

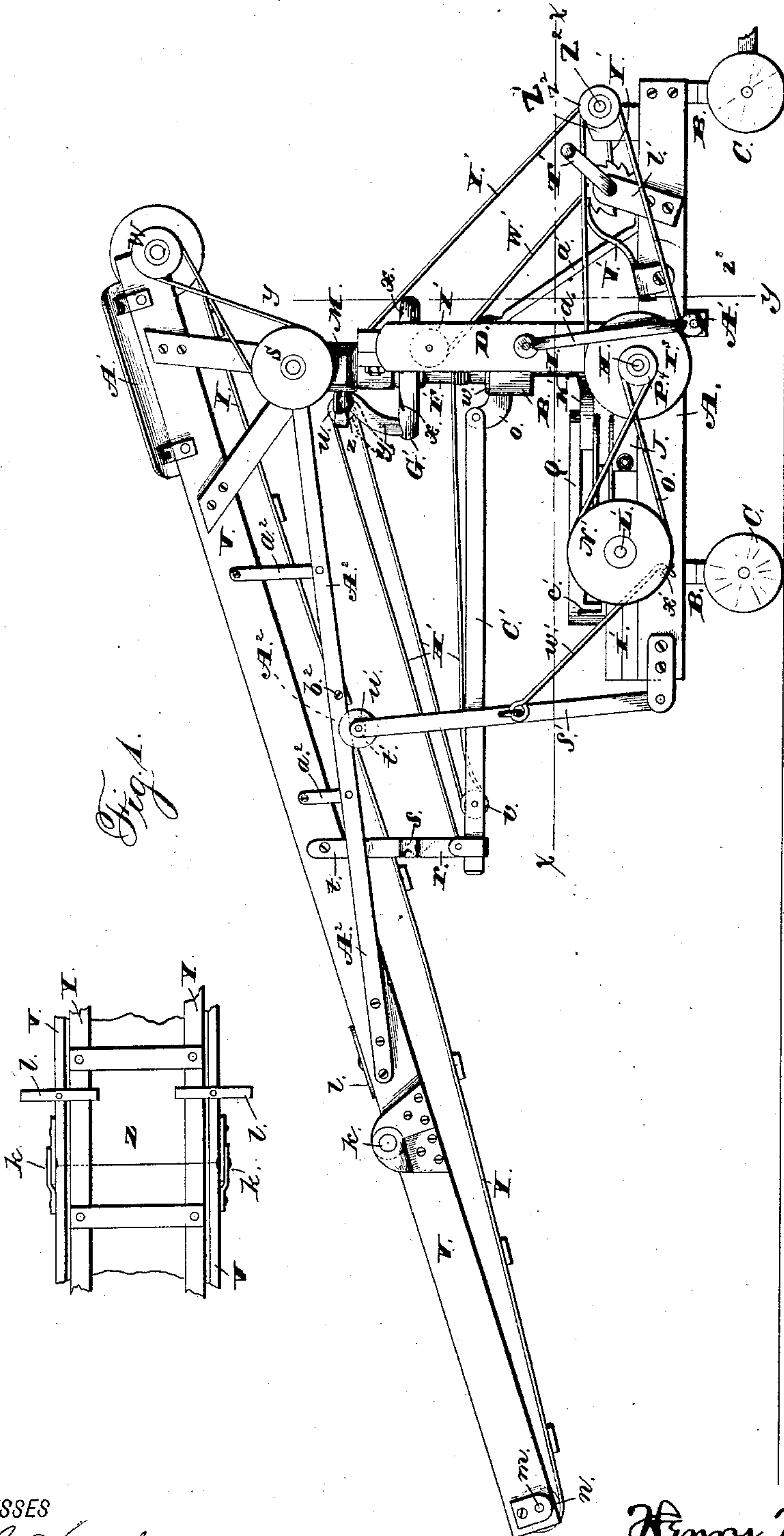
(No Model.)

5 Sheets—Sheet 1.

H. McCOFFEE.
HAY AND STRAW STACKER.

No. 314,860.

Patented Mar. 31, 1885.



WITNESSES

Jas. E. Hutchinson.
George Cook.

INVENTOR

Henry McCoffee,
By H. A. Seymour,
ATTORNEY

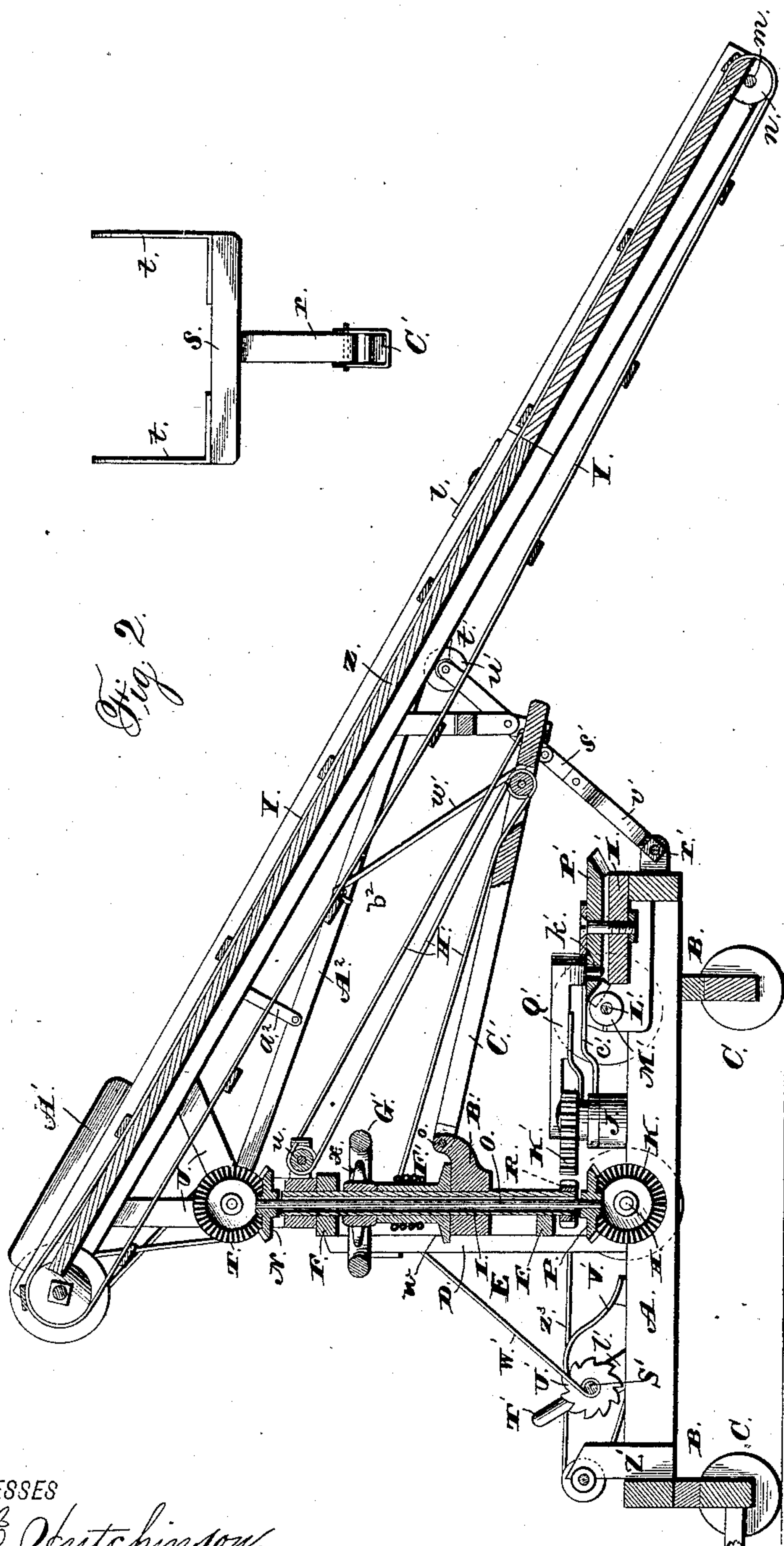
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George Cook.

