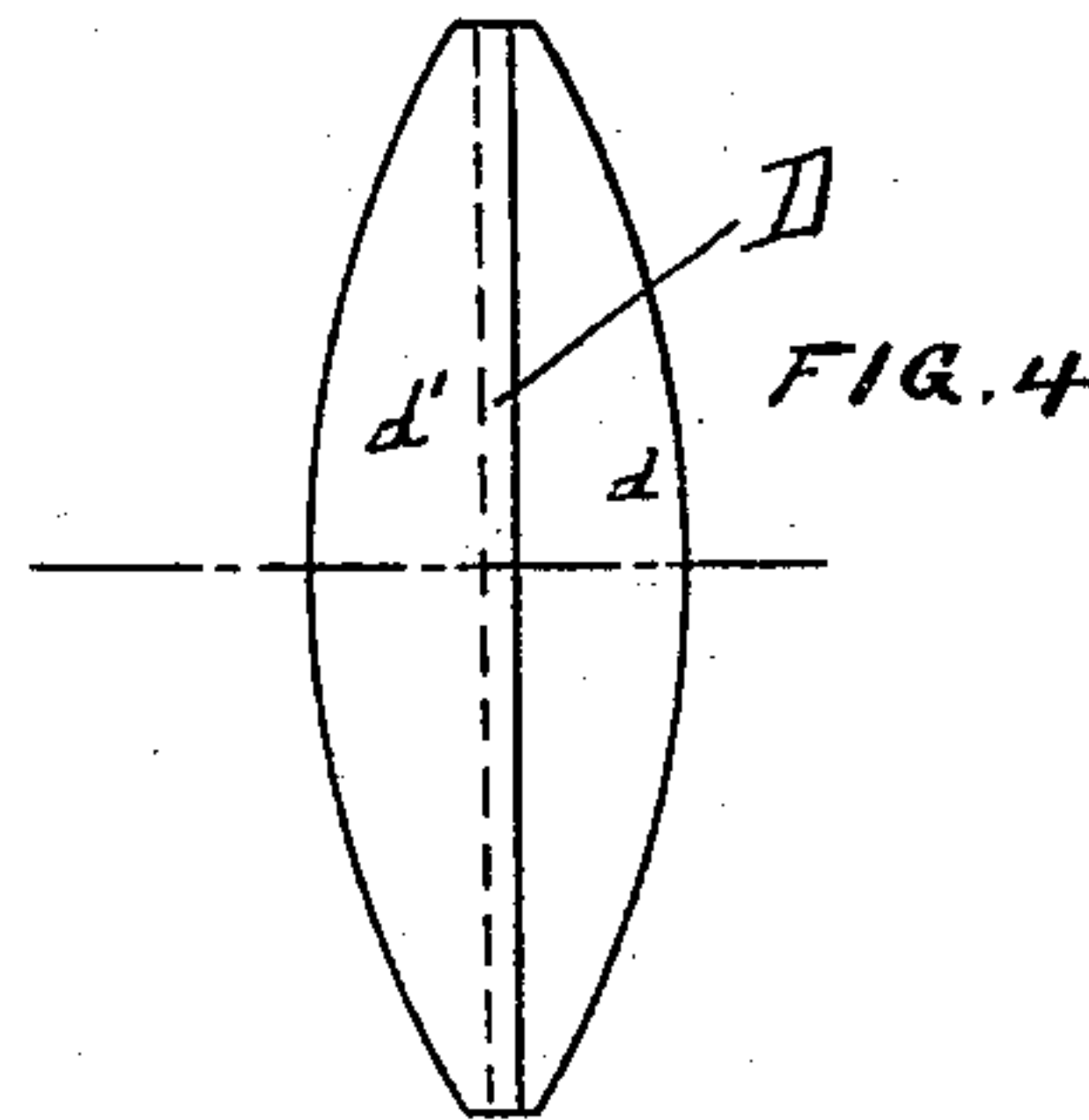
