

No. 814,106.

PATENTED MAR. 6, 1906.

F. T. ZIMMERMAN.
TOWER CAP.

APPLICATION FILED JULY 17, 1905.

Fig. 1.

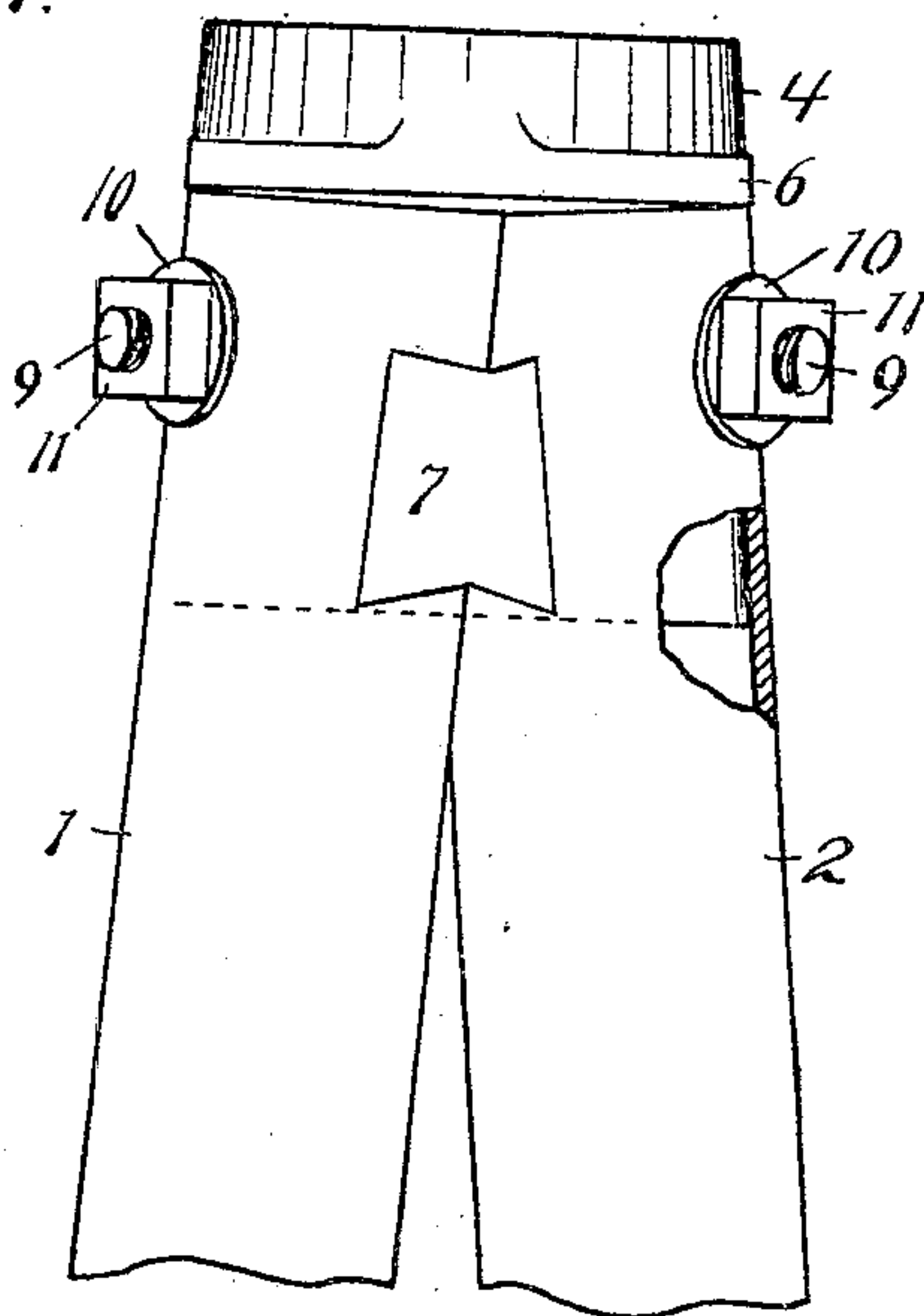


Fig. 3.

