No. 803,715. PATENTED NOV. 7, 1905.

J. C. RUSSELL.

METAL CLAMP FOR CROSS RODS.

APPLICATION FILED NOV. 14, 1904.

Fig. 1.

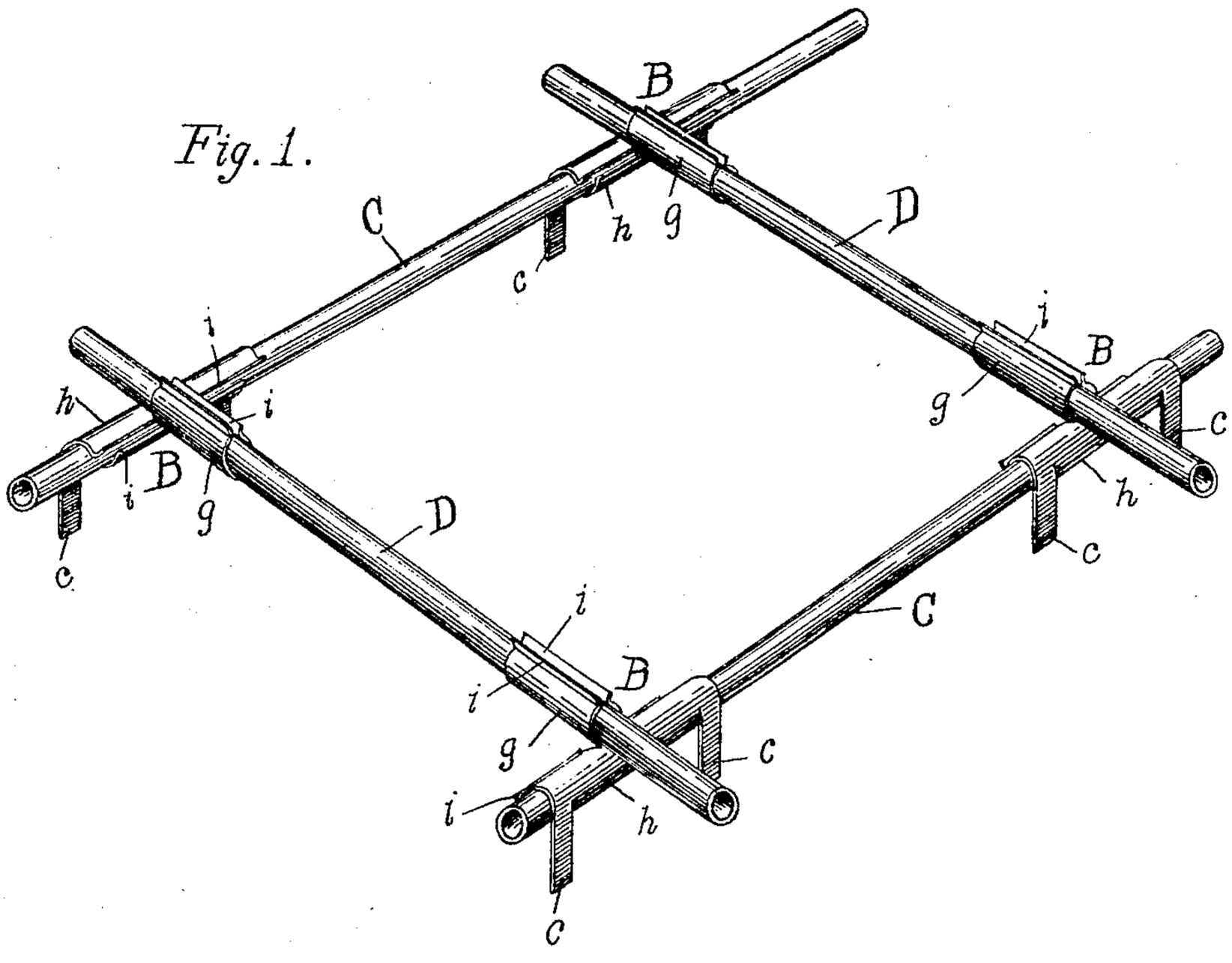
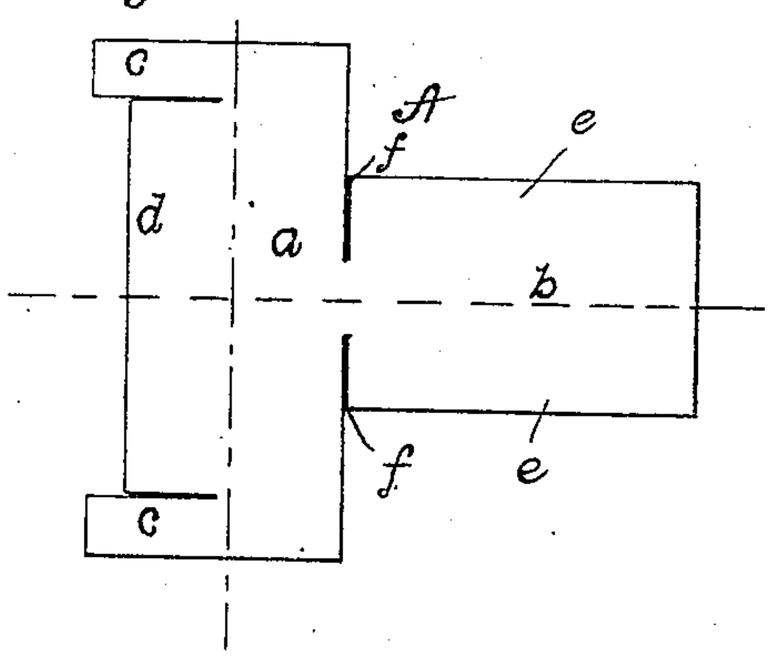


Fig. 2.



