

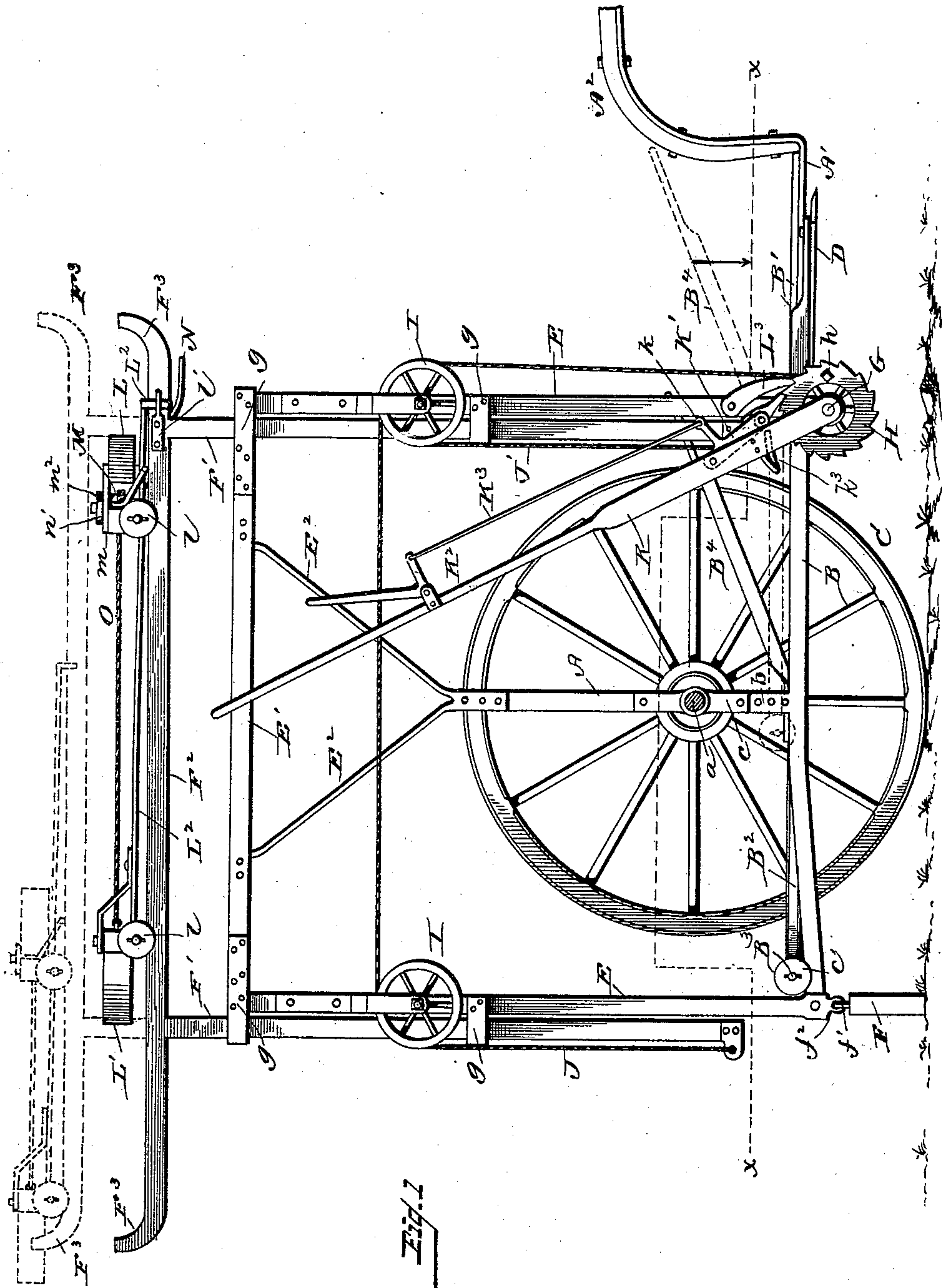
(No Model.)

3 Sheets—Sheet 1.

B. SLUSSER.
CORN HARVESTER.

No. 449,969.

Patented Apr. 7, 1891.



