

No 47,782,

Patented May 23, 1865.

Fig. 1

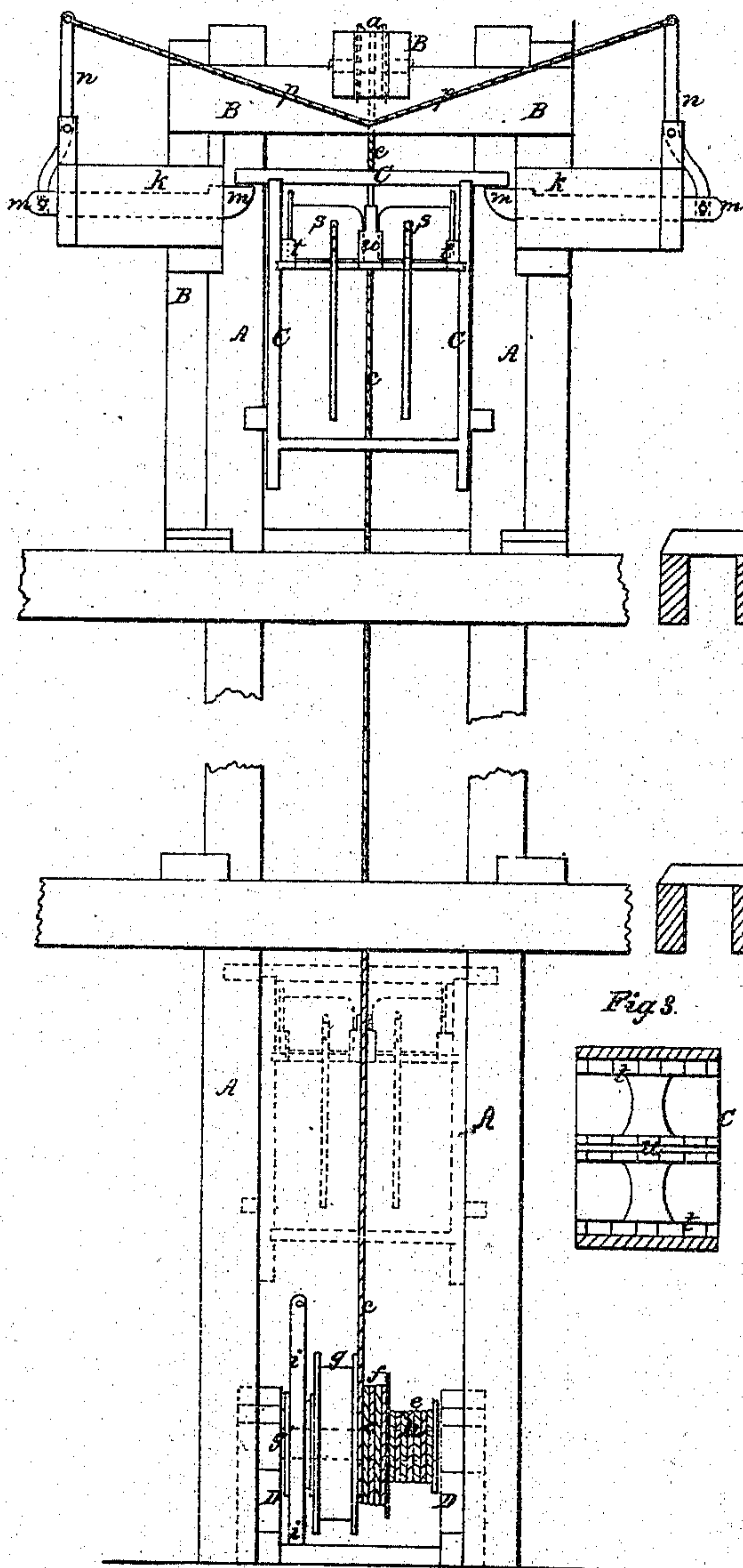


Fig. 2

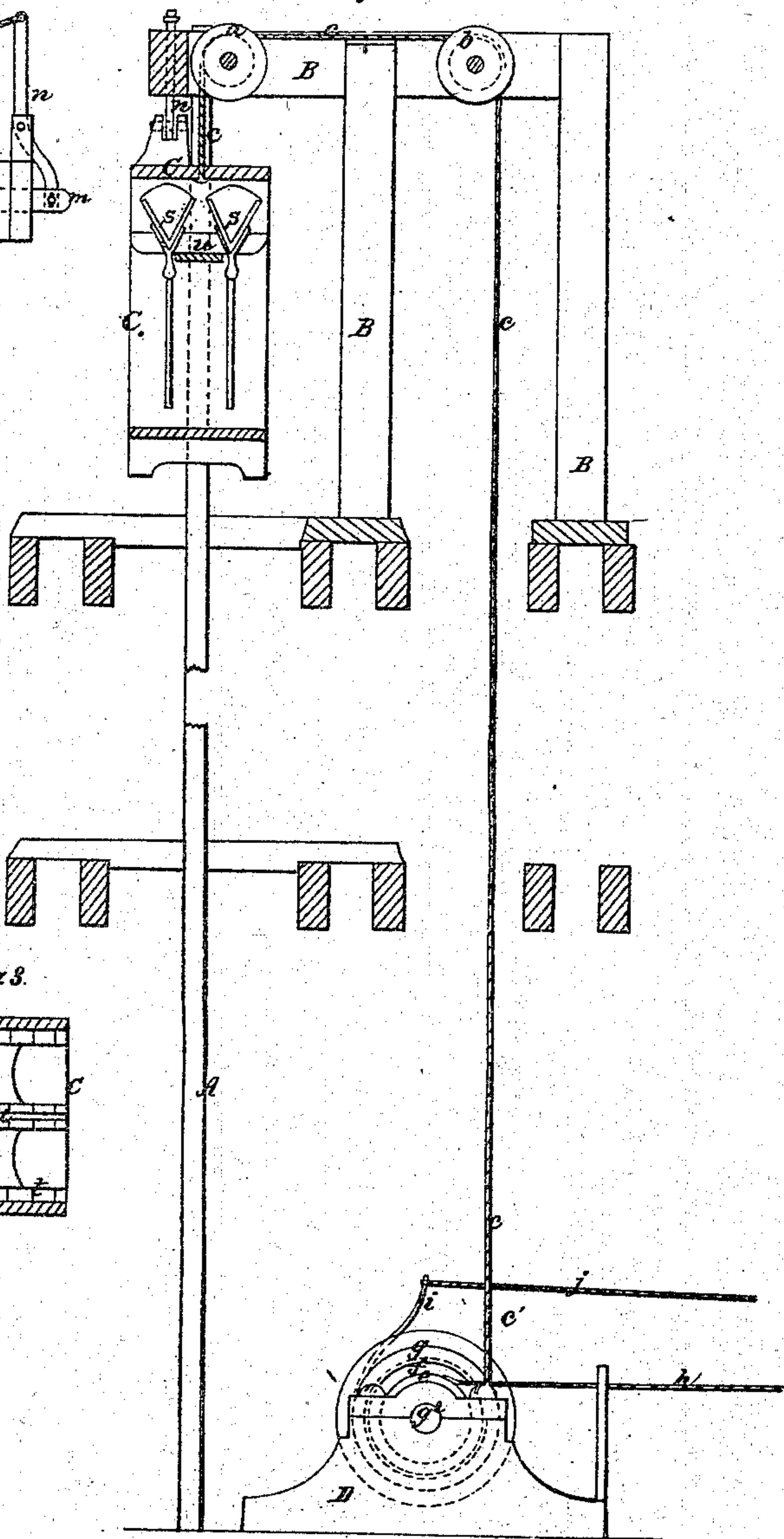
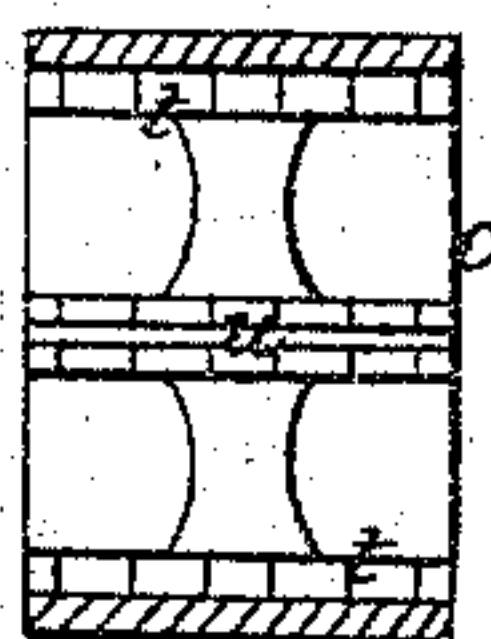


Fig 3.



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UNITED STATES PATENT OFFICE.

GEORGE AMBROSE, OF NEW YORK, N. Y.

IMPROVED HOISTING APPARATUS.

Specification forming part of Letters Patent No. 47,782, dated May 23, 1865.

To all whom it may concern:

Be it known that I, GEORGE AMBROSE, of the city, county, and State of New York, have invented a new and Improved Hoisting Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation of the upper and lower portions of my apparatus. Fig. 2 is a vertical section through Fig. 1. Fig. 3 is a horizontal section through the elevator or hod-rack.

Similar letters of reference indicate corresponding parts in the three figures.

This invention relates to a new and improved apparatus which is adapted for elevating building material from a lower to an upper story of a building, in portable receptacles, and which is so constructed that the laborious part of the operation can be performed by horse or steam power, as will be hereinafter described.

