

(No Model.)

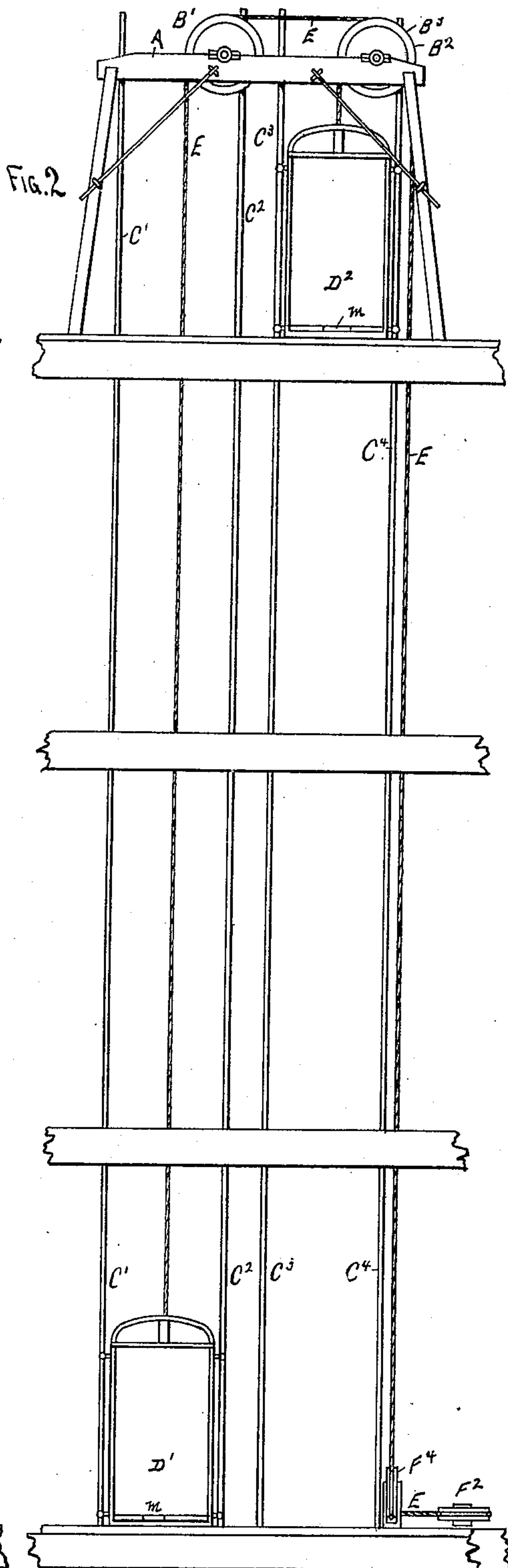
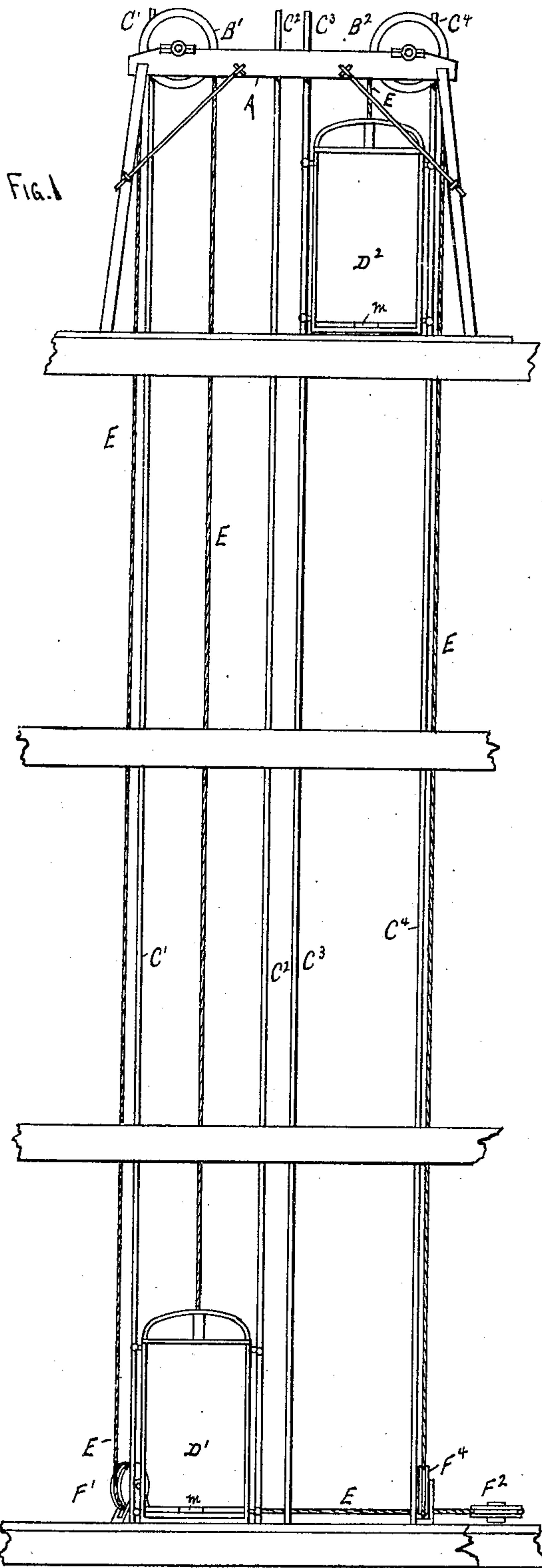
J. BOYD.

