

No. 703,025.

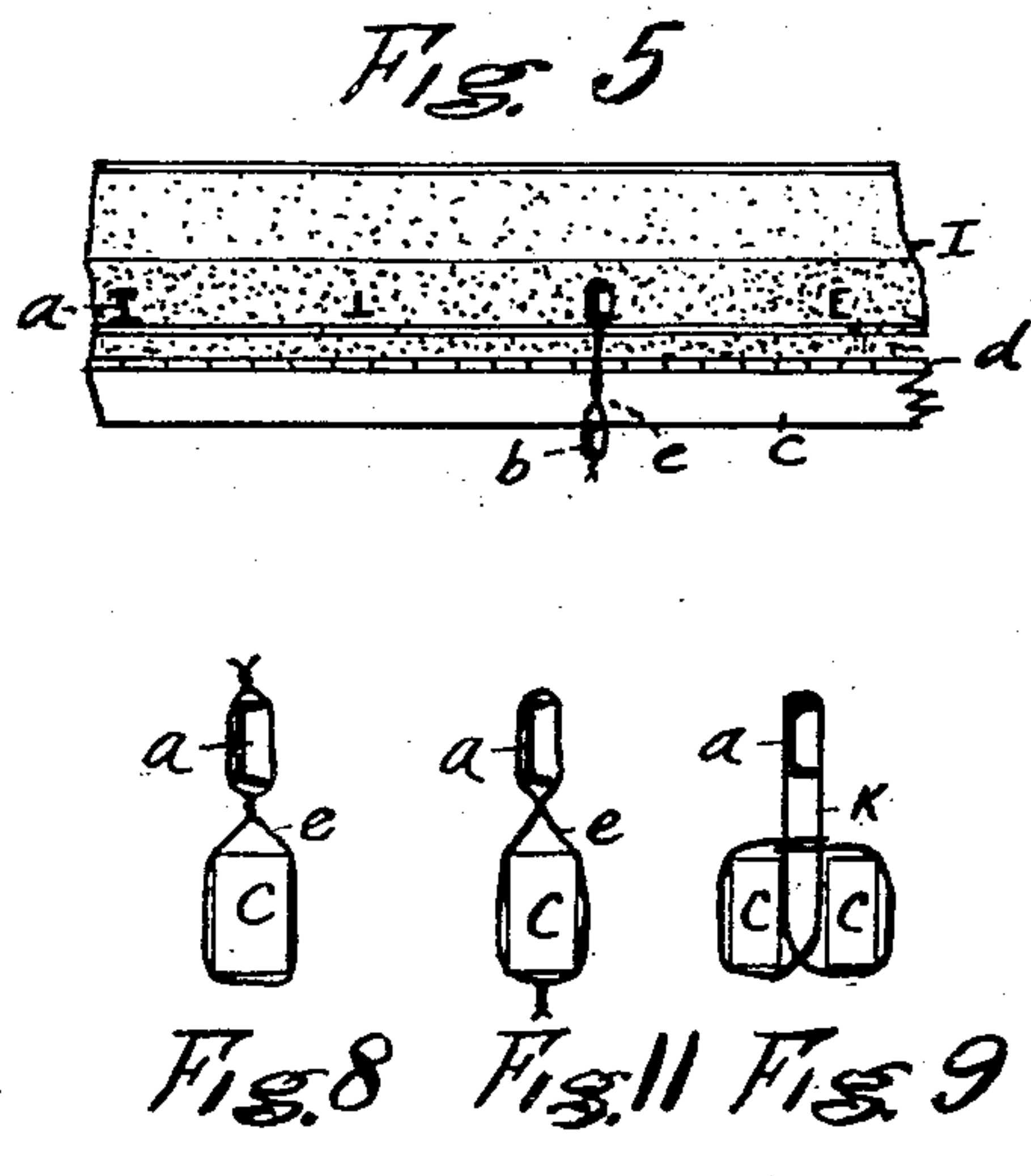
