

No. 828,719.

PATENTED AUG. 14, 1906.

J. J. DANIEL,
MOLD FOR CONCRETE ROOF STRUCTURES.

APPLICATION FILED MAR. 29, 1906.

Fig. 3.

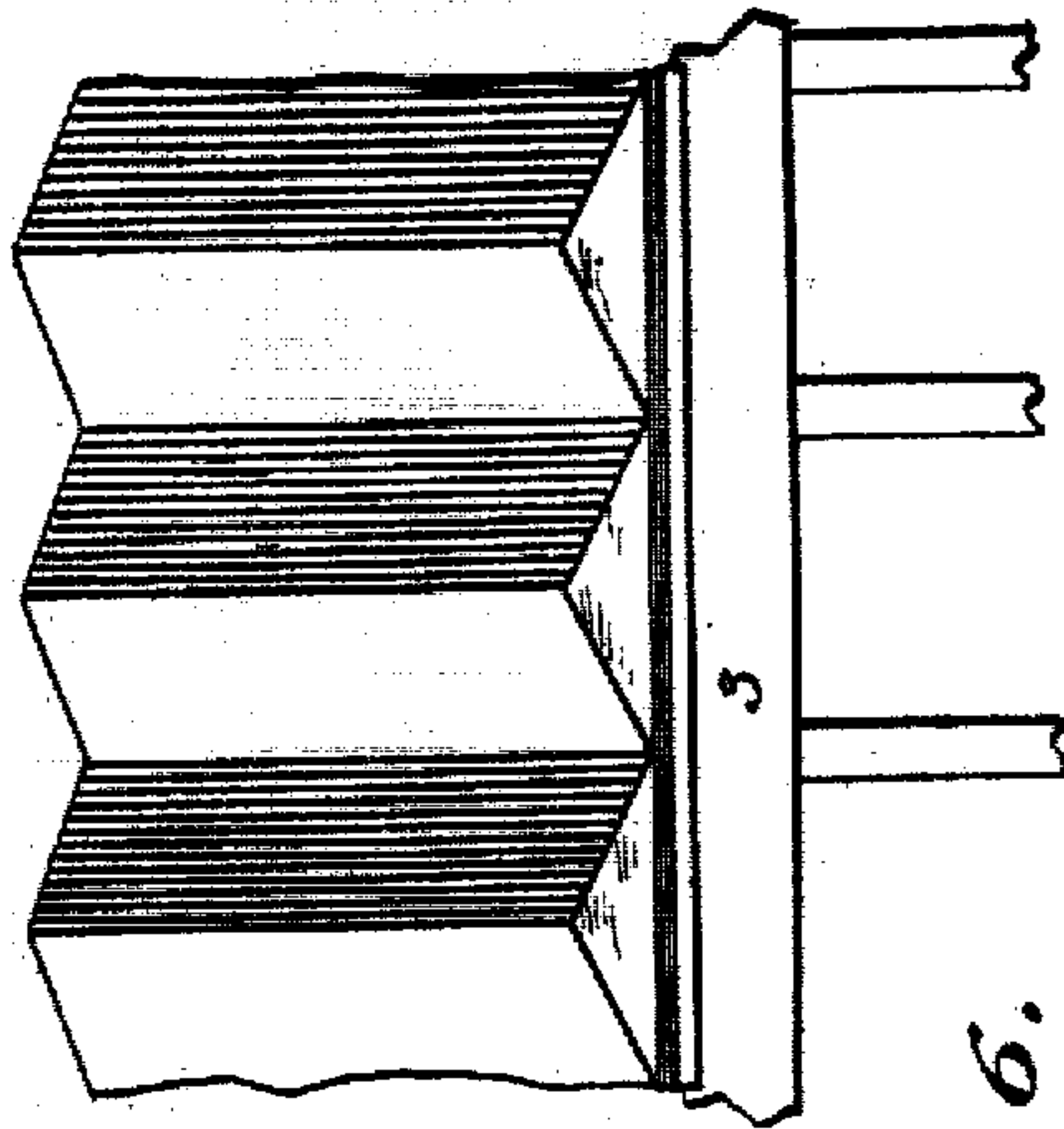
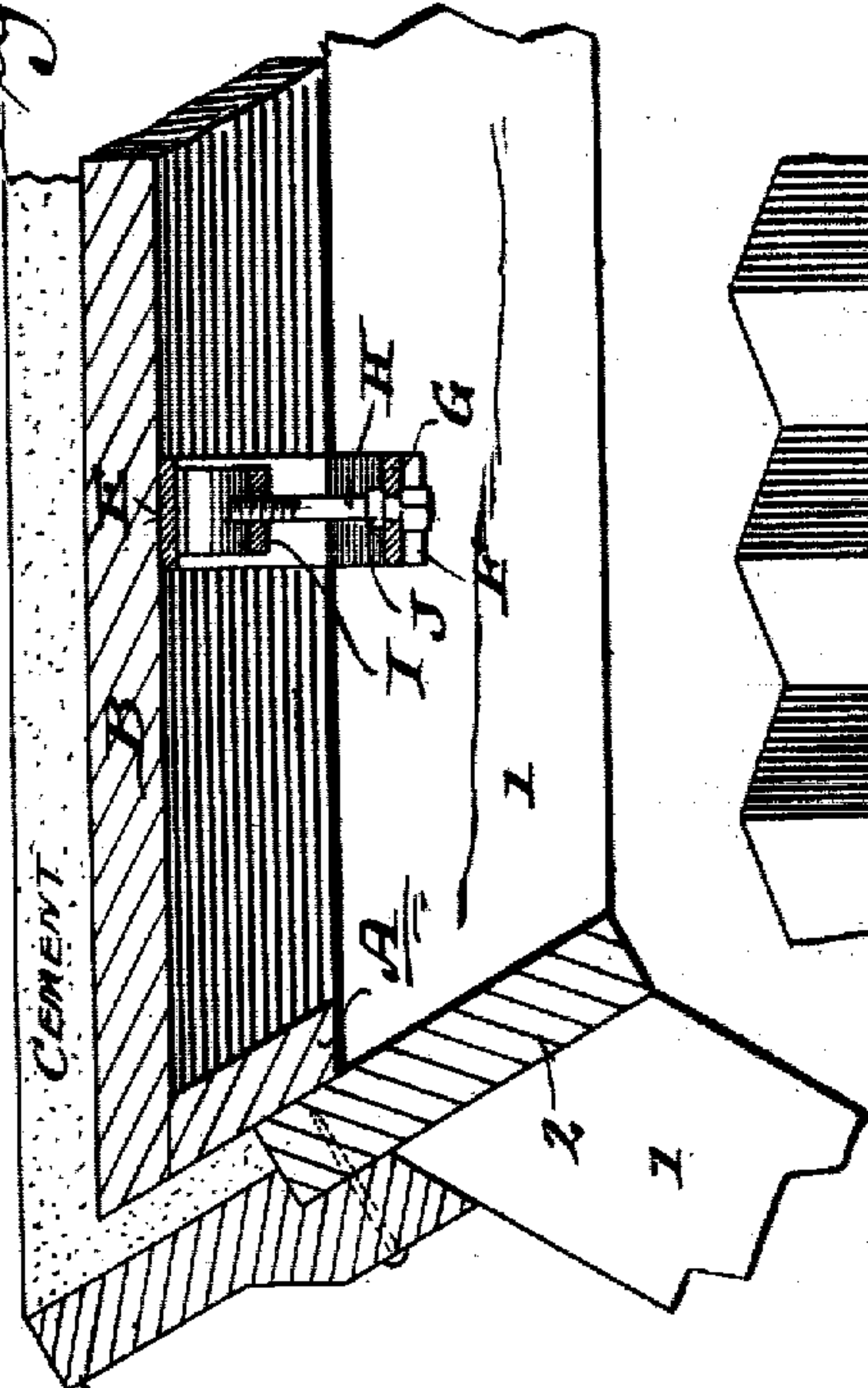


Fig. 4.

