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C. FORSSELL

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CARCASS FOR BUILDINGS

Filed March 14, 1923

Fig.1

Fig.2

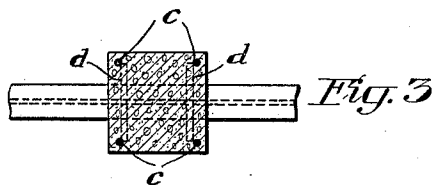
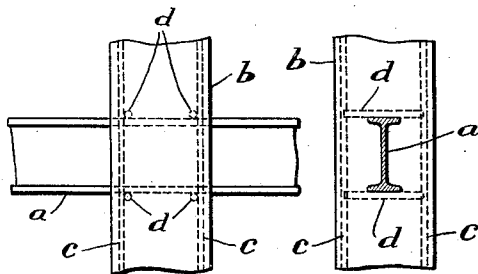
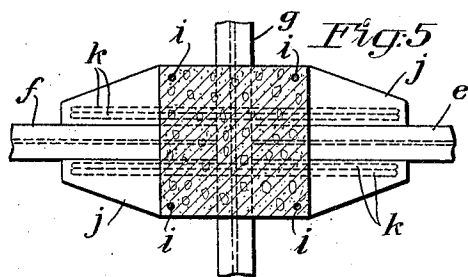
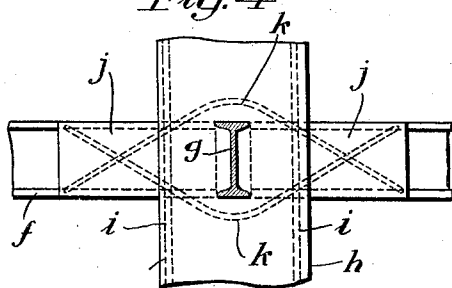


Fig.4



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CARCASS FOR BUILDINGS

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This invention refers to the construction of buildings and more particularly the carcasses for house buildings. In such carcasses the columns will become more economical to produce if made of reinforced concrete than of iron while the beams will become more economical if produced of steel. The joint between a column and a beam should be able to withstand bending stresses, thus the beam must be firmly fixed to the column. Such a construction admits of an economical design of the beam, as same is firmly held in the column, also of making the carcass standing by itself without the support of walls. By such a construction of the joint in passing the steel beam through the concrete column and cast them together a really economical joint is obtained.

If two beams are provided in the same plane and cross the column in two directions, one of them can preferably pass undivided through the column while the other then must be divided and scarfed within the column. Such a joint can be made by inserting the ends of the beams in the column and cast them in any known manner with reinforced concrete brackets provided on the column.

As the beam is subjected to a great stress by the moment at the point of fixation, the stress at the edges of the joint will become very great. This can be reduced by transverse reinforcement.

In the accompanying drawing two embodiments of the invention are shown, in which

Fig. 1 is a side view,
Fig. 2 an end view, and
Fig. 3 a horizontal view of a steel beam with a concrete column.

Fig. 4 is a side view and
Fig. 5 a horizontal view of similar construction with one beam scarfed.

a is a steel beam, *b* is a concrete column, *c* are reinforcing irons in the column, and *d* is a transverse reinforcement at the edges of the joint between column and beam. *e* and *f* are the ends of the scarfed beam, *g* is the undivided beam, *h* is the concrete column, *i* are the reinforcing irons, *j* are the two brackets or the column with their reinforcing irons *k*.

What I claim as new and desire to secure by Letters Patent of the United States of America is:—

1. In a carcass for buildings, a column of concrete, and two beams of steel of I form in cross-section arranged in the same plane and crossing each other in said column, one of the beams extending through the column undivided and the other beam divided and scarfed within the column, the concrete of the column being cast around said undivided beam and around the ends of said divided beam so as to be firmly connected to and wholly support the same and thereby form a joint capable of withstanding bending stresses.

2. In a carcass for buildings, a column of concrete, two beams of steel arranged in the same plane and crossing each other in the column, one of said beams extending through said column undivided and the other beam divided and scarfed within the column, the concrete of said column being cast around said undivided beam and the ends of the divided beam so as to be firmly connected thereto and form a joint capable of withstanding bending stresses, and a bracket of reinforced concrete on said column cast around each end of said divided beam.

3. In a carcass for buildings, a column of concrete having internal longitudinal reinforcing irons, a beam of steel extending through said column, the concrete of the column being cast around the beam so as to be firmly connected to and wholly support the same and thereby form a joint capable of withstanding bending stresses, and transverse reinforcing irons embedded in said column at the crossing point of the beam therewith.

In testimony whereof I affix my signature.
CARL FORSSELL.