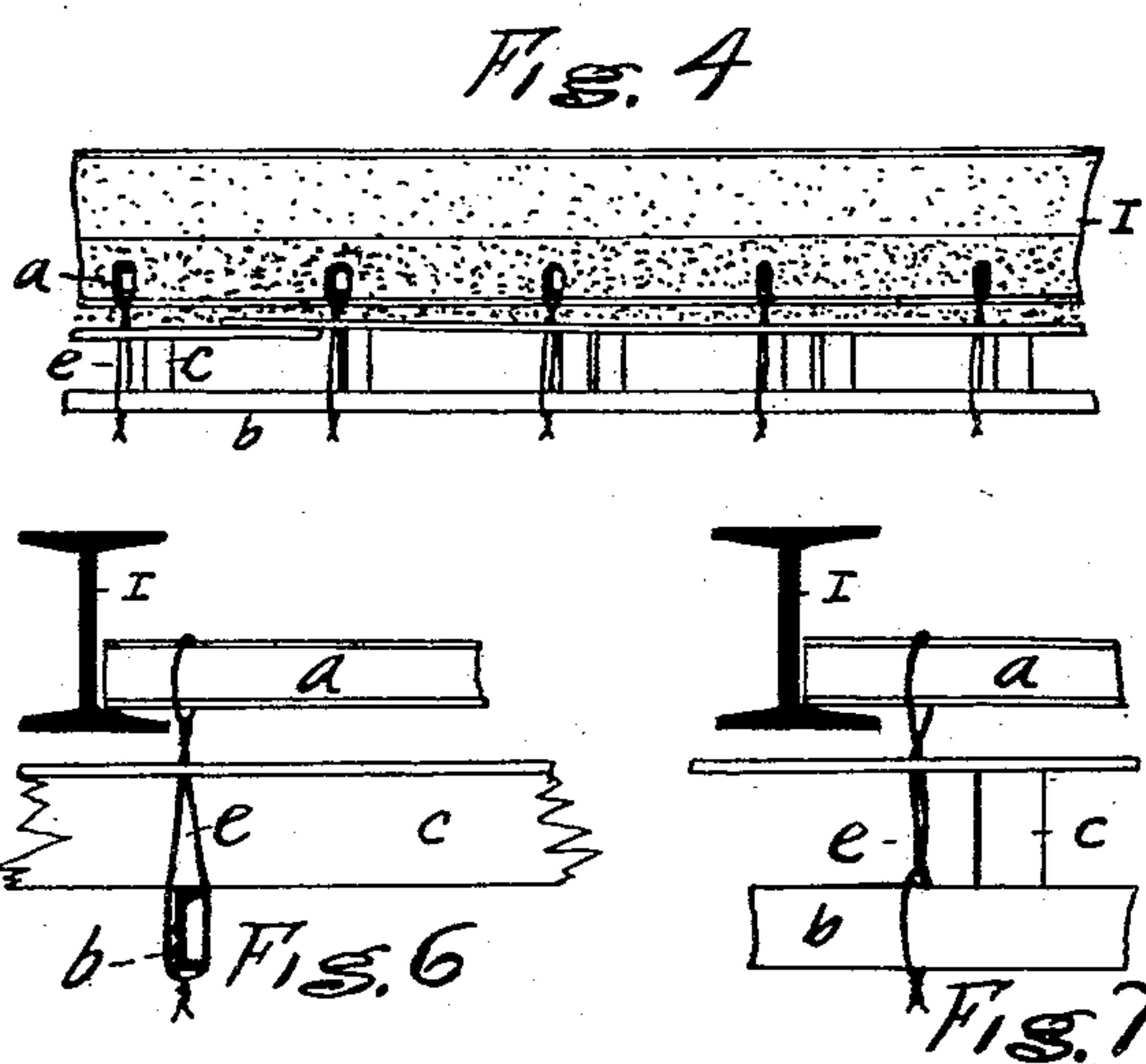