Fig. 6.

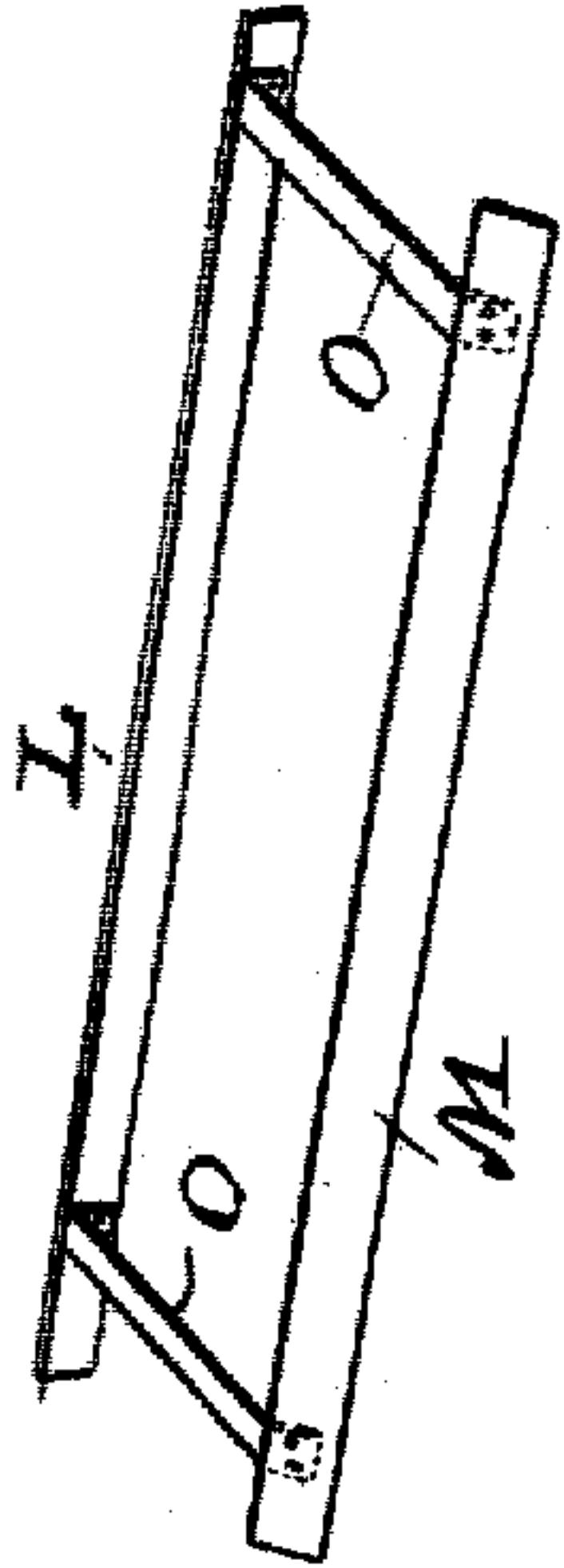


Fig. 2. C

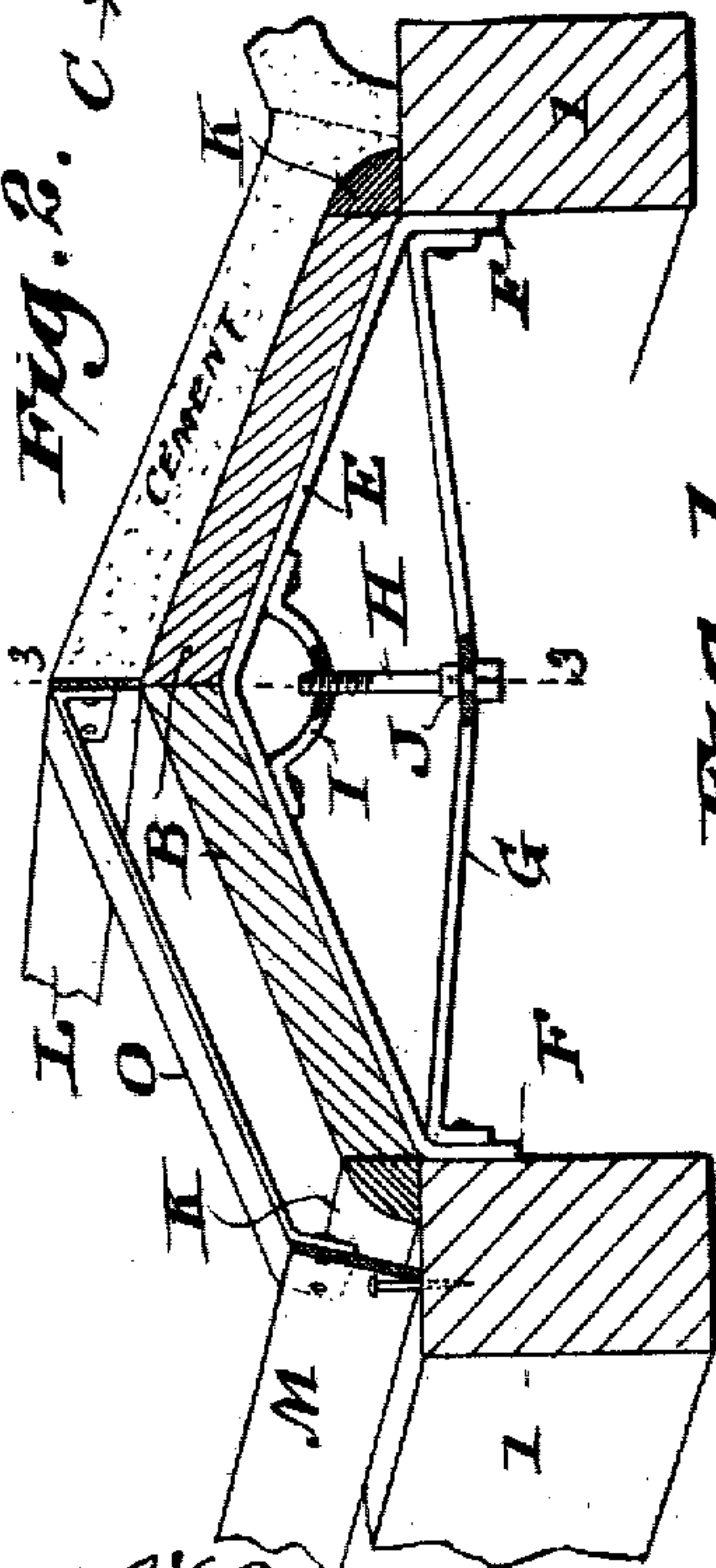


Fig. 1.