INVENTOR

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Fig. 3.

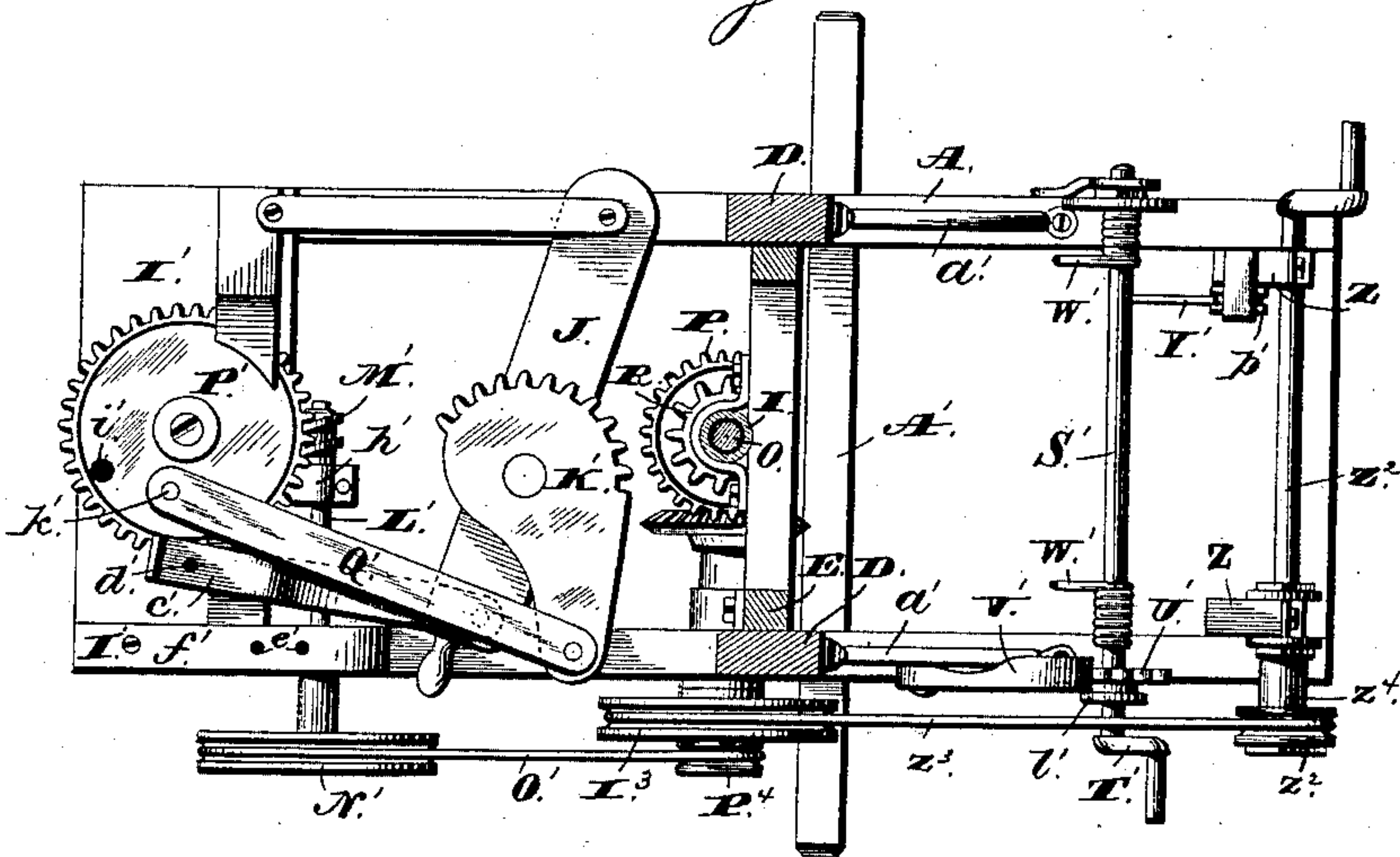
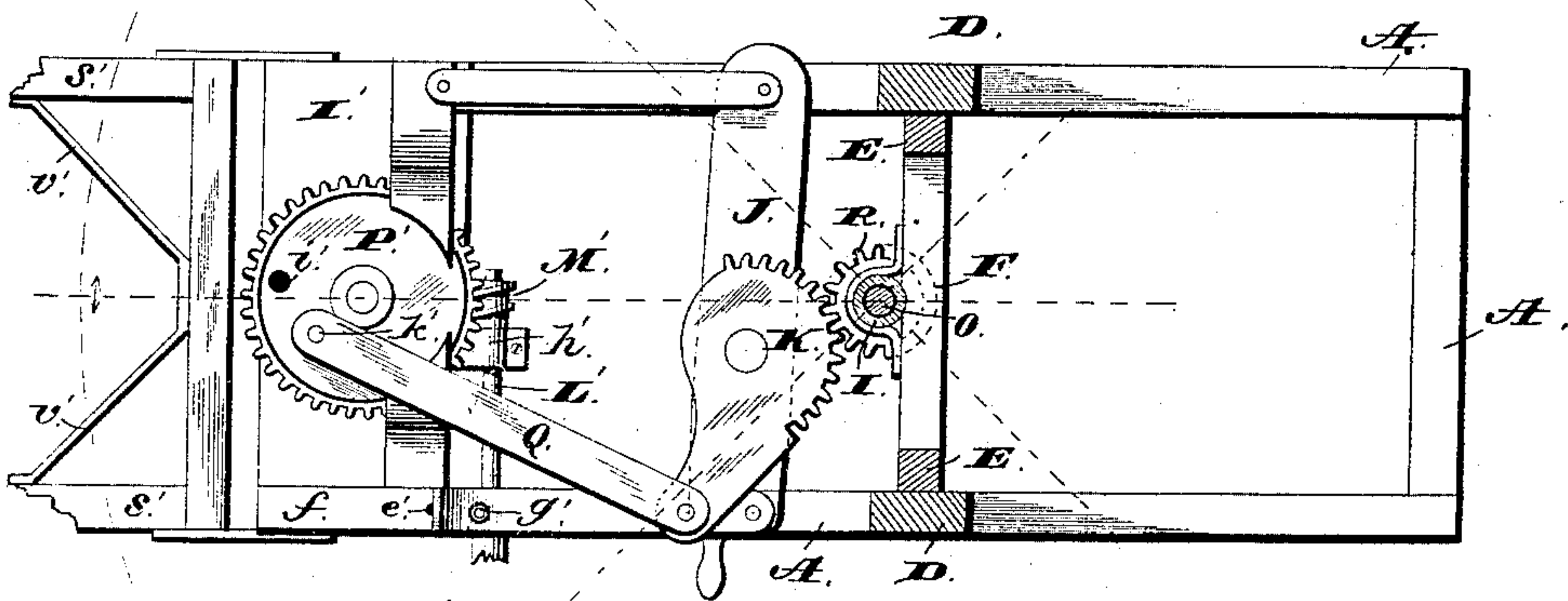