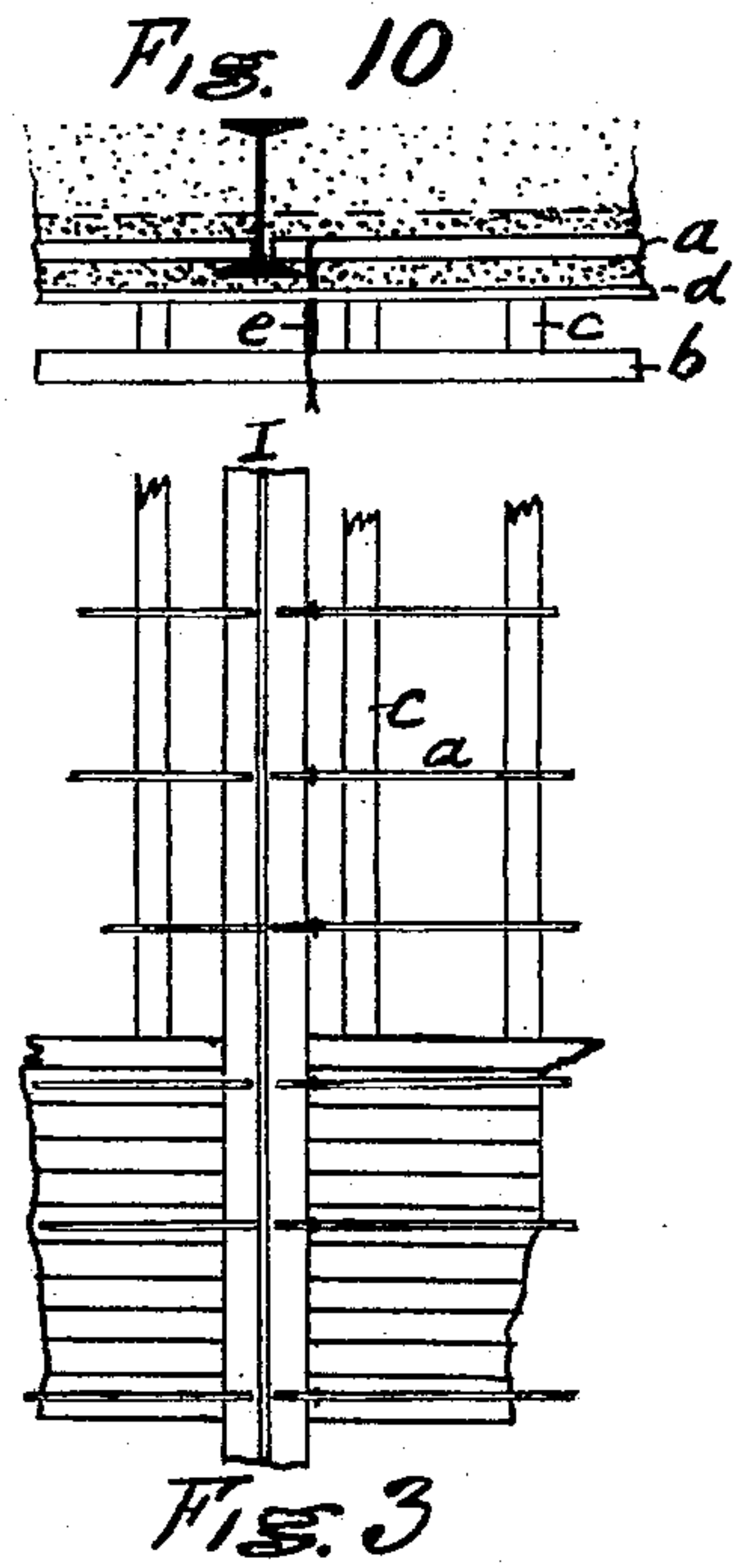
