

No. 714,346.

Patented Nov. 25, 1902.

J. F. WHITE.
WAGON JACK.

(Application filed June 30, 1902.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

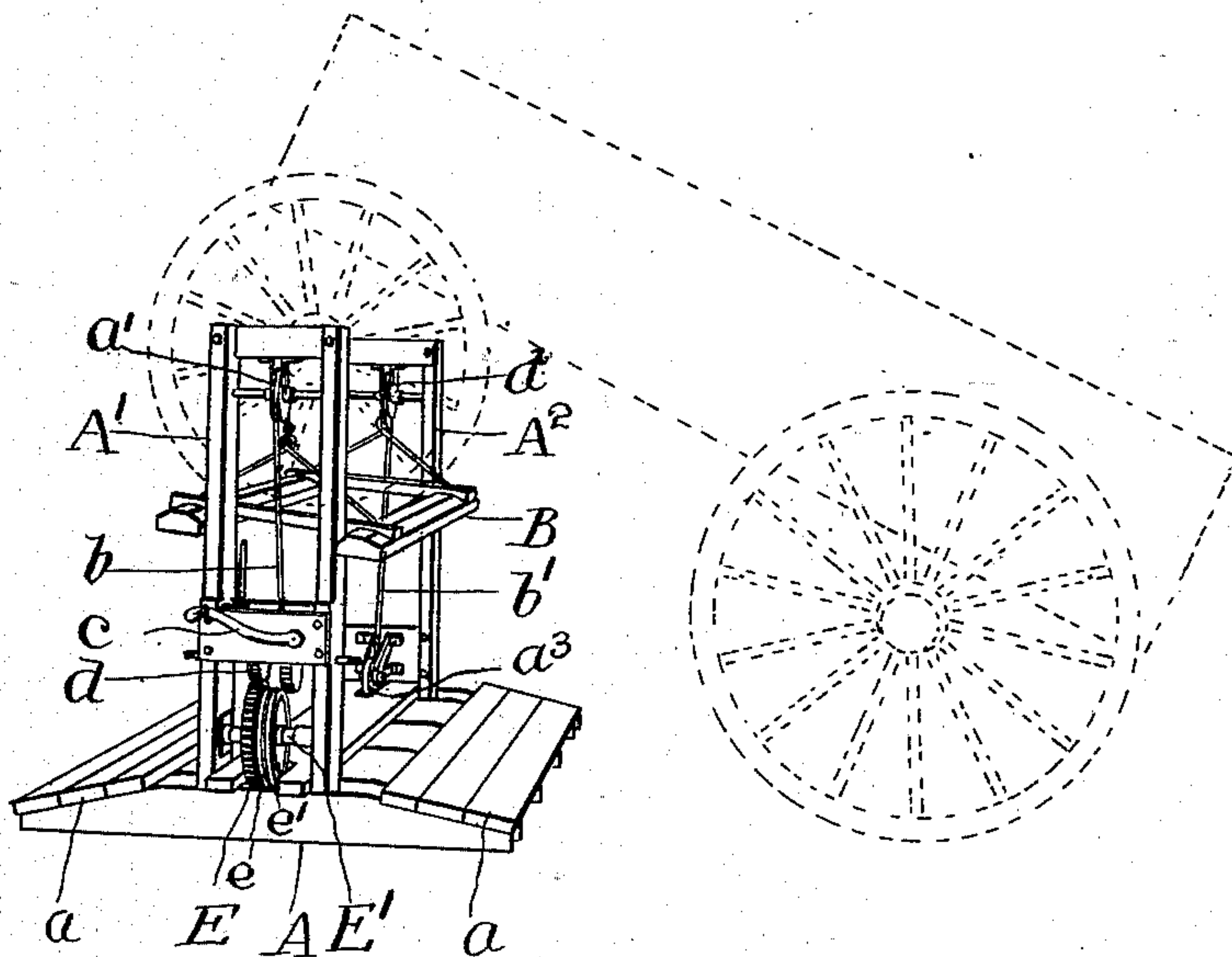
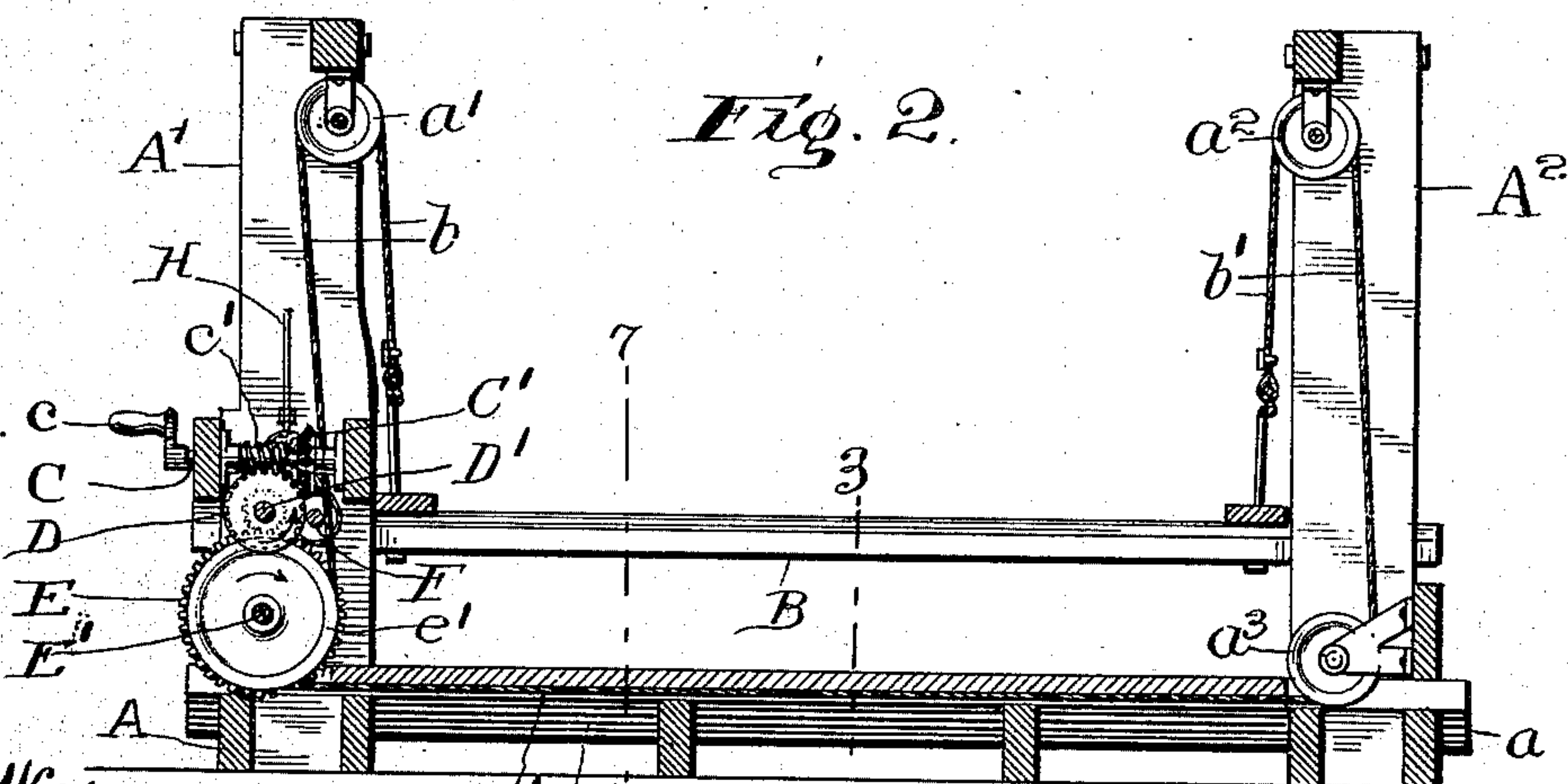


