

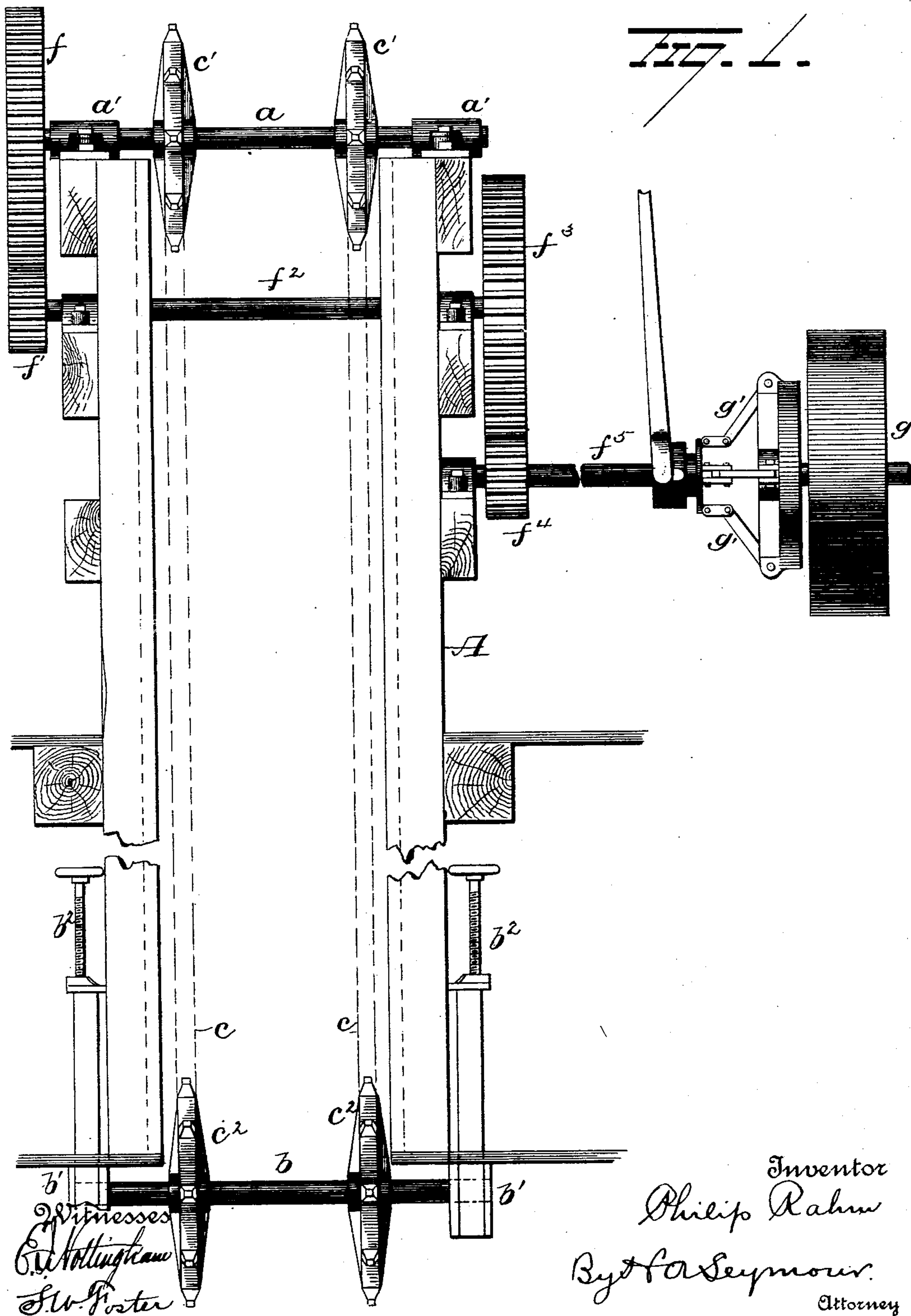
(No Model.)