Fig. 4.



WITNESSES

*Jas. E. Hutchinson.
 George Cook.*

INVENTOR

*Henry M. Coffee.
 By H. A. Seymour.*

ATTORNEY

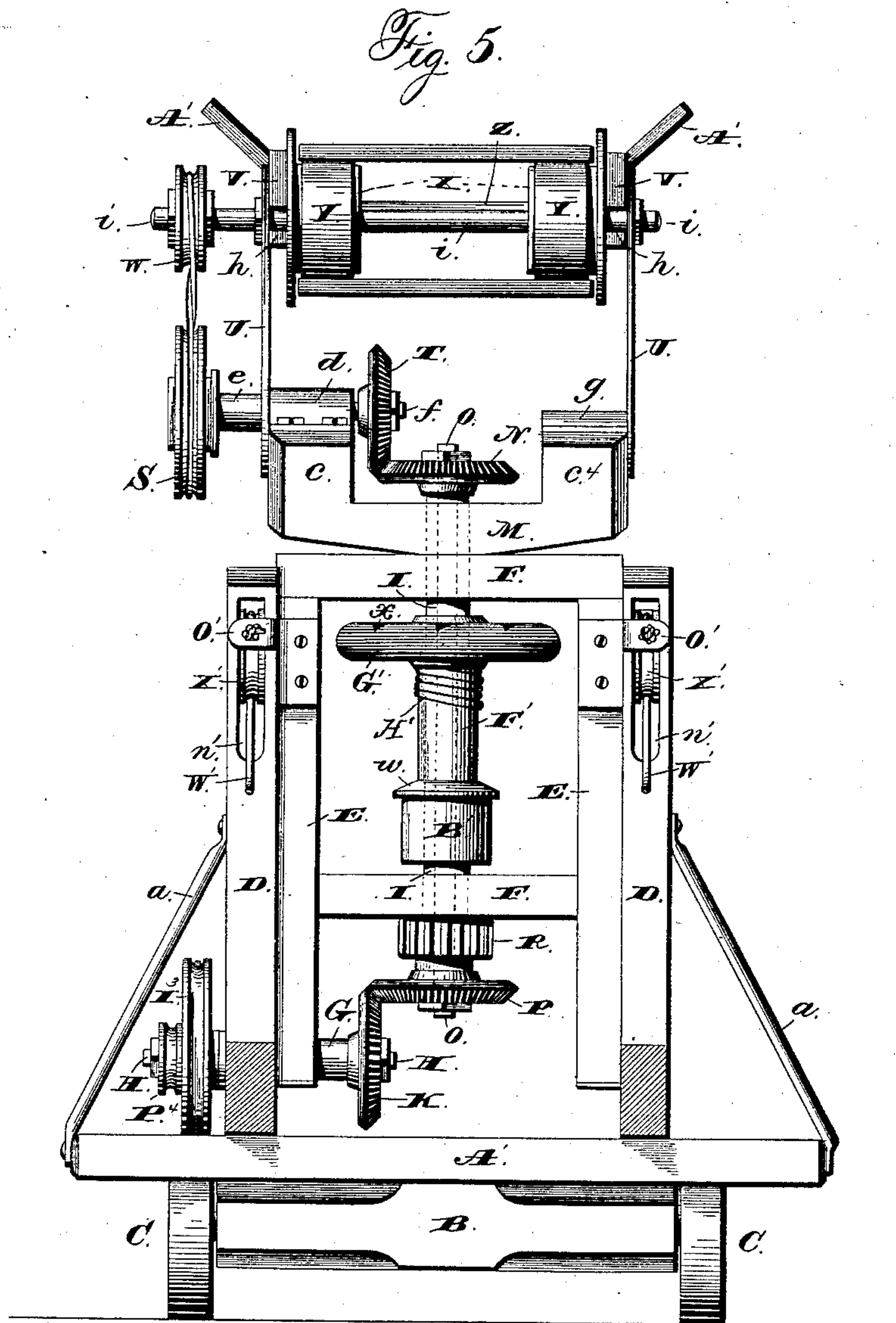
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INVENTOR
 Henry M. Coffee
By *H. A. Seymour.*
ATTORNEY