Witnesses
Wm. L. Slusser
Albert Speiden

Inventor,
Benjamin Slusser,
By *his* Attorneys,
Myers & Webster

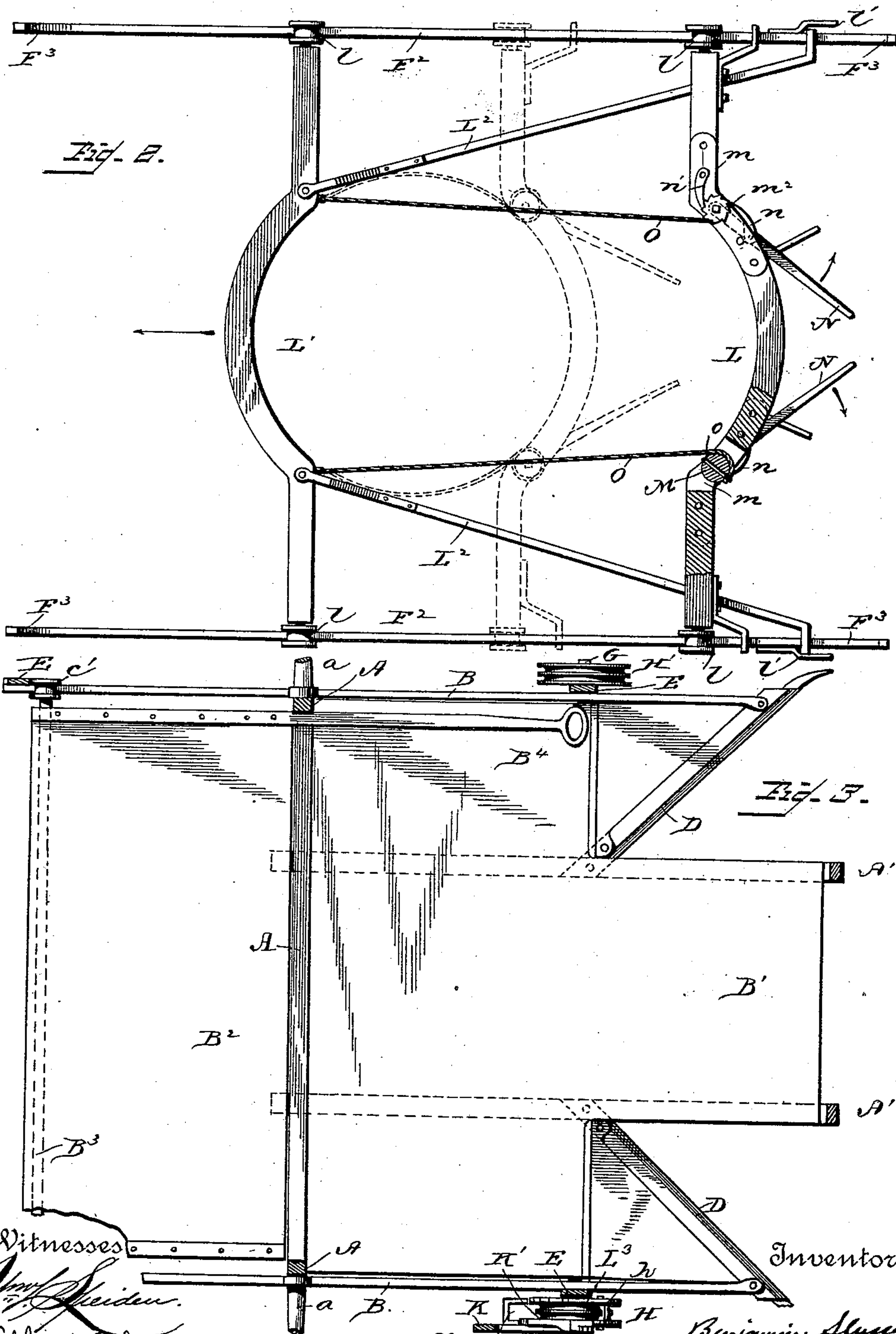
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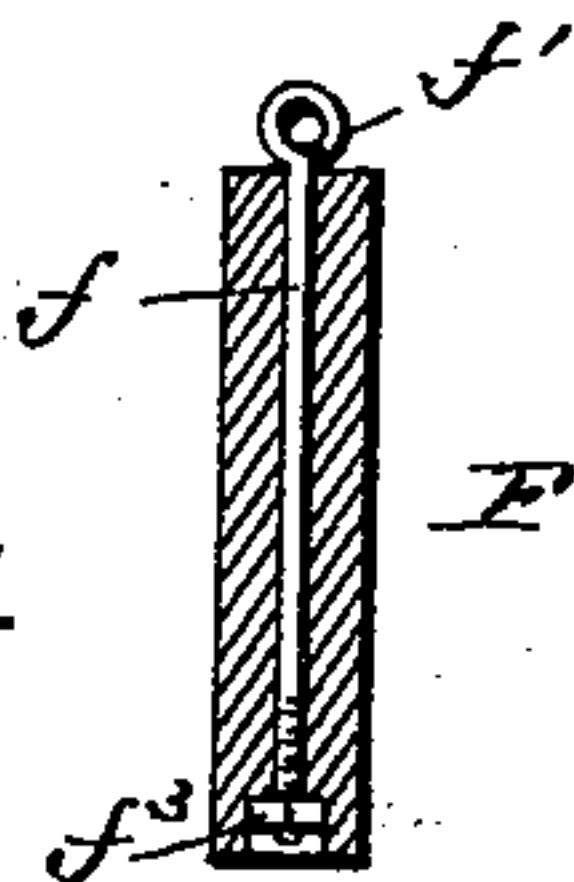
