

J. L. Folt
Hoisting App.

No 25,215.

Fig. 1

Patented Aug 23. 1859.

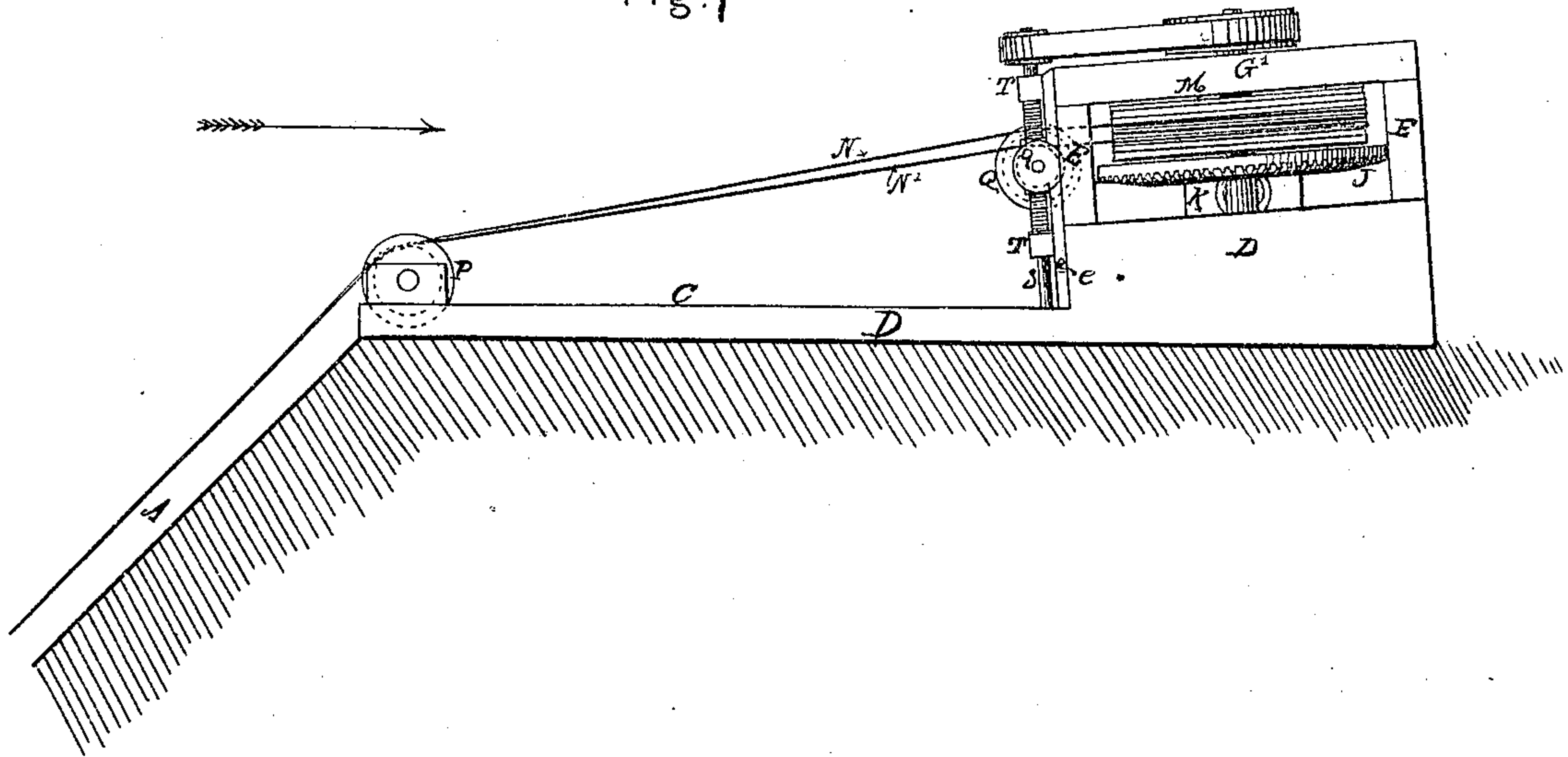


Fig. 2.

