(No Model.)

F. DE F. LOOMIS.

HOISTING MACHINE.

No. 413,623. Patented Oct. 22, 1889.

Fig. 3

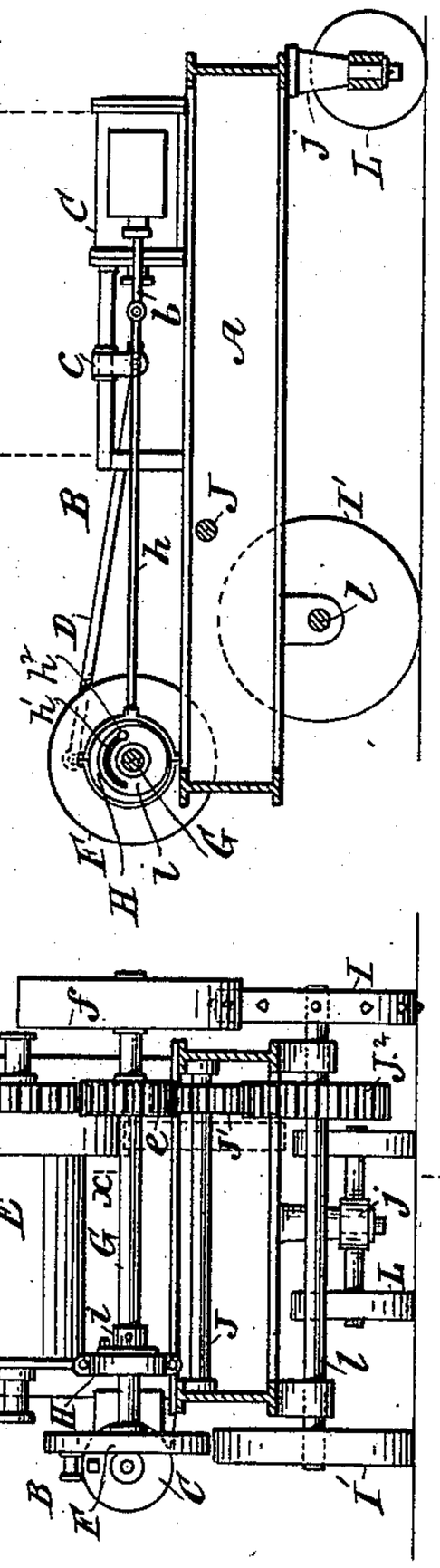

Fig. 2.