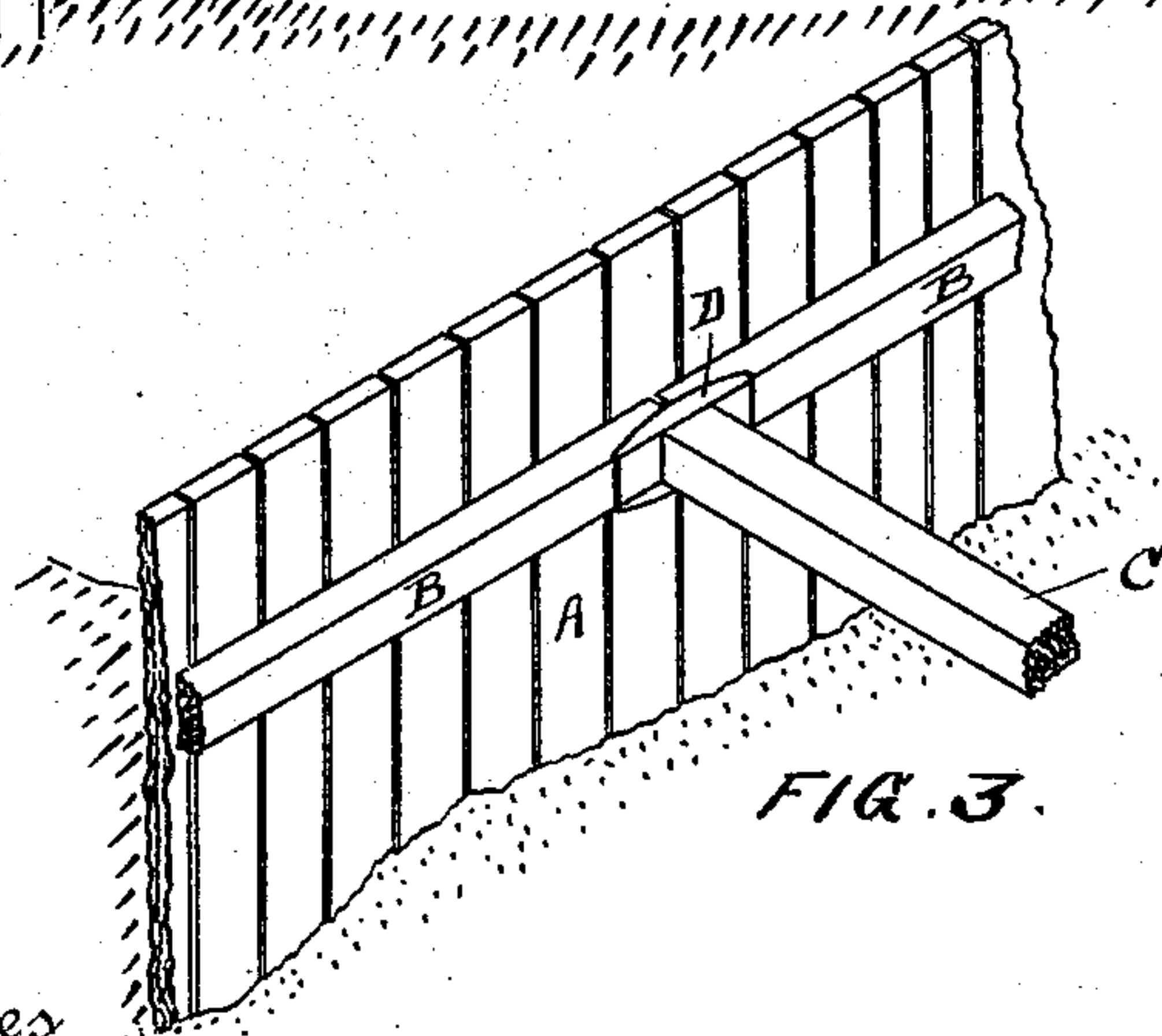
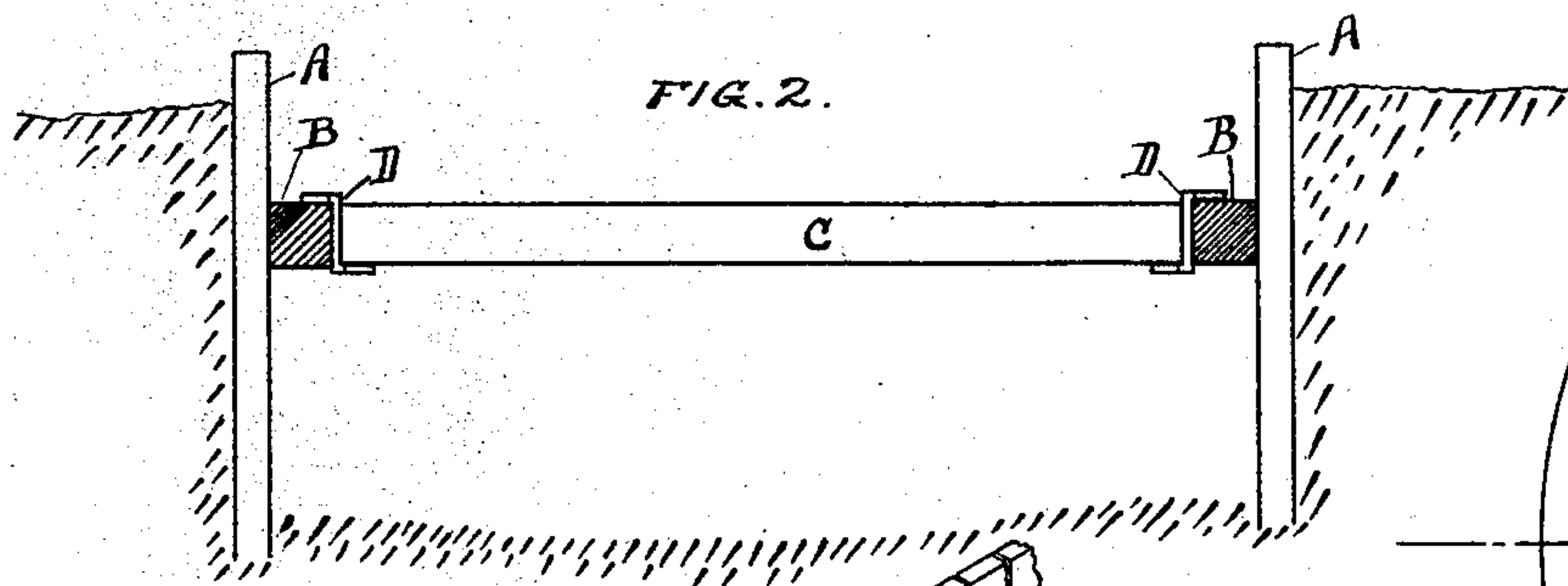