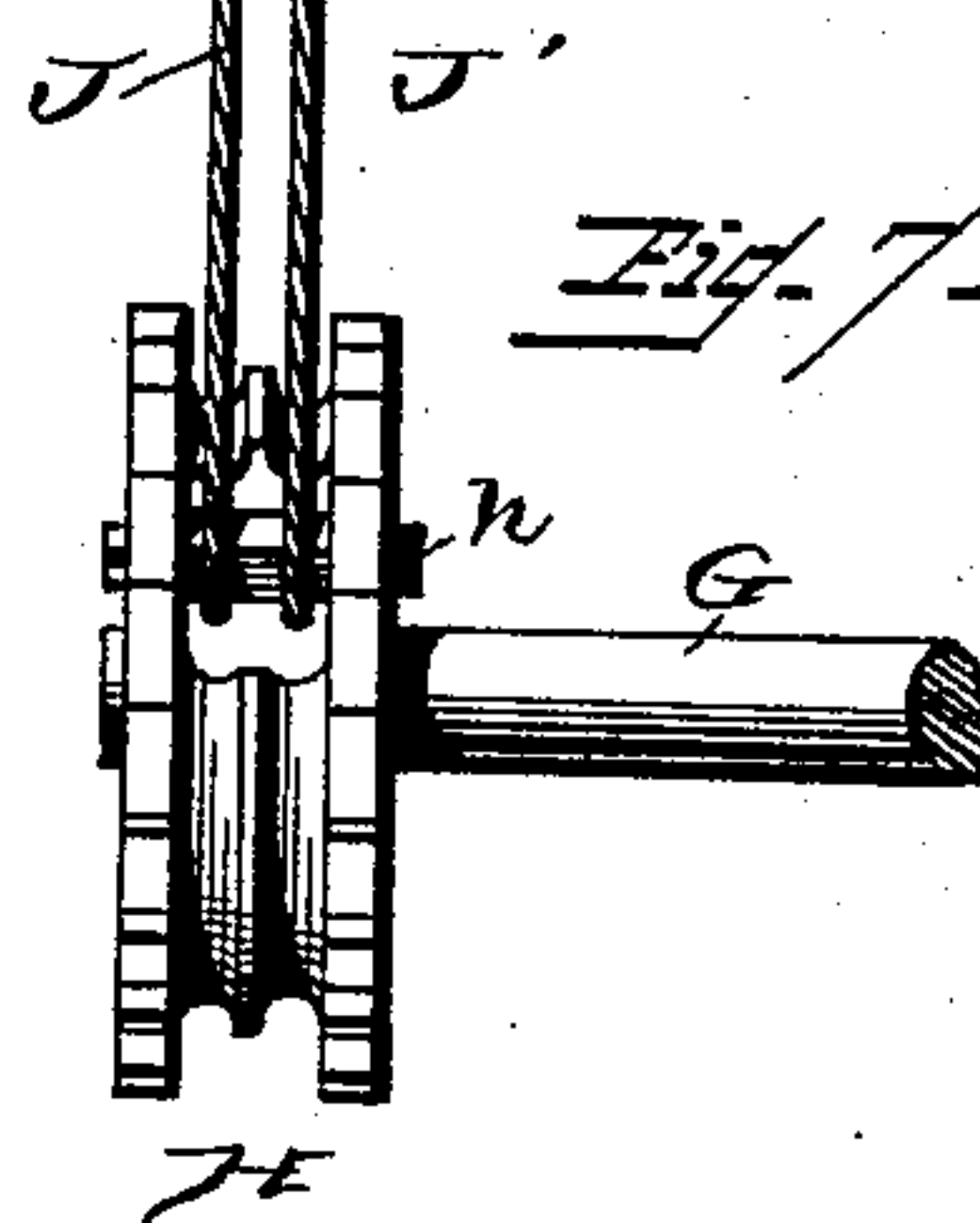
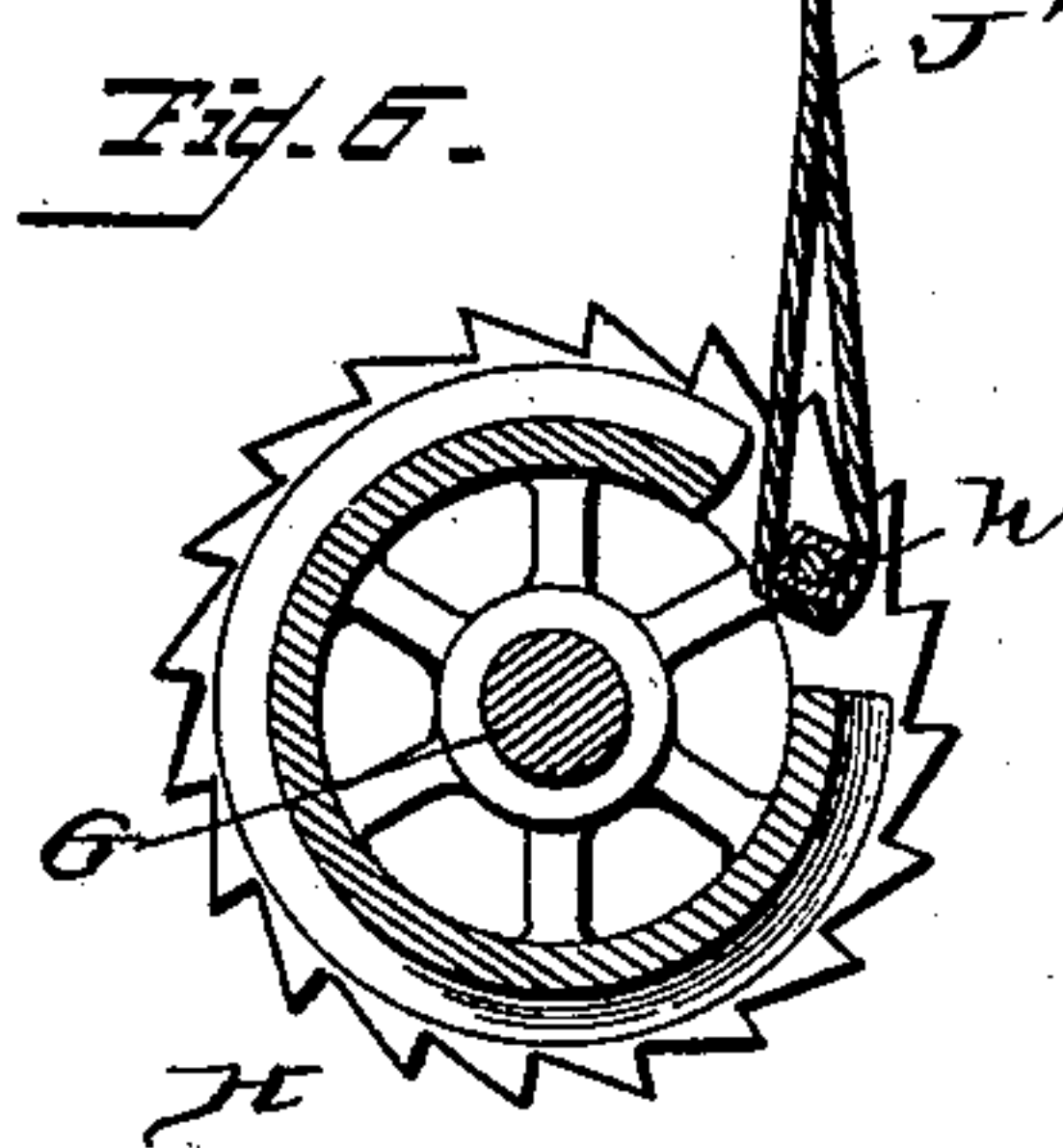
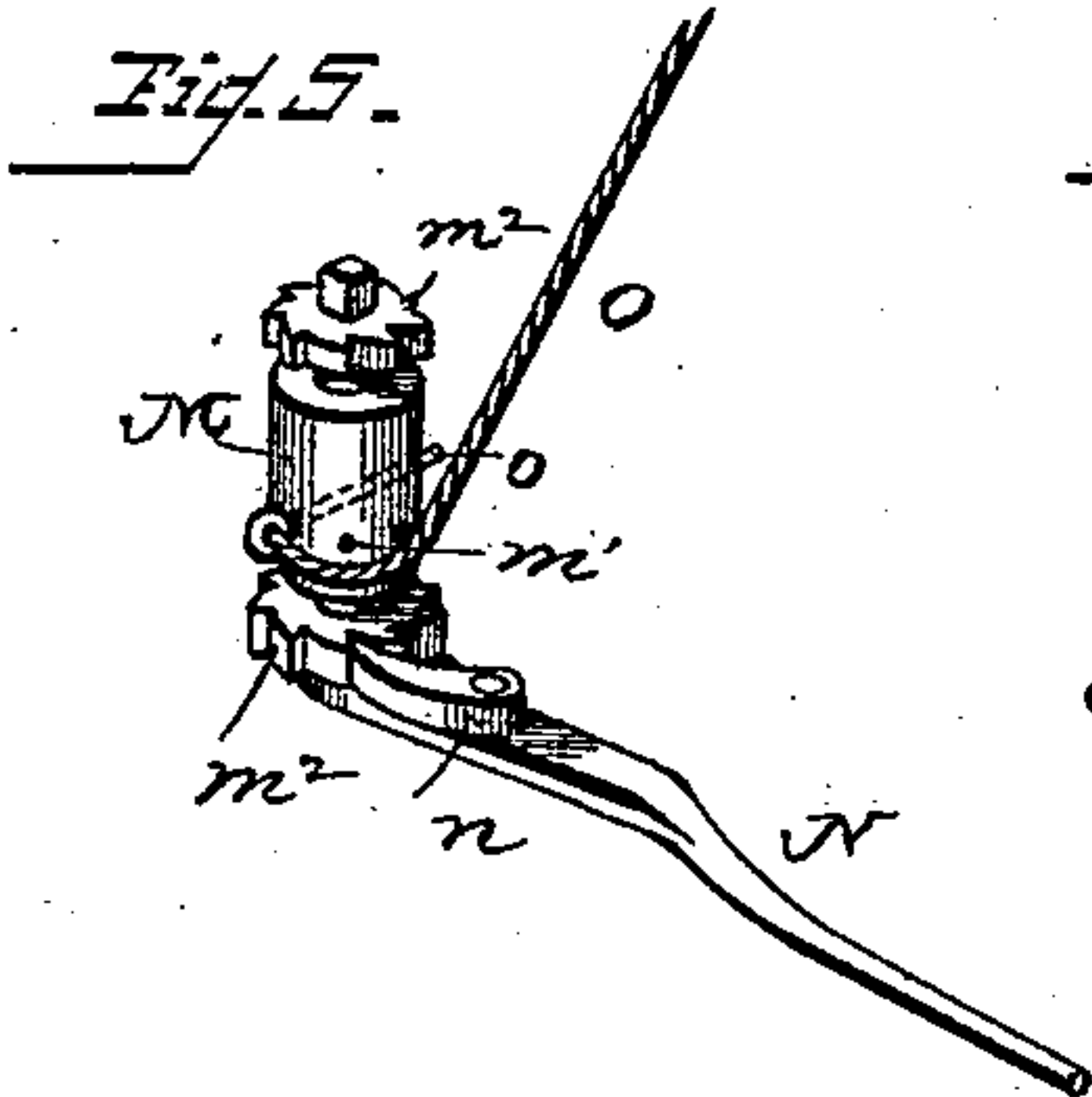
