

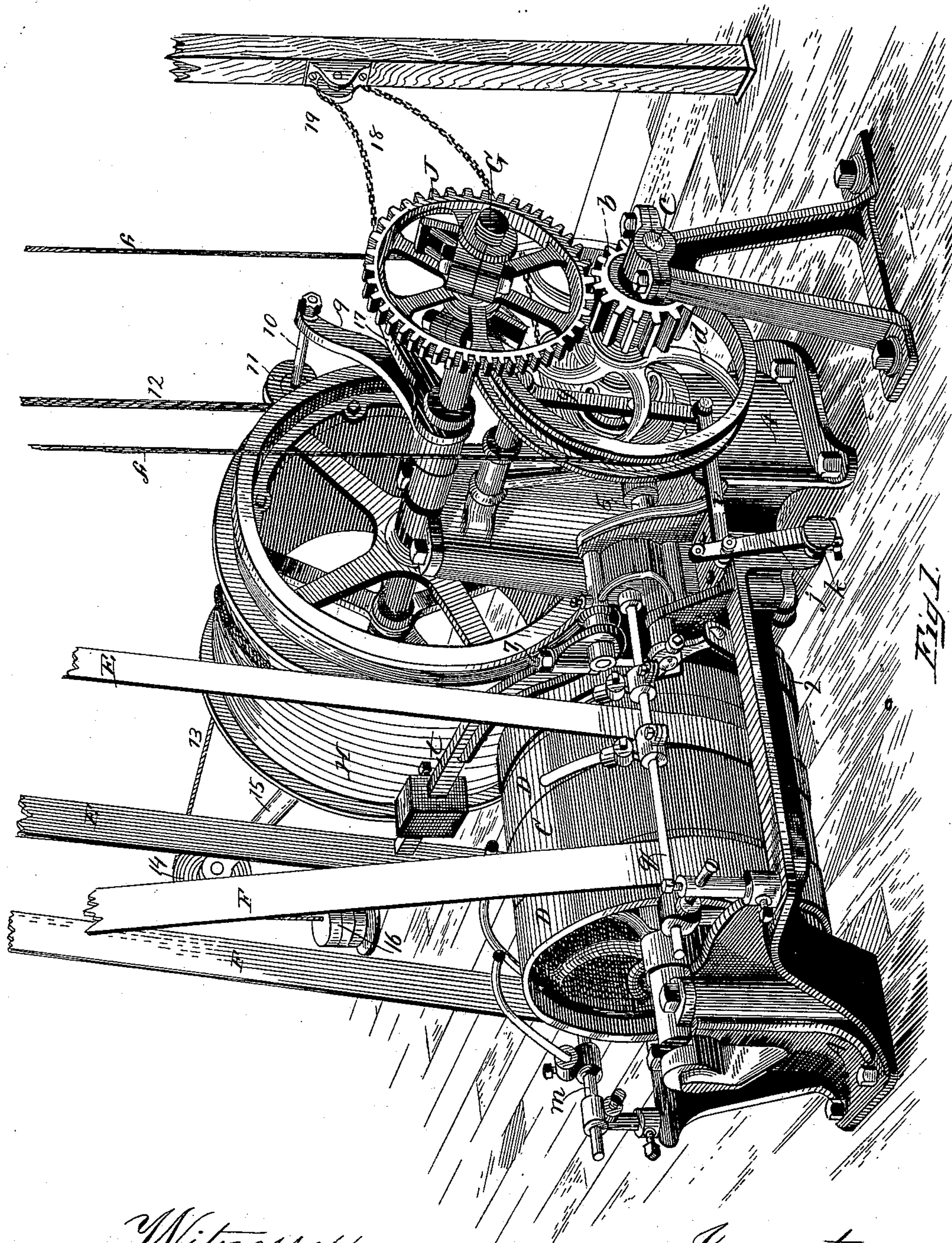
(No Model.)

4 Sheets—Sheet 1.

N. M. SEELYE.
ELEVATOR.

No. 465,214.

Patented Dec. 15, 1891.