Fig. 2.



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Fig. 3.

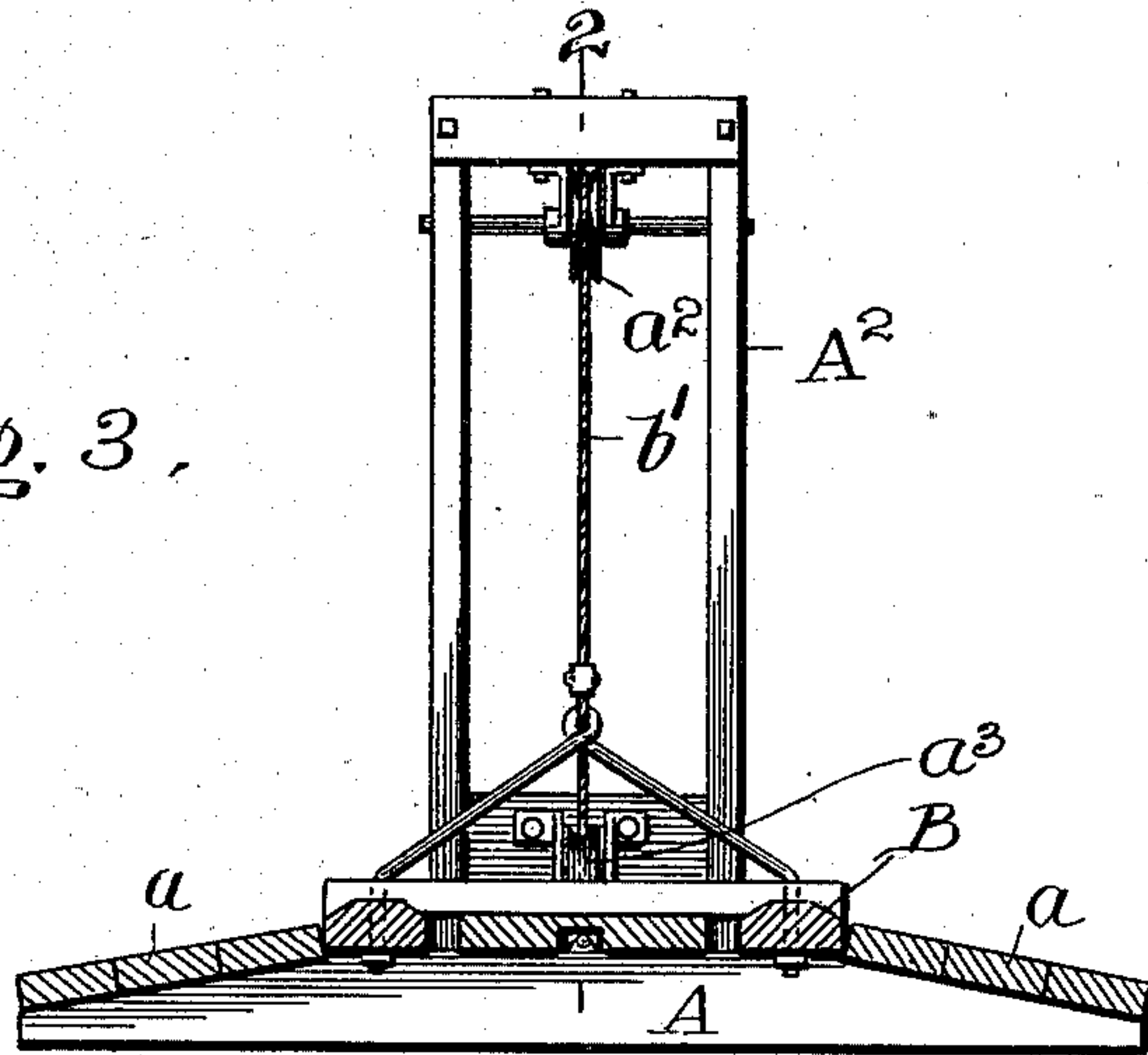


Fig. 4.

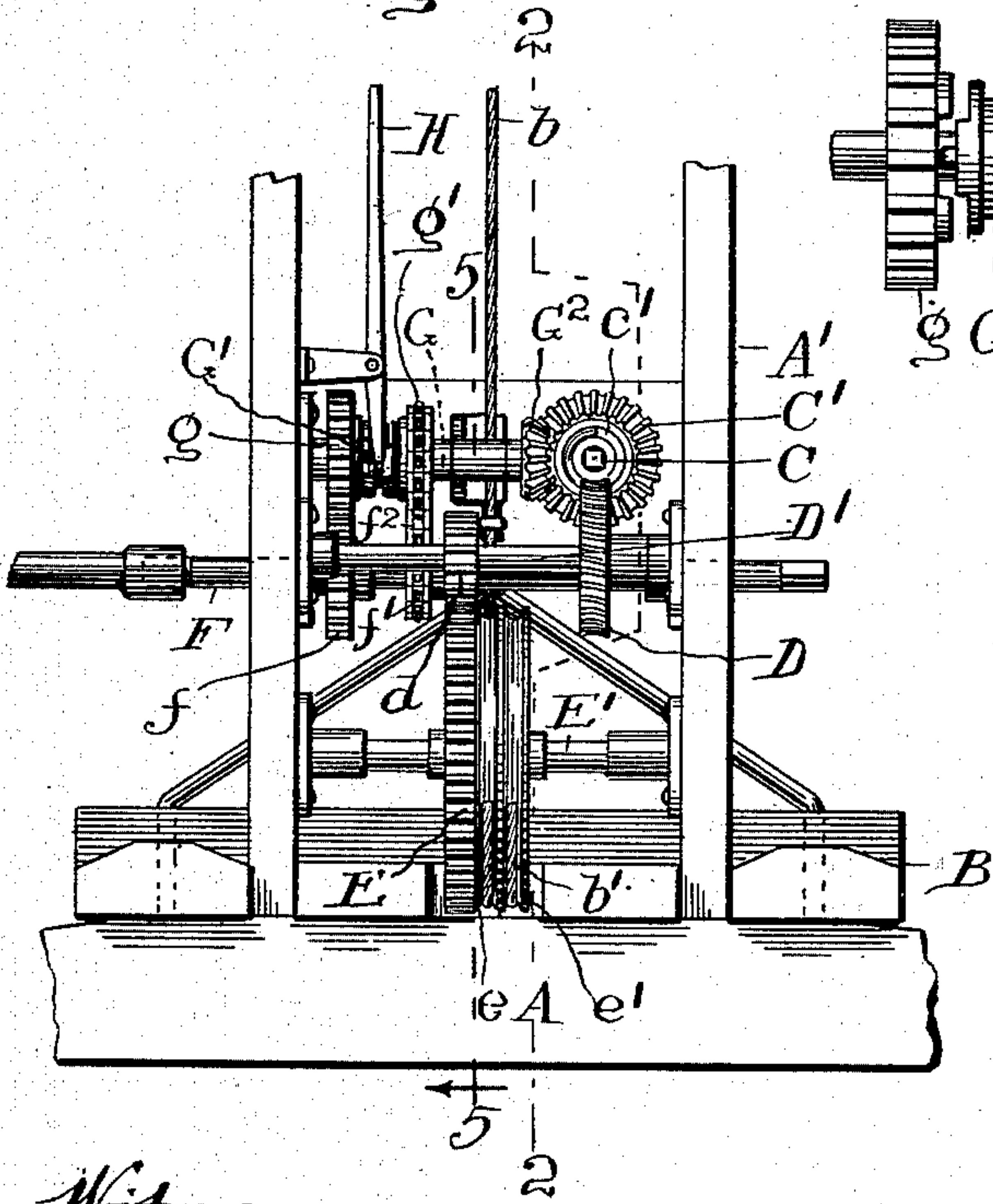


Fig. 6.

