Oct. 30, 1923.

1,472,600

J. LALLY

BUILDING COLUMN

Original Filed Sept. 13, 1921 2 Sheets-Sheet 1

Fig. 1.

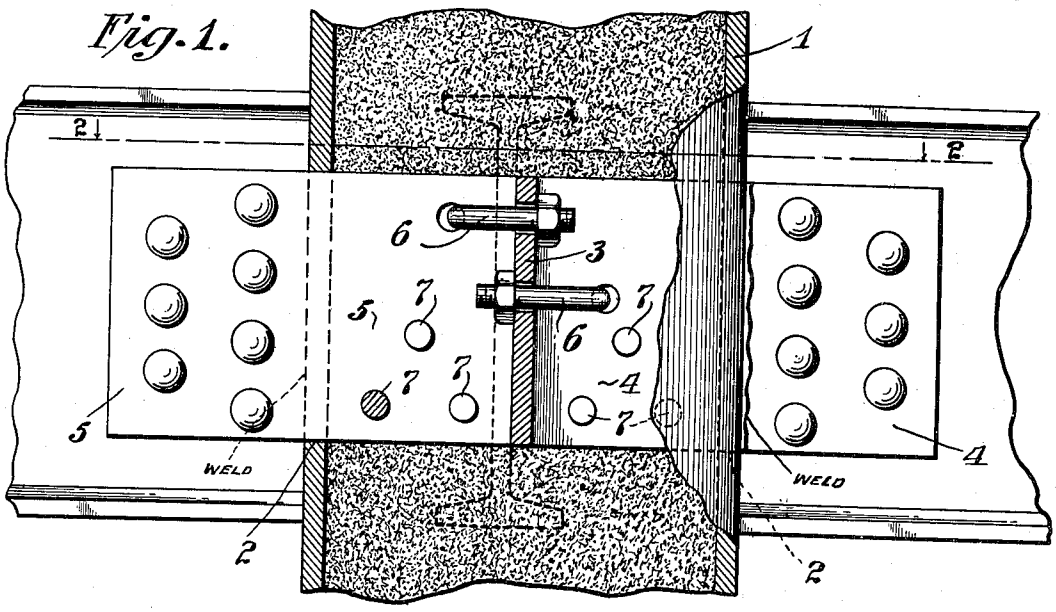
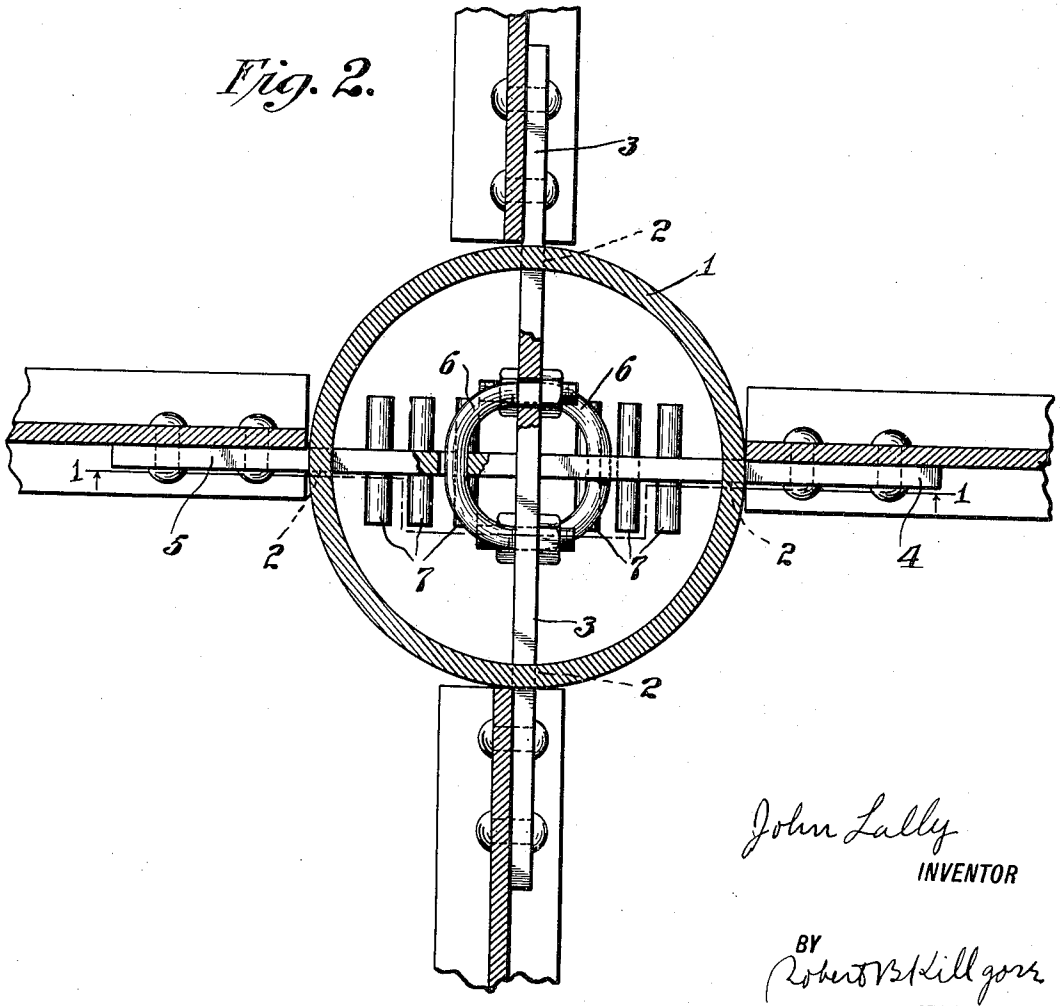