2 Sheets—Sheet 1.

HOISTING MACHINE.

No. 308,341.

Patented Nov. 25, 1884.



WITNESSES.

A. S. Davison  
H. S. Webster.

James Boyd,

INVENTOR. BY

Charles N. Woodward, Atty.

(No Model.)

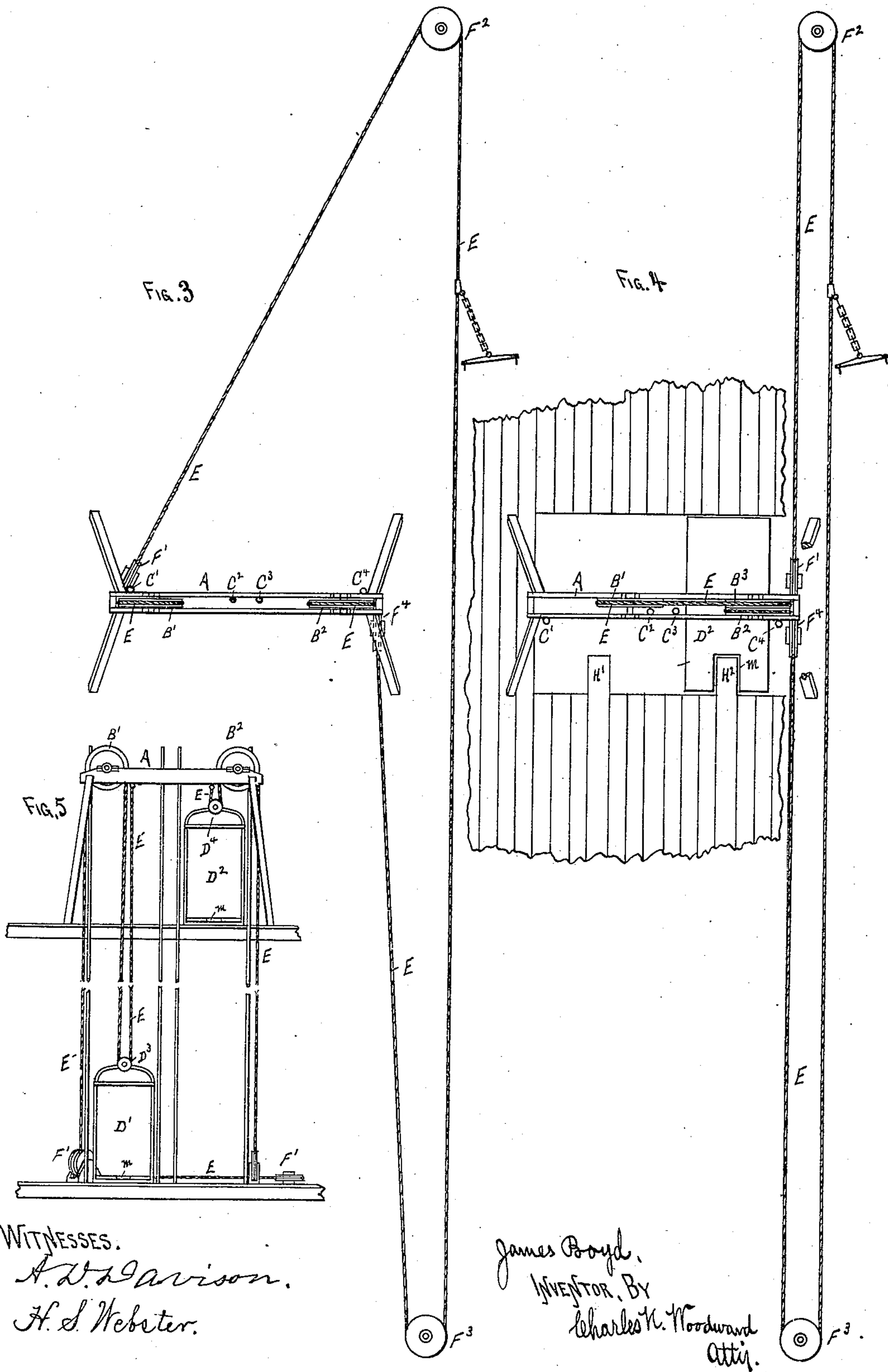
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2 Sheets—Sheet 2.

