

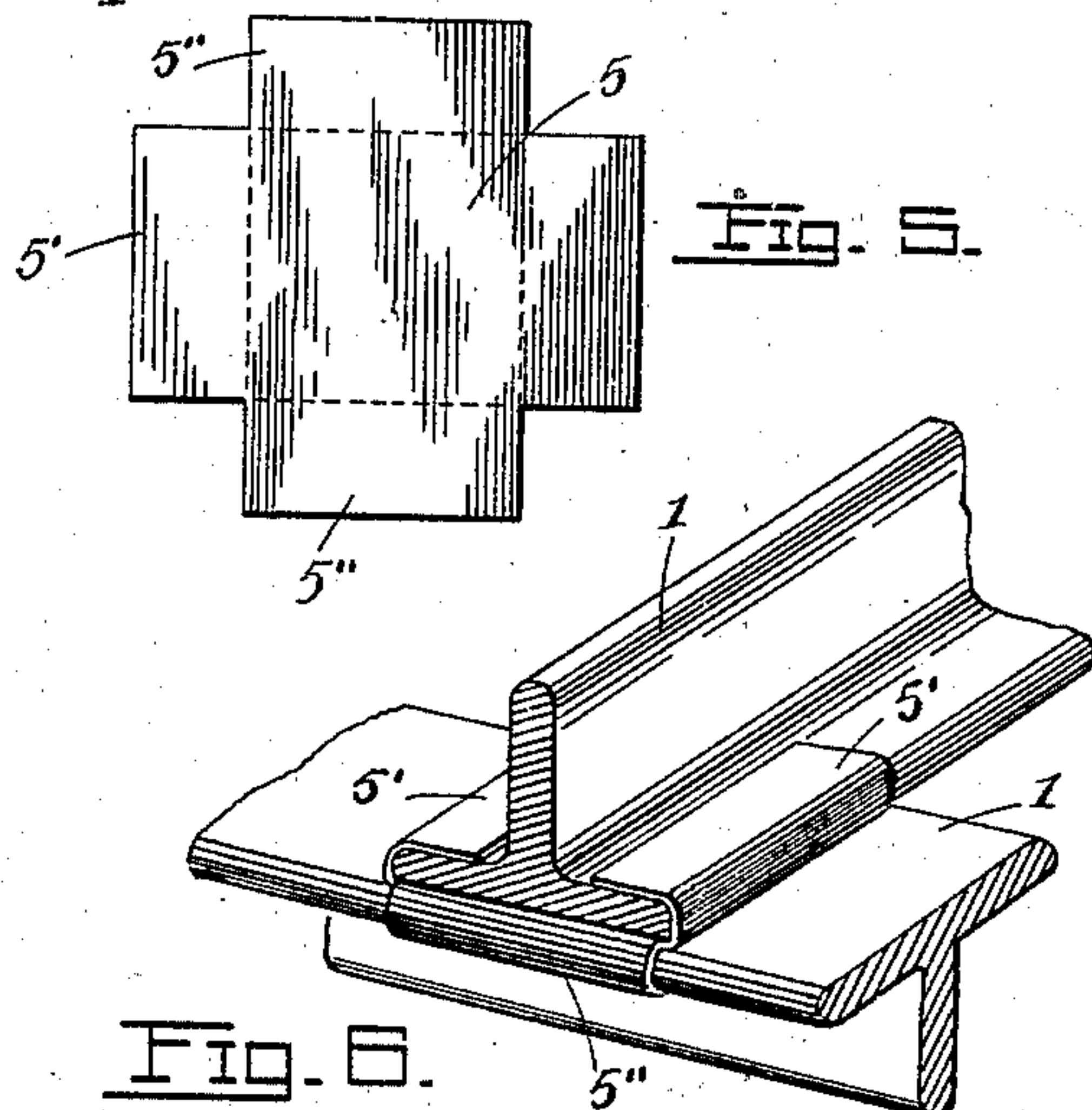
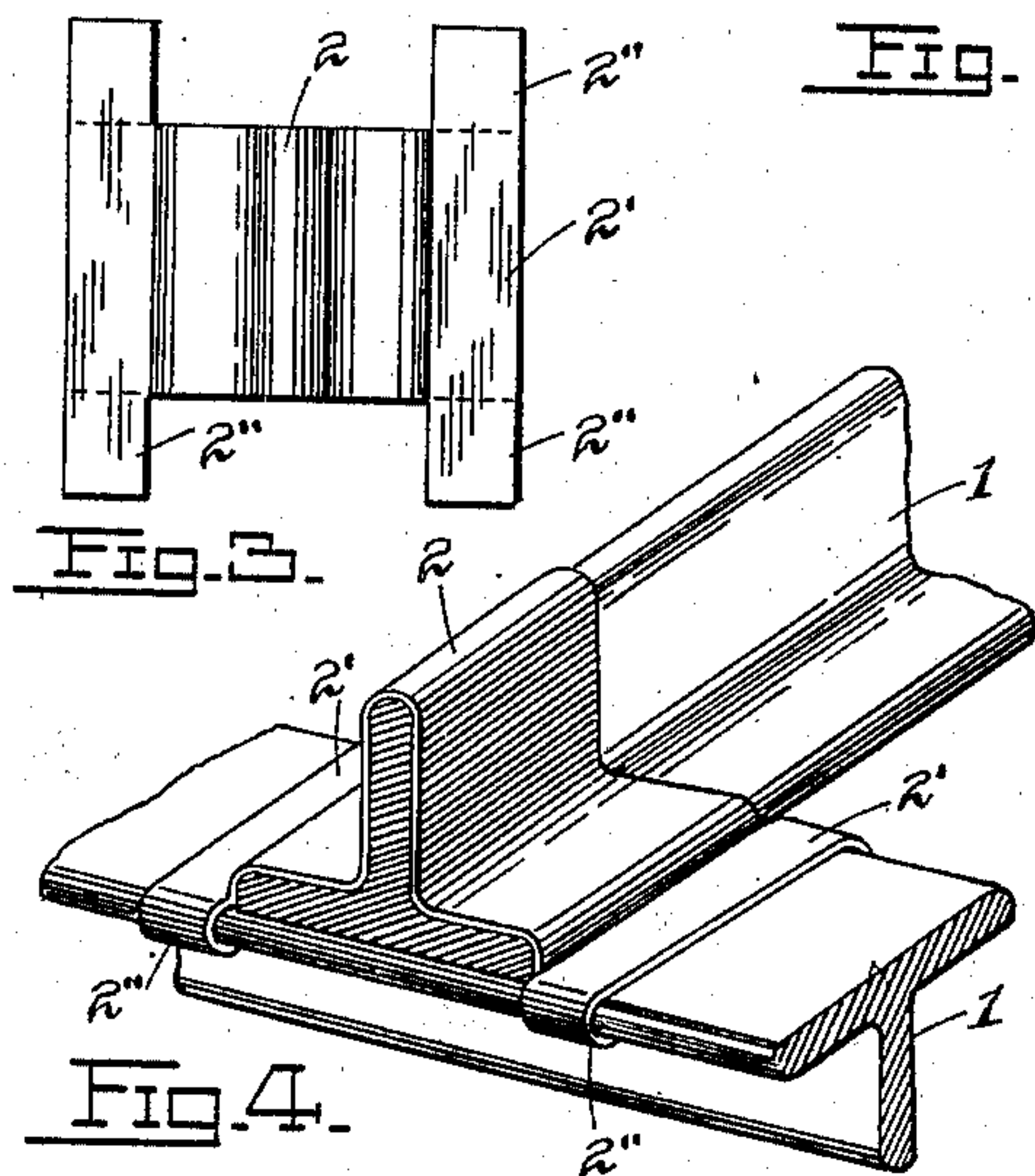
