

J. R. GRAY.
COLUMN CAP.

APPLICATION FILED MAY 29, 1906.

2 SHEETS—SHEET 1.

Fig: 1.

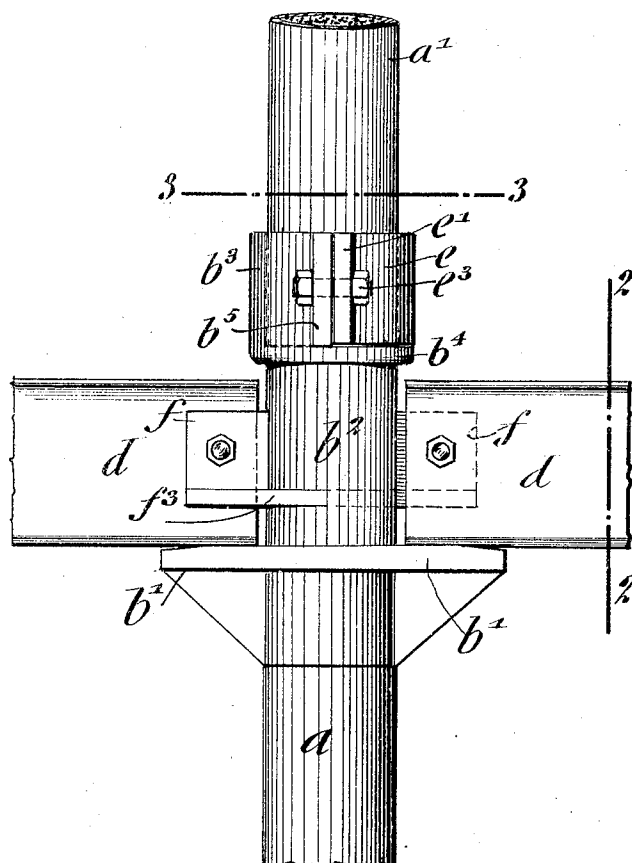


Fig: 2.

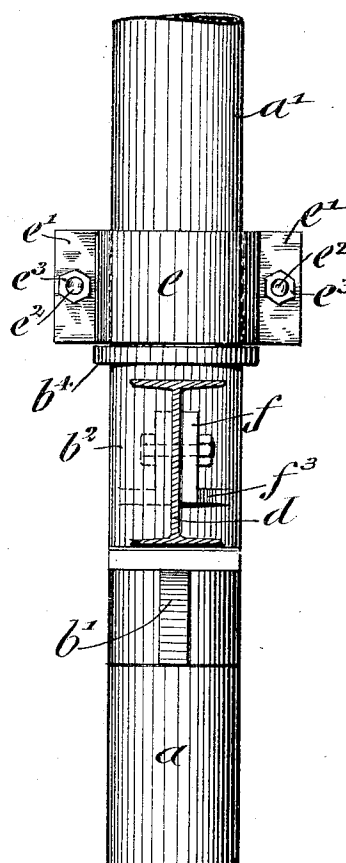


Fig: 3.

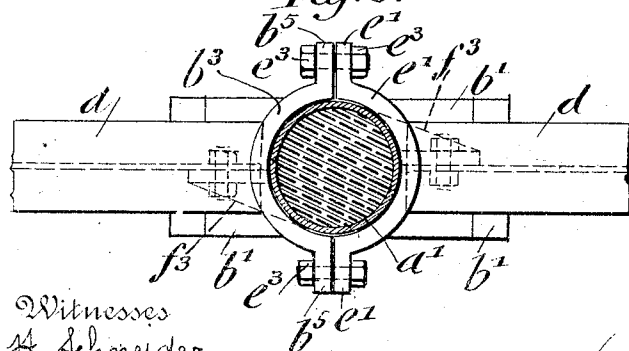
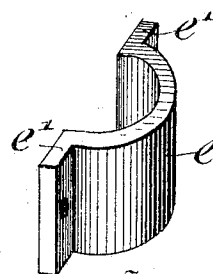


Fig: 4.



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2 SHEETS—SHEET 2.

Fig. 5.