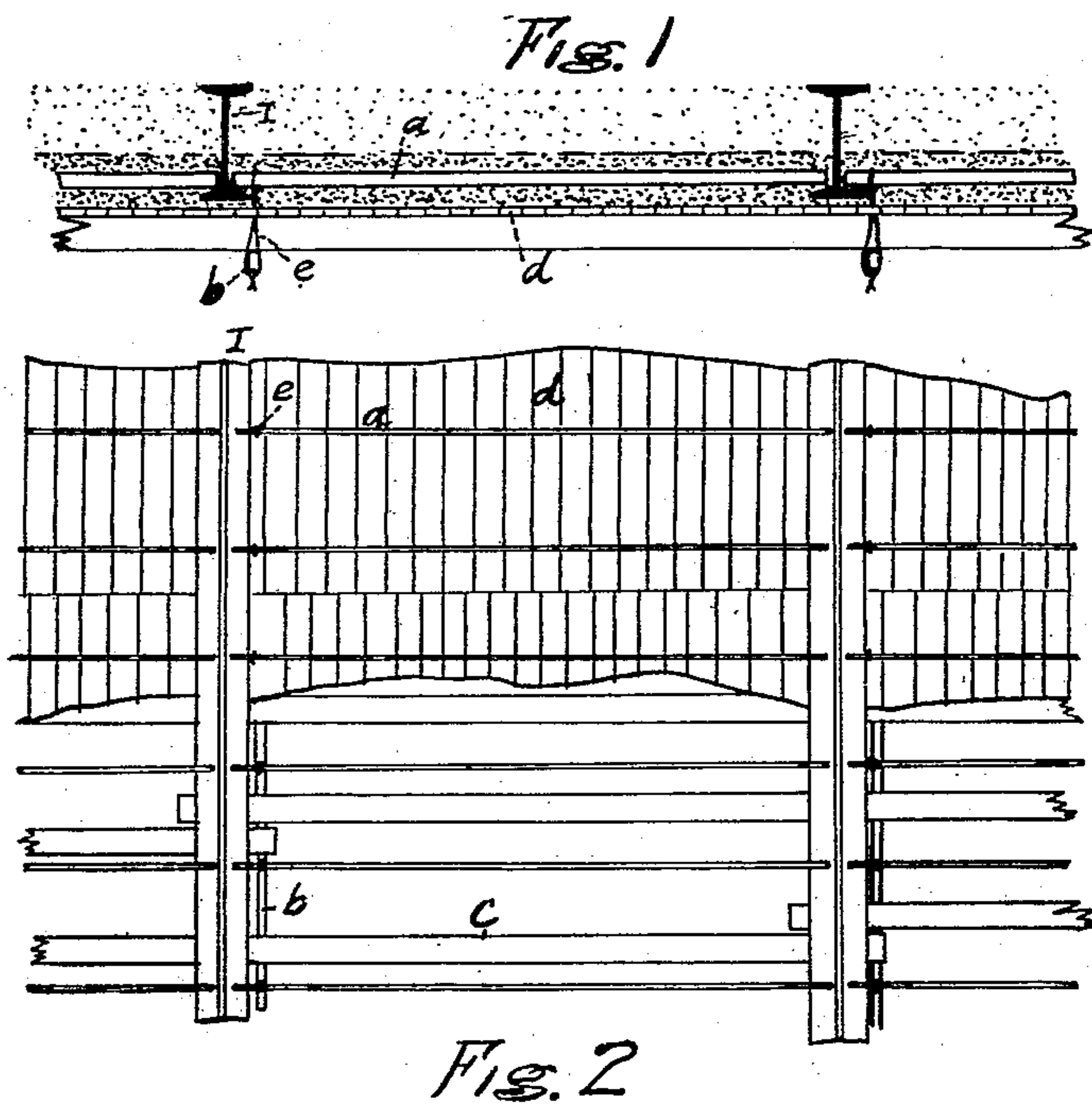
Patented June 24, 1902.