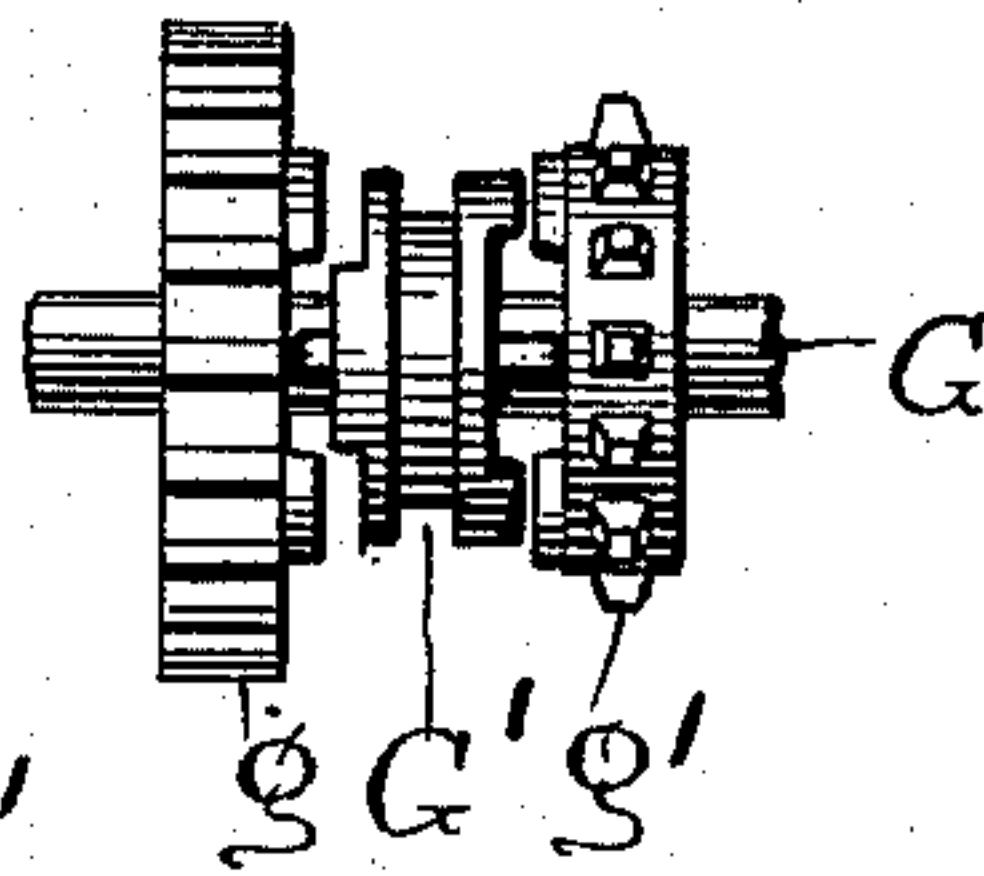
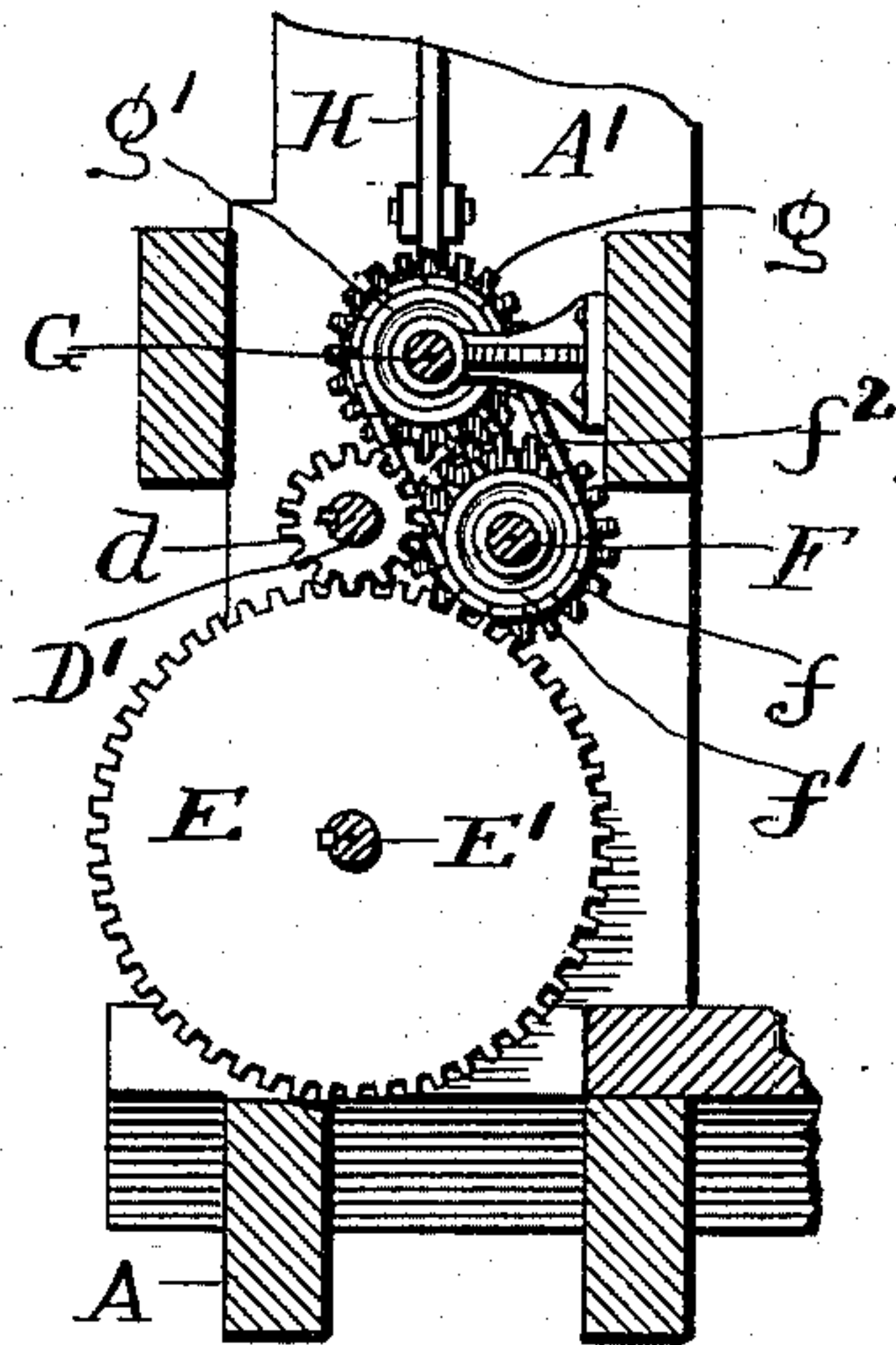