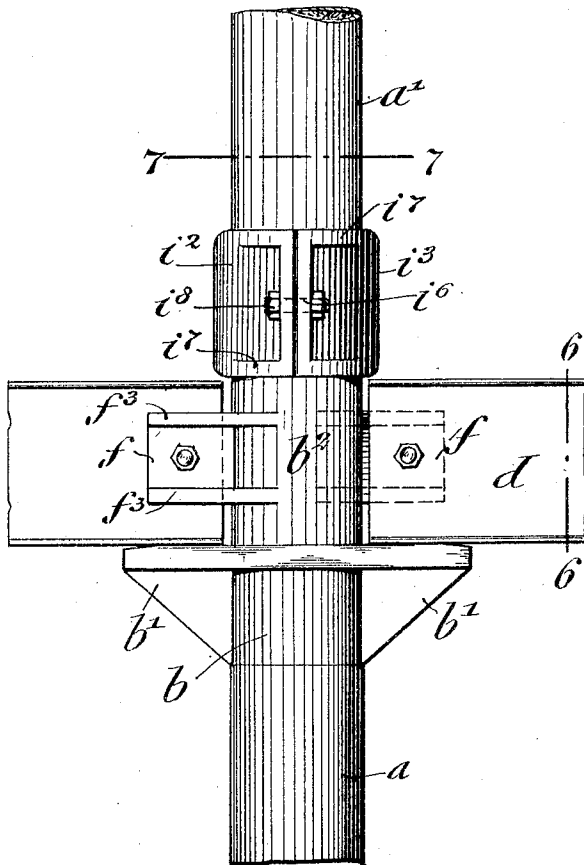


Fig. 6.

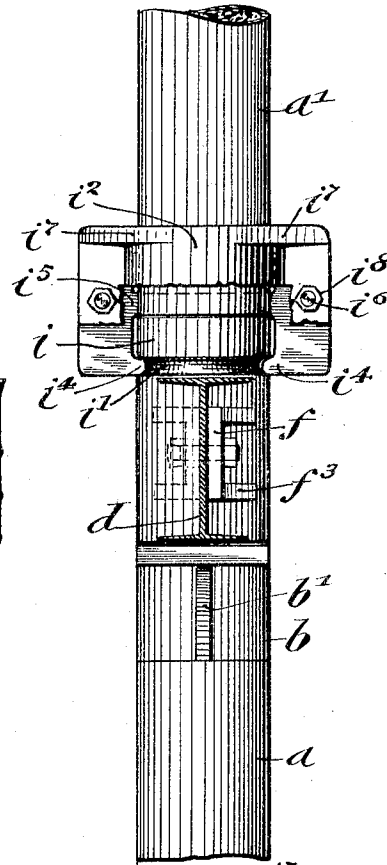


Fig. 7.

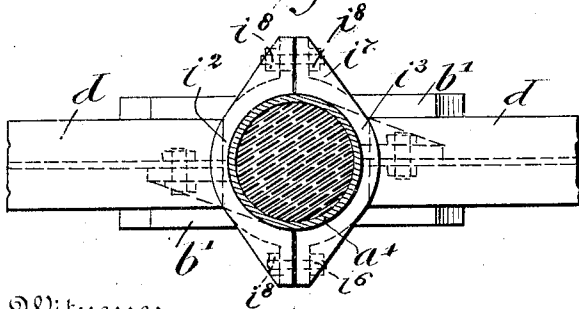
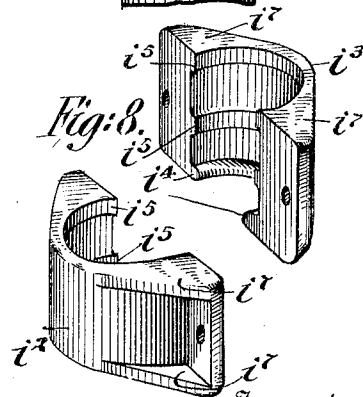


Fig. 8.



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COLUMN-CAP.

No. 835,884.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed May 29, 1906. Serial No. 319,267.

To all whom it may concern:

Be it known that I, JAMES R. GRAY, a citizen of the United States, residing in New York, in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Column-Caps, of which the following is a specification.