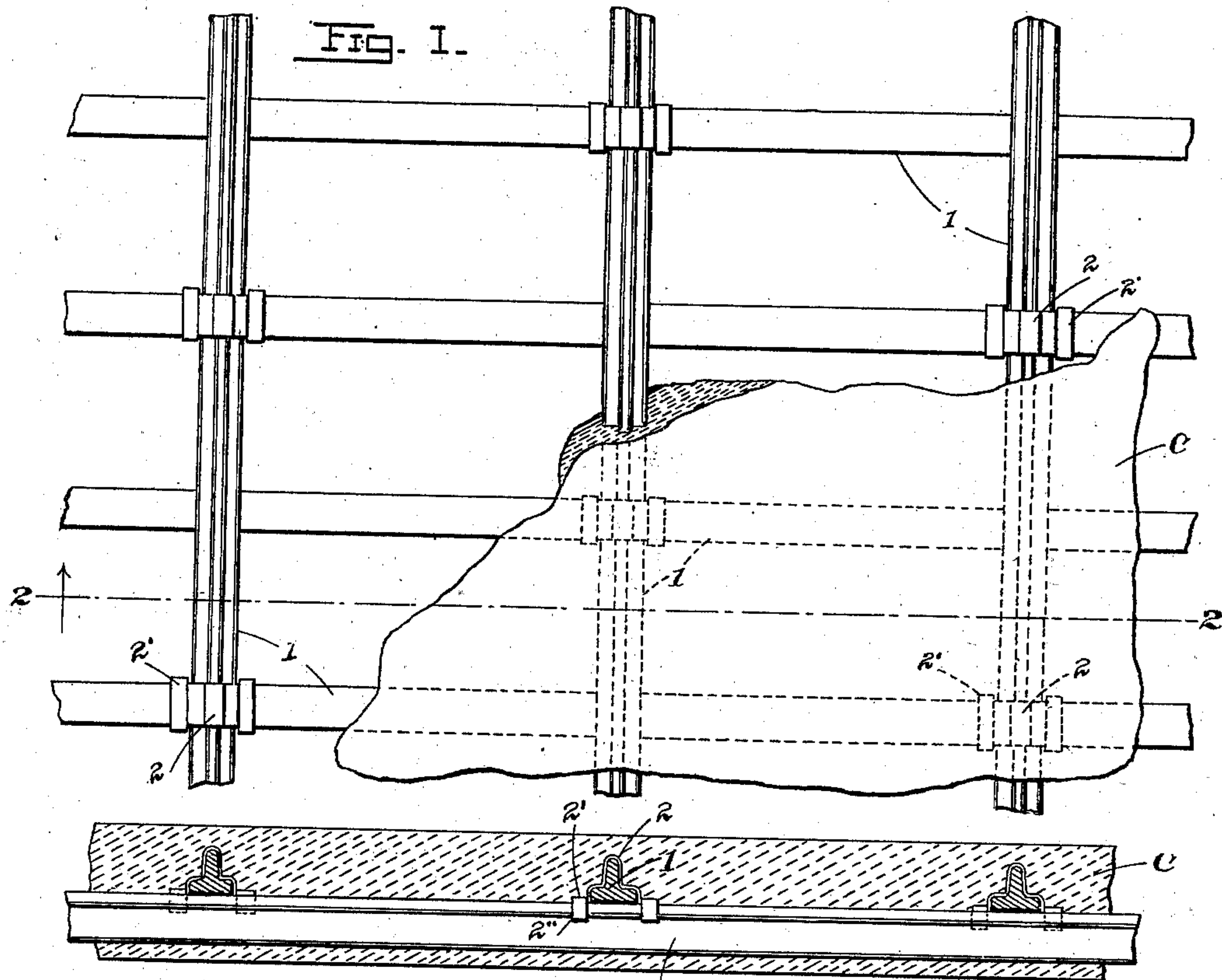
No. 712,625.