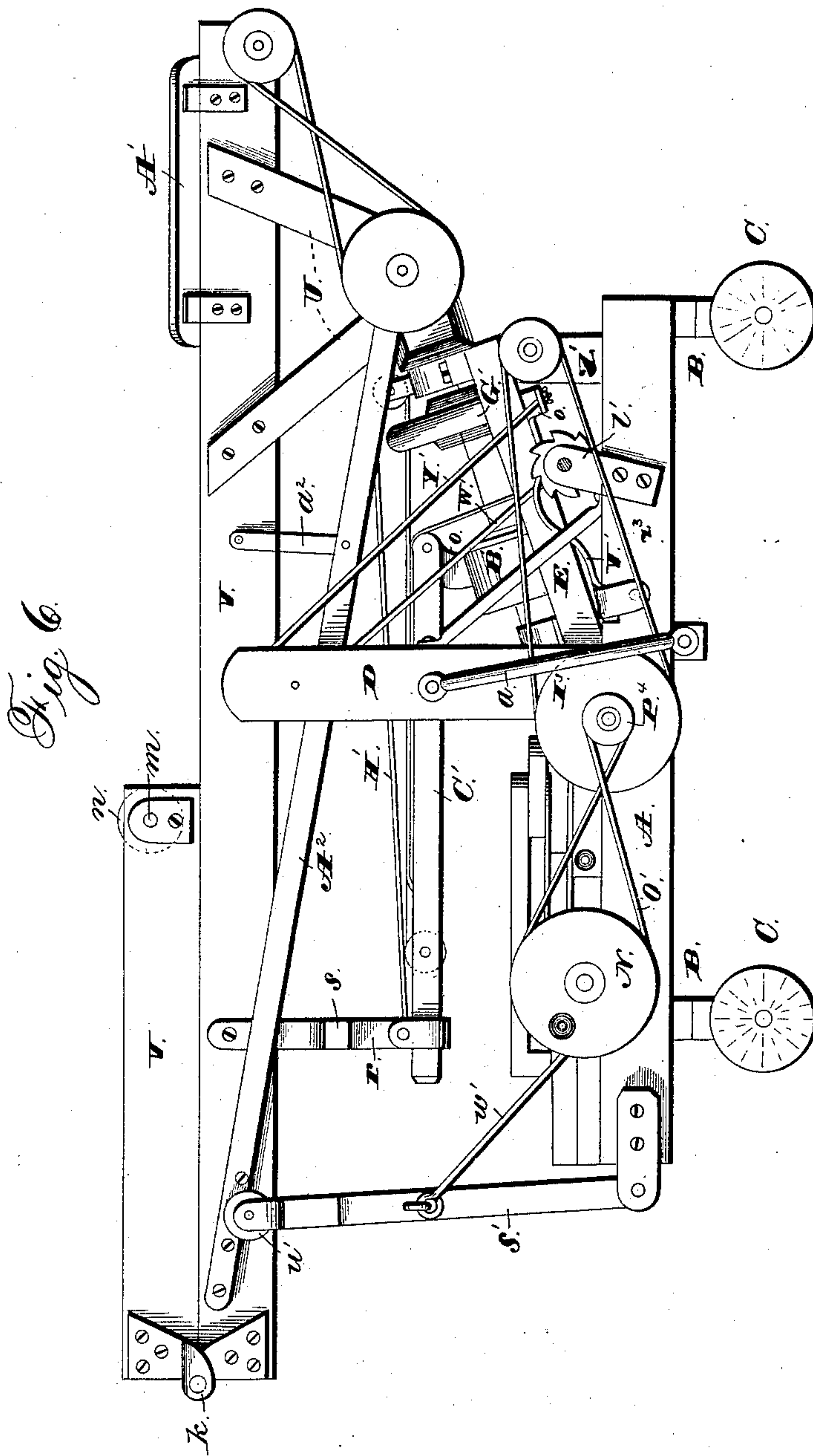
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George Cook.

INVENTOR
Henry M. Coffee,
By *H. A. Seymour,*
ATTORNEY

UNITED STATES PATENT OFFICE.

HENRY MCCOFFEE, OF BUNKER HILL, ILLINOIS..

HAY AND STRAW STACKER.

SPECIFICATION forming part of Letters Patent No. 314,860, dated March 31, 1885.

Application filed May 20, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY MCCOFFEE, of Bunker Hill, in the county of Macoupin and State of Illinois, have invented certain new and useful Improvements in Hay and Straw Stackers; 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 to make and use the same.

My invention relates to an improvement in hay or straw stackers, the object being to provide means whereby the elevator may be moved from side to side in a horizontal direction, and thereby stack the grain in the form of a semicircle, and means whereby the stacker may be held stationary, and thereby stack the grain in one spot. Another object is to provide means whereby the elevator may be adjusted to travel a certain distance from side to side, and thereby form a stack of any predetermined length. A further object is to provide improved devices whereby the elevator may be lowered to a position parallel with the body of the truck, bringing the weight of the machine close to the ground, and thereby rendering it safe to be moved from place to place.

A further object of my invention is to provide a stacker which shall be simple and economical in construction, which shall be light in weight, rendering it capable of being easily and readily handled, and which shall be durable and efficient in use. Another object is to so construct the parts that when the elevator is raised or lowered the tension of the belts or gearing will not be disturbed, and, further, to so construct the machine that when in position for being moved the parts will not be disconnected, but remain in operating adjustment, thereby rendering the machine capable of being quickly and easily placed in position.

With these ends in view my invention consists in certain novel features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved machine in its operating adjustment. Fig. 2 is a vertical longitudinal sectional view from the opposite side. Fig. 3 is a horizontal section taken on the line $x x$ of Fig. 1, the machine

being adjusted to form a stack at one point. Fig. 4 is a similar view showing the machine adjusted to stack the straw in the form of a semicircle. Fig. 5 is a vertical cross-section through the line $y y$ of Fig. 1. Fig. 6 is a view showing the machine adjusted for transportation.