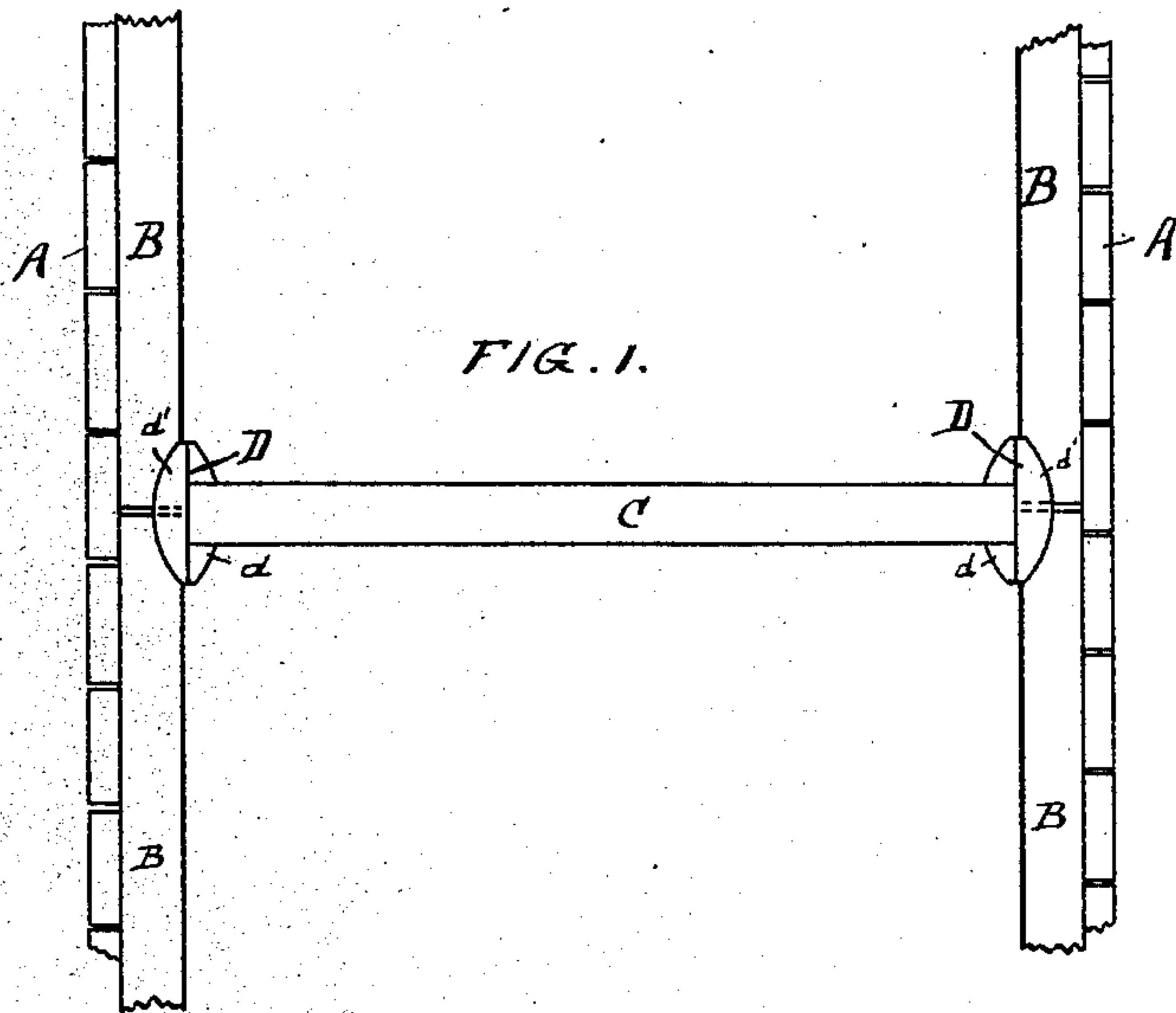
(No Model.)