G. B. WAITE.

CENTER CONSTRUCTION FOR FLOOR ARCHES.

(Application filed June 14, 1901.)

(No Model.)



WITNESSES:

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CENTER CONSTRUCTION FOR FLOOR-ARCHES.

SPECIFICATION forming part of Letters Patent No. 703,025, dated June 24, 1902.

Application filed June 14, 1901. Serial No. 64,535. (No model.)

To all whom it may concern:

Be it known that I, GUY BENNETT WAITE, a citizen of the United States, and a resident of Hoboken, in the county of Hudson and State of New Jersey, have invented a certain new and useful Center Construction for Floor-Arches, of which the following is a specification.

My invention relates to a new system of constructing concrete arches with temporary centering.

The hangers for supporting centers from the floor-beams heretofore used are eliminated in my centering device.

My system of centering is adapted to concrete arches having bars preferably embedded in the arch. The bars may be supported on masonry, ironwork, or otherwise independent of the arch. To these bars the centering is temporarily suspended, and after the concrete of the arch is hardened the centers are cut down, which may readily be done by clipping off the portions of the wire loops exposed below the arches by means of any ordinary wire-clipping pliers.

In the accompanying drawings, which illustrate my construction, like letters indicate similar parts throughout.

Figure 1 is a cross-section through a floor-arch, showing my centering underneath the arch. Fig. 2 is a horizontal section taken through floor-beams I, showing a plan of the centering. Fig. 4 is a longitudinal section parallel with floor-beam, showing centering underneath the arch. Figs. 10, 3, and 5 are respectively sections and plan of arch with centering similar to that shown in Figs. 1, 2, and 4 except the centering runs in opposite direction. Figs. 6, 7, 8, 11 show details of means for suspending the centering from the arch shown in Figs. 1, 2, 4, 10, 3, 5. Fig. 9 shows a detail of one kind of suspender K, formed to hold bars *a* on edge and to carry center-supports which can be used instead of suspenders *e*, shown in Figs. 6, 7, 8, 11.

I represents steel floor-beams for supporting arch.

a represents rods or bars extending through arch. These may rest on bottom or top flanges of beams I, on brickwork, or on other suitable supports.

b represents bars extending underneath the centering for the support of the same.

c represents stiff supports (resting on *b*) for the material *d*, which latter forms the closed centering for the reception of the concrete forming the arch.

d represents strips of wood.

e represents suspenders, which serve the double purpose of holding the temporary centering in place and hold the bars extending through the arch from turning on the flat.

Supporting-bars *b* may run crosswise of bars *a*, as in Figs. 1, 2, 4, or parallel with them, as in Figs. 10, 3, 5.

The supports *c* will of course extend in opposite directions, as will the centering *d*, according to the direction of the supports *b*.

The bars *b* may sometimes be omitted and the supports *c* directly suspended from bars *a*, as shown in Figs. 8 and 11.

In Fig. 2 centering *d* is shown broken off in order to show supports *c* and *b* below.

Centering *d* may be made of small thin strips for the purpose of fitting any space or of centering around any obstruction through the arch without sawing and fitting the centers, as heretofore done with wooden centering. Centers *d* may be lapped the one over the other and being kept thinner than the plastering, which goes on the soffit of the arch, the roughness thus formed is not objectionable.

The bars *a* preferably form a permanent part of the arch and are thin in one direction with the maximum stiffness of the bars vertical. In order to keep these bars in a vertical position while the concrete is being put in, various devices have been used, often known as "separators."

In the suspenders *e* the separators above mentioned are not required, the suspenders *e* holding bars *a* on edge at the same time they hold up the centering.

Having described my invention, what I claim as original, and for which I pray for Letters Patent, is—

1. The herein-described construction consisting of elements of thin or channel iron arranged to be embedded in the concrete of fire-proof arches and held on edge on suitable supports, suspenders of substantially the form

shown, adapted to hold said irons on edge, and temporary strips or sheathing supported from said suspenders, substantially as specified.

5 2. A hanger for use in fireproof construction made of wire twisted in the form of a double loop, the upper loop made to hold metallic members and the lower loop to support temporary centering, substantially as
10 shown.

3. In fireproof floor construction the combination of metallic members, *a*, twisted-wire hanger, *e*, center support, *c*, and centering, *d*.

4. In fireproof floor construction temporary

centering suspended from metallic members, 15
a, by means of twisted-wire hangers, *e*, substantially as described.

5. In fireproof floor construction centering material, *d*, supported by joist, *c*, and twisted-wire hangers, *e*, substantially as described. 20

Signed at the city of New York, in the county of New York and State of New York, this 13th day of June, A. D. 1901.

GUY BENNETT WAITE.

Witnesses:

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