Fig. 5.



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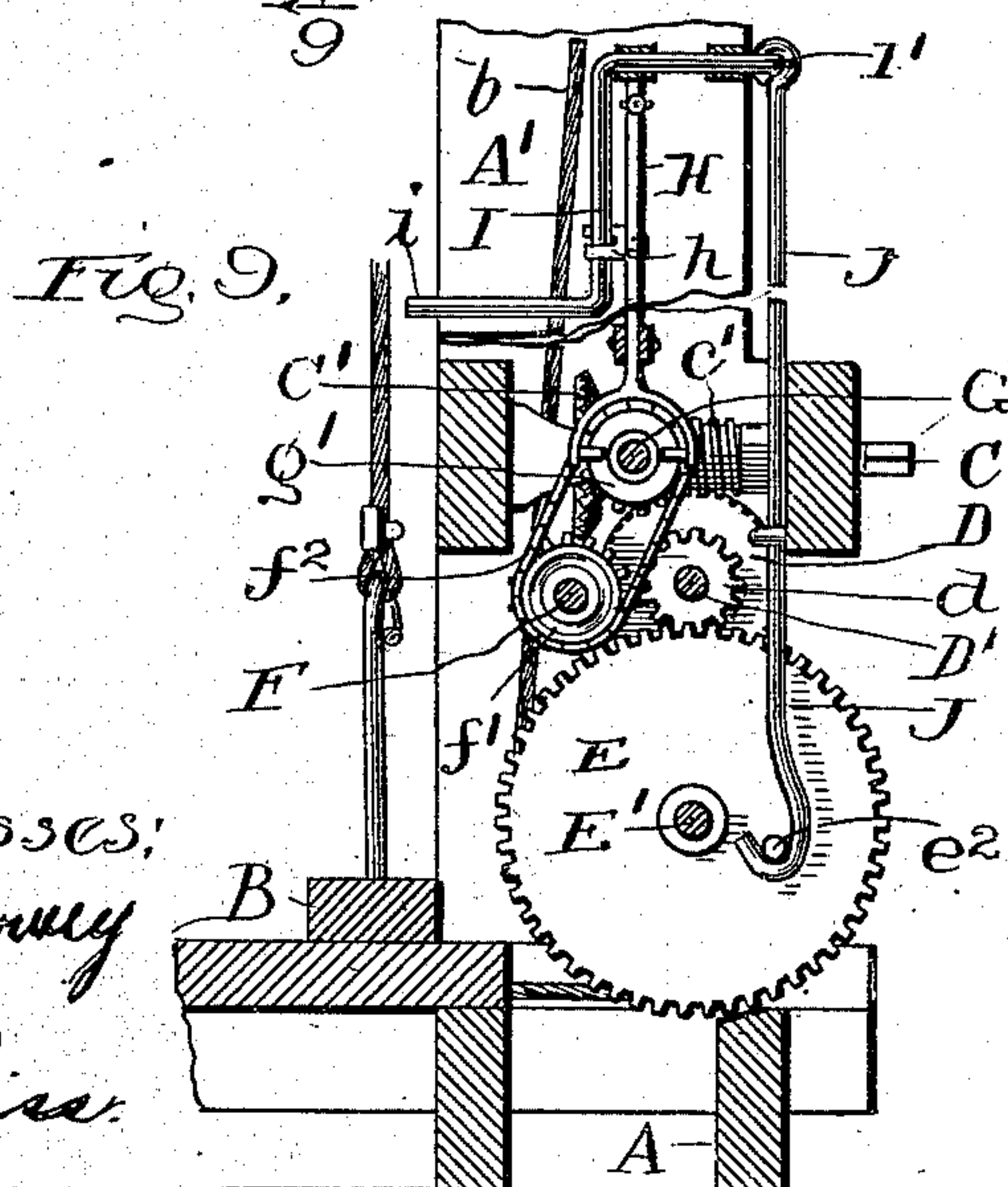
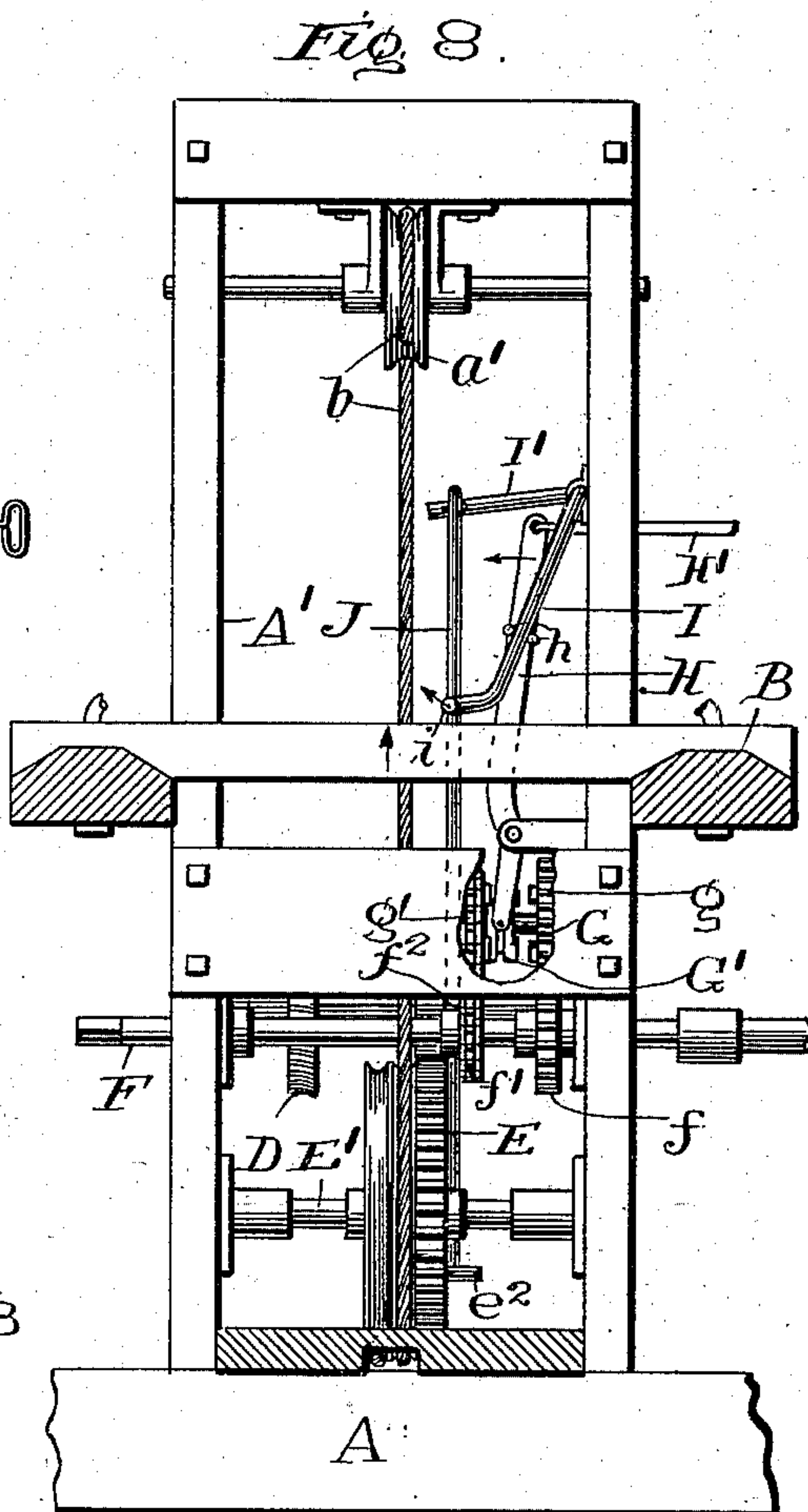