A represents the main frame, mounted on the axle B, to which latter are secured the wheels C. To the side pieces of the frame are rigidly secured the upright frame-pieces D, which are braced by the rods a , the upper ends of which are secured to the uprights D, the lower ends being secured to the cross-beam A', and directly below the pieces D, and also by the rods a' , the lower ends being secured to the side pieces of the frame A.

To one of the beams A is pivotally secured one of the vertical beams E of a swinging frame consisting of the vertical beams E and the horizontal cross-pieces F, the opposite beam E being loosely secured to a sleeve-bearing, G, secured in the frame A, and through which passes a spindle, H, to the outer end of which latter is keyed a pulley, I³, and to the inner end thereof a bevel gear-wheel, K.

To the cross-pieces F of the swinging frame is loosely secured the hollow shaft I, which passes through and terminates on the upper side of the horizontal portion of the support M, bearing on the upper cross-piece F. This support M is formed on its ends with the upwardly-extending pieces $c c'$, between which is located a bevel gear-wheel, N, keyed to the upper end of a vertical shaft, O, which passes through the hollow shaft I, and is provided on its lower end with a bevel gear-wheel, P, adapted to mesh with the gear-wheel K, the lower end of the hollow shaft I being also provided with a bevel-gear, R, directly above the gear P and below the cross-piece F.

To the top of the piece c is secured a metal plate, d , between which and the piece c fits the sleeve-bearing e , through which passes the shaft or spindle f , provided on its outer end with a pulley, S, and on its opposite end with a bevel-gear, T, adapted to mesh with the similar gear, N, secured to the shaft O.

To the top of the opposite piece c' is secured a bearing, g , in which fits a spindle, to the outer end of which is rigidly secured a V-

shaped bracket, U, a similar bracket being loosely secured to the sleeve-bearing *e*, said brackets being secured to and adapted to support the elevator-frame V, the forward end of which is provided with bearings *h*, in which fits the spindle *i*, provided at one end with a pulley, W, and also with the pulleys X, around which passes the elevator-belt Y, the said pulley W being connected by a rope or belt with the pulley S, the said belt being crossed and adapted to drive the pulleys in opposite directions.

The elevator-frame consists of the sides V and the floor Z, the rear end of the elevator being separate from the forward portion thereof, and connected thereto by hinges *k*, adapting said rear end to be folded over upon the forward portion of the elevator, the object of forming the elevator in sections being to bring the weight thereof more directly over the center of the truck during transportation.

Just in front of the hinges, and to the sides V of the elevator-frame, are pivotally secured the catches *l*, adapted, when the machine is in operation, to be turned lengthwise with the sides of the frame V, and when the end is folded over onto the forward portion of the elevator to be turned at right angles with said sides U and retain the elevator-belt Y in position.

To the extreme rear end of the elevator-frame is secured the shaft or spindle *m*, the ends being inserted in the sides V, below the floor Z, which latter is cut away near the sides V for the reception of the rollers *n*, loosely secured on the shaft *m*, and around which passes the elevator-belt Y, the tops of the rollers being on a level with the upper surface of the floor Z, and the outer ends even with the outer ends of the sides V and floor Z.

It will now be readily seen from the above description that when motion is imparted to the pulley I³ it will be transmitted through the spindle H and gears K and P to the shaft O, through the gears N and T and pulleys S and W to the elevator-belt Y, adapted to travel around the elevator-frame on the rollers X and *n*, and thus carry the hay or straw from the forward end of the elevator, where it drops from the thrasher, to the rear end, from which it falls to the ground.

At the forward end of the elevator, and to the side pieces, V, of the frame thereof, are secured the outwardly-projecting wings A', adapted to prevent any grain from dropping over the sides of the elevator when falling from the thrasher. It will also be seen that by securing the support M to the hollow shaft I, which is loosely journaled in the swinging frame, and securing the elevator to this support, the said elevator may be swung around in any desired position.

To the hollow vertical shaft I, above the lower cross-piece F, is secured the collar B', which is provided with an upwardly-extending arm or projection, *o*, to which is pivotally secured the said rod C'. To the rear up-

per end of this support C' is pivotally secured the lower end of the depending arm *r*, to the opposite end of which arm is rigidly secured the cross-bar *s*, to the ends of which latter are secured the lower ends of the depending arms *t*, loosely secured at their upper ends to the sides of the elevator-frame.

To the rear side of the support M is secured a pulley, *u*, a similar pulley, *v*, being secured in an opening formed in the support C', near the rear end thereof.

Around the hollow shaft I, between the end B' of the support and the upper cross-piece F' of the swinging frame, is located a drum or hollow shaft, F', the lower end of which is provided with a base or flange, *w*, bearing on the upper face of the collar B', and adapted to support the drum. To the upper end of said drum is rigidly secured a hand-wheel, G', or other suitable device, provided on the rim with notches *x*, one side of each of which is made slanting. In these notches is adapted to engage one end of the dog *y*, pivoted to the support M, the other end of which is formed into a handle, *z*, by pressing down upon which the opposite end will be raised and disengaged from the notches in the said wheel, and allow the latter to be turned in either direction.

To the drum F' is secured a rope or chain, H', which passes to the rod C', under the pulley *v*, secured to the latter near the lower forward end thereof, up to and around the pulley *u*, and back to the upper rear end of the rod C', where it is secured.

When the stack of grain is of such height that it touches or nearly touches the end of the elevator, the latter may be raised by simply turning the hand-wheel G', which winds the rope or chain H' around the drum F', raising the rear end of the rod C', the dog *y* holding the elevator in any desired adjustment, the said elevator at the same time being free to be moved in a lateral direction without changing the gearing or tension of the rope or chain H'. Again, the elevator may be raised or lowered or moved in a lateral direction without stopping the carrier or in any way interfering therewith, the devices for adjusting the elevator being separate from and operated independently of the mechanism for imparting motion to said carrier. By this arrangement of parts it will be observed that the weight of the elevator is constantly on the main frame, and relieves the operator of considerable labor in raising and lowering the same.

The rod C' acting as a brace to the outer portion of the elevator, the latter may be made of light material, thus materially lessening the weight of the machine.

To the rear end of the main frame A is secured the platform I', and also near the standards D the cross-piece J, one end of which is pivoted, the opposite end being allowed to swing, to which piece J, near the free end thereof, is pivotally secured the segmental gear K', adapted, when the piece J is pushed toward

the standards D, to mesh with the gear R, secured to the lower end of the hollow upright shaft I.