Patented Nov. 4, 1902.

C. WEBER.  
STEEL-CONCRETE CONSTRUCTION.

(Application filed June 12, 1902.)

(No Model.)



Witnesses  
Phil. J. Nawn  
G. L. Buefy

Inventor  
Carl Weber  
By his Attorney  
Eugene L. Loeck



# UNITED STATES PATENT OFFICE.

CARL WEBER, OF ST. LOUIS, MISSOURI.

## STEEL-CONCRETE CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 712,625, dated November 4, 1902.

Application filed June 12, 1902. Serial No. 111,348. (No model.)

*To all whom it may concern:*

Be it known that I, CARL WEBER, a subject of the Emperor of Germany, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Steel-Concrete Constructions, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention has relation to improvements in steel-concrete constructions; and it consists in the novel arrangement and combination of parts more fully set forth in this specification, and pointed out in the claim.

In the drawings, Figure 1 is a plan of my invention, showing a portion thereof embedded in a layer of concrete. Fig. 2 is a section on line 2 2 of Fig. 1, the concrete being shown in section. Fig. 3 is a plan of one form of clamp used to secure the T-beams. Fig. 4 is a perspective showing two beams clamped together. Fig. 5 is a plan of a modified form of clamp, and Fig. 6 is a perspective of two beams tied with such modified clamp.

The present invention relates to steel-concrete constructions as applied to floors, ceilings, walls, tanks, bridge-spans, arches, and the like, having for its object to overcome many of the objections inherent in constructions employing girders of circular and square cross-section and those employing I-beams, objections arising from the use of the means employed for tying such forms of girders together, and other objections due to the character of the girders themselves. In my system not only is the load sustained distributed to better advantage, but the strains to which the construction is subjected are resisted to better advantage.

In detail the invention may be described as follows:

Referring to the drawings, 1 1 represent a series of T-beams intersecting one another at right angles, (in the majority of cases, though I do not wish to be limited to said angles,) the flange of one beam being supported on the flange of the beam beneath it, the juxtaposition of the flanges forming one of the vital features of my invention, since the up-

per series of beams and weight carried by them are thus supported on expanded surfaces or planes of contact, which is impossible with the cylindrical form of bar or the I-beam or a combination of the two or with the square beam having the same weight of metal. At the points of intersection the said T-beams are bound together by clamps 2, (referring in particular to the form shown in Figs. 1, 2, 3, 4,) the clamp comprising a flexible metallic sheet enveloping the web and flange of the superposed beam and having wings 2', adapted to span the flange of the lower beam, and extensions 2'', enveloping the edges or sides of the lower flanges, as best seen in Figs. 3 and 4.

In the modification shown in Figs. 5 and 6 the clamp 5 is interposed between the juxtaposed flanges of the beams, two wings 5' of the original blank being subsequently turned upward to envelop the flanges of the upper beam and two wings 5'' being bent downward to envelop the flanges of the lower beam, as best appears in Figs. 5 and 6. The system of beams or girders thus tied together are embedded in a layer of concrete C, which is composed of variable proportions of Portland cement, sand, and broken stones, as is well understood in the art.

The word "steel" in the present description is of course used generically and includes any form of steel or iron.

Having described my invention, what I claim is—

In a steel-concrete construction, a series of intersecting T-beams having their flanges contacting directly with one another, a clamp at the intersection of the beams enveloping the web and flange of one beam, and having wings spanning the flange of the adjacent beam, and extensions carried by said wings and enveloping the edges of the flange thus spanned, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CARL WEBER.

Witnesses:

EMIL STAREK,  
G. L. BELFRY.