HOISTING MACHINE.

No. 308,341.

Patented Nov. 25, 1884.



WITNESSES.

A. D. Garrison.

H. S. Webster.

James Boyd,  
INVENTOR, BY  
Charles K. Woodward  
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# UNITED STATES PATENT OFFICE.

JAMES BOYD, OF ST. PAUL, MINNESOTA.

## HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 308,341, dated November 25, 1884.

Application filed August 18, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES BOYD, a citizen of the United States, and a resident of St. Paul, in the county of Ramsey and the State of Minnesota, have invented certain new and useful Improvements in Hoisting-Machines, of which the following is a specification, reference being had to the accompanying drawings, in which—

10 Figures 1 and 2 are side views showing slight variations in the manner of arranging the hoisting-ropes. Fig. 3 is a plan view of Fig. 1, and Fig. 4 is a plan view of Fig. 2. Fig. 5 is a reduced view similar to Figs. 1 and 3, showing the method of arranging the ropes for lifting heavy loads.

This invention relates to machines used by builders in elevating building material from floor to floor in erecting buildings. It is more particularly applicable to the form of machines for which Letters Patent No. 211,681 were issued to me, and bearing date February 6, 1883, but may be applied to other forms of machines, if preferred. As ordinarily arranged the hoisting-platforms and their guides must necessarily be placed at one end of the building being erected, or at one end of the line of travel of the horse; but by the arrangement herein shown they can be set at any point, irrespective of the line of travel of the horse. This is one of the objects sought to be accomplished by the present invention.

35 In the drawings, A represents the "horse" or frame for supporting the hoisting-pulleys B' B<sup>2</sup> B<sup>3</sup> and the upper ends of the cage or platform-guides C' C<sup>2</sup> C<sup>3</sup> C<sup>4</sup>.

D' D<sup>2</sup> are the hoisting cages or platforms, adapted to run up and down between the guides C' C<sup>2</sup> C<sup>3</sup> C<sup>4</sup>, as shown.

40 In Figs. 1 and 3 two hoisting-pulleys, B' B<sup>2</sup>, are shown mounted upon the horse A, so that the hoisting-cable E runs up from the cages over the pulleys and down through or over the ends of the horse A, as shown. The cable E is all in one piece, and runs from the cage D' up over the pulley B', down alongside the outer guide-rod, C', and under a pulley, F', attached to the lower floor of the building, or on a plane with the lowest point to which the cages descend, and from thence around a snatch-block, F<sup>2</sup>, at one end of the building; thence to another snatch-block, F<sup>3</sup>, at the op-

