

J. LALLY,
BUILDING COLUMN.
APPLICATION FILED SEPT. 13, 1921.

1,418,581.

Patented June 6, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

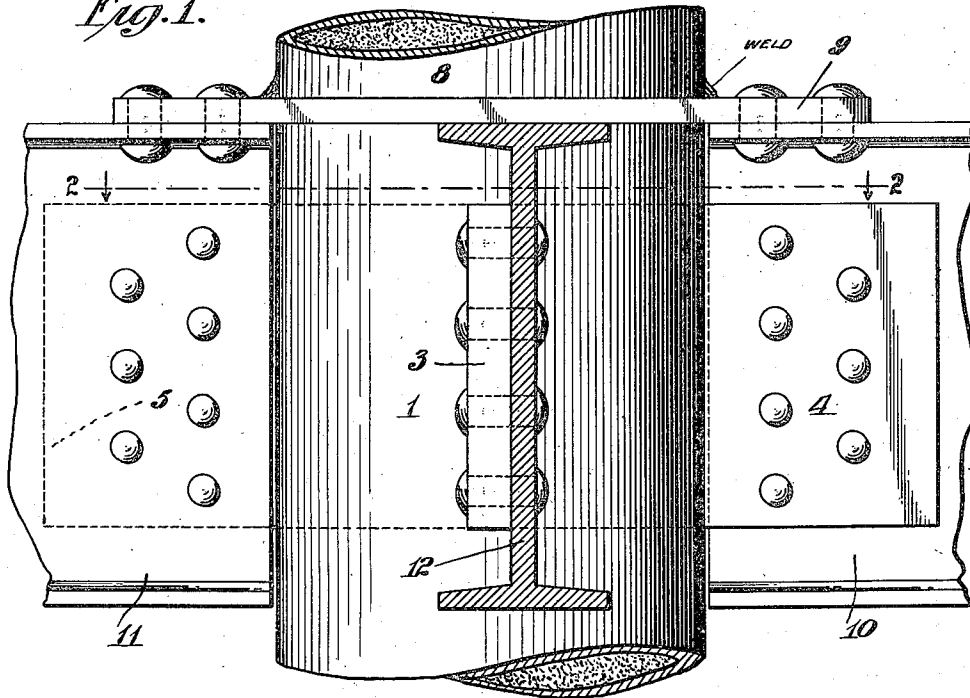
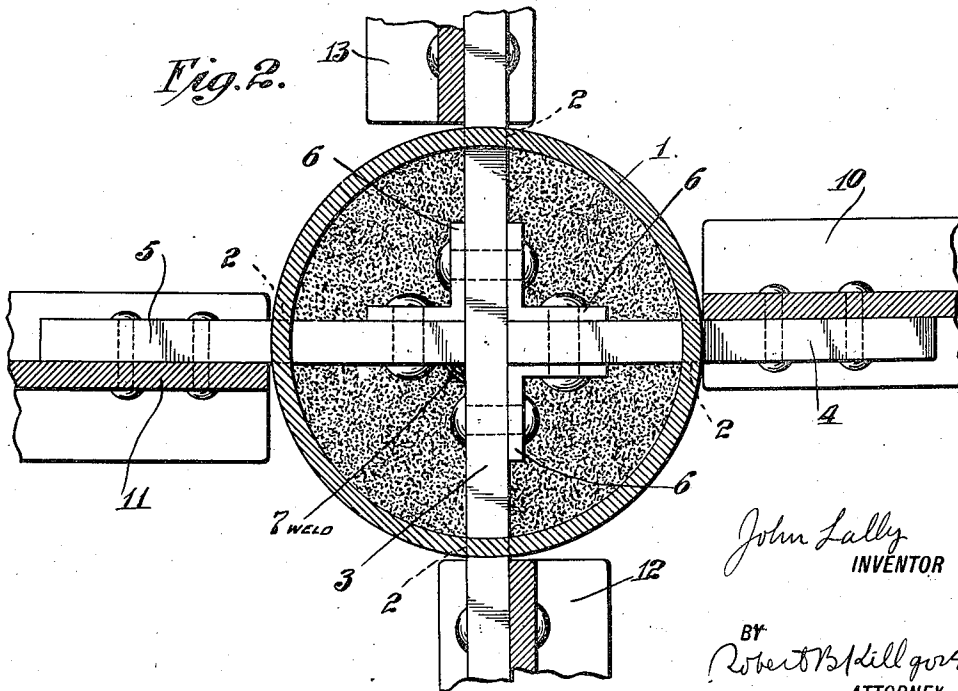