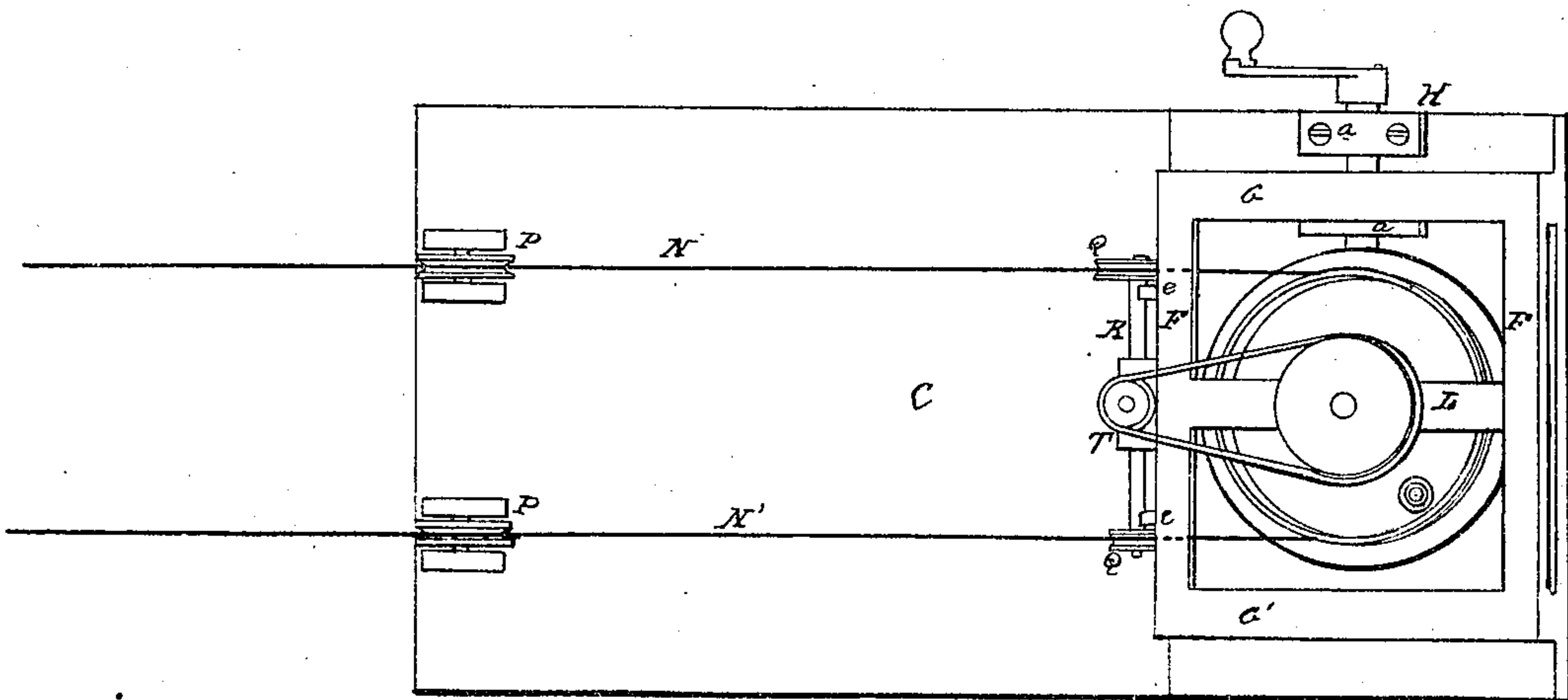