posite end of the building; thence back to a pulley, F<sup>4</sup>, attached to the lower floor alongside the outer guide, C<sup>4</sup>; thence up over the pulley B<sup>2</sup>, and thence down to the second cage, D<sup>2</sup>. By this construction the horse may travel back and forth past the lower end of the guides C' C<sup>2</sup> C<sup>3</sup> C<sup>4</sup> to any required distance, and thus be independent of the position of the hoisting machinery. This cannot be done in any other similar device with which I am acquainted, as in these cases one end of the line of travel of the horse must necessarily be at the foot of the hoisting machinery, thereby requiring the hoisting machinery to be set at one end of the building, so that the route of the horse shall not extend beyond the building. With the construction shown, however, the position of the hoisting machinery is absolutely independent of the line of travel of the horse, thereby permitting the builder to take advantage of stairway or hatchway openings left in the successive floors in which to set the hoist irrespective of their position or location. This is a great advantage, as will be at once apparent to those accustomed to using machines of this kind.

In Figs. 2 and 4 is shown a slight variation in the manner of arranging the ropes, consisting in arranging an additional pulley, B<sup>3</sup>, alongside the pulley B<sup>2</sup>, and setting the pulley B' over nearer the center of the horse A, so that the cable from the cage D' may be passed over the pulleys B' B<sup>3</sup>, and down alongside the cable from the pulley B<sup>2</sup>, and from thence over the pulleys F' F<sup>4</sup> to the snatch-blocks F<sup>2</sup> F<sup>3</sup>. The construction and operation, however, are substantially the same as in the form shown in Figs. 1 and 3.

90 In Fig. 5 the cable is shown running around pulleys D<sup>3</sup> D<sup>4</sup> on the cages D' D<sup>2</sup>, and with its ends attached to the horse A, whereby additional power is obtained. This form may be used when heavy loads are to be elevated; but the operation is the same, except that, of course, the line of travel of the horse will be longer than in the arrangement shown in Figs. 1 and 2.

Another important feature of this invention is shown more clearly in Fig. 4, consisting in forming an opening, m, in the front edge of the platforms D' D<sup>2</sup> of the hoisting cages or platforms, and arranging planks H' H<sup>2</sup> of the floor on which the horse A sets to project over



the hatchway-openings through which the platforms run. By this simple device when the wheelbarrow is to be removed from the platform the projections  $H'$   $H^2$  form steps upon which the operator can stand, thus avoiding the necessity of stepping upon the platforms. These machines are not made generally to carry very heavy loads, so that there is always danger that the ropes may break and injure persons if the additional weight of the operator is placed upon the platforms; but by the simple expedient of the cavities  $m$  and projections  $H'$   $H^2$  all such danger is avoided.

What I claim as new is—

1. In a hoisting-machine, the combination of a supporting frame or horse, A, having head cable-pulleys mounted thereon, two hoisting cages or platforms arranged to be raised and lowered alternately side by side beneath said horse, and a hoisting-cable, E, attached by its ends to said cages or platforms, and passing upward over said head-pulleys, thence down around fixed foot-pulleys  $F'$   $F^4$ , and thence in opposite directions around snatch-blocks  $F^2$   $F^3$ , substantially as set forth.

2. In a hoisting-machine, the combination of a supporting frame or horse, A, having

head cable-pulleys mounted thereon, two hoisting cages or platforms arranged to be raised and lowered alternately side by side beneath said horse, and provided with cable-pulleys  $D^3$   $D^4$ , and a hoisting-cable, E, attached by its ends to said horse or frame, thence running downward around said cable-pulleys  $D^3$   $D^4$ , thence upward over said cable head-pulleys, thence down around fixed foot-pulleys  $F'$   $F^4$ , and thence in opposite directions around snatch-blocks  $F^2$   $F^3$ , substantially as set forth.

3. In a hoisting-machine, the combination of a supporting frame or horse, A, having head cable-pulleys mounted thereon, two hoisting cages or platforms arranged to be raised and lowered alternately side by side beneath said horse, and provided with cavities  $m$ , projections  $H'$   $H^2$  on the floor which support said horse, and the cable E, substantially as set forth.

In testimony whereof I have set my hand in the presence of two subscribing witnesses.

JAMES BOYD.

Witnesses:

C. W. WOODWARD,  
H. S. WEBSTER.