

M. CAMPISTROU.

CRANE.

APPLICATION FILED NOV. 18, 1910.

1,011,739.

Patented Dec. 12, 1911.

2 SHEETS—SHEET 1.

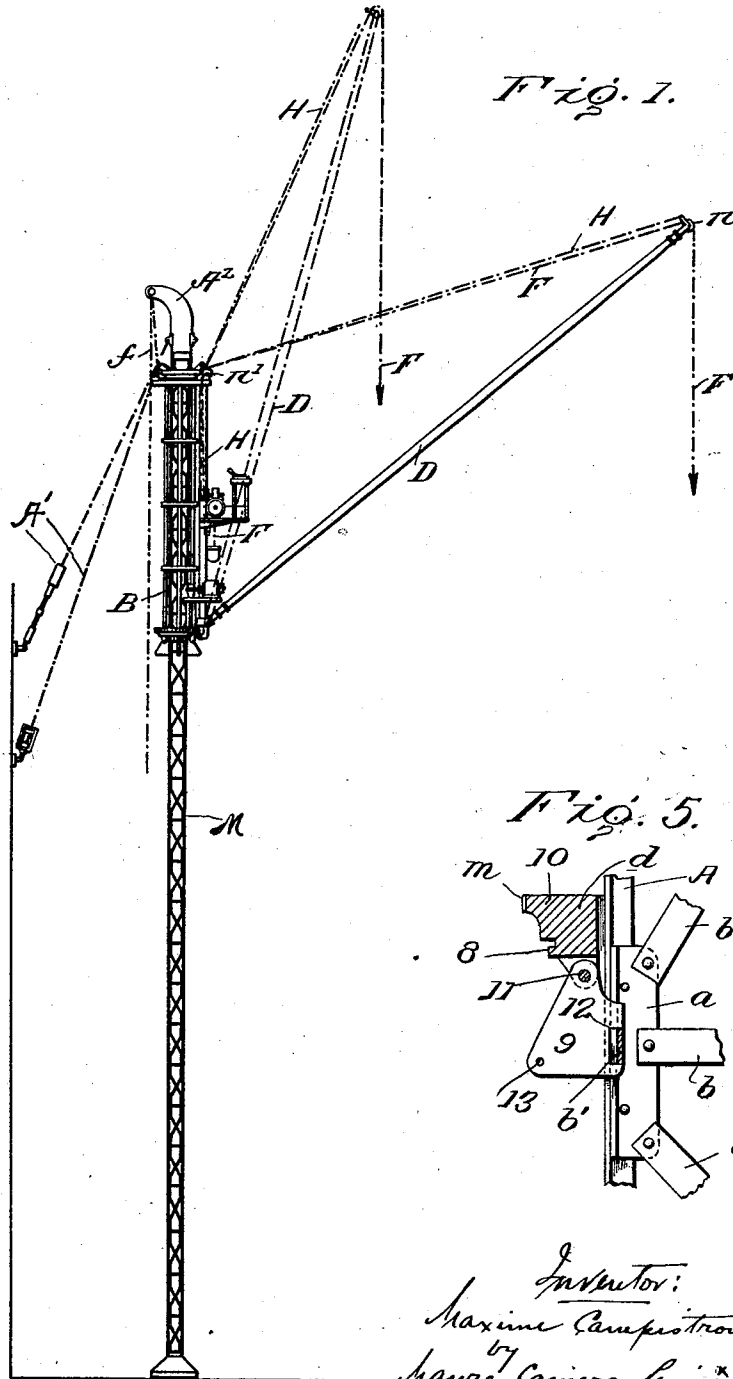
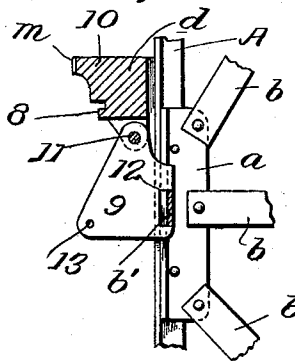


Fig. 5.



Witnesses:

E. E. Warfield
R. C. Fitzhugh.

Inventor:

Maxime Campistrou
by Mauro, Cameron & Co. Attys.
New Orleans, La.