3 Sheets—Sheet 1.

P. RAHM.
HOISTING OR LOWERING APPARATUS.

No. 541,386.

Patented June 18, 1895.



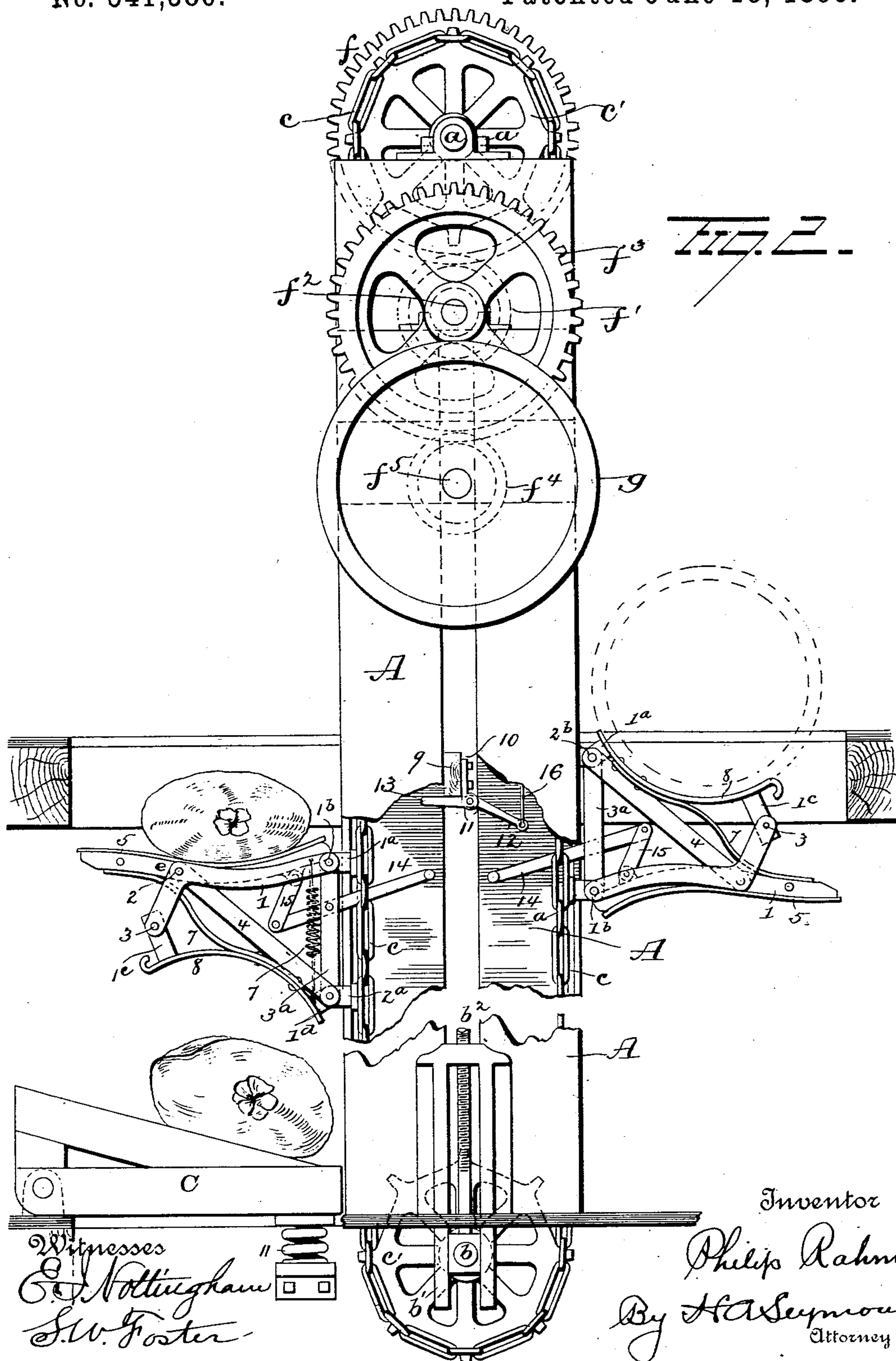