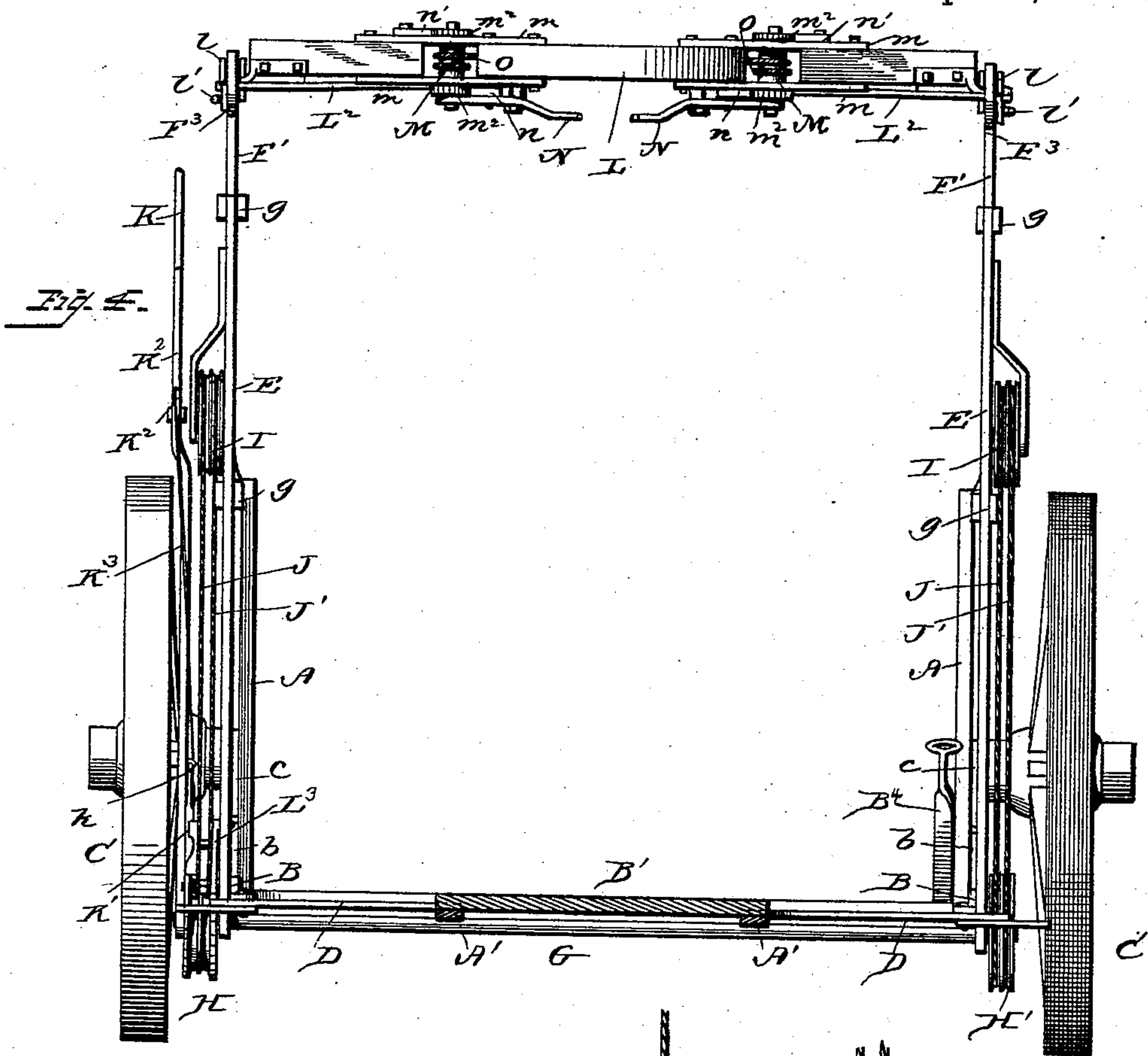
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UNITED STATES PATENT OFFICE.

