

F. R. McCUNE.
HOISTING TOWER.

APPLICATION FILED DEC. 20, 1909.

Patented Jan. 9, 1912

2 SHEETS-SHEET 1.

1,013,886.

Fig. 1.

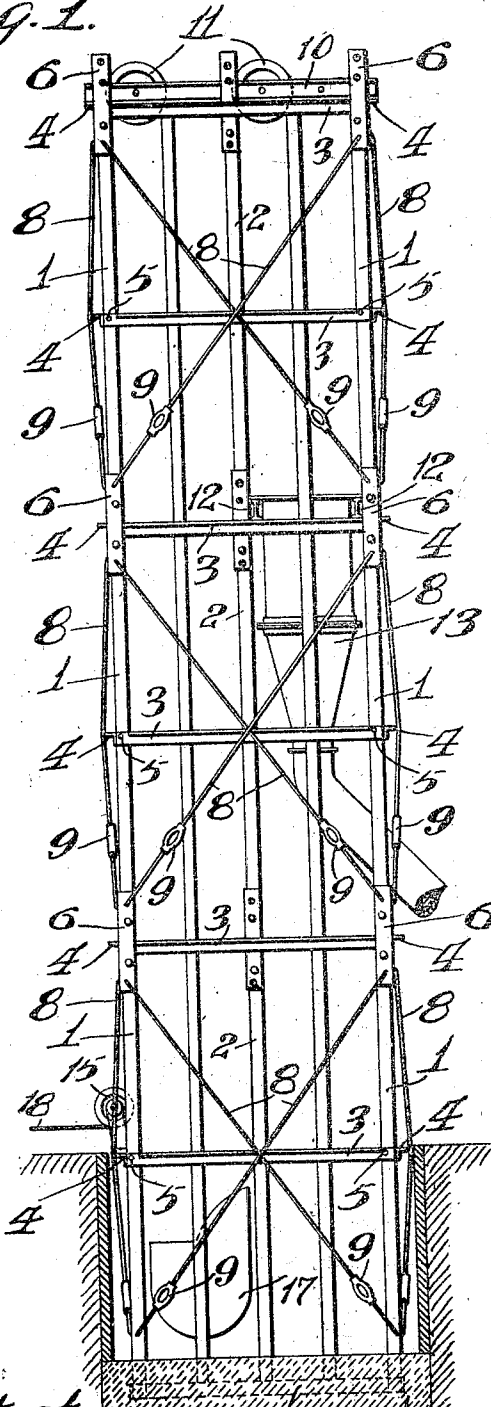
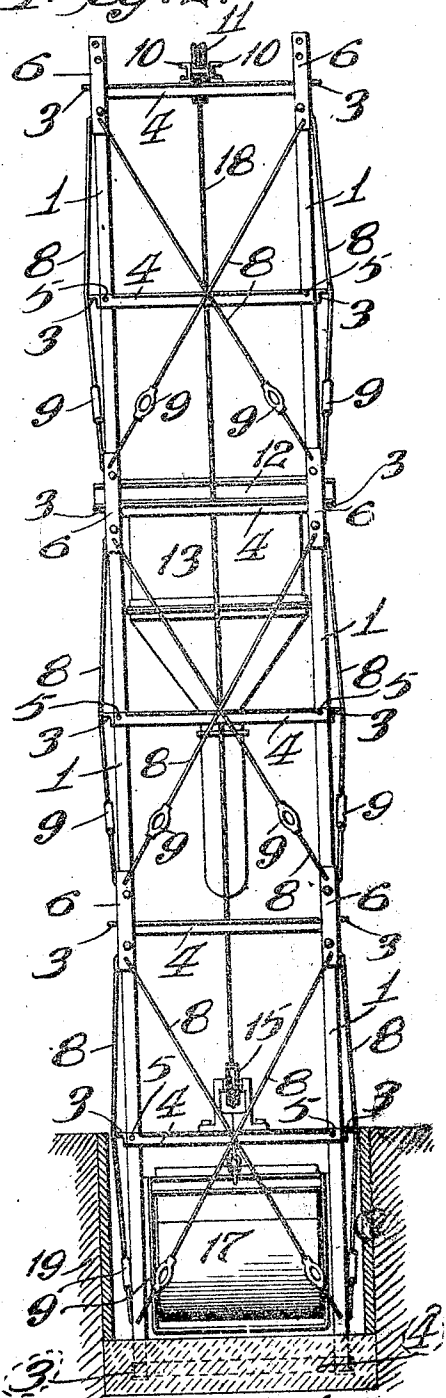


Fig. 2.



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Fig. 3.