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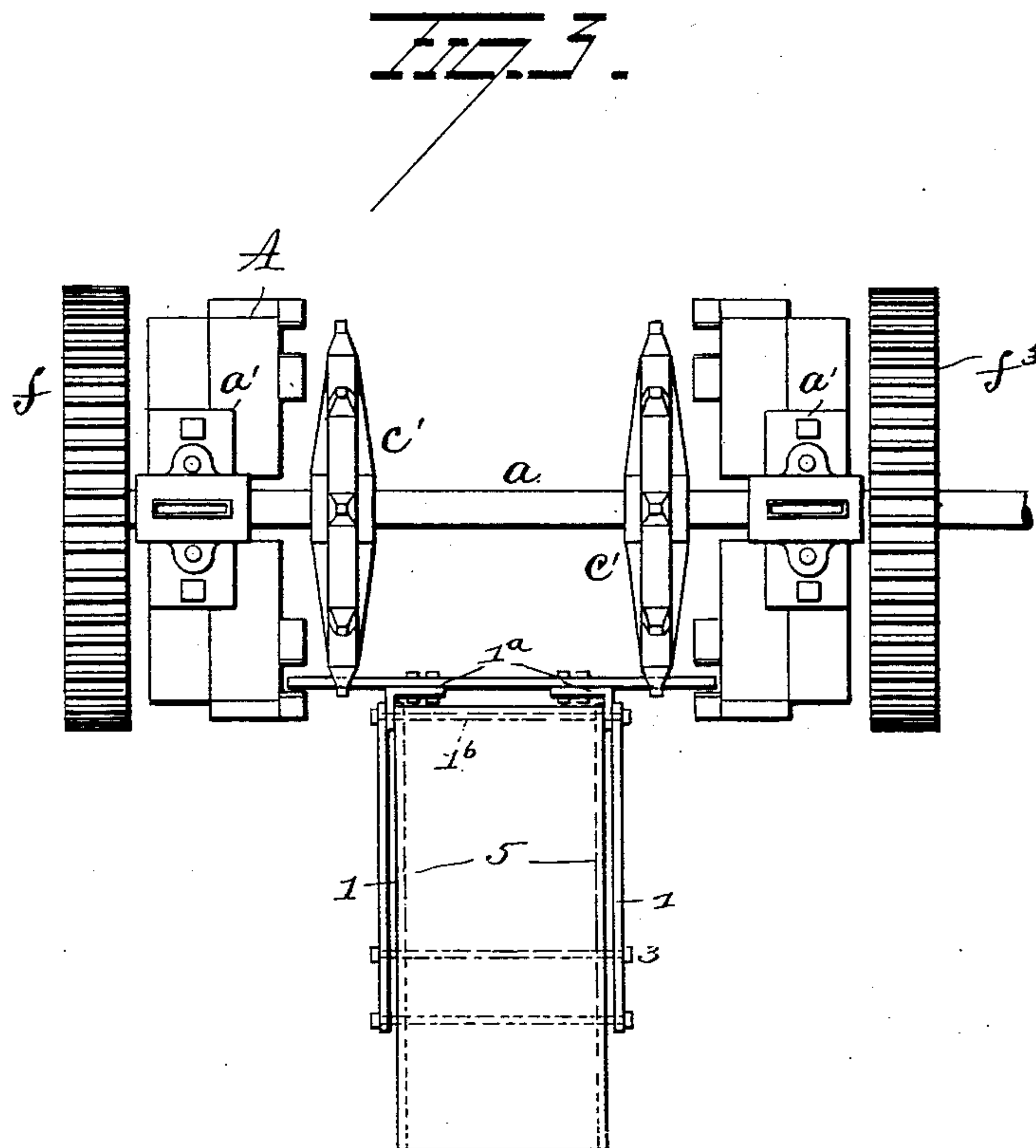
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Patented June 18, 1895.