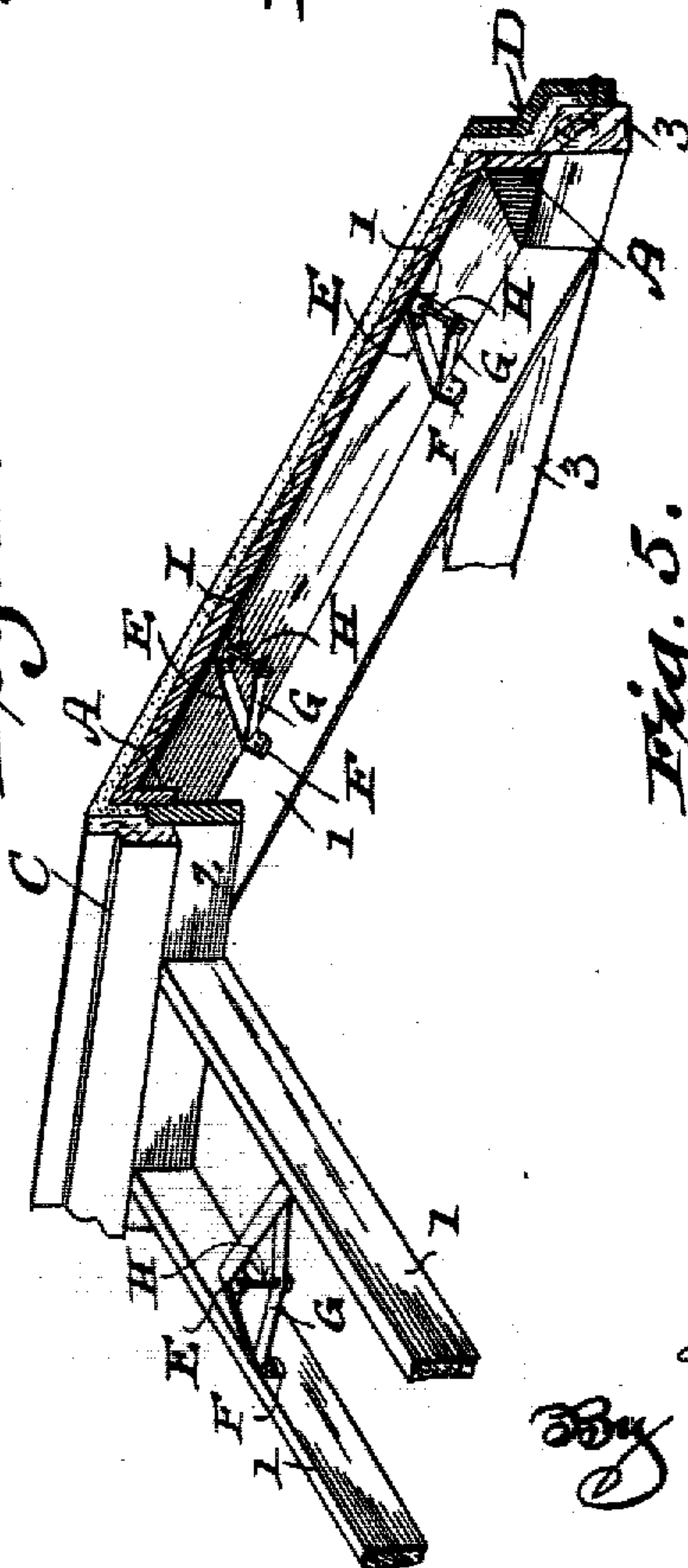