WITNESSES:

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METAL CLAMP FOR CROSS-RODS.

No. 803,715. Specification of Letters Patent. Patented Nov. 7, 1905.

Application filed November 14, 1904. Serial No. 232,625.

To all whom it may concern:

Be it known that I, JOHN C. RUSSELL, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Metal Clamps for Cross-Rods; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improved means for clamping or securely fastening the crossing sections of rods or wires employed in reinforced concrete construction work for strengthening such structures.

In the construction of concrete floors, ceilings, and the like it is necessary that the reinforcing rods or strips when first positioned be slightly elevated or spaced from the bottom or sides of the mold or forming body, so as to permit the concrete or plastic substance as it is poured therein to freely circulate around and inclose the reinforcing-rods within its mass.

The primary object of my invention is the provision of a clamp of the class described having integrally-formed means for supporting the intersecting rods a desired distance above the floor or bottom of the molds or supporting members, thereby avoiding the necessity of placing blocks or other separate supporting means at intervals under the reinforcing strips or rods, as is now done for this purpose.

Further objects of my invention are to provide a clamp or tie that is simple, cheap, and durable in its construction, capable of being readily clampd to the reinforcing-rods at their crossing-points, and form a rigid tie therefor.

The invention is fully described in the following specification and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a series of reinforcing-rods with their crossing-points clamped together by my invention, and Fig. 2 is a plan of the blank from which the clamps embodying my invention are formed.

Referring to the drawings, A represents the blank from which the clamp is formed, B the clamps formed from such blank, and C and D the rods adapted to be securely fastened together at their crossing-points by a clamp.

The blank A, which is preferably formed from sheet metal, is composed of the oblong portions *a* and *b*, which are arranged in T shape or with their longitudinal axes disposed at right angles. The portion *a* is formed laterally thereof with the outwardly-projecting tongues *c* and the interposed wing *d*, while the portion *b* is formed with the laterally-disposed oppositely-extending wings *e*, which have their inner ends separated from the portion *a* by the incisions *f*. In the formation of a clamp the wings *e* of the portion *b* are turned or rolled substantially U shape in cross-section to form the rod-receiving portion *g* and the wing *d* of the portion *a* is turned or rolled in an opposite direction to the wings *e* and in similar shape to form the rod-receiving portion *h*, having its axis disposed at a right angle to that of the portion *g* and its opening in a plane intersecting that of the portion *g*. The tongues *c* are turned, as shown in Fig. 1, to a plane perpendicular to that of the rod-receiving portion *g*, thereby providing a support for elevating the reinforcing-rods a suitable distance above the flooring or mold. When a clamp B has been placed in position at the crossing-point of a pair of rods C D, the edges of the rod-receiving portions are tightly compressed over the surfaces of the respective rods to prevent their displacement. In order to facilitate the compressing operation of the rod-receiving portions *g* and *h* about their respective rods, the edges of said portions are each provided with a flange or tool engaging surface *i*, which enables the compressing-tool to grip and contract the companion edges without danger of slipping off. This feature adds considerably to the commercial value of my clamp.

It is obvious that the supporting-tongues *c* may be formed on either or both of the rod-receiving members, as desired, and that such changes in the form, proportion, and minor details of construction of the parts as is necessary to enlarge or diminish the clamping members and which fall within the scope of my invention may be made without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A clamp having integral portions bent to form two rod-receiving members disposed at a right angle to each other the receiving-openings of which are disposed in intersect-

ing planes, and supporting means projecting from one of said members, substantially as described.

2. A sheet-metal clamp for reinforced concrete construction work, comprising integral portions bent to lock the intersecting portions of crossed reinforcing-rods together, and tongues projecting therefrom below the plane of the crossing rods to act as an elevating support therefor.

3. A clamp having integral rod-receiving portions disposed in intersecting planes and flanges provided at the edges of each rod-receiving portion to form tool-gripping surfaces.

4. A clamp of the class described, comprising integral rod-receiving portions substantially U shape in cross-section and disposed in intersecting planes, and an obliquely-disposed flange formed on the edges of said portions to provide gripping-surfaces for a compressing-tool.

5. A clamp of the class described having portions bent to form two rod-receiving portions disposed in intersecting planes and the surface edges of said portions crimped to form a tool-gripping surface, and integral tongues adapted to act as a support for the clamp, substantially as described.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

JOHN C. RUSSELL.

Witnesses:
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MARY I. SHAY.