BENJAMIN SLUSSER, OF SIDNEY, OHIO.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 449,969, dated April 7, 1891.

Application filed June 21, 1890. Serial No. 356,235. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN SLUSSER, a citizen of the United States of America, residing at Sidney, in the county of Shelby and State of Ohio, have invented certain new and useful Improvements in Corn-Harvesters, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in corn-harvesters; and it has for its object, among others, to provide an improved device of this character by which the corn may be cut, bundled into shocks, 15 and delivered to the rear of the machine. I provide improved shock-compressors and means for adjusting the same. I provide means for regulating the height of the clamp-carrying frame to accord with the varying 20 heights of the corn. I arrange a movable platform, which supports the stalks while being bound into shocks, but which is moved from under the same when it is desired to drop the shock to the rear of the machine. I 25 improve in many respects upon prior constructions of this character.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined 30 by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

35 Figure 1 is a side elevation of a corn-harvester embodying my invention with one wheel removed. Fig. 2 is a top plan of the compressing mechanism with parts broken away and others in section. Fig. 3 is a top plan 40 of the parts below the compressing devices, the view being taken on the line *xx* of Fig. 1. Fig. 4 is a front view with the shafts and the forward portion of the fixed platform in section. Fig. 5 is a perspective detail of one 45 of the compressor-drums and ratchets and its lever. Fig. 6 is an enlarged sectional view of one of the ratchet-wheels employed at the front end of the machine. Fig. 7 is an edge view of the same. Fig. 8 is a sectional view 50 of one of the hangers, which will be more particularly hereinafter referred to.

Like letters of reference indicate like parts throughout all the views in which they occur.

Referring now to the details of the drawings by letter, A designates the axle, the ends 55 of which extend upward upon each side of the machine at right angles to the horizontal portion. The shaft irons or bars A' are attached at their rear ends to the under side of the horizontal portion of the axle, and to 60 these bars or irons the shafts A² are attached in any suitable manner.

B are longitudinal bars, one on each side of the machine and rigidly affixed to the axle, preferably as shown in Fig. 1—that is, 65 by means of the vertical extensions *b*, which are secured to the vertical portions of the axle in any desired manner. The rear portions of these bars B are inclined downward, as shown best in said Fig. 1, for a purpose 70 which will soon be made apparent.

C are the wheels, which are carried by the stub axles or spindles *a*, affixed to the vertical portions of the axle in any preferred manner—such, for instance, as shown in Fig. 1, 75 wherein the stub-axle is shown as affixed to a plate *c*, attached to the outer face of the vertical portion of the axle. This, however, is but one of the many ways in which the stub-axles may be supported. 80

D are the knives arranged at the forward end of the machine, and preferably as shown in Fig. 3, being attached to the shaft bars or irons and to the bars B and arranged at an angle to the line of travel of the machine, as 85 shown in Fig. 3, so as to give a shearing cut and to guide the cut stalk toward the attendant on the platform.

The platform is made in two sections, of which B' is the stationary or forward section, supported upon the axle and shaft-irons, 90 as shown, and upon this section the attendants stand while the corn is being cut and gather it in from each side of the machine and stand it on end on the platform. 95

B² is the movable or rear section of the platform. It is provided at its rear end with a transverse shaft or axle B³, which serves to support the said rear end, and upon each end of this transverse shaft or axle there is jour- 100 naled a roller or guide-wheel *c'*, said rollers being designed to travel on the bars B, as

shown, and the inclination of the rear ends of the said bars is such as to allow the rear or movable section of the platform to be slightly elevated above the forward or stationary section as said movable portion is moved forward, at which times only is it elevated. This movable or rear section of the platform works between the upright portions of the axle, and is designed to be actuated forward and back by means of the bar or handle B^4 , which may be connected with the movable section in any manner, so as to allow it to swing up out of the way when not in use.

Rising from each corner of the machine and attached, say, to the bars B , is a post or upright E , the upper ends of the two posts or uprights on each side of the machine being connected by a longitudinal bar E' , which is further supported by the forked arms E^2 , attached thereto in any suitable manner, and at their lower ends affixed to the upper ends of the vertical portions of the axle. The rear uprights serve as stops for the movable section of the platform in its rearward movement, as will be seen in Fig. 3.

In order to support the rear end of the machine when at rest and while the shock is being run back to be dropped, I have provided a hanger F , (shown in section in Fig. 8,) which consists of a block, which may be round, square, or of other shape, and through which passes vertically a rod f , the upper end of which is formed into an eye or hook f' , designed to engage a hook or eye f^2 ; or it may be a hole in the lower end of the rear uprights, as shown best in Fig. 1, the lower end of the rod being screw-threaded and provided with a nut f^3 , which is countersunk in the lower end of the block, as shown in Fig. 8. These hangers (there being of course one at each rear corner) are free to swing in any and all directions while the machine is in motion; but when the machine is at rest, to dispose of the shock they will hang vertically, and are of such a length that their lower ends will be a short distance—say about two inches—from the ground, so that when the weight of the shock is moved back their lower ends will rest on the ground and support the rear end of the machine.