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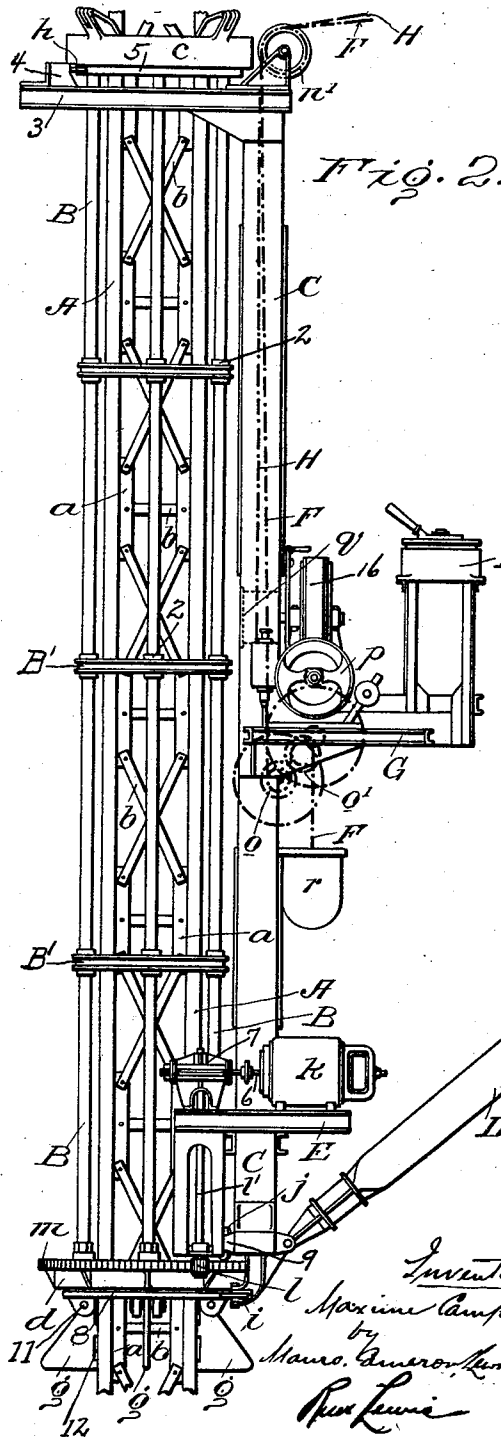


Fig. 2.

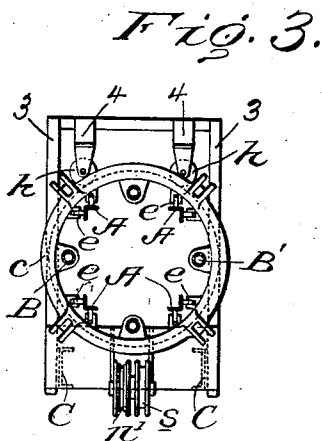


Fig. 3.

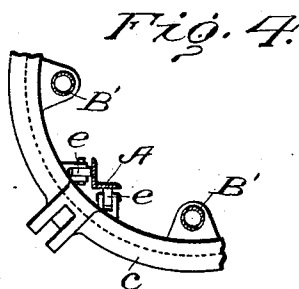


Fig. 4.

Witness:
E. C. Warfield
R. C. Fitzhugh.

Inventor:
Maxime Campistrou
by Mauro Ameron, his attorney
Rue Louis

attys.

UNITED STATES PATENT OFFICE.

MAXIME CAMPISTROU, OF LEVALLOIS-PERRET, FRANCE.

CRANE.

1,011,739.

Specification of Letters Patent.

Patented Dec. 12, 1911.

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To all whom it may concern:

Be it known that I, MAXIME CAMPISTROU, of Levallois-Perret, Seine, France, have invented a new and useful Improvement in
5 Cranes, which invention is fully set forth in the following specification.

The present invention is an improvement in cranes.

It is customary in erecting buildings or
10 other structures to use stagings or scaffolds consisting of four wooden uprights suitably connected together, which support the crane used for raising the materials to the desired height. These stagings are inconvenient in that they permit of the lifting of the materials directly to only one point of the building under construction, from which
15 point the materials have to be transported by hand to the place where they are required. The crane of the present invention, on the other hand, permits the delivery of materials to all parts of the building under construction.

Briefly stated, this crane consists of a
25 mast or upright on which is arranged a vertically movable carriage, which supports a boom adapted to be horizontally displaced on said carriage.

The invention will be better understood
30 by reference to the accompanying drawings, illustrating one embodiment of the inventive idea, and in which—

Figure 1 is an elevation of the crane; Fig. 2 is a similar elevation of part of the device drawn to a larger scale; Fig. 3 is a plan view, illustrating the upper end of the movable carriage and the connection between the same and the horizontally movable frame-work; and Figs. 4 and 5 are details.
40

Referring to the drawing, M indicates a mast or upright which is secured to the ground or an adjacent structure by any suitable means, as for example chains A'. This
45 mast comprises a plurality of suitable uprights here shown as four right-angled corner irons A. These uprights are provided with gussets a which are connected together by tie-rods b, disposed both vertically and
50 horizontally. On this mast a suitable carriage is mounted and adapted to move vertically. This carriage may be of any desired construction, but is preferably composed of cross-pieces or rings c and d connected by a
55 plurality of rods B, here shown as four.