Witnesses
Eugene Humphrey
Ralph W. Eschopper

Inventor
Norman M. Seelye
for E. W. Foster Atty

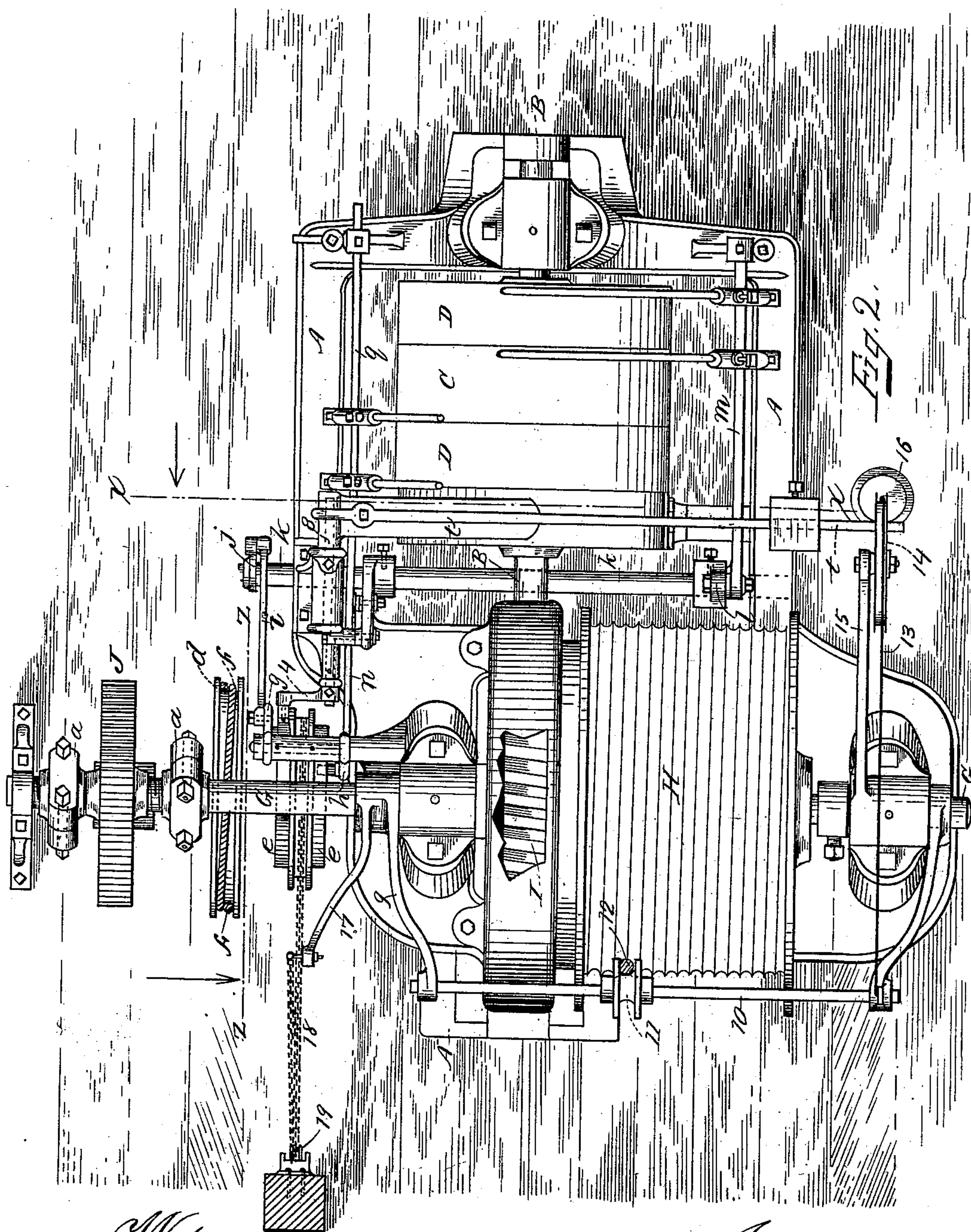
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(No Model.)