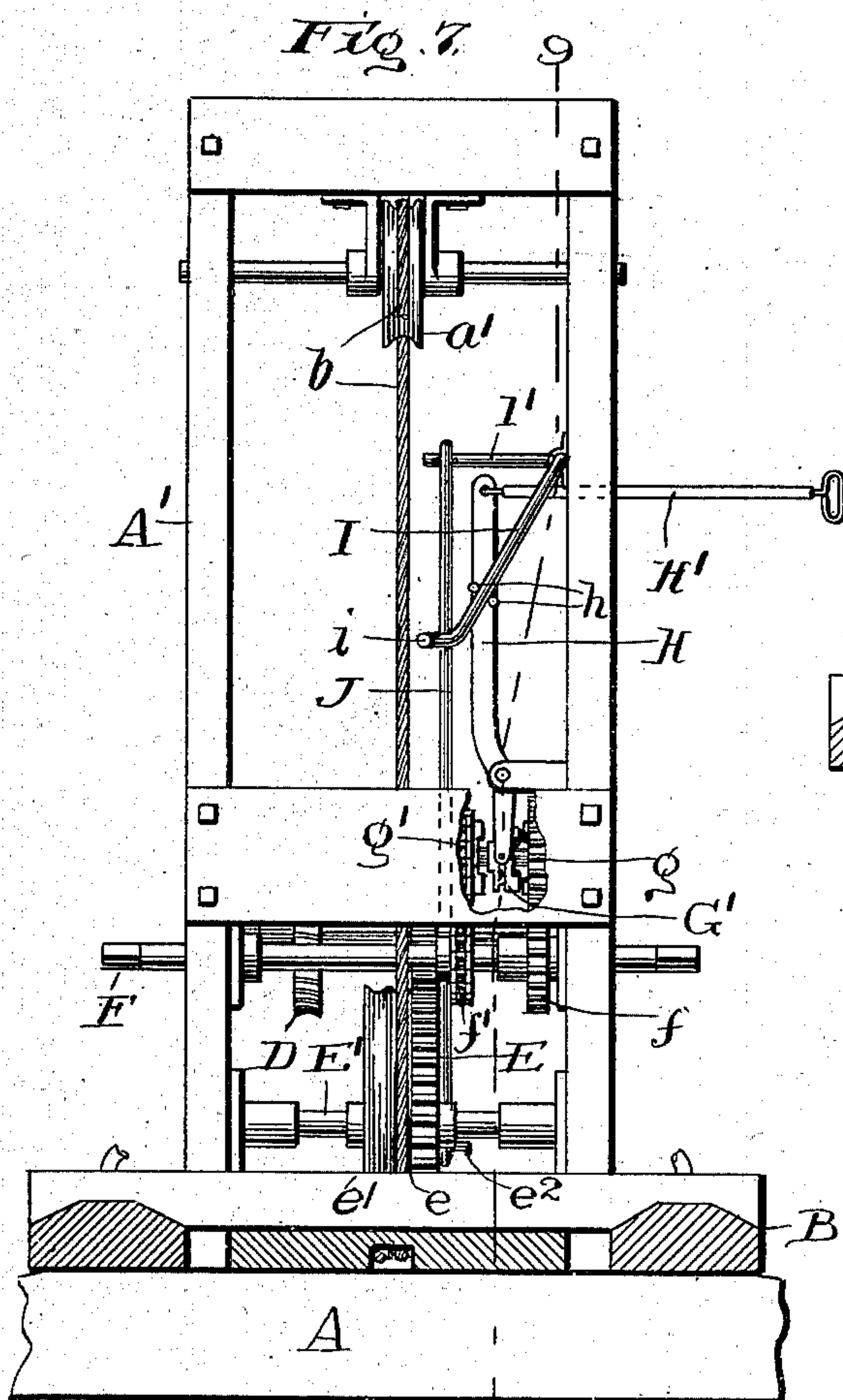
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(No Model.)