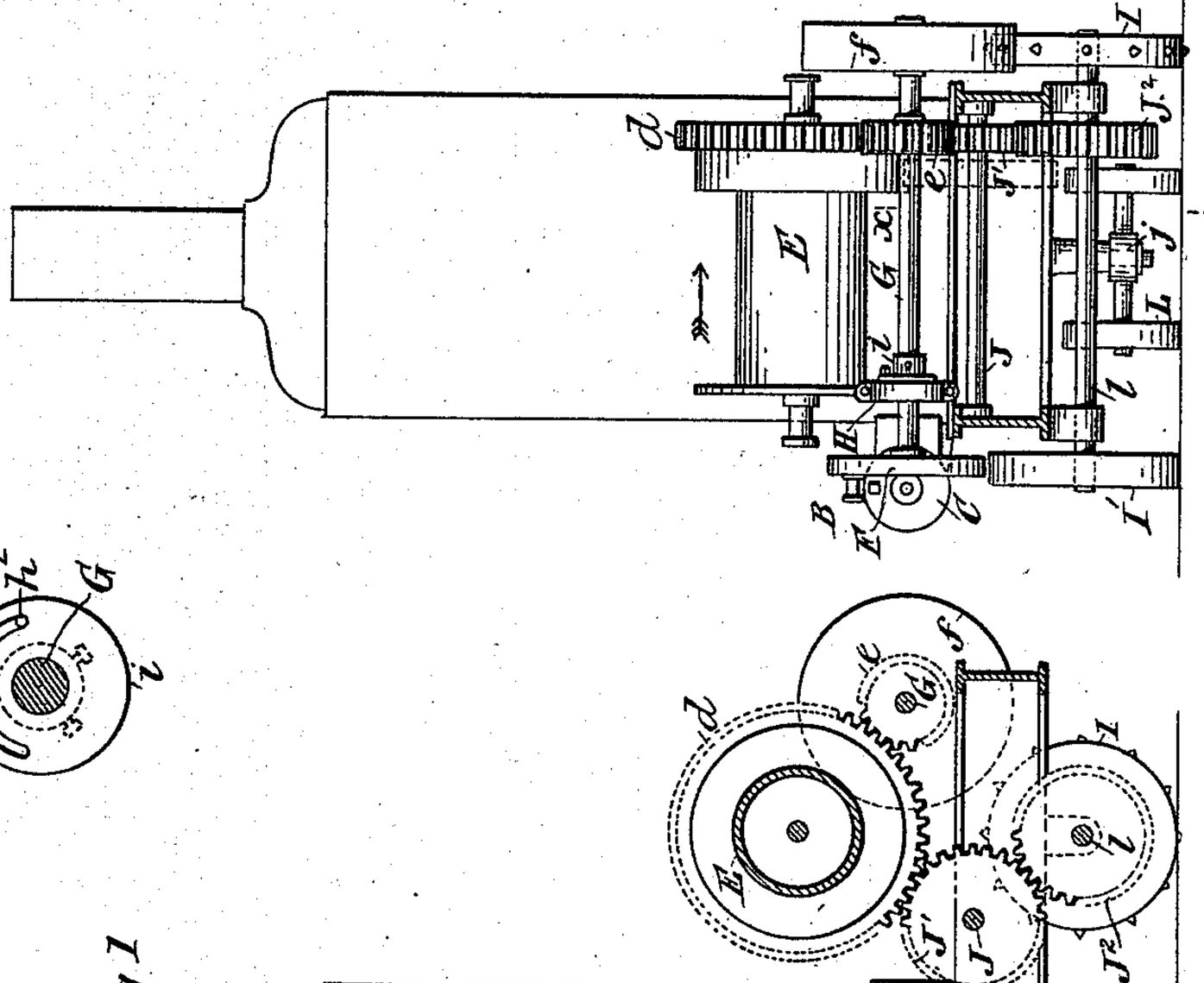

Fig. 4

Fig. 1

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FRANKLIN DE FOREST LOOMIS, OF BROOKLYN, NEW YORK, ASSIGNOR TO THOMAS F. KRAJEWSKI AND JAMES L. COCHRANE, OF SAME PLACE, AND ALFONSO PESANT, OF HAVANA, CUBA.

HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 413,623, dated October 22, 1889.

Application filed December 10, 1887. Serial No. 257,523. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN DE FOREST LOOMIS, of Brooklyn, Kings county, and State of New York, have invented a certain new and useful Improvement in Hoisting-Machines, of which the following is a specification.

My improvement relates more particularly to hoisting-machines in which a steam-engine is combined with a hoisting apparatus, the whole being mounted upon a carriage supported upon wheels, whereby it may be moved from place to place.

I will describe in detail a hoisting-machine embodying my improvement, and then point out the novel features in a claim.

In the accompanying drawings, Figure 1 is a side elevation of a hoisting-machine embodying my improvement, looking in the direction of the arrow, Fig. 2, certain parts being shown in section. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical section taken on the plane of the dotted line *x x*, Fig. 2. Fig. 4 is a detail, on an enlarged scale, showing a certain collar employed in conjunction with an eccentric used in the machine.

A designates the main frame of the machine. It is, as shown, composed of I-beams and is rectangular in shape. Upon this framework is supported a steam-engine B, which may be of the usual or any desired construction.