Witnesses
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PHILIP RAHM, OF NEW ORLEANS, LOUISIANA.

HOISTING OR LOWERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 541,386, dated June 18, 1895.

Application filed January 30, 1895. Serial No. 536,676. (No model.)

To all whom it may concern:

Be it known that I, PHILIP RAHM, a resident of New Orleans, in the parish of Orleans and State of Louisiana, have invented certain
5 new and useful Improvements in Hoisting or Lowering Apparatus; and I do hereby 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
10 to make and use the same.

My invention relates to an improvement in hoisting and lowering apparatus for barrels and other heavy packages,—one object of the invention being to so construct the apparatus
15 that it can receive the load to be raised in close proximity to its base.

A further object is to construct the apparatus in such manner that the brackets which receive the load can be employed for
20 raising the load during the ascent at one side of the apparatus, and receive and lower packages during their descent on the other side of the apparatus.

A further object is to provide means for
25 preventing undue jar to the apparatus when the brackets engage the load to be hoisted.

A further object is to produce an apparatus for hoisting and lowering heavy packages, which shall be simple in construction, sure in
30 operation, and effectual in all respects, in the performance of its functions.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of
35 parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a face view of my improved apparatus. Fig. 2 is a side view. Fig. 3 is a plan view.

40 My improved apparatus is represented in the drawings as extending through several floors of a building.

A represents a framework of the height desired, at the top and bottom of which shafts
45 *a*, *b*, respectively, are located, the upper shaft *a*, being mounted in suitable fixed journal boxes *a'* and the shaft *b* mounted in movable journal boxes *b'*, which latter are adapted to be adjusted by means of threaded rods *b²*
50 whereby to adjust the shaft *b* relatively to the shaft *a* and thus tighten the endless carrier chains *c* which pass over sprocket wheels

c', *c²* secured to the respective shafts. To the endless carrier chains at suitable intervals, my improved brackets *B* are secured. The
55 frame of each bracket comprises two arms 1, 1, connected to lugs 1^a on the respective carrier chains by means of rods 1^b and connected together at *e* by a cross bar or rod 2, and from the point *e* the arms 1, 1, project downwardly
60 and slightly outwardly and at their lower ends are connected together by a cross bar or rod 3. Bars or braces 4 are connected at one end to the rod or bar 2 and, extending in a diagonal direction toward the carrier chains,
65 are connected at their other ends to lugs 2^a on the latter, by means of a rod or bar 2^b. A bar 3^a is connected at its respective ends to the rods or bars 1^b, 2^b. A tipping platform 5 is pivotally connected with the rod 2 and pro-
70 jects inwardly and outwardly therefrom, the inner end being normally disposed on and supported by the rod 1^b which connects the arms 1, 1, with the carrier chains. This tipping platform is intended to receive the barrel, bag
75 or other package to be raised and is maintained normally in a horizontal position by means of a spring 7, said spring also serving to return the platform to its normal horizontal position after the load shall have been discharged
80 therefrom as more fully explained farther on. The spring 7 may be either flat as shown in full lines in Fig. 2 or a coiled spring may be employed as shown in dotted lines in said figure. Disposed beneath the parts above described,
85 in an inverted position relatively to the tipping platform 5, is a fixed curved plate or platform 8, connected with the rods 2^b and 3 by means of lugs 1^c, 1^d, respectively, said curved plate or platform being intended for
90 the reception of a package during the downward movement of the bracket to convey the same from an upper to a lower floor of the building in which the apparatus is located.

From the construction and arrangements
95 above described it will be seen that each bracket is double, the load to be raised being carried on the tipping platform 5 and the load to be lowered being carried by the curved plate or platform 8.