3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

JOHN F. WHITE, OF RACINE, WISCONSIN.

WAGON-JACK.

SPECIFICATION forming part of Letters Patent No. 714,346, dated November 25, 1902.

Application filed June 30, 1902. Serial No. 113,713. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. WHITE, a citizen of the United States of America, residing at Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Wagon-Jacks, of which the following is a specification.

My invention relates to certain new and useful improvements in wagon-jacks; and its object is to provide a device of this class upon which the front wheels of the wagon may be run and which can then be bodily raised to tilt the wagon backward for the purpose of unloading the same.

I show the preferred form of my invention herein, which is a jack adapted to be manually operated, and I also show a further improvement upon this form which adapts it to be used in connection with any power-operated loading or unloading mechanism, the raising of the jack in that case being accomplished not by hand-power, but by the rotation of a suitable shaft. It is essential in a device of this sort to have a lifting mechanism which shall be simple and exceedingly powerful and which will stay locked in any desired position.

To these and certain minor ends my invention consists in certain novel features of construction, which are clearly shown in the accompanying drawings and described in this specification.

In the drawings, Figure 1 is a perspective of my improved jack, showing the wagon properly lifted in dotted lines. Fig. 2 is a vertical longitudinal section in the line 2 2 of Figs. 3 and 4. Fig. 3 is a vertical transverse section in the line 3 3 of Fig. 2. Fig. 4 is a detail elevation of the left-hand portion of Fig. 2, the end boards of the frame of the jack being removed. Fig. 5 is a detail section in the line 5 5 of Fig. 4. Fig. 6 is a view of the reversing-clutch used in connection with the improved form of the device. Fig. 7 is a view, partly in cross-section and partly in elevation, showing the left-hand end of the jack of the power-operated form, a certain portion of the frame being broken away to show the gearing mechanism, the line of section being 7 7 of Fig. 2 and the view be-

ing in the direction of the arrow 7. Fig. 8 is a similar view showing the jack in its raised position, and Fig. 9 is a section in the line 9 9 of Fig. 7.

Referring to the drawings, A is a suitable base having slanting sides $a a$, which permit a wagon to run up over them. To this base are secured at the two ends upright frames $A' A^2$ of any desired form, but of sufficient strength and rigidity to support the weight of the wagon. A rising platform B, preferably made in the form of a rectangular frame, fits into the base A, the surface of this platform being when in position upon the base slightly higher than said base, but beveled, so that a wagon may be run over it without any difficulty. It will be observed that owing to the fact that the platform B is made in the form of a hollow frame the wheels of the wagon will have no tendency to run off when the frame is raised or before. In the upright frames $A' A^2$ are journaled pulleys $a' a^2$, over which run ropes $b b'$, which are attached by suitable bails to the platform B. In the upright frame A' at the left-hand end of the jack is journaled a shaft C, provided with a suitable handle c . This shaft extends longitudinally with respect to the device and is provided with a worm c' , which is in mesh with a worm-gear D, mounted upon a shaft D' , also journaled in the upright frame A' . The shaft D' is provided with a small pinion d , which is in mesh with a larger gear E, mounted upon a shaft E' , also journaled in the frame A' . This shaft also bears a double drum $e e'$, the drum e being connected to the rope b , and the drum e' being connected to the rope b' , which runs over the pulley a^2 , over a second guiding-pulley a^3 at the bottom of the upright frame A^2 , and thence under the center of the base A of the jack to said drum e' . It will be seen that when the crank c is turned to the right the gear D will be rotated in the direction of the arrow shown in Fig. 2 thereon and the gear E will be rotated in the opposite direction, carrying with it the double drum heretofore described. This will wind up both ropes upon the drum, and thereby raise the platform B, carrying with it the front wheels of the wagon.