C designates a steam-cylinder, operating a piston-rod *a* in the usual manner. A cross-head *c* of ordinary construction is secured to the piston-rod.

D designates a pitman-rod pivotally connected to the piston-rod *a*, and also to a crank-wrist on a crank F, keyed upon a crank-shaft G, mounted in suitable bearings upon the frame. (Not shown.) The crank-shaft G bears outside the frame of the machine a fly-wheel *f*. Rigidly mounted on the shaft G is a gear-wheel *e*. This gear-wheel meshes with the gear-wheel *d*, rigidly secured to one end of a drum E, mounted in suitable bearings upon the frame A of the machine, but not shown in the drawings. Motion is thus transmitted from the crank-shaft G to the drum E.

H designates an eccentric mounted on the crank-shaft G. This eccentric operates the steam-valve by means of an eccentric-rod *h* in the usual manner. A collar *i* surrounds and is rigidly secured to the crank-shaft G adjacent to the eccentric H. The face of this collar is shown more clearly in Fig. 4. It comprises an arc-shaped slot *h'*. Through this slot extends a bolt h^2, which bolt is adapted to engage a screw-threaded aperture in the side of the eccentric H. By loosening the bolt h^2 and rotating the eccentric within its strap its position may be varied so that a reverse rotation of the crank-shaft will be occasioned.

J designates an intermediate shaft journaled in suitable bearings in the frame A of the machine. Upon this shaft is mounted a gear-wheel J'. This gear-wheel may be slid freely to and fro on the shaft J.

When the machine is to remain stationary in one place, the gear-wheel J' is moved along upon the shaft J into such position that it will not engage with the gear-wheel *d*. When, on the contrary, it is desired to move the machine from place to place, the gear-wheel J' is shifted into such position that it will gear with the gear-wheel *d*. It will then also gear with a gear-wheel J^2, rigidly mounted upon an axle *l*, journaled in bearings on the frame A of the machine. This axle bears near its outer ends two wheels I I'. The wheel I' is loose upon the axle *l*. The wheel I is, on the contrary, rigidly secured to said axle. The wheel I constitutes a driving-wheel for propelling the machine from place to place. I have shown it as provided upon its periphery with spur-teeth for facilitating its engagement with any surface upon which it may rest.

L designates caster-wheels supported in brackets *j*, extending downwardly from the frame A of the machine. I have shown two of these caster-wheels; but I may use but one, if desired: They may of course turn pivotally in any desired direction.

It will be readily understood that the entire machine is supported upon the wheels I, I', and L.

When, as stated, it is desired to move the machine from place to place and the gear-wheel J′ has been moved into a position to gear with the gear-wheels *d* and J², the steam-engine is started, and according to the position of the eccentric on the crank-shaft the machine will be moved forward or backward, because the gear-wheel J′ will cause the rotation of the axle *l* and the driving-wheel I. If it is desired to move it forward or backward in a substantially straight course, the machine is guided in such course by the caster-wheels L. If, on the contrary, it is desired to turn round in either direction, such movement will be readily and quickly accomplished by the drive-wheel I, as that wheel alone is rigid upon the axle *l*, and therefore alone operates to move the machine. The wheel I in this instance is an idler and operates merely as a center of motion for the machine.

Instead of securing the gear-wheel J rigidly upon the axle *l*, it may be secured rigidly to the driving-wheel I, in which case the driving-wheel can be free to turn upon the axle.

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

The combination, with an engine and a frame upon which said engine is mounted, of an axle journaled in said frame, a driving-wheel rigidly mounted on said axle, a wheel loosely mounted on said axle, a crank-shaft having a pitman-connection with the engine, a gear-wheel on the crank-shaft, a gear-wheel on the axle, and an intermediate shaft having an endwise-movable gear-wheel thereon, substantially as specified.

FRANKLIN DE FOREST LOOMIS.

Witnesses:
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