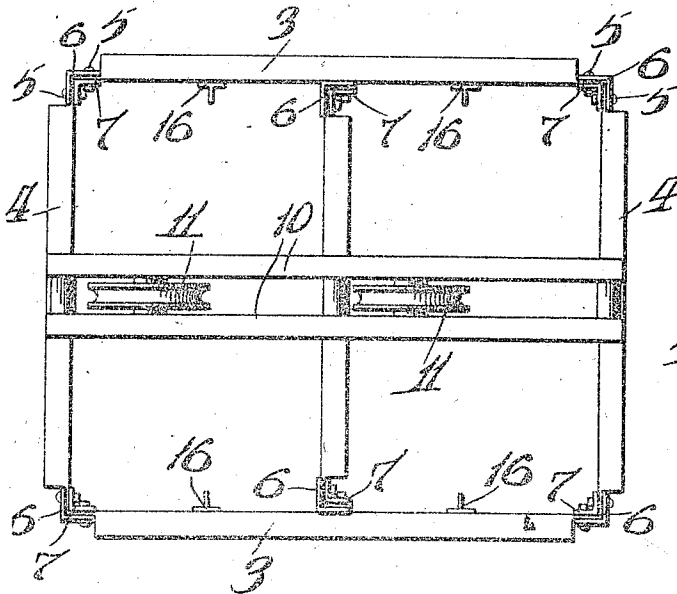


Fig. 4.

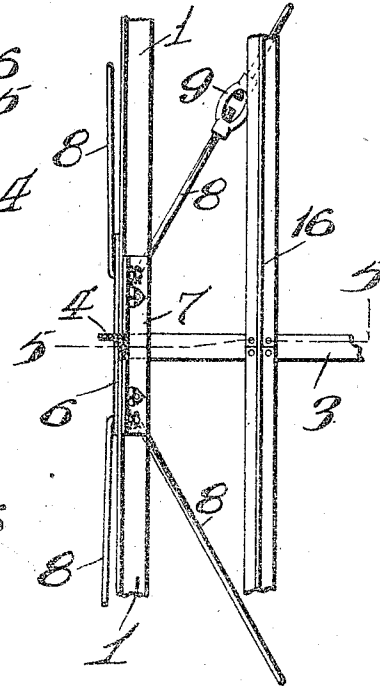


Fig. 5.

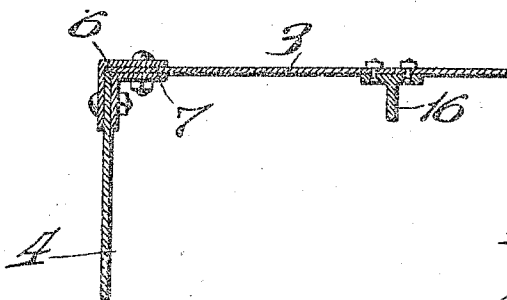


Fig. 7.

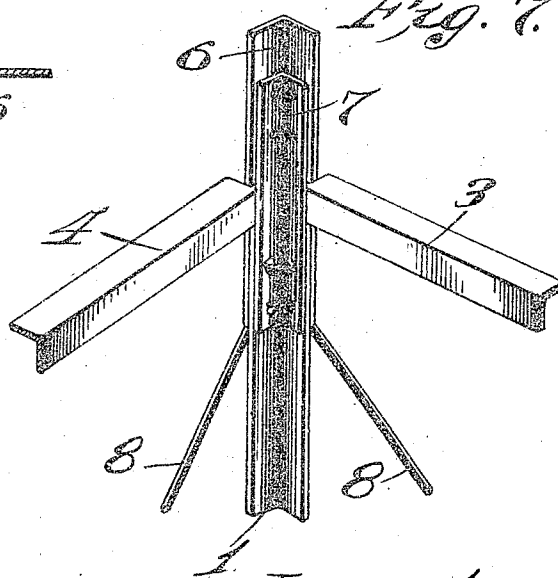
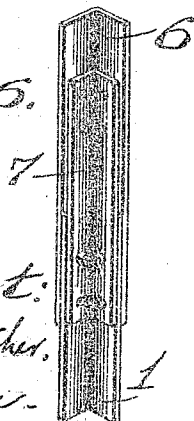


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRANK R. McCUNE, OF ST. LOUIS, MISSOURI, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ACME HOISTING MACHINERY COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

HOISTING-TOWER.

1,013,886.

Specification of Letters Patent.

Patented Jan. 9, 1912.

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To all whom it may concern:

Be it known that I, FRANK R. McCUNE, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Hoisting Towers, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in hoisting towers especially designed for use in connection with a concrete hoisting bucket and distributing hopper, the object of my invention being to construct a tower entirely of metal in such manner that its height may be varied, that is increased or decreased, without varying the transverse dimensions of the tower so that a hoisting bucket may be operated within the tower.