C. K. SHERBURNE.

SEWER SHOE.

No. 376,113.

Patented Jan. 10, 1888.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES K. SHERBURNE, OF MINNEAPOLIS, MINNESOTA.

SEWER-SHOE.

SPECIFICATION forming part of Letters Patent No. 376,113, dated January 10, 1888.

Application filed August 15, 1887. Serial No. 246,949. (No model.)

To all whom it may concern:

Be it known that I, CHARLES K. SHERBURNE, a citizen of the United States, and a resident of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented a certain new and useful Sewer-Shoe, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to the wall-retaining scaffolding or frame-work used in excavating for sewers; and it has for its object to provide an improved form of shoe for retaining the rangers and braces in position and receiving the pressure of the cross-braces.

My invention consists in the device hereinafter fully described and particularly claimed.

In the drawings, like letters referring to like parts, Figure 1 is a plan of the frame-work in a sewer-ditch, showing my invention in working position. Fig. 2 is a vertical cross-section of the same. Fig. 3 is a perspective of one side of the interior frame-work. Fig. 4 is a plan view of my shoe detached, and Fig. 5 is a cross-section on the line X X' of Fig. 4.

A is the sheeting, B are longitudinal girders or rangers, and C is a cross-brace of the class which are used to retain the sheeting in position.

D is a metallic shoe consisting of a strong iron plate of a width equal to the depth of the rangers and cross-braces, and provided on its upper and lower edges with the right-angled flanges *d d'* in opposite directions. This shoe is placed with its vertical portion against the inner face and across the joints of each pair of adjacent rangers, with one of its flanges resting on the top of the same. The cross-brace C is then placed in position with its ends bearing against the inner faces of the opposite shoes, and is prevented from displacement downward by the lower flanges on the shoes. These shoes are made of sufficient thickness to stand the pressure and of sufficient length to overlap the ends of the adjacent rangers, even if they should happen to be several inches

apart. These shoes are a great convenience in sewer excavation, and effect also a great saving in time and cost of material. One set of shoes is sufficient for one gang of men, as they may be used over and over again. The flanges make them stronger, serve to hold the shoe in position, to prevent displacement of the cross-braces, and are so applied as to make the shoes reversible. Hence, if by any inequality of pressure the shoe should become bent out of shape, all that is necessary is to turn it upside down, reversing it, and it will be again straightened.

The impossibility of displacing the cross-brace by any downward jar or undue weight placed thereon is also a very material point. Otherwise there is always a liability of caving, waste of time, and serious peril to life. It is also a convenience in deep sewer-ditches, where a second or third set of sheeting has to be put down, as it takes up comparatively little space and enables the inner sheeting to be kept substantially in line.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A metallic sewer shoe provided with a right-angled flange the body of which is adapted to overlap the ends of two adjacent rangers and receive the pressure from the cross-brace, and the flange of which is adapted to rest on the top of said rangers, as and for the purpose set forth.

2. The metallic sewer shoe D, provided on its edges with the right-angled flanges *d* and *d'* in opposite directions, as and for the purpose set forth.

3. In combination, sheeting A, rangers B, cross-brace C, and the metallic shoe D *d d'*, placed intermediate the ends of said brace and said rangers, substantially as described.

CHARLES K. SHERBURNE.

In presence of—

JAS. F. WILLIAMSON,
EMMA F. ELMORE.