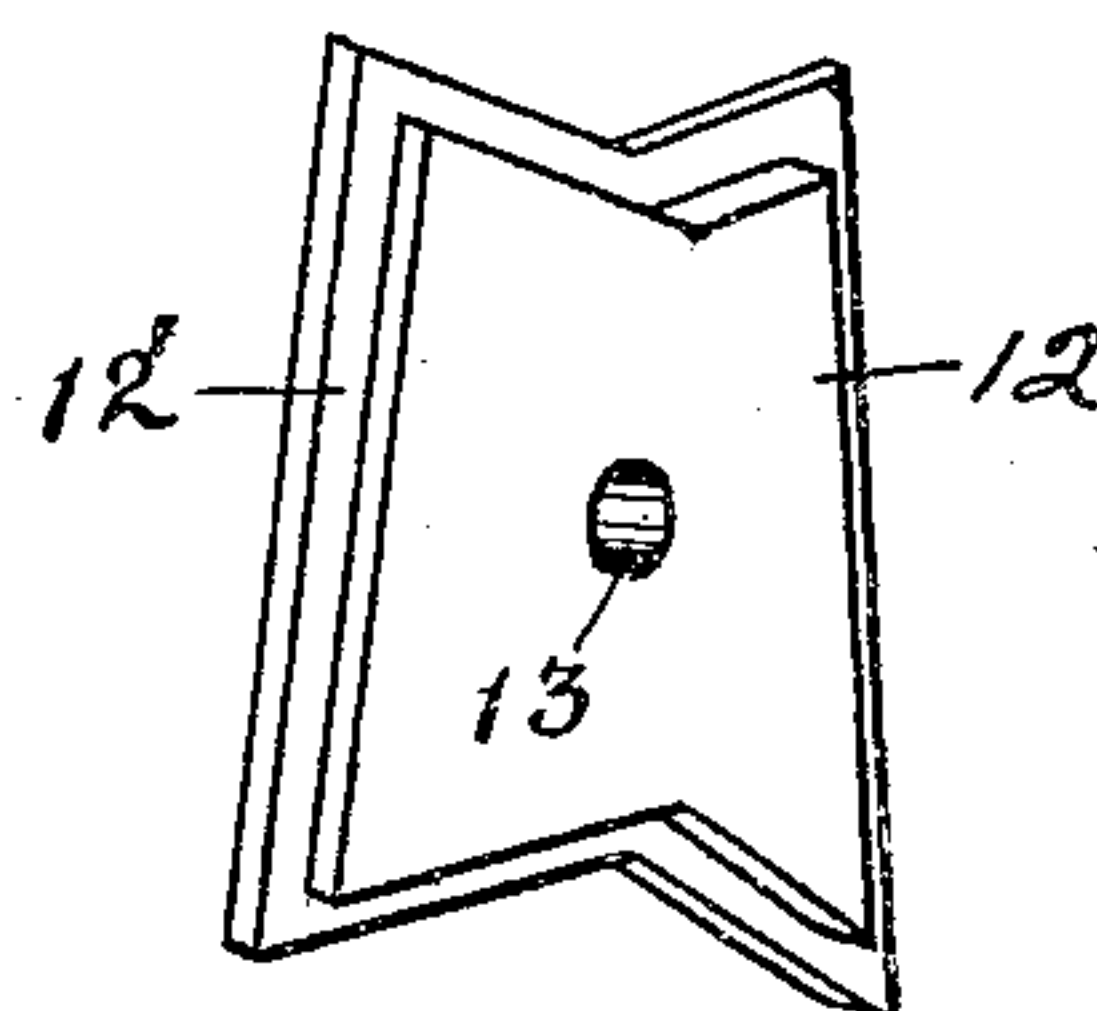