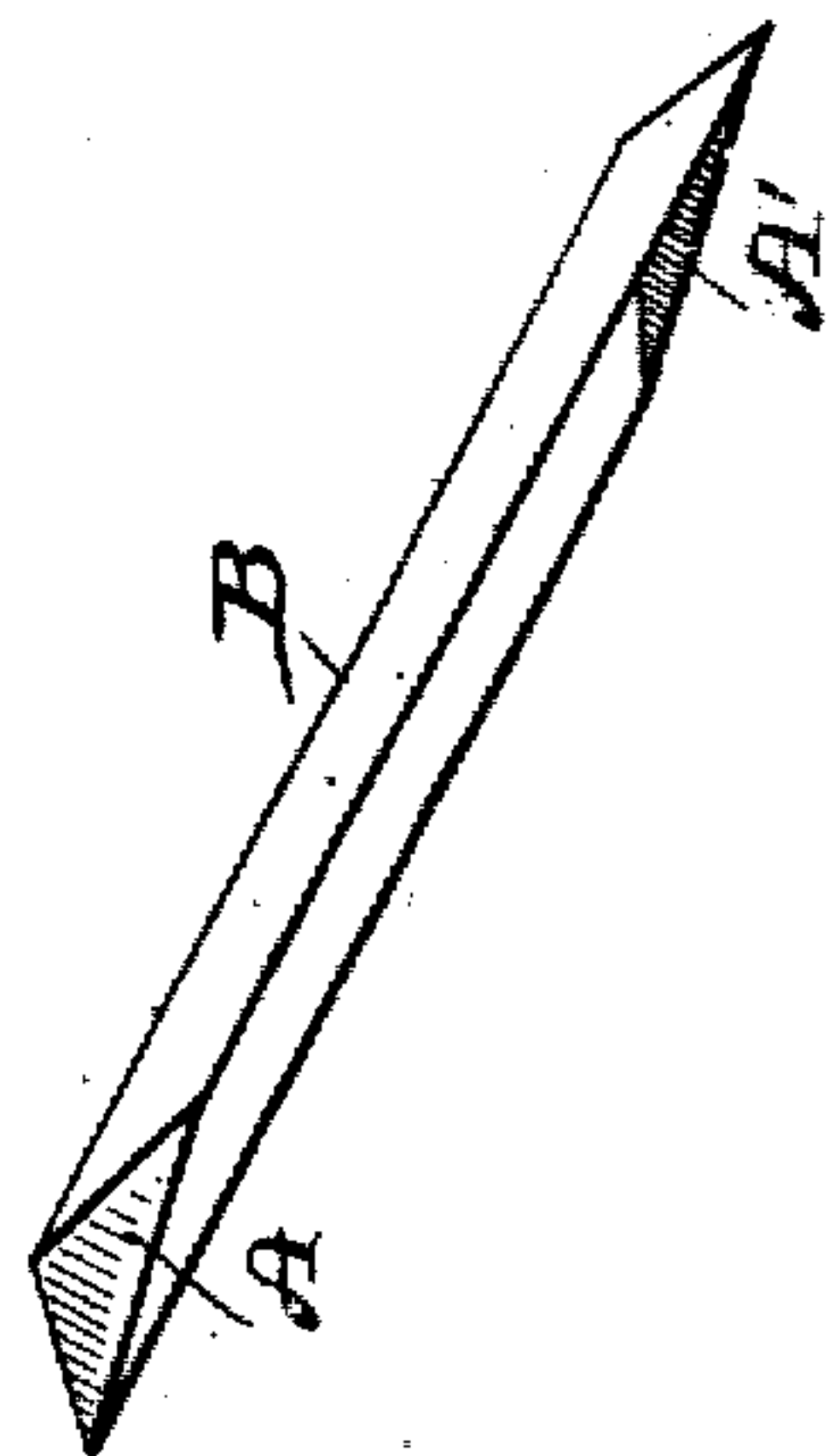