Fig. 2.



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Fig. 3.

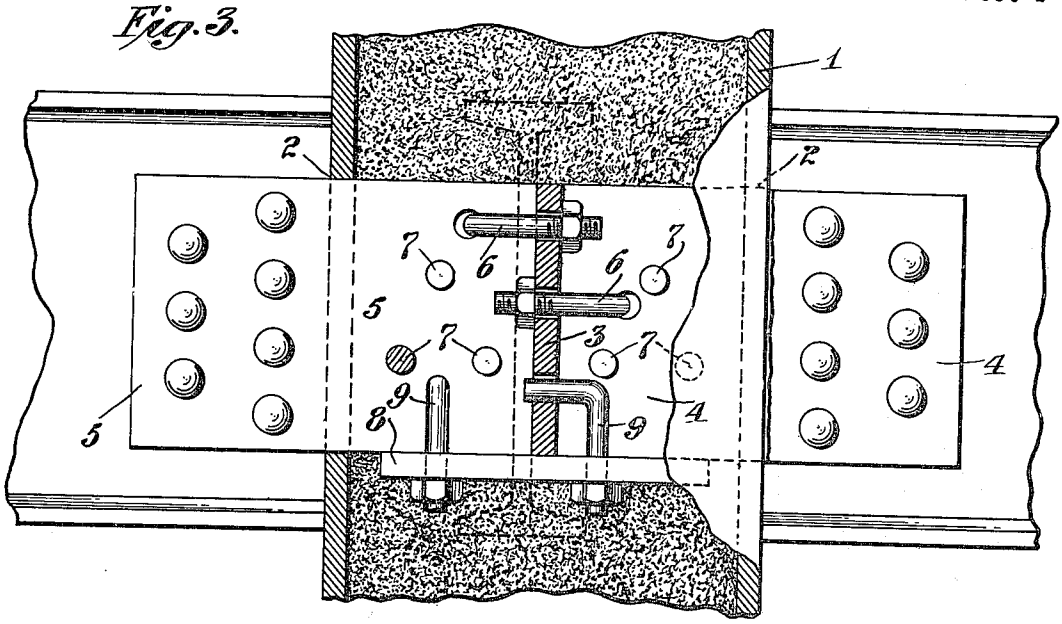
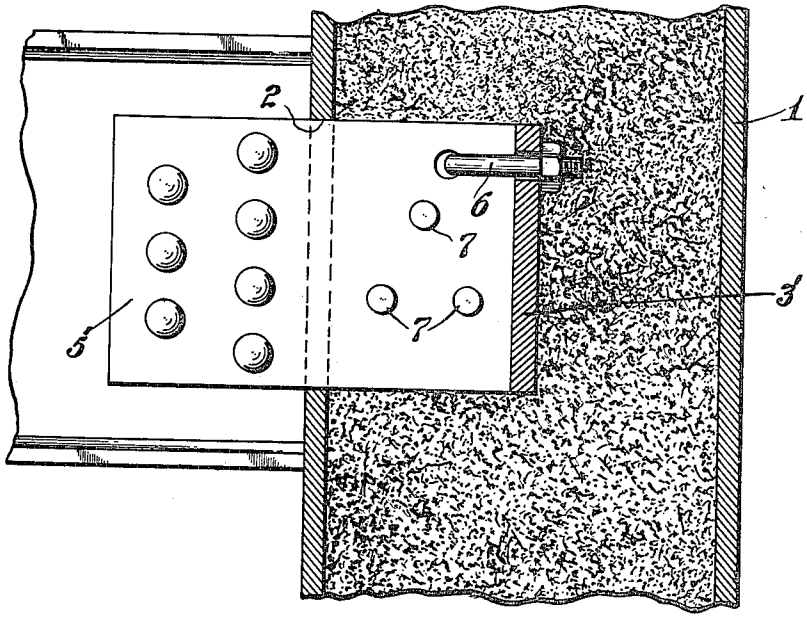


Fig. 4.