Another object of my invention is to so apply an elevator or hod-rack, which is adapted for receiving portable receptacles or hods, to an elevating apparatus that said rack will be automatically caught and retained in an elevated position when carried up to its fullest extent, as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the accompanying drawings, A A represent two vertical guides, which are sustained in an upright position by means of the floor-joists and cross-beams which are secured thereto. If said guides are made of rope they can be stretched tightly in any suitable manner. The upper ends of the guides A A are secured to a frame, B, the horizontal central beam of which receives two sheaves, *a b*, over which pass a rope or chain, *c*, one end of which is suitably connected to a hod-rack, C, which is notched to receive the edges of the guides A A, so that these guides will keep the rack in a proper position while it is being elevated or depressed. The opposite end of said rope *c* is carried down and connected to one of a series of drums, *e f g g'*, which are all keyed to a shaft, *g²*, that has its bearings in a frame,

D. This frame should be so constructed that it can be readily secured down in place, and removed whenever it is found necessary. A draft-rope, *h*, connects with the smaller drum *e*, and is wound around it in such manner that when this rope is carried off by means of a horse or otherwise, it will rotate the series of drums and wind up the rope *c* upon its drum *f*, thus elevating the hod-rack. If it is desired to move the hod-rack very rapidly—the horse moving slowly—the rope *c* is carried around the largest drum *g*.

The drum *g'* is intended to receive the brake-strap *i*, to which a rope, *j*, is attached, and by pulling this rope *j* the brake *i* can be drawn tightly about its drum, which will stop the hod-rack either in its ascent or descent. By means of this brake arrangement the attendant can stop the hod-rack at any desired height, or he can regulate its descent.

In Fig. 2 I have represented a counterweight, *c'*, applied to the rope *c*, for counterbalancing the weight of the hod-rack and its contents, and thus relieve the horse of much of the weight of this hod-rack.

At or near the upper end of the guides, and sustained by the frame B, are two boxes, *k k*, arranged in a horizontal plane directly opposite each other. These boxes contain spring-latches *m m*, which are actuated by levers *n n*, and a rope, *p*, as shown in Fig. 1. These latches have their noses or catching ends so formed as to be thrust back by the projecting ends of the top of the hod-rack when the latter is elevated to its fullest extent, and then to spring back under said projecting ends, thus catching and supporting the hod-rack in an elevated position. When the cord *p*, which connects with the two latch-levers *n n*, is pulled, these latches will release the hod-rack and allow it to descend. This vertically-sliding hod-rack or elevating-carriage C is adapted for receiving and retaining in place the common portable hods *s s s s*, which are usually carried upon the shoulders of laborers.

In Figs. 1, 2, and 3, I have represented such hods applied to the rack C in such manner that they can be readily removed therefrom for filling or emptying. This rack is constructed as follows: *t t* are two horizontal ledges secured to the sides of the box C, and notched to receive and support one end of a hod. Be-

tween these two ledges, *t t*, is another ledge, *u*, which is notched on both sides to receive the opposite ends of the hods. The notches in the ledges are of a V shape, and hence prevent the hods from tilting when seated in them, and at the same time allow the hods to be applied to or readily removed from the hod-rack.

The operation of the apparatus is as follows: A horse or other power being attached to the draft-rope *h*, on the smallest pulley *e* of the hoisting apparatus, raises the elevator *U* with the required material—say, twice the distance the horse moves forward. The draft-rope *h* being placed around the middle pulley, will raise the elevator as three is to one, or in proportion to the relative diameters of the pulleys. The hods being filled with the material to be elevated to an upper story of a building, and placed in the elevator, as shown in Figs. 1 and 2, the latter is then elevated to the required height, when the hods are removed and their contents emptied, after which the empty hods are again returned to the elevator, and the attendant below notified, when he starts the horse backward and allows the elevator to descend again by its own gravity to the place from whence it started.

By means of the brake which is applied to the drums, the attendant can allow the eleva-

tor to descend more rapidly than the horse could back, and yet not so fast as to injure or throw out the hods. This brake is also used to stop the ascent of the elevator at the desired height.

What I claim as new, and desire to secure by Letters Patent, is—

1. A hoisting apparatus which employs an elevator, *C*, adapted for receiving and holding in place hods or other portable vessels, guides *A A*, pulley-rope *c*, pulleys *a b*, and drums *e f g*, together with a brake, all arranged and operating substantially as described.

2. Providing the elevator *C* with racks which are adapted for receiving and retaining in place portable hods *s s*, substantially as described.

3. Spring-latches *m m* and levers *n n*, in combination with the guides *A A*, and elevator or hod-rack *C*, substantially as described.

Witness my hand in the matter of my application for a patent for a machine for elevating and lowering building materials this 29th day of November, 1864.

GEO. AMBROSE.

Witnesses:

W. H. DE CAMP,
G. S. KEYS.