a plurality of collars B' which are provided with bosses 2 through which said rods pass. This carriage is vertically displaced by any suitable means, but preferably there is employed a tackle f, passing through an opening in the top A² of the mast and connected to the upper ring c of said carriage and operated by a windlass (not shown). Bearing surfaces, here shown as rollers e, are mounted on said carriage and engage said uprights A. This carriage is preferably held in any desired position along the mast by suitable locking means. As here shown these means consist of a plurality of catches or cleats g pivoted at 11 to the lower cross-piece or ring d (Fig. 5). These catches or cleats are each provided with a notch 12, and are so constructed as to automatically move into engagement with a corresponding part of the main structure, such as b'. When it is desired to raise or lower the carriage, said catches or cleats are disengaged from said tie-rods by means of cords or connections 13, and when the said carriage has been moved to the desired position the catches or cleats are released, whereupon they automatically engage the adjacent parts b'. The boom D is mounted on said carriage in any suitable manner but preferably there is provided a framework which is horizontally movable on said carriage and to which said boom is secured. This framework preferably consists of two iron uprights C to the upper ends of which is secured a rectangular frame 3. This frame is provided with housings 4 in which are mounted a plurality of suitably spaced rollers h. These rollers engage a vertically arranged track or way 5 provided on the upper cross-piece or ring c. To the lower ends of said upright C there are secured a plurality of rollers for engagement with the lower cross-piece or ring d. Referring to Fig. 5, said ring d is provided with a vertically arranged track or way 8 and with a horizontally arranged track or way 10. Rollers j, mounted in housings 9, (see Fig. 2) engage the horizontal track or way 10 and rollers i engage the vertical track or way 8. Suitably mounted on the upright C is a platform E which supports a motor k. Through this motor the said framework is horizontally movable on the carriage. This is effected through the intermediary of motor shaft 6, an endless-screw contained in casing 7, a helicoidal wheel mounted on

the end of shaft *l'* and meshing with said endless-screw, and a pinion *l* mounted on the other end of said shaft *l'*, said pinion *l* meshing with a rack *m* secured to the ring *d* in any suitable manner.

The load is raised by means of a winch electrically driven by a motor *p* mounted on a platform *G* also carried by the irons *C*. A hoisting chain *F* passes over pulley *n* fixed to the head of the boom *D*, then over pulley *n'* and finally winds up on the winch *c, o'* and is stored in the box *r*. The motor *p* also operates a worm driving a worm-wheel which is contained in housing 16 and on the shaft of which worm-wheel is mounted the drum *q* of the cable *H* which elevates the boom *D*. This cable passes over pulley *s* which, like pulley *n'* heretofore referred to, is mounted on the upper ring *c*. Both the motors *k* and *p* are controlled by a switch *I*.

When it is desired to hoist a load of material to a certain height on the building under construction, the carriage is first adjusted to the desired vertical position and the hoisting chain *F* is then lowered. The material is then raised to the predetermined height, the cable *H* for lifting the boom *D* being wound up on the drum *q*, and the motor *k* is then operated for horizontally shifting the frame-work on the carriage, if this is desired. The boom is stopped when its free end is exactly above the place where the load should be deposited and the hoisting chain is then lowered to deposit the load.

What is claimed is:—

1. In a crane, a mast or upright, a carriage movable vertically on said upright, a framework movable horizontally on said carriage, and a boom carried by said framework.

2. In a crane, a mast or upright comprising a plurality of rods, a carriage movable vertically on said upright and provided with vertically arranged tracks or ways, bearing surfaces mounted on said carriage and engaging said rods, a framework movable horizontally on said carriage, bearing surfaces mounted on said framework and engaging said tracks or ways, and a boom carried by said framework.

3. In a crane, a mast or upright, a carriage vertically movable on said upright and comprising a plurality of cross-pieces connected by a plurality of rods, a framework movable horizontally on said carriage, bearing members carried thereby and engaging said cross-pieces and a boom carried by said framework.

4. In a crane, a mast or upright comprising a plurality of rods, a carriage vertically movable on said upright, rollers carried by

said carriage and engaging said rods, a framework horizontally movable on said carriage, rollers carried thereby and engaging surfaces on said carriage, and a boom carried by said framework.

5. In a crane, a mast or upright, a carriage vertically movable thereon, and comprising a plurality of cross-pieces connected by a plurality of rods, a rack mounted on one of said surfaces, a framework horizontally movable on said carriage, a pinion carried by said framework and meshing with said rack, means imparting movement to said pinion, and a boom carried by said framework.

6. In a crane, a mast or upright, a carriage vertically movable on said upright, a catch mounted on said carriage and automatically operated to secure the same in any desired position, a framework movable horizontally on said carriage, and a boom mounted on said framework.

7. In a crane, a mast or upright, a carriage vertically movable on said upright, a catch pivoted to said carriage and automatically operated to engage said upright and to secure the same in any desired position, a framework movable horizontally on said carriage, and a boom mounted on said framework.

8. In a crane, a mast or upright, a carriage vertically movable thereon and provided with a vertically and a horizontally arranged track or way, a framework horizontally movable on said carriage, rollers carried by said framework and engaging said tracks or ways, and a boom carried by said framework.

9. In a crane, a mast composed of a plurality of right-angled beams, a carriage vertically movable on said mast, a plurality of rollers mounted on said carriage and engaging said beams, a framework movable horizontally on said carriage, and a boom mounted on said framework.

10. In a crane, a mast or upright, a carriage vertically movable thereon and provided with tracks or ways, a framework horizontally movable on said carriage, said framework comprising a plurality of uprights with rollers mounted at each end thereof and engaging said tracks or ways, and a boom mounted on said framework.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

MAXIME CAMPISTROU.

Witnesses:

H. C. COXE,

GABRIEL BALLIARD.