To the free end of cross-piece J is secured one end of a metal strap or rod, c' , the opposite end of which is provided with perforations d' , adapted to register with perforations e' , formed in the strip f' , secured to one end of the platform I', into which passes a pin, g' , adapted to pass through the perforations d' and hold the cam in or out of gear with the wheel R.

Through the end of the strip f' passes a shaft, L' , which also rests in a bearing, h' , secured to the platform I', the inner end of said shaft being provided with a screw or worm, M' , the outer end thereof being provided with a pulley, N' , around which passes a belt or its equivalent, O' , which, after being crossed, passes around a smaller pulley, P^4 , secured to the outer face of the pulley I' or outer end of the spindle H.

To the platform I' is pivotally secured the bevel gear-wheel P' , with which is adapted to mesh the worm or thread M' and be rotated thereby, said wheel being provided with the holes i' on its upper faces, one of said holes being nearer the center of the wheel than the other and a little to the rear, into which is adapted to fit a downwardly-projecting lug or finger, k' , formed on or secured to one end of a pitman, Q' , the opposite end of the latter being loosely secured to the arm of the gear K' . If this gear be turned around as far as possible in one direction and the elevator in the opposite direction, and the gear K' and the gear-wheel R connected, the motion of the spindle H will be imparted from the pulley P^4 , through the rope or belt O' , pulley N' , shaft L' , worm M' , to the wheel P' , the above parts moving in the directions indicated by the arrows. When the wheel P' rotates, the pitman Q' will move accordingly, drawing the end of the gear K' rearwardly and the toothed end in the opposite direction, which in meshing with the gear R turns the latter, and also the hollow shaft I, to which it is secured, and also the elevator attached to the said shaft I, moving it from side to side in a semicircular path, the carrier-belt at the same time traveling around the elevator-frame. When the end of the pitman Q' which is attached to the wheel P' has reached its farthest rearward point in the rotation of the wheel, the wheel R will have made one half-revolution, and thereby move the elevator from one side to the other, and after passing this point the pitman is forced back, moving the elevator back to its original position. By this adjustment of parts a stack may be formed in the shape of a half-circle, the elevator being adapted to be moved without any aid from the operator. Again, the elevator may be raised or lowered without stopping the machine, the devices for moving the carrier and those for moving the elevator from side to side working independently of those for vertically adjusting the elevator.

If it is desired to adjust the parts so that the elevator will be moved around in a shorter path, the pin on the pitman is inserted in a hole nearer the center of the wheel P' . By this arrangement the end of the pitman does not move in such a large circle, and thus does not move the elevator in such a long path. Again, by turning the gear K' around a short distance and then gearing it with the wheel R, as before, the elevator may be made to move in a short path on one side of the machine, thus rendering the machine capable of making a stack of any length, and at any point within the limits of the movements. Again, the gear K' and wheel R may be disconnected, and thus form a stack in one spot.

If desired to increase or diminish the speed of the elevator, another gear-wheel might be inserted between the wheel P' and the worm or thread M' , and mesh with the latter, and provided on its upper face with a larger or smaller gear to mesh with the wheel P' .

To the opposite sides of the main frame A are secured the brackets or bearings l' , in which is journaled the horizontal shaft S' , one end of which is provided with a cranked handle, T' , and also provided near the handle with the ratchet U' , with which is adapted to engage the pawl or dog V' , pivotally secured to the frame A. To this shaft S' are secured one end of the ropes W' , which pass from the shaft up around pulleys X' , located in recesses n' , formed in the upper ends of the standards D, and secured to the metallic pieces o' , which are fastened to the upright pieces E of the swinging frame, and bent around in front of the beams D, and forming stops or strikes to limit the movement in one direction of the swinging frame.

To the shaft S' is also secured a rope, Y' , or equivalent, adapted to wind around the shaft in an opposite direction to the ropes W' , and passes from the shaft around a pulley, p' , secured to one of the posts Z' , secured to the forward ends of the main frame A, and then passes up and is secured to the upper cross-piece F of the swinging frame.

To the posts Z' is journaled a shaft, Z^2 , provided on one end with a pulley, z^2 , from which passes a rope or belt, z^3 , to the pulley I^3 , secured to the spindle H.

To the shaft Z^2 is also secured a pulley, z^4 , around which passes a belt or rope, z' , from a thrasher used in connection with my machine.

It will now be observed that when the handle T' is turned rearwardly, the dog V' having been raised, the rope Y' will wind around the shaft S' , and thereby pull the swinging frame down toward the front end of the machine until the vertical pieces E of the frame rest on the tops of the posts Z' , (see Fig. 6,) the ropes W' at the same time unwinding. When the handle is turned in the opposite direction, the ropes W' will wind around the shaft S' and the rope Y' unwind, the ropes W' drawing the frame up in a vertical position, the pawl and ratchet being adapted to retain the

frame in any desired adjustment. When the swinging frame is thus lowered, the elevator is also brought forward, thereby shifting a great portion of the weight to the forward end of the machine.

To the rear end of the main frame is loosely secured an auxiliary supporting-frame consisting of the cross-piece r' , equal in length to the width of the main frame, and to the ends of which are secured the pieces s' , provided on their outer ends with the rollers t' , the outer face of each of which is provided with a flange, u' , for a purpose to be hereinafter explained, the pieces s' being strengthened by the brace v' , secured thereto and to the piece r' .

To the pieces s' are pivotally secured one end of the rods w' , the opposite ends of which are formed hook shape, and adapted to be inserted in the eyes x' , secured to the sides of the main frame, and removably hold the frame in an upright position.

To the sides V of the elevator-frame are secured the inclined tracks or supports A^2 , the rear ends extending to nearly the rear end of the lower section of the elevator-frame, the forward portions of the tracks or supports being secured in position by the braces a^2 . When the elevator is lowered, these tracks or supports rest on the rollers t' , and between the flanges u' on said rollers. If desired, instead of having two rollers t' , one roller may be used in lieu thereof, and used with equally good results.