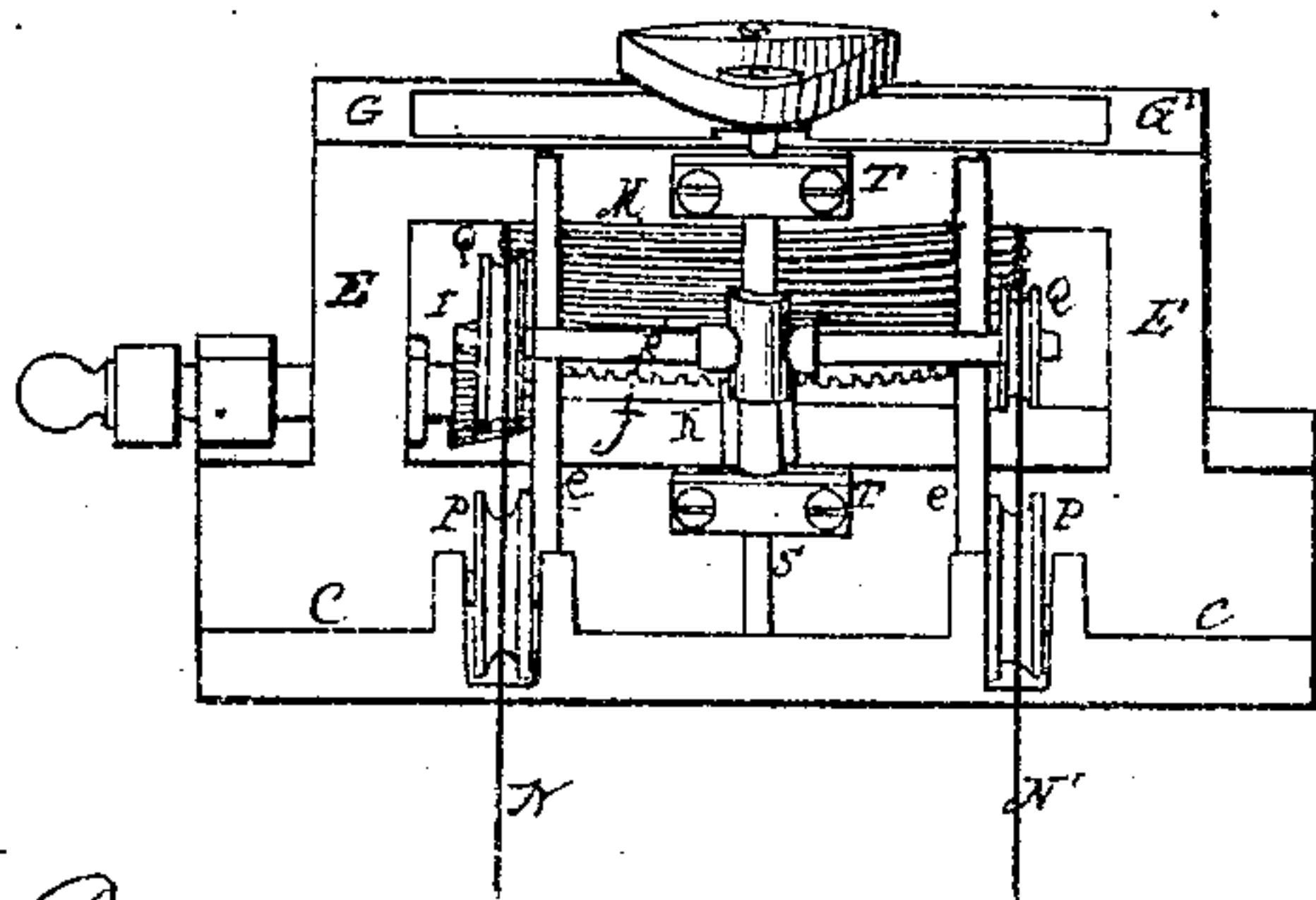