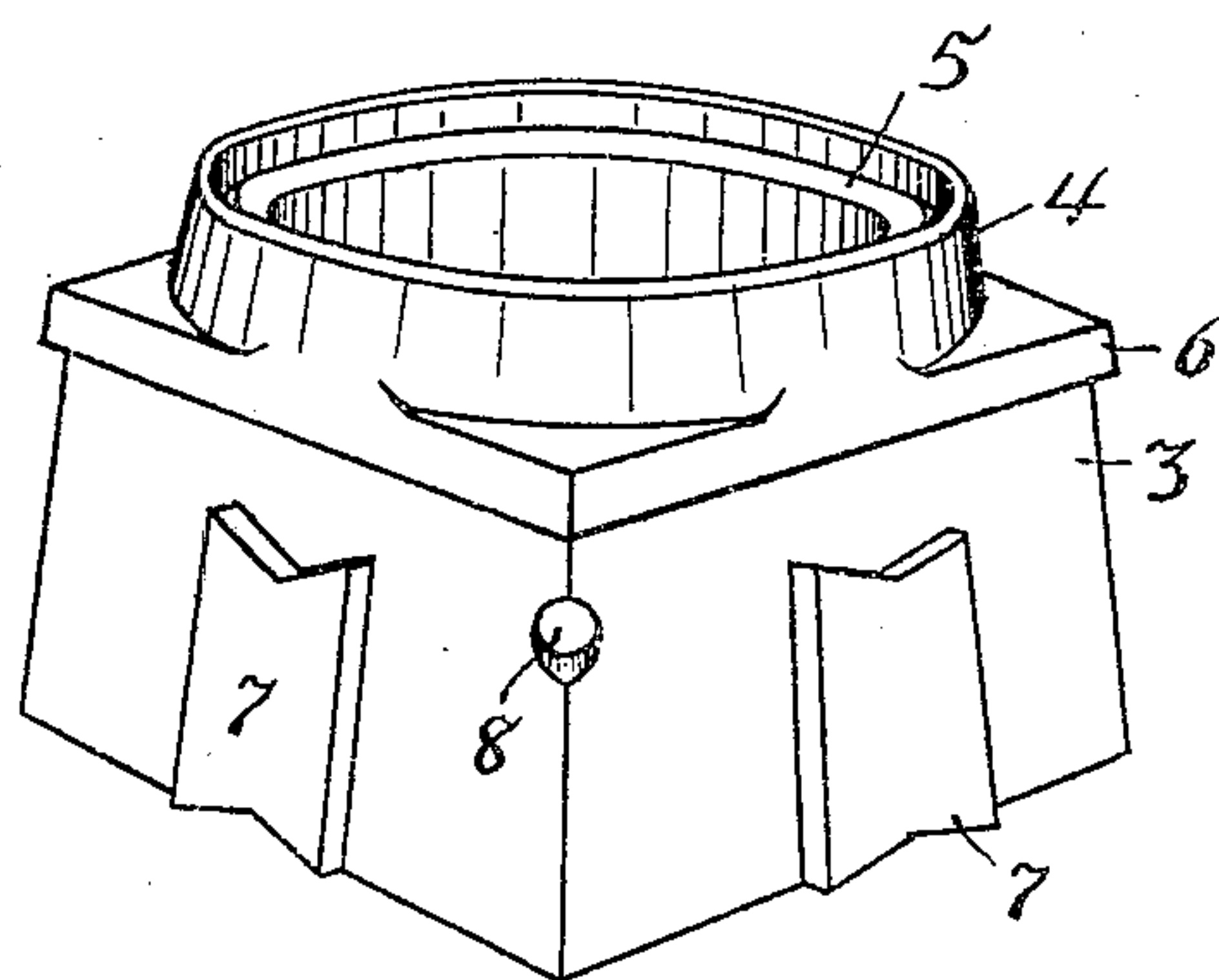