It will be seen, further, that the use of the worm as one element in the train of gearing permits the platform B to be stopped at any height, the gear locking to hold it in place.

5 When the jack is desired for use in connection with a constantly-driven shaft, which is frequently accessible in connection with all kinds of power-operated farm machinery, a shaft F is provided which is attached to the
10 driving mechanism, and this shaft is geared to a shaft G, parallel to the shaft F, and journaled in the upright frame A'. The shaft F is geared to the shaft G by two sets of gearing, one comprising a pinion f upon the shaft
15 F, meshing with a pinion g upon the shaft G, which reverses the direction of rotation of the shaft G with reference to the shaft F, and one comprising sprocket-wheels f' g' upon the shafts F and G, respectively, the sprocket-
20 wheels being connected by a chain f^2 . This latter set of gearing rotates the shafts in the same direction. The gears g and g' are both loose upon the shaft G, and a clutch G' of any desired type, preferably that shown in Fig. 6,
25 is provided upon the shaft G, and this clutch will either permit both pinion and sprocket to run loose upon the shaft G or will throw either one of them into engagement therewith, as may be desired. The shaft G bears
30 at its end a beveled pinion G^2 in engagement with a second beveled pinion C' upon the shaft C, heretofore referred to. It will be observed that when the clutch throws the pinion g into engagement with the shaft G the
35 shaft C will be driven in one direction and when the sprocket g' is in engagement with the shaft G the shaft C will be rotated in the opposite direction, the result being that the jack can be raised, lowered, or left in position,
40 as may be desired, by throwing the clutch from one side to the other. The clutch is operated by a suitable lever H, pivoted to the frame A', and said lever may, if desired, be connected to a handle H', which is longitudinally movable to swing said lever H.
45 The operation of these parts is clearly indicated in Fig. 7. It is sometimes desirable to have an automatic starting and stopping mechanism when this power-operated form of the device is used, so that when the device has started upward it will automatically stop when the right position has been reached. This mechanism is shown in Figs. 7, 8, and 9.
50 A lever I, pivoted to the upright frame A', runs between two pins h on the lever H and is provided with a projecting arm i , which is in the upward path of one of the cross-bars of the platform B. When the platform rises, as shown in Fig. 8, this bar comes in contact
60 with the projecting arm i , rotating the lever in the direction shown by the arrow in Fig. 8 and moving the lever H in the direction shown by a second arrow in Fig. 8, thereby stopping the upward motion of the platform. When
65 it is desired to have the jack lowered, the

handle or push-lever H' is pushed inward, and this moves the lever H still farther in the direction shown by the arrow in Fig. 8, thereby starting the downward motion of the jack. A connecting-rod J is provided with a hook
70 in the path of a suitable pin e^2 on the pinion E and runs to the upper end of an arm I', which forms a part of the lever I. When the platform reaches the lowest point, the pin e^2 swings against and engages the lower end of
75 the rod J and pulls it downward, thereby rotating the arm I' and the lever I in the direction opposite to that shown by the arrow in Fig. 8, and this forces the lever H also in the opposite direction to that indicated in Fig. 8,
80 thereby stopping the motion of the jack. The jack can be then raised by pulling out the handle H' from the position shown in Fig. 7, which is the stopped position, to that shown in Fig. 8, which is the position when the jack
85 is rising. The particular advantage of this construction is that little attention need be paid to the operation of the device. The shaft F revolves constantly, and all that is necessary to the use of the jack is to run a wagon
90 upon it and pull the handle outward. The front end of the wagon will then rise, stop automatically, and either dump or be in a position for easy unloading, as the case may be. When it is desired to remove the wagon
95 from the jack, the lever is simply pushed in, the wagon lowers, and the jack stops at the proper position. The principal use of a jack of this type is in connection with wagons used
100 for wheat, corn, and similar grains, wherein the rear end of the wagon extends over a suitable elevation and the wagon is merely dumped by the raising of the front end.

I realize that considerable changes can be made in the details of this construction, and
105 I do not, therefore, desire to limit myself to the specific form herein shown.

I claim as new and desire to secure by Letters Patent—

1. In a device of the class described, the
110 combination with a platform adapted to receive the front wheels of a wagon, of a train of gears suitably connected thereto and adapted to raise the same, a shaft actuating said train of gears, two oppositely-driven gears
115 loose upon said shaft, a clutch adapted to let both said gears run loose on said shaft or to throw either one of them into engagement with said shaft, and suitable means whereby the rising of said platform to its upper limit
120 of motion will disengage both of said gears from said shaft, substantially as described.

2. In a device of the class described, the combination with a platform adapted to receive the front wheels of a wagon, of a train
125 of gears suitably connected thereto and adapted to raise the same, a shaft actuating said train of gears, two oppositely-driven gears loose upon said shaft, a clutch adapted to let
130 both said gears run loose on said shaft or to

throw either one of them into engagement with said shaft, and suitable means whereby the lowering of said platform to its lower limit of motion will disengage both of said
5 gears from said shaft, substantially as described.

In witness whereof I have hereunto set my

hand, at Chicago, in the county of Cook and State of Illinois, this 17th day of June, A. D. 1902.

JOHN F. WHITE.

Witnesses:

CHAS. O. SHERVEY,
S. BLISS.