A further object of my invention is to construct an all-metallic tower, for the purposes above mentioned, that is sectional and may be readily assembled or taken apart without injury to the parts entering into its construction.

For the above purposes my invention consists in certain novel features of construction and arrangement of parts as will be hereinafter more fully described, pointed out in the claim and illustrated by the accompanying drawings, in which:

Figure 1 is a side elevation of one of my improved towers showing the hoisting bucket and distributing hopper therein; Fig. 2 is an end elevation of the tower; Fig. 3 is an enlarged plan of the tower, the bucket and hopper being removed; Fig. 4 is an enlarged, detail elevation partly in section showing one of the joints between sections of the tower; Fig. 5 is a sectional plan taken on the line 5-5 of Fig. 4; Fig. 6 is a perspective illustrating the angle irons for joining the corner posts; and Fig. 7 is a perspective, similar to Fig. 6, and illustrates the relative positions of the ledgers and stay rods relative to the angle irons for joining the uprights.

Referring by numerals to the accompanying drawings: 1 designates L-shaped uprights constituting the corner posts of the tower.

2 designates the central uprights which are L-shaped. The corner uprights and central uprights are all of the same size and

may be interchangeably used to facilitate the erection of the tower, it not being necessary to number the uprights as required when a special upright is designed for one use only.

3 designates the side ledgers and 4 the end ledgers, all of which are L-shaped, the side ledgers being of one length and the end ledgers of a lesser length. Coinciding perforations in the uprights and ledgers permit the employment of bolts 5 for securing the ledgers to the uprights.

6 designates L-shaped connecting plates secured to the outside faces of the uprights and 7 designates angular plates secured to the inside faces of the uprights, the plates 7 being of less length than the plates 6 as shown in Figs. 6 and 7. By this arrangement it is obvious that when a second set of uprights are to be secured in position the fitting of the second upright to the first upright is greatly facilitated. Each of the plates 6 is perforated adjacent each of its ends to receive the bent ends of the stay rods 8. The ends of the stay rods opposed to their bent ends are threaded and turn buckles 9 are threaded thereto.

Removably secured to the uppermost ledgers 4 are the channel bars 10 between which are pivotally mounted the pulleys 11, and removably secured to a pair of the ledgers 3 are the beams 12 arranged to support the hopper 13. Bearings are detachably secured to one of the ledgers 4 and a pulley 15 is carried thereby.

16 designates the track rails, preferably of T-iron which are vertically disposed in the tower and arranged in oppositely facing pairs as shown in Fig. 3. These track rails are substantially the same length as the uprights and are secured by bolts to the ledgers 3 as shown in Fig. 5.

17 designates a tilting bucket arranged to slide between one pair of the track rails 16 and be operated by a cable 18 to which is attached a hoisting apparatus (not shown).

In setting up a tower, a section, the length of the uprights, is assembled, as shown, with the lowermost ledgers in an inverted position relative to the balance of the ledgers and a concrete bed 19 is filled in around the lower ends of the uprights and said inverted ledger, thereby firmly and securely holding the tower in position. The length of the up-

rights is equivalent to the average height of a building story which, I have found to be about twelve feet, thus, it is obvious that the sections of the tower are sufficient to raise
5 the tower one story at a time, and that after each of the walls of the building are completed, one story at a time, the rails 10 and beams 12 are fitted to the added section of tower.

10 In a tower built according to my invention, the operations of assembling and taking apart are greatly facilitated in that there is no fitting or cutting of parts required. Heretofore towers of this class have been
15 constructed mostly of wooden timbers requiring accurate fitting and cutting, which timbers, after being employed just a few times in the construction of towers, would be unfit for use again by reason of the numerous spike and bolt holes necessary in
20 their structure.

While I have illustrated and described my improved tower as being double, for the purposes of holding a hopper and a dumping bucket, it is obvious that, without departing from the spirit of my invention,
25 the track rails 16, which are shown as se-

cured to the side ledgers, may be secured to the end ledgers and, when so secured, only a single pair of tracks are used and that the
30 intermediate cross ledgers may be dispensed with as required to receive a cage for the hoisting of brick or the like.

I claim:

In a metallic tower, the combination with
35 angular metallic uprights and angular metallic plates arranged in pairs for the connection of the ends of the uprights, of angular metallic ledgers having reduced ends for insertion between said pairs of
40 plates and the ends of the uprights, and crossed adjustable stay rods connecting diagonally opposite pairs of said plates serving the double function of trussing the entire structure and holding said ledgers in
45 place between the ends of the uprights.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

FRANK R. McCUNE.

Witnesses:

E. E. LONGAN,
E. L. WALLACE.