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

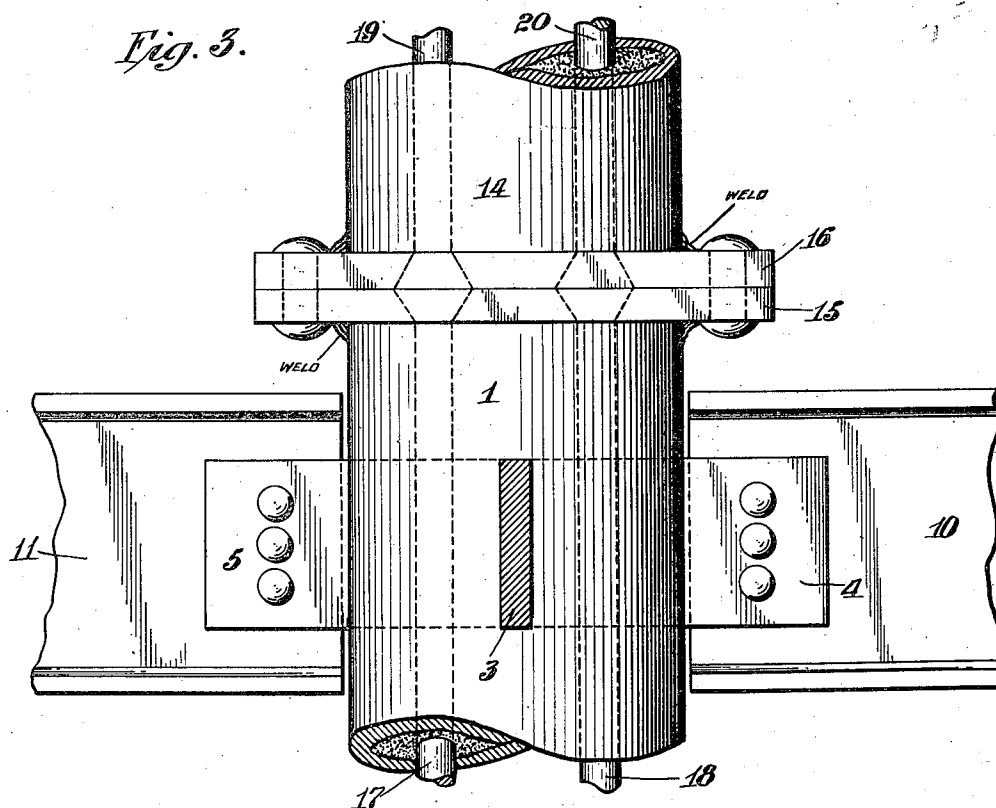
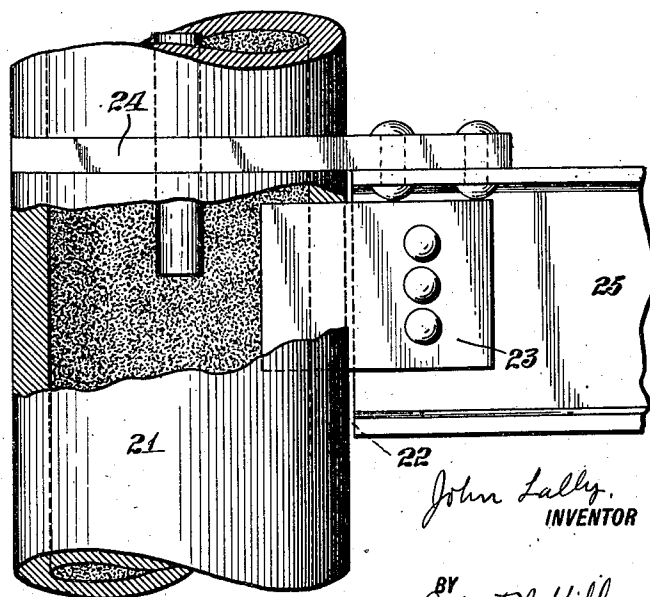


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN LALLY, OF BOSTON, MASSACHUSETTS.

BUILDING COLUMN.

1,418,581.

Specification of Letters Patent.

Patented June 6, 1922.

Application filed September 13, 1921. Serial No. 500,383.