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN J. DANIEL, OF CAMBRIA, WISCONSIN.

MOLD FOR CONCRETE-ROOF STRUCTURES.

No. 828,719.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed March 29, 1906. Serial No. 308,631.

To all whom it may concern:

Be it known that I, JOHN J. DANIEL, a citizen of the United States, and a resident of Cambria, in the county of Columbia and State of Wisconsin, have invented certain new and useful Improvements in Molds for Concrete-Roof Structures; and I do hereby declare that the following is a full, clear, and exact description thereof.

10 The object of my invention is to provide a mold for the construction of cement roofs, which mold is designed to be secured to the rafters of a building to sustain the cement roofing until set and thereafter detached, 15 said invention consisting in various peculiarities of construction and combinations of parts, as hereinafter set forth with reference to the accompanying drawings and subsequently claimed.

20 In the drawings, Figure 1 represents a fragmental sectional perspective view of a roof-frame in progress of construction with a cement roof made in accordance with a method embodying the features of my invention, a section of one mold being shown in position; Fig. 2, a perspective view of an enlarged detail cross-section of a mold in position between the joists, one side of which is shown covered with cement; Fig. 3, a longitudinal section of the same, as indicated by line 3 3 of Fig. 2; Fig. 4, a side elevation of a portion of a completed roof; Fig. 5, a detail perspective view of the mold, and Fig. 6 a perspective view of a gage which coöperates 35 with the mold in laying a cement roof in accordance with the invention.

