

No. 813,318.

PATENTED FEB. 20, 1906.

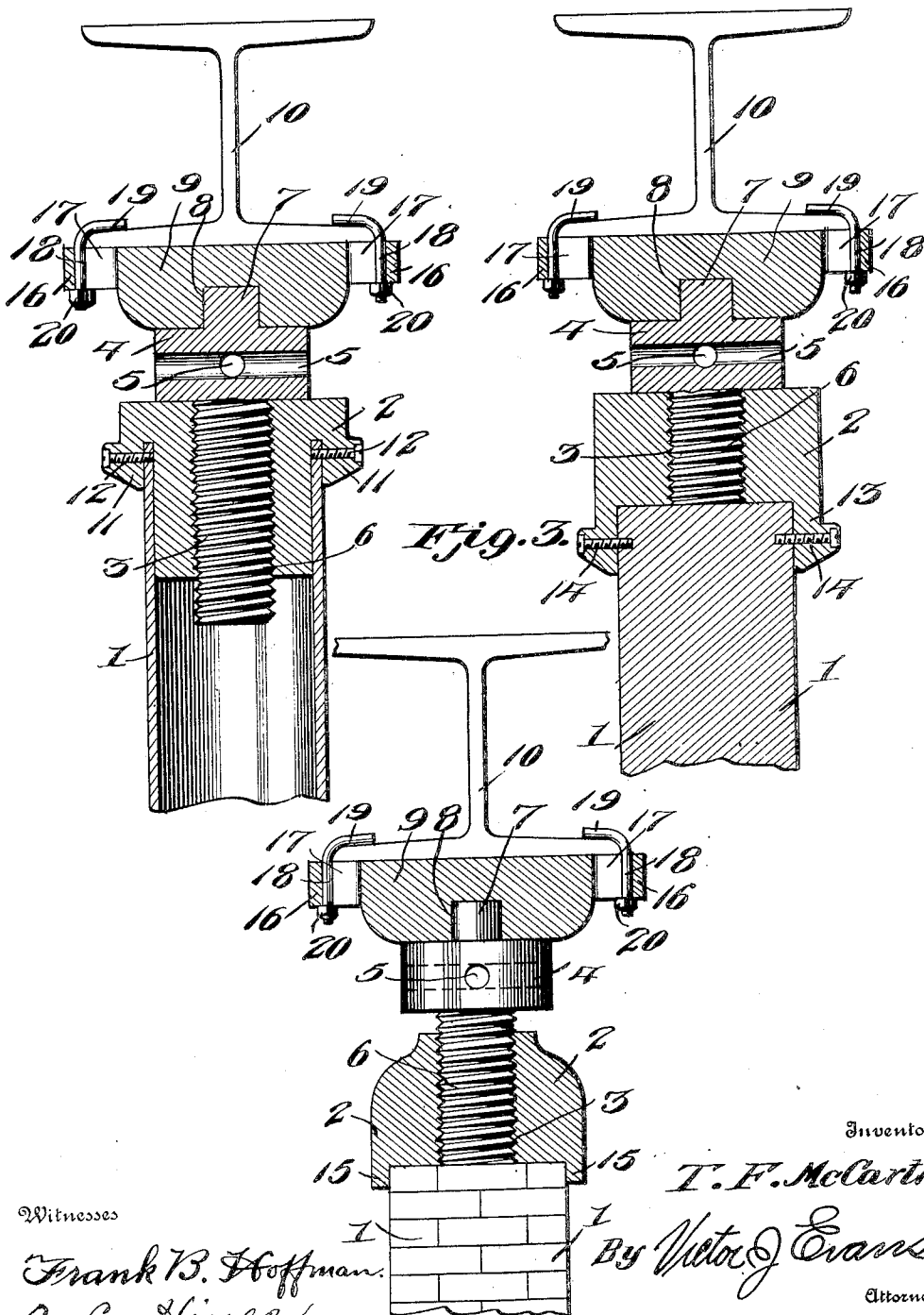
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COLUMN.

APPLICATION FILED MAY 3, 1904.

Fig. 1.

Fig. 2.



UNITED STATES PATENT OFFICE.

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COLUMN.

No. 813,318.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed May 3, 1904. Serial No. 206,229.

To all whom it may concern:

Be it known that I, THOMAS F. McCARTHY, a citizen of the United States, residing at Waltham, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Columns, of which the following is a specification.

This invention relates to improvements in the construction of columns, and its object is to simplify and improve the means for adjusting the capital or head of a column and to provide improved means for securing a beam or girder thereto.

In the accompanying drawings, Figure 1 is a vertical central section of a column of the hollow type provided with the invention. Fig. 2 is a similar view of a portion of the upper end of a solid column, showing the parts of the capital modified for application thereto; and Fig. 3 is a view similar to Figs. 1 and 2 of a pier made of bricks with the invention mounted thereon.