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Patented Oct. 30, 1923. 1,472,600

UNITED STATES PATENT OFFICE.

JOHN LALLY, OF BOSTON, MASSACHUSETTS.

BUILDING COLUMN.

Application filed September 13, 1921, Serial No. 500,385. Renewed September 25, 1923.

To all whom it may concern:

Be it known that I, JOHN LALLY, a citizen of the United States, and a resident of Boston, Suffolk County, Massachusetts, have invented certain new and useful Improvements in Building Columns, of which the following is a specification.

My invention relates to columns of the reinforced concrete type and it is my object to produce a column provided with tie plates for attaching the floor beams in which the tie plates will be solidly attached one to another and to the column. Another object is to provide the tie plates with devices within the column which will increase the vertical resistance of the tie plate and resist any tendency to tip under load.

In the accompanying drawing Fig. 1 is a front, sectional view of my improved column; Fig. 2 a sectional view of the structure of Fig. 1 on the line 2—2— thereof with the plastic filling omitted for clearness of illustration; Fig. 3 a sectional view of a modified form of tie plate construction; and Fig. 4 a view of a further modification.

The column comprises a casing 1, generally of steel tubing or iron pipe, provided with slots 2, 2 at the points where the tie plates are to be attached. In the forms shown in Figs. 1, 2 and 3 a long tie plate 3 extends through opposed slots and short tie plates 4 and 5 extend through the remaining slots and abut against the tie plate 3 within the casing. The tie plates are perforated within the casing and U-shaped clip 6, 6 are hooked through perforations in the plates 4 and 5 with their legs extending through perforations in the tie plate 3 so that the tie plates may be drawn solidly together by drawing up on the nuts on the threaded ends of the clips.

The casing is then filled with plastic material, such as concrete, thereby increasing the strength and further uniting the parts.

In order that the vertical resistance of the tie plates may be increased and their liability to tip under load may be prevented thrust pins 7, 7 may be inserted in perforations in the tie plates within the casing and spaced from the inner wall thereof, which, when imbedded in the plastic filling, will greatly increase the vertical resistance and tendency for the plates to tip in the slots.

As shown in Fig. 3 a perforated reinforcing plate 8 may be secured to the bottom edges of the tie plates by clips 9, 9 engaging perforations in the tie plates 3 and 5 and the reinforcing plate 8. The casing is then filled with plastic material from both ends and the tie plates, reinforcing plate, clips and thrust pins if used, are solidly held by being embedded in the plastic material.

If desired the tie plates may be welded to the slots in the casing to increase the weight bearing capacity.

The columns thus produced are characterized by the absence of protruding brackets to carry the beams as the tie plates lie on the side of the beams and are concealed in the floor itself leaving the column of uniform size from floor to ceiling.

In Fig. 4 I have shown how a single short tie plate 5″ may be attached to a cross plate 3′ by clip 6 if but one beam is to be carried.

I claim:

1. A building column comprising a casing provided with slots, a perforated plate extending through opposed slots, a perforated tie plate extending through the other slot and abutting the first plate within the casing, a clip passing through perforations in both plates binding the two together and a filling of plastic material within the casing embedding the inner ends of the plates and clip.

2. A building column comprising a casing provided with slots, a perforated long tie plate extending through opposed slots, short perforated tie plates extending through the other slots with their ends abutting the long tie plate within the casing, clips passing through the perforations in the plates binding them together and a filling of plastic material within the casing embedding the inner ends of the plates and the clip.

3. A building column comprising a casing provided with slots, perforated tie plates extending through the slots and lying partly within and partly without the casing, thrust pins in the plate perforations away from the inner wall of the casing and a filling of plastic material within the cas-

ing embedding the inner ends the tie plates and thrust pins.

4. A building column comprising a casing provided with slots, perforated tie plates extending through the slots and secured together within the casing, a reinforcing plate within the casing secured to the lower edges of the tie plates and a plastic filling within the casing embedding the tie plates and reinforcing plate.

In testimony whereof I have hereunto subscribed my name.

JOHN LALLY.