When it is desired to adjust the machine to move it from place to place, the elevator is lowered by raising the end of the dog y out of contact with the wheel G' , thereby allowing the tracks to rest on the rollers t' on the auxiliary frame, and thereby support the elevator thereon. The rear section of the elevator is then folded over upon the forward section thereof, and the handle T' then turned around to the left, which has the effect of winding the rope Y' on the shaft S' , and thereby lowering the swinging frame and the forward end of the elevator, which also moves in a forward direction, the tracks moving easily on the rollers t' until the swinging frame rests on the posts Z' . When in this adjustment the elevator rests in a horizontal position, and is brought down close to the main frame, thereby lessening the danger of turning over, and more evenly distributing the weight to the different portions of the frame. To adjust the machine for operation, the rear section of the elevator is folded back in line with the forward section, and the latter raised by turning the handle T' to the right, thereby unwinding the rope Y' and winding up the ropes W' , which raises the forward end of the elevator, with the swinging frame, and at the same time forces them rearwardly, the rear of the elevator being supported by and moving on the rollers t' . To lower the rear end of the elevator on the ground, the forward end of the elevator is lowered until the hook ends of bars w' may be engaged with the screws or eyes b^2 , secured

to the tracks near the forward ends. The forward end of the elevator is then raised, which lowers the rear end, and also forces it back, the auxiliary frame traveling back with it. When it is desired to readjust the elevator, the forward end is lowered, which raises the rear end. The ends of the bars w' are then inserted in the eyes b^2 and the elevator raised, as before described.

My invention is exceedingly simple in construction, is of few parts, and can be manufactured at a small initial cost.

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

1. The combination, with a horizontal frame, of an upright frame pivotally secured thereto, a vertical hollow shaft movably secured in the pivoted frame, an elevator-frame movably secured to the shaft, devices for raising or lowering the pivoted frame, and suitable devices for raising or lowering the rear end of the elevator-frame, substantially as and for the purpose described.

2. The combination, with a frame, of a vertical hollow shaft movably secured thereto, a support secured to the upper end of the hollow shaft, an elevator-frame secured to the support, a carrier adapted to move on said frame, and devices secured to the shaft, whereby said frame may be raised or lowered and moved from side to side, substantially as set forth.

3. The combination, with a frame, of a vertical hollow shaft movably secured to the frame, a vertical shaft extending through the hollow shaft and provided on either end with gear-wheels, an elevator-frame secured to the hollow shaft, a carrier mechanism connecting with the gear-wheels, for propelling the carrier around said elevator-frame, and devices for moving said latter frame from side to side, substantially as set forth.

4. The combination, with a hollow shaft movably secured to a frame, of an elevator-frame pivotally secured to a support rigidly secured to the upper end of said shaft, a supporting-beam the lower end of which is pivotally secured to a support rigidly secured to the shaft, and the upper end loosely connected to the elevator-frame, and mechanism for raising or lowering the rear end of the supporting-beam, and thereby raising or lowering the elevator-frame, substantially as set forth.

5. The combination, with a frame, of a vertical hollow shaft loosely secured thereto, a vertical shaft extending through the hollow shaft and provided on its ends with gear-wheels, an elevator-frame secured to the hollow shaft, a carrier mechanism connected with the gears for propelling the carrier around the elevator-frame, a support secured to the hollow shaft and to the rear portion of the elevator-frame, and mechanism for raising or lowering the rear end of the support, thereby raising or lowering the rear portion of the elevator-frame, substantially as set forth.

6. The combination, with a horizontal frame,

of an upright frame pivotally secured thereto, a vertical hollow shaft movably secured to the upright frame, a vertical shaft extending through the hollow shaft and provided on either end with gear-wheels, a support rigidly secured to the upper end of the hollow shaft, an elevator-frame pivotally secured to the support, a carrier mechanism connecting with the gear-wheels, for propelling the carrier around the elevator-frame, and devices for moving the elevator-frame from side to side, substantially as set forth.

7. The combination, with a frame and a shaft secured therein, of an elevator-frame pivotally connected with the upper end of said shaft, a supporting-beam loosely connected with the shaft and with the elevator-frame, a drum loosely secured to the shaft, a rope connected with the drum and beam, and means whereby it is adapted to raise and lower the elevator, substantially as set forth.

8. The combination, with a frame and a shaft movably secured therein, of an elevator-frame pivotally secured to a support rigidly secured to the shaft, a supporting-beam pivotally connected at its lower end with the shaft, and at its upper end pivotally connected to a support pivotally secured to the elevator-frame, and means for raising or lowering the support, and thereby elevating or lowering the elevator-frame, substantially as set forth.

9. The combination, with a frame and a shaft secured therein, of a support rigidly secured to said shaft, an elevator-frame pivotally secured to the support, a supporting-beam movably connected with the shaft and elevator-frame, a drum loosely mounted on the shaft, pulleys mounted on the support and the beam, and a rope secured to the beam and adapted to pass around the pulleys and drum and raise and lower the elevator, substantially as set forth.

10. The combination, with a frame and a hollow shaft secured thereto and allowed to rotate therein, a support rigidly secured to the hollow shaft, an elevator frame pivotally secured to said support, allowing the elevator to move laterally and vertically, a supporting-beam secured to the shaft and elevator-frame, a drum mounted on the shaft, and a rope secured to the rear end of the beams, and adapted to wind around the drum and thereby raise or lower the elevator-frame, substantially as set forth.

11. The combination, with the frame A, of an upright frame pivotally secured thereto, a hollow shaft, I, secured to the latter, a support, M, an elevator-frame secured to the support, and means for raising or lowering the elevator-frame and moving it from side to side, substantially as set forth.

12. The combination, with the frame A, of an upright frame pivotally secured thereto, the hollow shaft I, shaft O, an elevator-frame connected to the hollow shaft, an elevator or carrier adapted to move on said frame, gearing connecting the shaft O with the carrier,

and devices, substantially as described, for moving the outer end of the elevator-frame vertically, substantially as set forth.

13. The combination, with the frame A, of the upright frame pivotally secured thereto, hollow shaft I, shaft O, provided on its ends with gear-wheels, an elevator-frame secured to the shaft I, a carrier adapted to travel over the elevator-frame, support C', loosely connected with said elevator-frame, and means for raising or lowering the rear end of the support C', substantially as set forth.

14. The combination, with the hollow shaft I and support M secured thereto, of an elevator pivotally connected with the support M, the support C', loosely connected with the shaft I and the elevator-frame, drum F', pulleys u and v, and the rope or chain H, all of the above parts combined and adapted to operate substantially as set forth.