F' are vertical bars connected at their upper ends by the longitudinal bars F^2 , the ends of which are turned upward, as shown at F^3 , to serve as stops to prevent endwise displacement of the compressors, as will soon appear. These vertical bars are adapted to slide vertically in guides or guards g , which are secured to the uprights E , the upper guides or guards being extended, so as to embrace the longitudinal bars E' , as shown, and serve to strengthen the junction between the uprights and said bars.

G is a transverse shaft held in suitable bearings on the under side of the machine at the forward end, and upon the ends of this shaft—one upon each side of the machine, so as to operate both sides at the same time—are

the rope-wheels H and H' , the former being a combined double ratchet and double rope wheel, and the latter simply a double rope wheel, as shown in Fig. 4, in which view the bearings for the shaft G may be seen with sufficient clearness.

I are double-grooved pulleys, the spindles of which are carried by suitable brackets attached to the uprights E —one upon each upright—preferably near their upper ends.

$J J'$ are ropes connected at one end to the rope-wheels H and H' in the manner shown in Figs. 6 and 7, wherein the ropes are shown as having looped ends, which are placed in the open space between the flanges of the wheels, with a bolt h passed through both flanges and through the looped ends of the two ropes. Both ropes extend up over the forward rope wheels or pulleys I , from which one rope passes down and connects with the foot of the forward sliding vertical bar F' , while the other passes back over the rear rope wheel or pulley I and connects with the foot of the rear vertical sliding bar F' , as shown in Fig. 1, it being understood that there are two of these ropes upon each side of the machine. As before mentioned, the spindles on which the rope-pulleys I turn are connected with the stationary vertical bars or uprights E , and these wheels or pulleys thus become the fulcrums over which the sliding vertical bars are lifted.

K is a lever fulcrumed on the shaft G at one end and carrying near its lower end a pawl K' , which engages the ratchet of the wheel H , as shown in Fig. 1, the said pawl being jointed, as shown, the tail end of the forward piece allowing this piece to turn a little more than enough to bring it in line with the main piece when the tail end rests on the back of the rear portion of the pawl and holds it rigid. Above the joint is a projecting lug k on the pawl, and this lug is connected with the L-shaped lever K^2 , pivoted to the lever K , as shown, the connection in this instance being a rod K^3 . (See Fig. 1.)

L^3 is a retaining-pawl pivoted to the forward upright E near its lower end and engaging the other ratchet of the wheel H to hold the bars F' in their adjusted position.

L and L' are the front and rear compressor-clamps. They are provided with double-flanged wheels l , which are designed to travel on the longitudinal bars F^2 , as seen in Fig. 2, and the rear clamp is provided with the bars or rods L^2 , which are pivoted at their rear ends to said clamp, and at their forward ends they are hooked, to be detachably engaged with the hooks l' on the sides of the forward ends of the bars F^2 , as shown in Figs. 1 and 2. During the process of cutting and receiving the shock the front clamp is removed. The forward clamp, near the ends of the curve thereof, is provided with apertures, in which are located the rollers M , the wood of the clamp at these points being entirely cut away and supplemented by two flat bars m , which

are bolted to the clamp, one on top and the other underneath. In Fig. 5 I have shown one of these rollers detached, the roller being provided with a series of holes m' around its lower end, and also provided with two ratchets m^2 . The shafts of these rollers are journaled or have bearings in the bars m , as seen in Fig. 4. The rollers are placed between the bars with the ratchets upon the outside thereof, as shown in Fig. 4.

N are levers pivoted on the lower ends of the said shafts and are each provided with a pawl n , adapted to engage the lower ratchet, a co-operating pawl n' being pivoted to the upper bar m to engage the other ratchet and prevent retrograde movement of the shaft and roller.

O are ropes secured at one end in any suitable manner to the rear clamp and at their other ends provided with pins o , to which the ends of the ropes are secured in any suitable manner. These pins are designed to be detachably engaged in the holes in the rollers M, as shown in Figs. 2 and 5.

Various modifications in detail may be resorted to without departing from the spirit of the invention or detracting from its merits.