Referring by letter to the drawings, the mold comprises end fillers A A', connected together by longitudinal backing-strips B, 40 said strips being fitted together at the center of the mold and inclined in opposite directions to form an arched or conical backing. The mold is arranged to fit the space between roof-rafters 1, the end fillers A A' of said mold being set at acute angles to the backing-strips B, so as to squarely abut the vertical faces of ridge and supporting beams 2 3, respectively, of the roof, thus making a tight joint between said beams and the top and bottom of the 50 mold, so that no cement can leak at these points when the mold is covered.

In order to form closed end walls of cement at the top and bottom of the mold the ridge and supporting beams have temporarily secured thereto facing-strips C D, between 55 which strips and the adjacent end fillers A A'

is poured a cement filling, which when hardened completes the section of roof, it being understood, however, that the strip C is dispensed with after one side of the roof is completed, in which case the abutting wall at the edge of the completed side serves as a substitute for said strip. The mold is held in its adjusted position between the roof-rafters 1 by two or more metal struts E, bent to conform to the shape of the mold in cross-section. The ends of said struts terminate with vertical feet F, adapted to engage the adjacent faces of the rafters, against which they are forced by a spring thrust-bar G, which 70 bar is riveted to the feet and centrally bowed downward, there being a bolt H, loosely mounted therein at this point in threaded engagement with a spanner I, secured to the struts for the purpose of expanding and contracting the latter, the bolt being held against vertical motion in the thrust-bar by its head and a collar J, as shown in Fig. 2 of the drawings. 75

After the mold is in place filling-strips K, 80 as shown, are placed at the edges of the mold upon the roof-beams, serving the double purpose of preventing leak of cement at this point and arching said cement, so that it only bears upon the beam for a portion of its width. In order to hold the cement intact upon the sloping sides of the mold, a gage-frame is placed thereon having a longitudinal ridge-plate L and a base-plate M, connected by braces O, the plate M being adapted to 85 rest upon the adjacent roof-rafter, where it is held against slipping by a series of nails. This plate is also set at a slant, so that when it is removed the cement which has been inserted upon the mold will not have a tendency to flow, the gage-frame also serving as a guide to regulate the thickness of the cement. 95

By the above description it will be seen that after a section of the cement roof has become set the molds may be released by turning the bolts H and allowed to drop out between the roof-rafters. Thereafter the filling-strip K may also be taken out and said apparatus adjusted to another section of roof, it being understood that the shape of the molds and the detail construction shown in connection with making tight joints at the bottom and top of said mold may be varied to suit the fancy and existing conditions without departing from the spirit of my invention—as, for instance, in place of using a cone-shaped mold, which produces a roof 100 105 110

having sharp corrugations, the mold may be arched, so as to produce a fluted effect without the sharp angle—and before it sets said cement in order to compensate for shrinkage or the like may be checked off into grooves or scores by a suitable trowel.

I claim—

1. A cement-roofing mold comprising an arched backing adapted to be fitted between roof-joists, end fillers for the arched backing, supporting-struts for said arched backing, and means in connection with said struts for adjustably securing the same to the roof-joists.

2. A cement-roofing mold comprising an arched backing adapted to be fitted between roof-joists, end fillers for the arched backing, strips secured to the roof-timbers adjacent to

the backing-fillers, whereby a space is formed at either end of the mold, and detachable supporting-struts for the mold in connection with the roof-joist.

3. A gage for arched cement-roofing molds comprising a frame having parallel plates, of a predetermined height, one of which is adapted to seat upon the crowns of the mold, while the other plate overlaps the edge of said mold, and braces connecting the plates.

In testimony that I claim the foregoing I have hereunto set my hand, at Cambria, in the county of Columbia and State of Wisconsin, in the presence of two witnesses.

JOHN J. DANIEL.

Witnesses:

D. M. ROWLANDS,
MARY B. GLASS.