Referring to the drawings, 1 designates a column, which may be made of a hollow cylinder, as shown in Fig. 1, or made solid, as shown in Fig. 2, or made up of masonry-work, as shown in Fig. 3 of the drawings. As will be seen, it is the design to adapt the cap of the column to any style of column. In Fig. 1 the cap fits on and extends into the hollow column. In Fig. 2 the cap is chambered out at the bottom to form an annular depending flange surrounding the end of the solid column, and in Fig. 3 the cap is chambered out at the bottom and shaped to fit over the head of a pier made of masonry. The cap-piece 2, which is fitted in, on, or to the column and held and secured in position by any proper means, is provided with a screw-threaded passage 3 to receive the stem of the adjustable jack-screw, as hereinafter described.

4 designates the jack-screw, which consists of a metallic block having parallel upper and lower surfaces and provided with passages 5, disposed at right angles to each other for the reception of a bar whereby the block may be turned on its axis. At the bottom of the block is a depending screw-threaded stem 6, which engages the threaded passage 3 of the cap and is adjustable therein. At the center of the block is a vertical round stud 7, projecting from its upper face to fit within the socket 8 of a cap-piece or capital 9. This cap-piece or capital is provided with straight or plane parallel upper and lower surfaces to support a beam or other object

10 and to rest and turn upon the upper face of the block 4. In the construction shown in Fig. 1 the upper end of the cap 2 is provided with an annular flange 11 to surround the upper end of the hollow column, to which said cap is secured by screws 12, passing through said flange and entering the column. In the construction shown in Fig. 2 a similar flange 13 projects from the base of the cap and surrounds the upper end of the solid column and is secured thereto in the same manner by screws 14. In the construction shown in Fig. 3 the cap 2 seats upon the upper end of the masonry column, and the recess formed therein causes the production of flanges 15 engaging the opposite sides of the column and holding the cap seated thereon.

The beam 10 is in the form of a T-girder and has its base-flange resting upon the upper seat-face of the capital 9, which latter is formed with laterally-extending ears or flanges 16, provided with slots 17. Projecting through these slots are clamping-pieces 18, having bent ends 19, which project over and clamp the opposite tread-flanges of the girder against the seat-face of the capital. The clamping-pieces are adjustable in the slot 17 to suit different widths of girders and are threaded at their lower ends for the reception of clamping-nuts 20, bearing against the under faces of the flanges 16.

From my personal experience and practice in the manufacture of columns and posts used as supports for buildings in the different parts of the same and also my own knowledge of setting columns and posts in position and the requirements necessary for the same I find there is a great necessity for the improvement of existing methods. The present practice, so far as I am aware, does not provide for the settling of the foundation of the column-base, which is quite frequent when the load is applied, or in a short time there will be a settling in some part of the building, principally on account of inadequate foundations; also, in the settling of supports the girders are forced higher up than they should be to allow the columns and plates to be put in position, all of which straining and settling causes cracks in the plastering, uneven floors, and binding doors and occasioning many defects that are caused by the supports becoming short in cases where the foundation has settled, or the column may be a little too long for the prepared foundation, and to set such columns some-

thing must be forced. Where the condition of the column is short, shimming is resorted to, so as to make up for the shortness, and such shimming usually consists of wooden wedges, 5 nails, spikes, or anything that may be convenient; but where a wedge is used it will shrink, and thus cause a settling, as will nails and small pieces of any hard substance cause a settle when used as shims and having 10 wooden girders resting on them, because there is not resisting-surface enough, and they will sink into the girder in time, and in shimming up in instances where settling has occurred or because of a short support the 15 girder sometimes cants, which condition occurs where the floor-timbers of one side are forced upward and those of the other side drop down. All these occurring deficiencies I fully remedy by the means of my improved 20 device. The operation is apparent. The column can be accurately adjusted and set at the original positioning, and should settling at any subsequent time occur all that is necessary to do is to adjust the jack-screw to 25 remedy the deficiency either by lowering or raising the capital.

It will be perceived by recourse to the foregoing description with reference to the drawings that the application of my adjustable

capital greatly facilitates the setting of columns accurately in position, as well as in adjusting them to proper length or height for true bearing at any time thereafter to compensate for settling and that the invention can be fitted to any materials or shapes used as supports.

Having thus described my invention, what I claim is—

The combination with a column, of a cap-piece seated on the upper end of the column and provided with a vertical screw-threaded passage, a jack-screw consisting of a body having upper and lower parallel faces, a depending screw-threaded stem to engage in the passage of the cap-piece, and vertical stud on its upper face, and having passages to receive a turning-lever, and a capital-piece having a socket to fit over the vertical stud on the body of the jack-screw, and vertically-slotted side ears, and bolts having turned-down upper end portions in the slotted side ears to engage the flanges of a girder.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS F. McCARTHY.

Witnesses:

FRANK P. KENNEY,
WILLIAM A. QUINN.