The operation is simple and will be readily understood. The forward clamp is removed, the pins on the ropes being disengaged from the holes in the rollers and the bars F' and F^2 elevated to the proper distance when two attendants stand on the forward platform, and as the machine is moved through the corn the knives cut the stalks, which are gathered in by the attendants by placing one hand in front of the stalks to prevent pushing forward as the knives cut them off. The knives are set slanting, as shown, so as to make a shear cut, and also so that when they strike leaning stalks they will bring them toward the attendant instead of forcing them away from him. The stalks are then set back with their lower ends resting on the platform, the tops of the stalks leaning against the rear clamp and between the rods L^2 , which afford necessary lateral support for the stalks. When the machine has traversed a predetermined number of rows—say fifty—the horse is stopped, the forward clamp is placed in position, and the pins on the ropes are placed in the holes in the rollers of the forward clamp, when by moving the levers N a sufficient number of times the two clamps will be drawn together and the shock compressed and held firmly between them. The shock is then tied, when the lever K is moved forward, which elevates the bars F' and F^2 , and consequently the compressors and also the shock held therein, thus lifting the shock from the platform. The weight of the bars F' and F^2 and of the shock is now held by the pawl engaging the ratchet of the wheel H. The rear section of the platform is then moved forward and the shock pushed backward, when the lever K^2 is actuated to release the pawl L^3 from engagement

with the ratchet on the wheel H, which allows the shock to drop to the ground in rear of the machine. The lever K is provided with a bar or rod k^3 , (see Figs. 1 and 3,) which is substantially L-shaped, its free end extending in the plane of the pawl L^3 , and when the lever is moved forward it engages the pawl and disengages it from the ratchet H. The clamps are then separated and the forward one removed, after which the rear section of the platform is moved back to its normal position and the machine is ready to repeat the operation.

What I claim as new is—

1. In a corn-harvester, movable clamps adapted to slide relatively to each other for compressing the stalks of corn into a shock and carrying the shock to the rear of the machine, substantially as described.

2. In a corn-harvester, vertically and horizontally movable clamps adapted to slide relatively to each other for compressing the stalks of corn into a shock, lifting the shock, and carrying it to the rear of the machine, as described.

3. The combination, with the stationary platform and the shock-compressing devices, of a movable platform-section movable over the stationary platform and arranged to be extended to the rear thereof, substantially as and for the purpose specified.

4. The combination, with the stationary platform and the shock-compressing devices, of a movable platform-section provided at its rear corners with supporting-rollers, said movable section being movable over the stationary platform and arranged to be extended to the rear thereof, as set forth.

5. The combination, with the stationary platform and the side bars supported from the axle, of the movable platform-section and flanged rollers on the rear end of the movable section guided and supported by said bars, as set forth.

6. The combination, with the stationary platform and the side bars the rear portions of which are inclined downwardly to the rear below the plane of the stationary platform, of the movable platform-section provided with rollers traveling on said bars, as set forth.

7. The combination, with the axle and the side bars supported from the axle, with their rear portions inclined rearwardly and downwardly, of the movable platform-section provided with rollers traveling on the said bars, and the stationary platform supported from the axle in front of and beneath the movable section when the latter is in its forward position, substantially as specified.

8. The combination, with the shock-compressing devices constructed to slide relatively to each other and means for raising the same, of the movable platform-section, substantially as specified.

9. The combination, with the movable platform, the vertically-adjustable bars, and means for adjusting the same, of the clamps

adapted to slide horizontally relatively to each other and adjustable on the vertically-adjustable bars, substantially as and for the purpose specified.

5 10. The combination, with the axle, wheels, and supporting-frame, of the movable platform-section, the vertically-adjustable bars, and the clamps adjustable on the bars, one of the clamps being removable and detachably
10 connected with the other, substantially as specified.

11. The combination, with the rear sliding clamp, of the forward sliding clamp, each having a fixed curved portion, and the ropes
15 attached at one end to the rear clamp and at the other end detachably connected to the forward clamp, as set forth.

12. The combination, with the cutting-knives and the vertically-adjustable bars and
20 the rear clamp, of the forward clamp, the rollers and ratchets carried by the latter, the ropes attached to the rear clamp and detachably secured to the roller on the forward clamp, and the levers on the shafts of the
25 rollers, substantially as and for the purpose specified.

13. The combination, with the vertically-adjustable bars, the rear clamp and the forward clamp, both adapted to slide on said
30 bars, of the rollers carried by the latter, the ratchets on the shafts of the rollers, the ropes detachably connected with the rollers and secured to the rear clamp, the levers on the shafts of the rollers, and the pawls on the

said levers engaging the lowermost ratchets, 35 substantially as specified.

14. The combination, with the rear clamp and the longitudinal bars on which it is designed to travel, of the hooks on the forward ends of the bars, and the rods connected to 40 the rear clamp and having bent ends to engage said hooks, substantially as and for the purpose specified.

15. The combination, with the supporting-frame, of the movable platform-section, the 45 vertically-adjustable bars, and the shock-compressing clamps adjustable on the bars in the direction of the length of the bars, as set forth.

16. The combination, with the supporting-frame and the rope-wheels carried by a shaft 50 at the lower forward end of the frame, of the guide-pulleys on the frame, the ropes attached at one end to the rope-wheels, and one rope on each side of the machine passed over the guide-pulley on the front vertical bar of the 55 frame and attached to the lower end of the front vertical adjustable bar and the other rope passed over the guide-pulley on the rear vertical bar of the frame and attached to the lower end of the rear vertically-adjustable 60 bar, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN SLUSSER.

Witnesses:

B. W. GILFILLAN,
M. F. MAHONEY.