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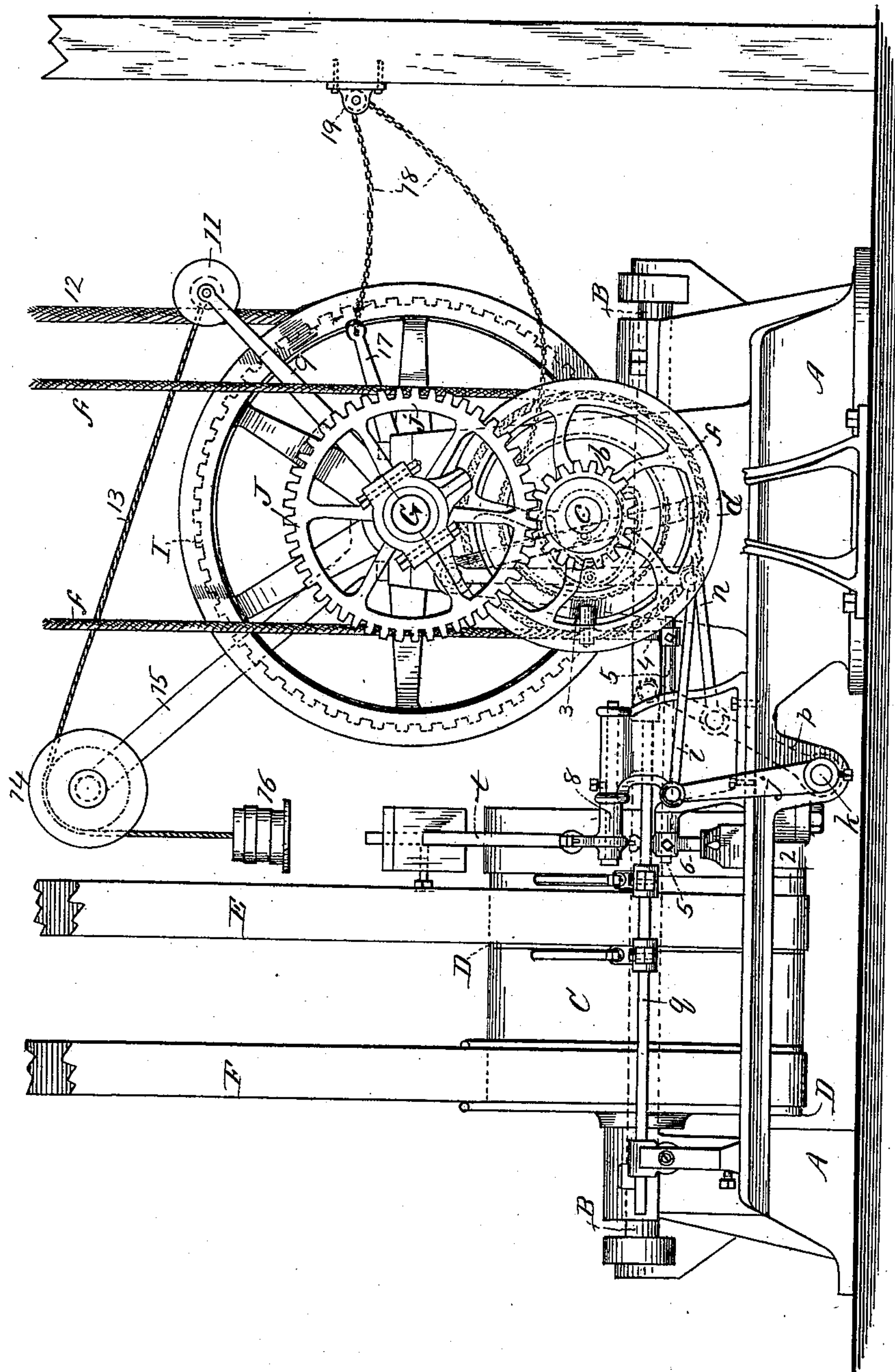


Fig. 3.