At each floor of the building a cross bar 9 is secured to the elevator frame and to said cross bar a bracket 10 is fixed. A trip lever
100 11 is pivotally supported between its ends by

said bracket, the long arm 12 of said lever projecting outwardly from the bracket 10 and adapted by its weight to maintain the short arm 13 normally in the path of one end of a lever 14, which latter is pivotally connected between its ends to the bar 3^a. To the other end of the lever 14 one end of a link 15 is pivotally connected, the other end of said link being pivoted to the tipping platform 5. A cord 16 is connected at one end to the long arm of the lever 11 and passed over suitable pulleys to a point within reach of the operator. By means of this cord the tripping arm 13 of the trip lever 11 can be moved out of the path of the lever 14 when it is desired that the bucket or bracket shall pass a certain floor without tripping. From this construction and arrangement of parts it will be seen that when the loaded bracket during its ascent reaches the floor of the building on which the load is to be deposited, the free end of the lever 14 will engage the arm 13 of lever 11 and said lever 11 being prevented from turning by the abutment of the arm 13 thereof against the cross bar 9, the said lever 14 will be turned on its fulcrum and impart motion through the link 15 to the tipping platform 5 to cause the latter to turn or tip on its fulcrum and deposit its load, after which the action of the spring 7 will return it to its normal position. As soon as the bracket passes over the upper sprocket wheel *c'* the curved plate or fixed platform 8 will be in position to receive the load to be lowered. At the base of the apparatus a skid C is located and preferably pivotally supported between its ends, for holding the barrels or other packages in position to be engaged by the bracket during the travel of the same and as the tipping platform which receives the load to be raised will be brought quickly to its normal operative position by the spring 7, the skid may be located at the base of the apparatus so that the barrel will be received on said tipping platform on the bracket as soon as the latter turns the lower sprocket wheels *c*². In order to prevent undue jar to the apparatus when the brackets engage the barrels, a spring 11 or other yielding device is disposed under the end of the skid and adapted to sustain a portion of the load on the skid, so that when the bracket engages the barrel the skid will rise somewhat with the barrel before the entire weight of the latter is sustained by the bracket.

A gear wheel *f* is secured to the upper shaft *a* of the apparatus and receives motion from

a pinion *f'* on a transverse shaft *f*² in the frame work A. The other end of the shaft *f*² is provided with a gear wheel *f*³ which receives motion from a pinion *f*⁴ on a shaft *f*⁵, on which a pulley *g* is mounted and adapted to be locked thereto by means of a clutch *g'*. By the use of gearing thus constructed, I am enabled to raise a number of barrels or other heavy packages at the same time.

My improvements are very simple in construction, overcome various defects in apparatus of this kind as heretofore constructed and are effectual in every respect, in the performance of their functions.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a carrier, and arms and braces pivotally connected therewith and connected together, of a tilting platform, means for tilting this platform and means for returning it to its normal position, and a platform back of said tilting platform connected with both the arms and the carrier, and independent of the tilting platform substantially as set forth.

2. In a hoisting apparatus, the combination with an elevator having brackets, of a pivoted skid located at the base thereof and adapted to receive the load to be discharged onto said brackets and a yielding device connected to said skid, and supporting the same substantially as set forth.

3. In a hoisting apparatus, the combination with a carrier having brackets, of a movable skid, and a spring under the end of said skid, and supporting the same substantially as set forth.

4. In a hoisting apparatus, the combination with carrier chains of brackets connected thereto and having tipping platforms to receive the load to be raised, a spring under each tipping platform adapted to return it to its normal position when the load shall have been discharged, a movable skid located at the receiving point of the apparatus and a spring under the end of said skid, and supporting the same substantially as and for the purpose set forth.

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

PHILIP RAHM.

Witnesses:

M. CRAMOND,
B. V. NEINDORFF.