To all whom it may concern:

Be it known that I, JOHN LALLY, a citizen of the United States, residing at 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 improvements in building columns primarily intended for use in fire-proof or semi-fire-proof buildings and it is my object to produce a column with a metal body and metallic tie plates, the body being filled with plastic material, like concrete, which aids in binding the metal parts together and in which a few simple, cheaply made parts will be united into a structure of great weight carrying capacity and rigidity. A further object is to so utilize the sandwich plate between superimposed columns that it not only firmly unites the columns but also strengthens and stiffens the connection between the floor beams and tie plates.

In the drawing Fig. 1 is a front view of a column and tie plate construction with the floor beams attached; Fig. 2 a sectional view of the structure of Fig. 1 on the line 2—2 thereof; Fig. 3 a front view, partly in section, of a column with a modified form of connection with the column above it; and Fig. 4 a view, partly in section, of a column having but one beam connected thereto.

As most columns have four floor beams secured thereto I have chosen this form for illustration in Figs. 1, 2 and 3. The column comprises a casing 1 generally made of steel tubing or cast iron. Slots 2, 2 are cut in the casing at the points where the tie plates are to be attached.

In the form shown in Figs. 1, 2 and 3 a long tie plate 3 extends through opposed slots with its ends outside the casing. Short tie plates 4 and 5 are then pushed through the other slots until they abut against the first tie plate, but with their ends outside the casing. The tie plates 3, 4 and 5 are united at their junction inside the casing, angle irons 6 or welding 7, being two methods which may be used. The assembled column is then filled with plastic material, like concrete, which not only strengthens it and makes it fire resistant, but also helps to unite the parts.

In the construction shown in Figs. 1 and 2 a second column 8 may be superimposed on the lower column with a sandwich plate

9 between the casing ends. This sandwich plate may be secured to one of the casings, Fig. 1 shows it welded to the bottom of the casing of the upper column.

This sandwich plate extends over and beyond the casing end. The floor beams or girders 10, 11, 12 and 13 have their sides or webs secured to the tie plates 3, 4 and 5 with their tops, or upper flange, abutting against the under side of the sandwich plate 9 which is riveted or otherwise secured to the beams thereby holding the two columns and floor beams solidly in position and uniting the two columns.

In the form shown in Fig. 3 the connection between the upper column 14 and the lower column is made by securing plates 15 and 16 to the casing ends by rods 17, 18 and 19, 20 passing through the plates and being embedded in the plastic filling. The plates are then secured together at their outer portions.

In Fig. 4 I have shown a method of attaching a single floor beam to a column. The casing 21 has a slot 22 cut therein and a tie plate 23 is inserted in the slot, partly within and partly without the casing, being held in place by the plastic filling. The sandwich plate 24 extends along the top of the floor beam 25 which is secured thereto while its web is secured to the tie plate 23.

It is to be noted that in the type of column disclosed in this application I have dispensed with brackets on which the floor beams rest and have depended entirely upon tie plates extending from the column to carry the load, using an extended sandwich plate to aid in securing the columns and beams together. As these beams and tie plates are generally entirely within the floor structure in fireproof buildings the columns appear cylindrical from floor to ceiling and there are no brackets or bases to take up space or detract from the appearance of the building.

I claim:—

1. A building column comprising a casing provided with slots, tie plates adapted to engage floor beams in said slots with their inner portions abutting within the casing and means for securing the abutting portions together.

2. A building column comprising a casing provided with slots, a tie plate adapted to engage a floor beam extending through opposed slots, tie pieces adapted to engage

floor beams extending through the other slots with their inner ends abutting the first tie plate within the casing and means for securing the abutting portions of the tie plates together.

3. A building column comprising a casing provided with slots, tie plates adapted to engage floor beams in said slots with their inner portions abutting within the casing and angle pieces secured to the meeting faces of the tie plates whereby they are united.

4. A building column comprising a casing provided with a slot, a tie plate adapted to engage a floor beam in said slot and secured

in position, a sandwich plate on the end of the casing and extending beyond the same and adapted to be secured to the top face of a floor beam.

5. Building construction comprising a column composed of a casing, tie plates on said casing adapted to engage floor beams, a superimposed column, a sandwich plate secured to the bottom of the upper casing and extending beyond the same and adapted to engage the top face of a floor beam.

In testimony whereof I have hereunto subscribed my name.

JOHN LALLY.