Fig. 2.



WITNESSES:

M. Dickens.
H. J. Lampke.

Frank T. Zimmerman INVENTOR

BY *Chapin & Denny*
ATTORNEYS -

UNITED STATES PATENT OFFICE.

FRANK T. ZIMMERMAN, OF AUBURN, INDIANA.

TOWER-CAP.

No. 814,106.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed July 17, 1905. Serial No. 269,921.

To all whom it may concern:

Be it known that I, FRANK T. ZIMMERMAN, a citizen of the United States, residing at Auburn, in the county of Dekalb, in the State of Indiana, have invented certain new and useful Improvements in Tower-Caps; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My present invention relates to improvements in tower-caps for metallic skeleton towers specially designed and adapted to support a surmounted windmill or a liquid-holding tank, or both.

The prime object of my present invention is to provide a simple and efficient tower-cap for skeleton metallic towers of the class usually employed for supporting windmills and water-tanks so constructed and arranged as to form a firm interlocking union with the adjacent ends of the angle-iron or corner-uprights of the tower to secure the desired strength of union of the parts and rigidity of the tower against all strains thereof in use.

My invention consists of a metallic tower-cap of the usual or other proper contour, preferably rectangular, as shown, and having upon each side thereof a centrally-located dovetailed lug adapted to form an interlocking dovetailed union with the respective adjacent corner-standards or tower-uprights, thereby materially increasing the strength and rigidity of the tower, particularly against lateral strains.

The novel feature of my invention resides in the construction, arrangement, and coöperative relation of the said interlocking lugs with the respective supporting-uprights of the tower.

Similar reference-numerals indicate like parts in the views of the drawings, in which—

Figure 1 is a side elevation of the top portion of a skeleton metallic tower with my improved cap mounted in position thereon. Fig. 2 is an enlarged detail of my improved cap, showing the relative arrangement of the interlocking lugs thereon. Fig. 3 is a perspective detail of the dovetailed plate which may be employed instead of the dovetailed lugs and having an overlapping peripheral flange which serves the function of a washer.

The tower-supporting corner-uprights 1

and 2 are of any proper material or contour, preferably of angle-iron or steel and four in number, one being secured to each corner of the cap 3. These angle-iron corner-uprights are braced, stayed, and connected in the usual and well-understood manner by means of proper struts, ties, and braces, not shown and not requiring any particular description.

These corner standards or uprights are of course properly inclined toward the vertical axis of the tower to afford a suitable base for the tower in the usual manner.

My improved tower-cap 3 consists of a rectangular body portion whose sides are slightly inclined in conformity with the inclination of the tower-uprights 1 and 2 to more snugly fit the same and a surmounted upright circular flange 4, provided with an internal annular track or turn-table 5 for the rotatably mounted windmill, (not shown,) this flange and circular track being of the usual construction. At the base of the flange 4 is arranged a peripheral rectangular horizontal flange 6, against the lower face of which the upper ends of the uprights abut, as shown in Fig. 1.

On the outer face of each of the four sides of the cap 3 is arranged a fixed or integral lug 7 of proper dimensions, having its upper and lower edges vertically notched or dovetailed, as shown, thereby adapting it for a dovetailed connection or interlocking union with the adjacent edges of the said corner-uprights, which are notched accordingly to receive said lugs 7, as shown in Fig. 1. The adjacent edges of these uprights abut, as shown, and for economy of manufacture preferably the abutting edge of but one of the uprights is beveled to snugly meet the corresponding edge of its companion.

The cap 3 is provided at each corner with a radial aperture 8, adapted to receive a bolt 9, which passes through a coincident aperture in the corner edge of the uprights and is firmly secured therein by means of the washer 10 and the nut 11, thereby rigidly securing the upper ends of the tower to the surmounted cap. It is obvious that when my improved cap is thus secured in position the upper ends of the uprights will aid in supporting the weight of the windmill or other mechanism mounted thereon by means of the horizontal flange 6, and there will be a rigid interlocked and dovetailed union between the uprights and the said lugs 7.

It is obvious that while the lugs 7 are pref-

erably integral, as described, they may be detachable plates 12 and fixed to the cap in use in any suitable manner, as by means of bolts 13, which may pass through the plates 12 and through the cap 3, in which case a washer of sufficient size to overlap the adjacent edges of the uprights may be used on the said bolts, or these plates may have an overlapping flange 12', thereby doing away with the necessity of using the bolts 9 at the corners of the uprights, as shown.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. A windmill tower-cap consisting of a hollow cap-body having a circular track upon its upper face for the windmill mechanism, and provided upon its sides with dovetailed lugs, as and for the purpose described.

2. A tower-cap, consisting of a hollow metallic body having a circular track upon its

top, and a peripheral flange near its upper end, and provided with a plurality of dovetailed lugs upon its sides, substantially as described.

3. A cap for skeleton towers, consisting of a hollow metallic body provided upon its sides with lateral dovetailed lugs as and for the purpose described.

4. A tower-cap, consisting of a hollow metallic body, and a plurality of dovetailed plates fixed to the sides thereof, for the purpose described.

Signed by me, at Fort Wayne, Allen county, State of Indiana, this 28th day of June, A. D. 1905.

FRANK T. ZIMMERMAN.

Witnesses:

WATTS P. DENNY,
AUGUSTA VIBERG.