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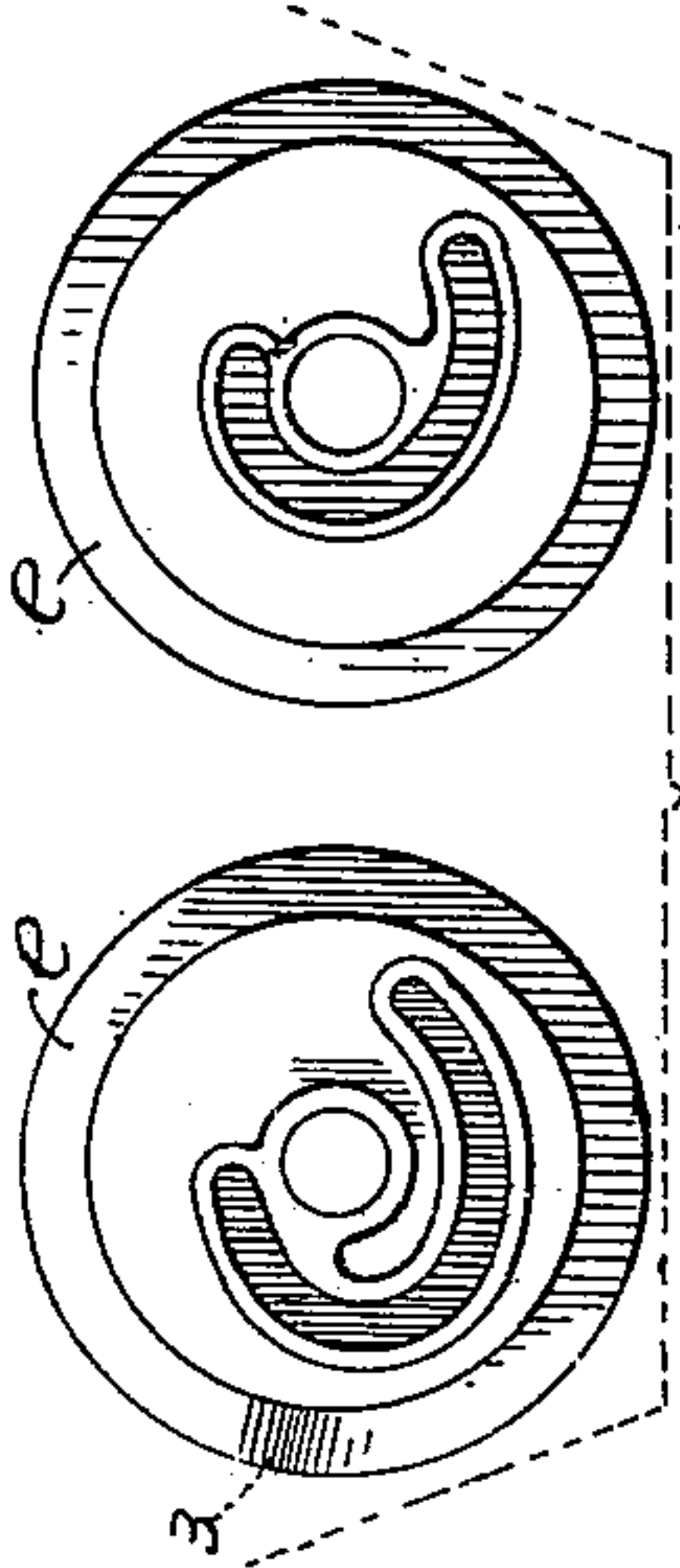


Fig. 7.