Fig. 3



Witnesses:

Carol Reed
Morgan Reed

UNITED STATES PATENT OFFICE.

JNO. L. POTT, OF POTTSVILLE, PENNSYLVANIA.

HOISTING APPARATUS.

Specification of Letters Patent No. 25,215, dated August 23, 1859.

To all whom it may concern:

Be it known that I, JOHN L. POTT, of Pottsville, Schuylkill county, Pennsylvania, have invented certain new and useful Improvements in Hoisting Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention relates to an improvement in that class of hoisting apparatus in which the rope, coiled several times around the drums, presents two lines, one of which ascends simultaneously with the descent of the other line, and my improvement consists in placing the drum at such an angle that it shall revolve in a plane parallel or nearly so to the two lines of rope when the latter have traversed half their distance in combination with certain devices described hereafter for guiding the lines of hoisting rope to their proper position on the drum.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawing, which forms part of this specification, Figure 1, is a side view of my improved hoisting apparatus as adapted to the inclined planes of the coal mining districts; Fig. 2, a plan view; Fig. 3, an end view looking in the direction of the arrow Fig. 1.

Similar letters refer to similar parts throughout the several views.

A, is the inclined plane commencing at the level ground B, to which is secured the foundation C, of my improved hoisting apparatus. The framework of the latter consists of the base D, secured to the foundation C, the four uprights E, being attached to the base, and the uprights being connected together by the beams F, and F', and G, and G'. (See Fig. 2.)

H, is the main driving shaft which may either be the crank shaft of a steam engine, or a shaft driven by any suitable system of gearing connected with the engine. This main driving shaft turns in suitable boxes a, a, secured to the base D, and is furnished at the end with a bevel pinion I, (Fig. 3) gearing into the bevel wheel J, on the inclined shaft K, to which the drum M, is secured, the shaft turning at the bottom in the base D, and at the top in the cross-bar I, of the upper portion of the frame.

The two lines of hoisting rope pass over and are guided by pulleys P, which turn in suitable boxes secured to the foundation C, on the extreme edge of the inclined plane A, and near the framework the two lines pass one over the pulley Q, attached to one end of a cross-head R, and the other over another pulley Q', attached to the opposite end of the same cross-head which bears against the posts e, e, secured to the front of the main frame. A shaft s, turns in suitable boxes T, on the same frame, and on this is cut a screw which passes at right angles through and is adapted to an internal screw in the cross-head B. The shaft s, is driven by a strap from a pulley on the inclined shaft K, as illustrated in the drawing or by any other suitable system of gearing.

The angle of the shaft K, is such that when one train of cars has descended and the other ascended one half of its entire distance on the inclined plane, in other words when the two trains of cars are opposite to each other, the plane of revolution of the drum will be parallel or nearly so to the line of the rope between the guide pulleys P, and the drum, the coils around the latter being then midway between the opposite ends of the drum. In order to prevent one coil of rope from lapping over another, which it might have a tendency to do owing to the change in the altitude of the rope caused by the coils traversing the periphery of the drum from one end to the other and back again as the cars are hoisted and lowered, the shaft S, is driven at such a speed in respect to that of the drum, and the threads of its screw are of such a pitch, that the cross head will rise and fall according to the direction in which the pulley is driven, at such a speed that the guide pulley Q, will so direct the rope that one coil shall take its proper place on the pulley close to the next coil.

Although I have described my invention as applied to hoisting apparatus for drawing trucks up inclined planes, it will be evident that it is equally well adapted to the self acting or "gravity" planes in which the loaded cars on one line of rope descending one track, draw the unloaded cars on the other line of rope up the adjacent track.

My invention is equally applicable to hoisting apparatus connected with two lines of rope for traversing ordinary perpendicular shafts or pits in contrary directions.

Without confining myself to any particular form or construction of frame-work, I claim as my invention, and desire to secure by Letters Patent—

The inclined drum M revolving in a plane parallel or nearly parallel, to the lines of hoisting rope, in combination with the guide pulleys Q, Q, on the cross head R, the latter being operated from the shaft of the drum through the medium of the screw K, or its

equivalent, substantially as and for the purpose herein set forth.

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

JOHN L. POTT.

Witnesses:

JACOB REED,
MORGAN REED.