15. The combination, with a frame and a hollow shaft secured thereto and provided on its lower end with a gear-wheel, of a vertically-adjustable elevator-frame secured thereto, a carrier adapted to travel over the frame, and a segmental gear adapted to mesh with the said former gear, and operated to turn the shaft and the elevator-frame from side to side, substantially as set forth.

16. The combination, with a frame and an upright shaft secured thereto and provided on its lower end with a gear-wheel, of a vertically-adjustable elevator-frame secured thereto, a carrier adapted to travel over the elevator-frame, and a segmental gear pivoted to a cross-bar pivotally secured to the frame, and adapted to throw the segment in or out of gear with the wheel on the shaft, substantially as set forth.

17. The combination, with a supporting-frame, of an upright shaft secured therein and provided at its lower end with a gear-wheel, an elevator-frame secured to the shaft, a segmental rack mounted in a cross-beam pivotally secured at one end to the supporting-frame, the opposite end being movably secured thereto, a gear-wheel mounted on the frame, a pitman connecting said wheel and segment, and means for rotating said latter gear, substantially as set forth.

18. The combination, with a supporting-frame and an upright shaft secured in said frame and provided on its lower end with a gear-wheel, of an elevator-frame secured to the said shaft, a segmental rack supported on a cross-beam pivotally secured at one end to frame, the opposite end being movably secured thereto, a gear-wheel provided on its upper surface with a series of holes, one being in advance of the other and nearer the center of said wheel, a pitman secured to the segmental rack and in one of the said holes, and means for rotating said latter gear, substantially as set forth.

19. The combination, with an upright shaft and an elevator-frame adjustably secured thereto, said shaft being provided on its lower

end with a gear-wheel, a segmental rack adapted to be thrown into or out of gear with said wheel, a gear-wheel secured to the rear end of the frame and provided with a series of
5 holes, and a pitman one end of which is secured to said segmental rack, and the other end provided with a finger adapted to fit in the holes in said gear-wheel, substantially as set forth.

10 20. The combination, with the shaft I, secured in a suitable frame and a gear-wheel, R, of a vertically-adjustable elevator-frame secured thereto, a carrier adapted to travel around the elevator-frame, the segmental rack
15 K', secured to the pivoted bar J', secured to the main frame, said rack being adapted to mesh with the gear-wheel R, substantially as set forth.

21. The combination, with the shaft I, secured in a suitable frame and provided with the gear R, of an elevator-frame secured to the shaft I, gear K', secured to the bar J', secured to the main frame, gear-wheel P', pitman Q', and means for revolving said gear P', substantially as set forth.
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22. The combination, with the shaft I, secured in a suitable frame and provided with the gear R, of an elevator-frame secured to the shaft I, bar J', gearing K' P', pitman Q', rod
30 c', pin g', and means for operating the gear P', substantially as set forth.

23. The combination, with the shaft I, secured in a suitable frame and provided with the gear R, of an elevator-frame secured to the shaft I, bar J', gearing K' P', pitman Q', shaft
35 L', worm or screw M', pulley N', and means for transmitting motion to the battery, the above parts being combined and adapted to operate substantially as set forth.

40 24. The combination, with a main frame, of an upright frame pivotally secured thereto, a vertical shaft mounted in the upright frame and extending above the same, an adjustable elevator-frame secured to the shaft above the
45 pivoted frame, and means for lowering or raising the said upright frame and holding it in any desired position, substantially as set forth.

25. The combination, with a main frame, of an upright frame movably secured thereto, a
50 vertical shaft mounted in the upright frame, an adjustable elevator-frame attached to the shaft, a shaft secured to the main frame, and ropes or chains secured to the upright frame and adapted to be wound around the shaft
55 and raise or lower the elevator-frame, substantially as set forth.

26. The combination, with a main frame, of an upright frame movably secured thereto, a vertical shaft mounted in the upright frame,
60 an elevator-frame mounted on the shaft, a horizontal shaft mounted in the main frame, and ropes secured to the upright frame and winding around the shaft in an opposite direction to the said former ropes, substantially
65 as set forth.

27. The combination, with the main frame A, of an upright frame pivotally secured thereto, an elevator-frame adjustably secured to the pivoted frame, the shaft S, provided at one end with a handle, pulleys X' p', located in
70 standards secured to the main frame, and ropes W' Y', adapted to raise and lower said pivoted frame, substantially as set forth.

28. The combination, with the frame A, of a frame pivotally secured thereto, an elevator-frame, shaft S', ratchet U', dog V', pulleys X' p', and ropes W' Y', all of the above parts combined and adapted to operate substantially as set forth.
75

29. The combination, with a main frame, of an elevator-frame mounted thereon, tracks or supports connected to the elevator-frame, and a frame pivotally secured to the rear end of the main frame and adapted to support the rear portion of the elevator-frame when in its
80 lowered position only, substantially as set forth.
85

30. The combination, with a main frame, of an elevator-frame secured thereto, depending tracks or supports secured to the elevator-frame, a frame pivotally secured to the rear end of the main frame and adapted to support the elevator-frame when the latter is lowered, roller or rollers secured to the top of the pivoted frame, and a hook or hooks for holding
90 the pivoted frame in an upright position, substantially as set forth.
95

31. The combination, with the main frame, of an elevator-frame mounted thereon, a frame pivotally secured to the rear end of the main frame, and provided on its upper end with a roller or rollers adapted to support the rear portion of the elevator when the latter is lowered, and rods secured to the pivoted frame and removably secured to the main frame, for
100 holding said pivoted frame in position, substantially as set forth.
105

32. The combination, with the frame A, of an elevator-frame adjustably mounted thereon, the pieces r', secured to the main frame, frame
110 s', pivoted to the pieces r', rollers t', secured to the frame s', and rods w', adapted to hold the frame in position, all of the above parts combined and adapted to operate substantially as set forth.
115

33. The combination, with the main frame A, of an elevator-frame adjustably secured thereon and provided with tracks A², an auxiliary frame pivotally secured to the rear end of the main frame and comprising the parts
120 r' s', rollers t', mounted on bars s', and the rods w', all of the above parts combined and adapted to operate substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.
125

HENRY MCCOFFEE.

Witnesses:

W. M. DORSEY,
WM. N. BUDD.