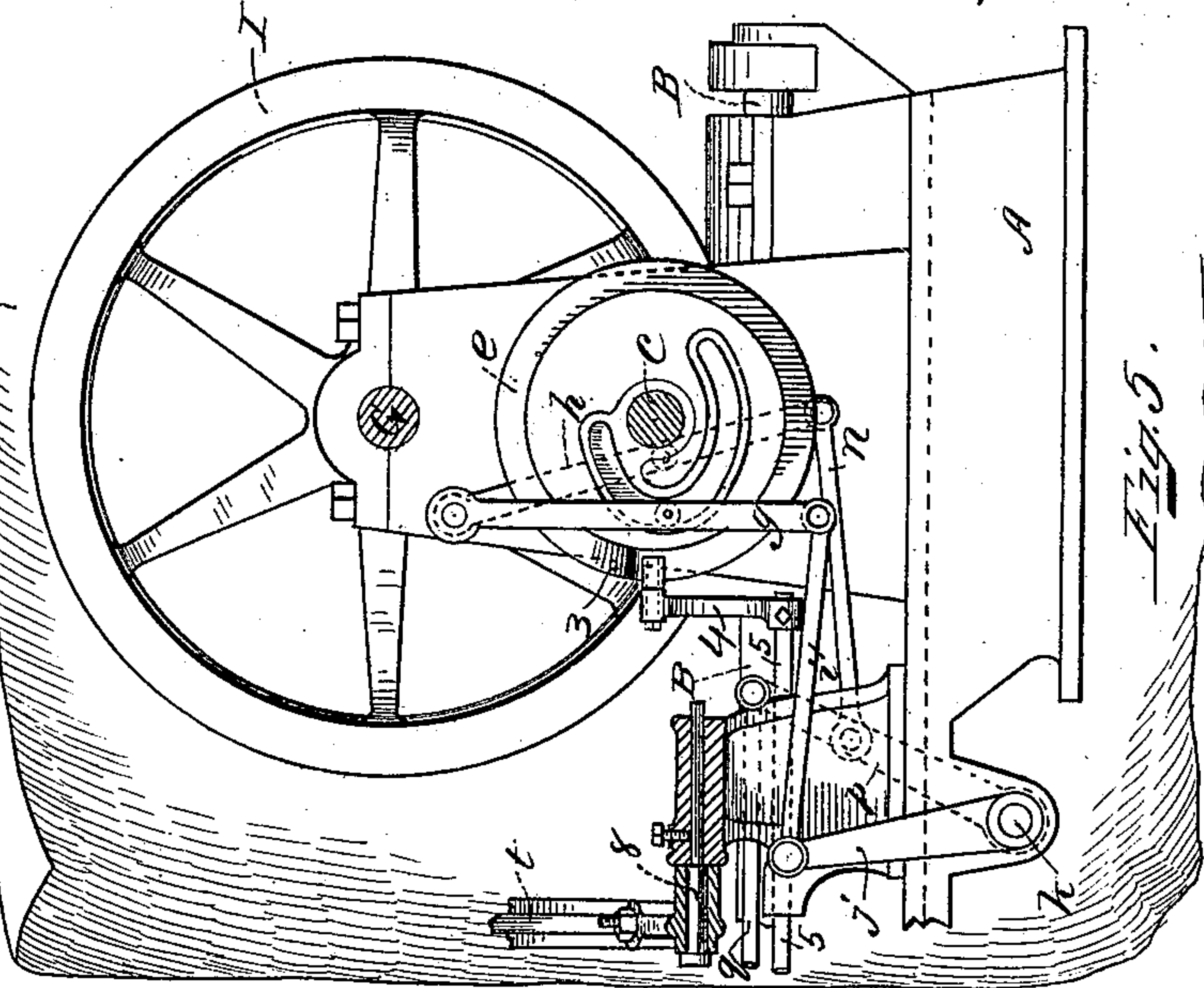


Fig. 5.

