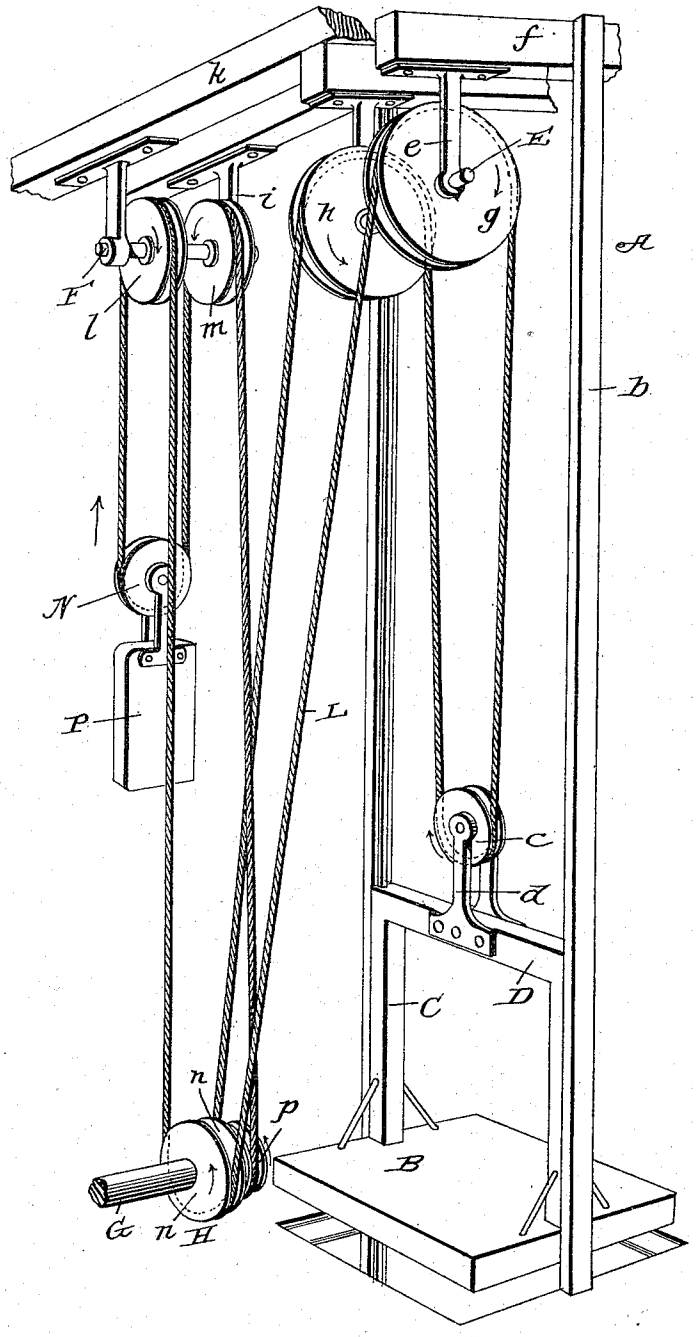
(No Model.)

E. M. FRASER.

MECHANISM FOR OPERATING ELEVATORS.

No. 535,946. Patented Mar. 19, 1895.



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ETHELBERT MEIKLE FRASER, OF WINNIPEG, CANADA, ASSIGNOR OF ONE-HALF TO WILLIAM GEORGESON, OF SAME PLACE.

MECHANISM FOR OPERATING ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 535,946, dated March 19, 1895.

Application filed September 27, 1894. Serial No. 524,250. (No model.)

To all whom it may concern:

Be it known that I, ETHELBERT MEIKLE FRASER, a citizen of Canada, residing at Winnipeg, in the county of Selkirk and Province of Manitoba, Canada, have invented certain new and useful Improvements in Mechanism for Operating Elevators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to hoists, or mechanism for operating elevators, and it has for its prime object to improve upon that class of devices in which an endless cable is used in connection with a weighted pulley, by simplifying the construction and rendering the same more compact and easy to operate, as will be hereinafter more fully set forth and particularly pointed out in the claim appended.

In the accompanying drawing, the figure is a perspective view of my improved apparatus, showing the same in an operative position as applied to an elevator platform, with parts of the frame broken away.

Referring by letter to said drawing:—A, indicates a frame for supporting the operating mechanism. This frame may be of any suitable construction and composed of any desired material, the construction shown comprising two or more beams supported upon suitable uprights *b*.

B, indicates the elevator which is here shown as simply a platform; it being considered unnecessary to show an entire car, as the car or platform forms no part of my invention. From the platform, rises a frame C, which is designed to travel in suitable guides as are ordinarily arranged in the shaft or well. On the cross bar D, of this upright frame C, or otherwise suitably attached to the car or platform is a vertically-disposed pulley *c*, which is here shown as journaled in two arms *d*.

E, indicates a horizontal shaft, and F, indicates a similar shaft which may be disposed at right angles or other suitable angle, to the shaft E. The shaft E, is hung in bracket arms *e*, which depend from the under side of the beams *f*, and on this shaft is a loose pulley *g*, and another pulley arranged parallel thereto and disposed vertically as shown at *h*. The shaft F, is journaled in similar brackets *i*, which depend or hang from beams *k*, and carries a sheave or loose pulley *l*, and a similar sheave or pulley *m*, which latter sheaves or pulleys are respectively of a less diameter than the pulleys *g*, and *h*, although in some cases the pulleys may be of the same size or diameter.

G, indicates the drive shaft which may be supported in any suitable manner and are ranged in the cellar or lower floor of a structure. This drive shaft is provided with a drum H, having its diameter stepped and grooved as shown. The large end of the drum, *n*, is designed to receive the rope or cable as will be presently described, and the smaller end is also grooved at *p*, to receive the cable.

L, indicates the lifting rope or cable. This lifting rope passes over the respective sheaves or pulleys and in one of its depending loops M, is placed a sheave or pulley N, having depending from its shaft, a suitable weight P. This cable which is endless, may be of any suitable material, and preferably of wire.

I shall describe the course or direction of the movement of the lifting cable by starting from the weighted pulley. As shown by the arrows, this cable will pass upwardly and over the pulley or sheave *l*, thence downwardly to the large part of the drum *n*, under the same, and upwardly in an oblique direction, over the pulley *g*, downwardly under the pulley *c*, of the car or platform, thence upwardly and over the pulley *h*, down and under the smaller periphery *p*, of the drum H, thence upwardly and over the pulley *m*, down and under the weighted pulley to the point of beginning.

By the employment of the weighted pulley, it will be seen that the rope or cable will always be kept taut so as to make the movements of the platform steady and easy.

In operation power is applied to turn the shaft G, and the power may be a motor or engine of any suitable character.

Having described my invention, what I claim is—

In a hoist or mechanism for operating ele-

vators, the combination with a suitable car or platform; of the two vertically-disposed and parallel grooved sheaves or pulleys arranged upon a horizontal shaft, the two smaller sheaves or pulleys similarly disposed and arranged on a shaft, a weighted pulley, and a power shaft having a drum with a differentially grooved periphery, and an endless rope or cable loosely connected with the car and taking around the respective pulleys and the drum, to operate, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ETHELBERT MEIKLE FRASER.

Witnesses:
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