This invention relates to certain improvements in column-caps for facilitating their connection with the I-beams supported on the columns below and with the columns supported on the caps. For this purpose the invention consists in the novel features and combinations of parts, to be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved column-cap, showing the connection with the column below, the I-beams, and the column for the next story above. Fig. 2 is an end elevation, partly in section, on line 2 2, Fig. 1. Fig. 3 is a horizontal section on line 3 3, Fig. 1. Fig. 4 is a perspective view of the semicircular inclosing sleeve for the upper column. Fig. 5 is a side elevation of a modified construction of column-cap. Fig. 6 is an end elevation, partly in section, on line 6 6, Fig. 5. Fig. 7 is a longitudinal section on line 7 7, Fig. 5; and Fig. 8 is a perspective view of the semicircular sleeves shown detached from the column-cap.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

Referring to the drawings, *a* represents the lower column, *b* a column-cap, which is provided at its lower part with a socket for connecting with the upper end of the column *a* and with brackets *b'* for supporting the I-beams *d*. Above the brackets *b'* the column-cap is provided with a cylindrical portion *b²*, at the upper end of which is formed a shouldered semicircular socket *b³*, in which and on the shoulder *b⁴* of the middle portion *b²* is supported the upper column *a'*, on which the beams for the next story are supported. The wall of the semicircular socket *b³*, which is formed integral with the column-cap, is provided at diametrically opposite points with flanges *b⁵*, to which are attached corresponding flanges *e'* of a semicircular sleeve *e* by means of bolts *e²* and nuts *e³*, thus forming a split separable sleeve in which the upper column *a'* is firmly seated. The tubular lower

and upper columns *a a'* are filled with cement or other suitable material, so as to increase the strength of the same.

The middle portion *b²* of the column-cap is provided at opposite sides with projecting lugs *f*, which are preferably cast integral with the middle portion *b²*, and attached to opposite sides of the I-beams *d*, which are supported on the brackets *b'* of the column-cap. The lugs *f* are reinforced at their lower ends by tapering ribs *f³*, which strengthen the connection of the lugs with the middle portion *b²*.

In Figs. 5 to 8 a modified construction of the column-cap is shown. The middle portion *b²* is in this construction not cast with a semicircular socket *b³*, but with a socket-shaped extension *i*, having an exterior groove *i'*. To this grooved extension *i* are attached two semicircular sleeves *i² i³*, which form in conjunction a split sleeve, and are provided at their lower ends with inwardly-curved ribs *i⁴*, that engage the groove *i'* of the socket *i*. The semicircular sleeves *i²* and *i³* are further provided with interior raised projections *i⁵* at a point midway of their height and at their upper ends, which bind on the lower end of the upper column *a'*, as shown in Fig. 6, when the sleeves *i² i³* are fastened together at their diametrically-flanged ends by bolts *i⁶* and nuts *i⁷*, so as to form a rigid connection of the upper column with the grooved socket of the column-cap. The flanges of the semicircular sleeves *i² i³* are reinforced at the upper end and lower end by tapering ribs *i⁷*.

By my improved column-cap the connection between the column of the lower story and the beams and the column of the upper story can be made in a quick, strong, and effective manner by the bolting of the lugs on the column-cap to the adjacent ends of the I-beams and by the bolting together of the sleeves with the lower end of the next column above. In this way the iron supporting-columns of buildings can be quickly reliably connected with the column-caps and the beams.

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

1. The combination, with a column, of a column-cap superposed thereon, a split sleeve carried by said cap at the upper end thereof, and a column resting at its lower end in said sleeve and clamped thereby.

2. The combination, with a column, of a

column-cap resting thereon, said column-cap having at its upper portion a socket, a column seated at its lower end in said socket, and a member partially embracing the lower end of said last-named column and clamping the same laterally in said socket.

3. The combination, with a column-cap having a semicircular socket at the top portion thereof, of a semicircular sleeve to cooperate with said socket in positioning a column, and means to clamp said sleeve to the wall of said socket.

4. The combination, with a column-cap, of

an upright semicircular wall formed integral with the upper portion of said cap, said wall being provided with flanged ends, a semicircular sleeve also provided with flanged ends, and means for connecting the flanged ends of said socket-wall and sleeve.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JAMES R. GRAY.

Witnesses:

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