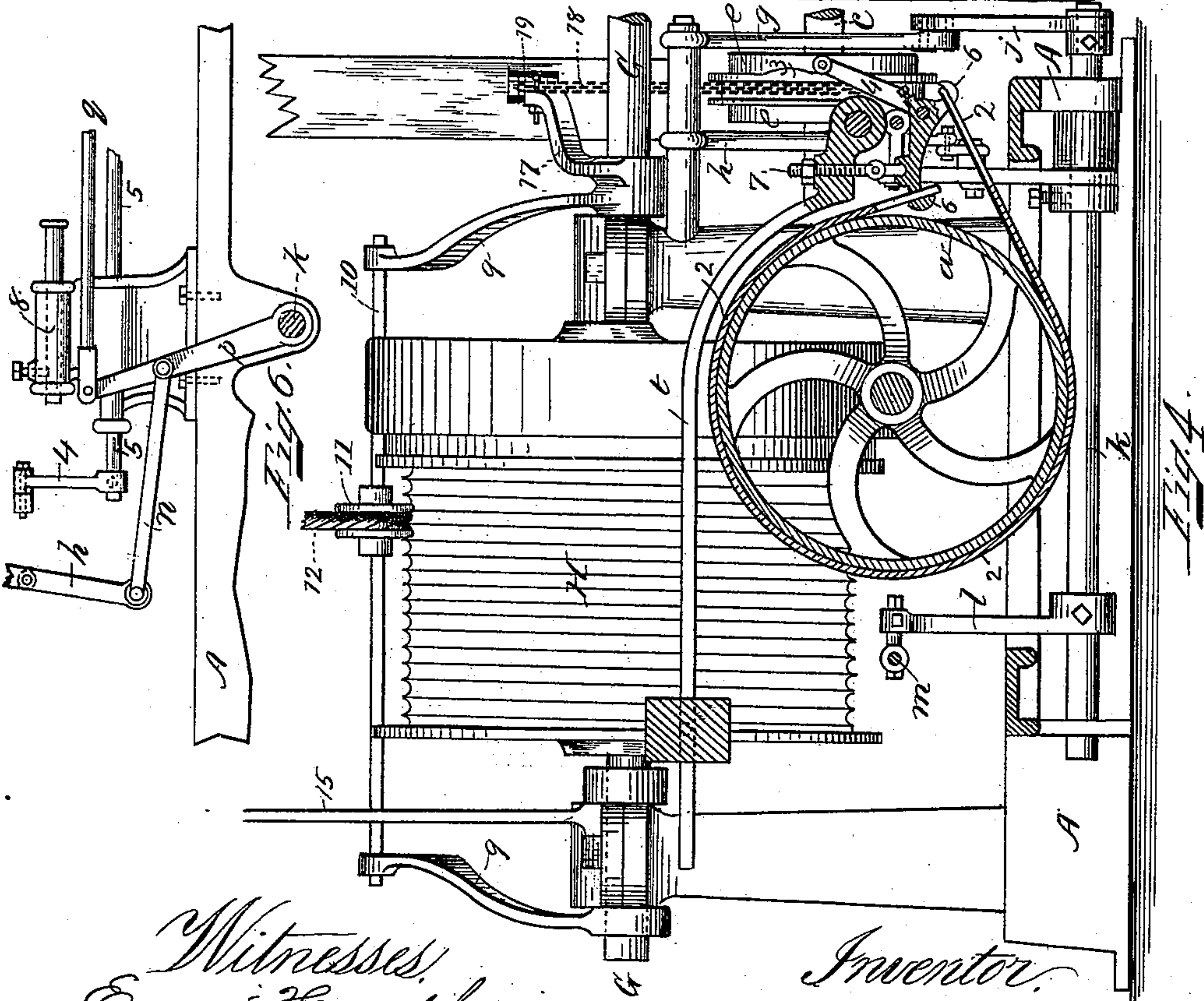


Fig. 4.

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UNITED STATES PATENT OFFICE.

NORMAN M. SEELYE, OF CAMBRIDGE, MASSACHUSETTS.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 465,214, dated December 15, 1891.

Application filed February 5, 1891. Serial No. 380,280. (No model.)

To all whom it may concern:

Be it known that I, NORMAN M. SEELYE, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Elevators, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

In said drawings, Figure 1 is a perspective view of an elevator embodying my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation. Fig. 4 is a sectional elevation, the section being taken on line X, Fig. 2, and the view as from the right, as indicated by the arrow at said line, portions of the machine being broken away, as indicated. Fig. 5 is a sectional elevation, the section being taken on line Z, Fig. 2, and the view as indicated by the arrow at said line. Fig. 6 is a detached sectional elevation showing details to be described. Fig. 7 is a detached elevation showing the respective sides of the cam-wheel employed in the belt-shipping mechanism.

This invention relates to elevators which are employed in the transportation of passengers and freight to and from the different stories in buildings; and it relates, especially, to the machine by, upon, and from which the hoisting-rope is wound and unwound; and it consists in features of novelty and the combination thereof, as will, in connection with said drawings, be hereinafter described and claimed.

In said drawings, A represents the bed whereon the various constituent parts are mounted.

B is the driving-shaft, arranged longitudinally on bed A and duly journaled in bearing-boxes. Upon said shaft are arranged the "fast" pulley C and the "loose" pulleys D D, which are actuated by the belts E F and through and by which all the power-driven parts of the machine are actuated.

G represents a shaft arranged above and perpendicular to shaft B, and on which is secured the rope-drum H and the tangent wheel I, which latter is engaged and actuated by an endless screw (not shown) on shaft B in the manner long practiced in this class of machines.

For the purpose of automatically shipping

either of the belts upon fast pulley C, I screw-thread the gear J upon shaft G between the clutches *a a*, which are secured rigidly upon the shaft and in the path of the projections upon each side or plane of the gear. Said gear J enmeshes with pinion *b*, secured on a short shaft *c*, on which are also secured the shipping-wheel *d* and the double-faced cam-wheel *e*, the latter being shown on both its sides in Fig. 7. Levers (of the third order) marked, respectively, *g* and *h*, are suspended above said cams, as shown, and have trundles near their lineal center, which respectively engage in the cam-grooves in the well-known manner. To the lower end of lever *g* is pivoted rod *i*, which is pivoted to arm *j*, secured on rock-shaft *k*, which carries arm *l*, to which is pivoted rod *m*, which carries the forks that ship belt F, while to arm *h* is in like manner pivoted rod *n*, which is pivoted to and vibrates loose arm *p* on shaft *k*, which actuates the rod *q*, which carries the forks that ship belt E.

Stress of the brake-band 2 on wheel *w* is produced by the weighted lever *t*, pivoted on stud 8 and supported through its stirrup 7, which bears upon cross-head 6, secured upon rock-shaft 5, the arm 4 of which carries a trundle that bears against the outer plane of cam-wheel *e*, a raised cam-like portion 3 on said plane moving the arm, and thereby raising said weighted lever, thereby releasing the brake-wheel, the rotation of wheel *e* rocking shaft 5 and raising said lever, thereby slackening the band. The cam-wheel shaft is, through shipping-rope *f*, rotated for the purpose of operating the shippers through cam-wheel *e* and the described coacting devices.

The hereinbefore specified and described parts and their mode of operation, not constituting part of my present invention, but being shown for the purpose of illustrating the application and practical operation of my said invention, need be here no further described.

In my present invention I mount on shaft G the arms 9 9, so that the shaft revolves freely in the eyes of said arms, the outer ends of said arms being connected by a rod 10, on which is mounted the groove-faced truck 11 to rotate and slide on the rod, the hoisting-rope 12 being seated in said truck and imparting thereto the described motions. An arm 15, extending from one of the journal-

boxes of shaft G, carries in its outer end a groove-faced truck 14, in which is arranged the cord 13, that supports weight 16 and is itself supported by one of the arms 9, to which it is attached, said cord thus constituting a flexible connection between an arm 9 and weight 16. An arm 17, arranged loosely on shaft G and secured rigidly to one of the arms 9, has a chain or cord 18 attached to its outer end, said chain preferably passing thence around sheave 19, duly supported, and thence to and around cam-wheel e, to which it is secured, said chain thus constituting a flexible connection between the sheave-supports and the cam-wheel e, as above specified.

The practical operation and utility of this my invention resides in the fact that if at any time when descending the cage suspended from rope 12 in the usual manner should be caught so as to be thereby stopped the hoisting-rope 12 would begin to slacken, thereby permitting weight 16 to draw arms 9 inward, and thus through arm 17 and its chain 18 rotating cam-wheel e, and thereby shipping the then driving-belt from the fast pulley C to its loose pulley D, thereby stopping the machine and the further uncoiling of the rope from the drum, such shipping of the belt occurring while rope 12 is yet held taut by weight 16 through its cord 13. When the machine has thus been stopped, it is only requisite to so move the shipping device as to bring the hoisting-belt on pulley C, when the stress upon rope 12 as it raises the cage will restore truck 11, its supporting-arms, and weight 16 to their normal position, thus slackening chain 18 and leaving the machine free to perform its normal functions with the de-

scribed safety device on guard to prevent uncoiling of the rope, should the cage be caught, to an extent to allow the cage to drop if suddenly released.

It will be obvious that arms 9 may be mounted upon a support other than shaft G and that chain 18 may lead direct from arm 17 to wheel e and that other changes in details may be made without departing from the spirit of my invention.

I claim as my invention—

1. In an elevator of the class described, the combination, with the hoisting-rope, of a sheave engaging the same near the drum and having movable supports, a weight, a flexible connection attached to said weight and to said supports and arranged to move the latter as the rope slackens, and a connection between said sheave-supports and the belt-shipping mechanism, whereby as the hoisting-rope slackens the belt will be shipped and the machine stopped, substantially as specified.

2. In an elevator of the class described, the combination of the hoisting-rope 12, the sheave 11, loosely mounted on rod 10, supported in pivoted arms 9, cord 13, connecting with said arms and supported by sheave 14, with weight 16 suspended thereon, and a flexible connection attached at one end to the sheave-supports through arm 17 and at the other to cam-wheel e to actuate the latter when the sheave-supports are vibrated by the descent of weight 16, substantially as specified.

NORMAN M. SEELYE.

Witnesses:

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EUGENE HUMPHREY.