4 Sheets--Sheet 1.

J. RUSSELL.

Improvement in Corn-Husking Machines.

No. 127,801. Patented June 11, 1872.

Fig. 1.

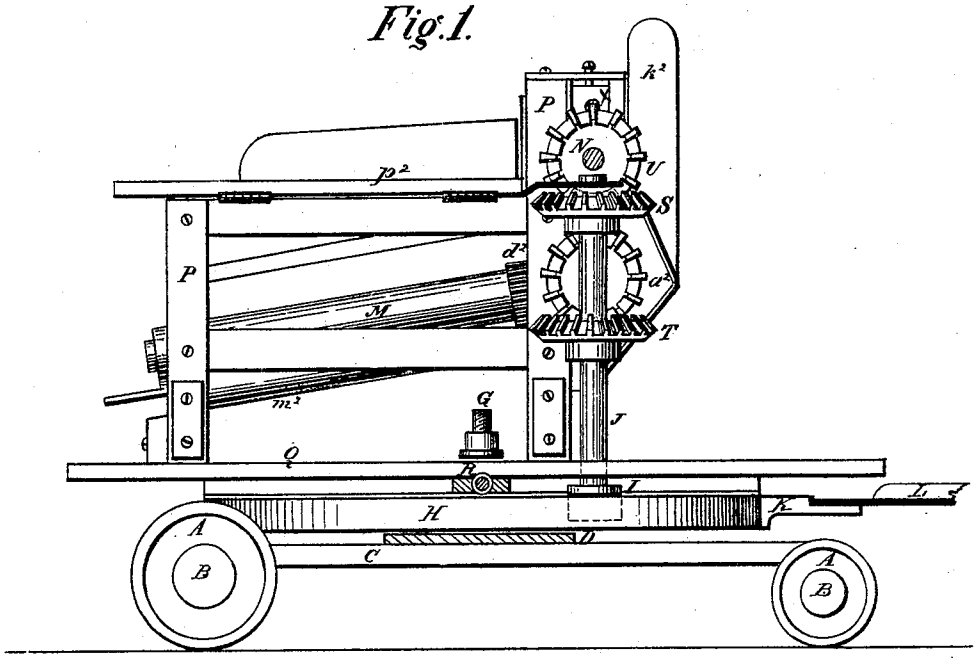
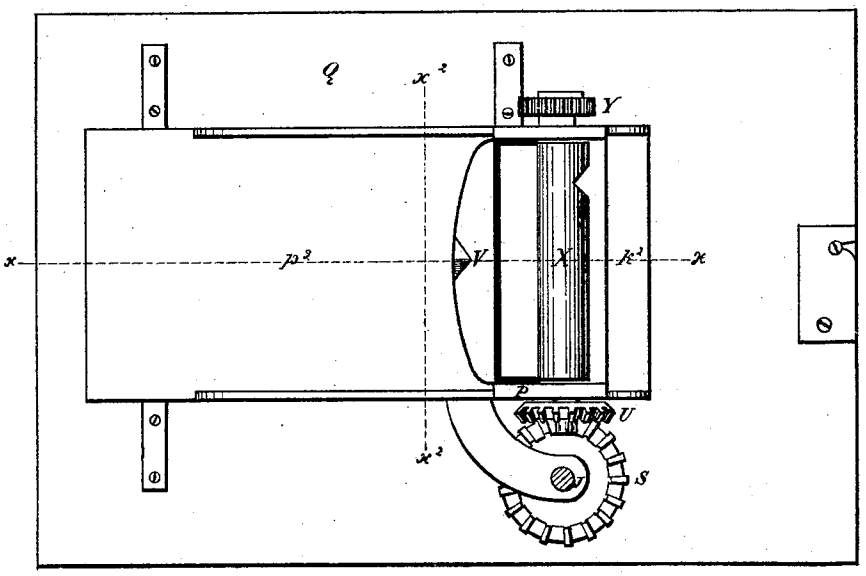


Fig. 2.



Witnesses:

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Franklin Barnett

Inventor:

Jacob Russell

4 Sheets--Sheet 2.

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Fig. 3.

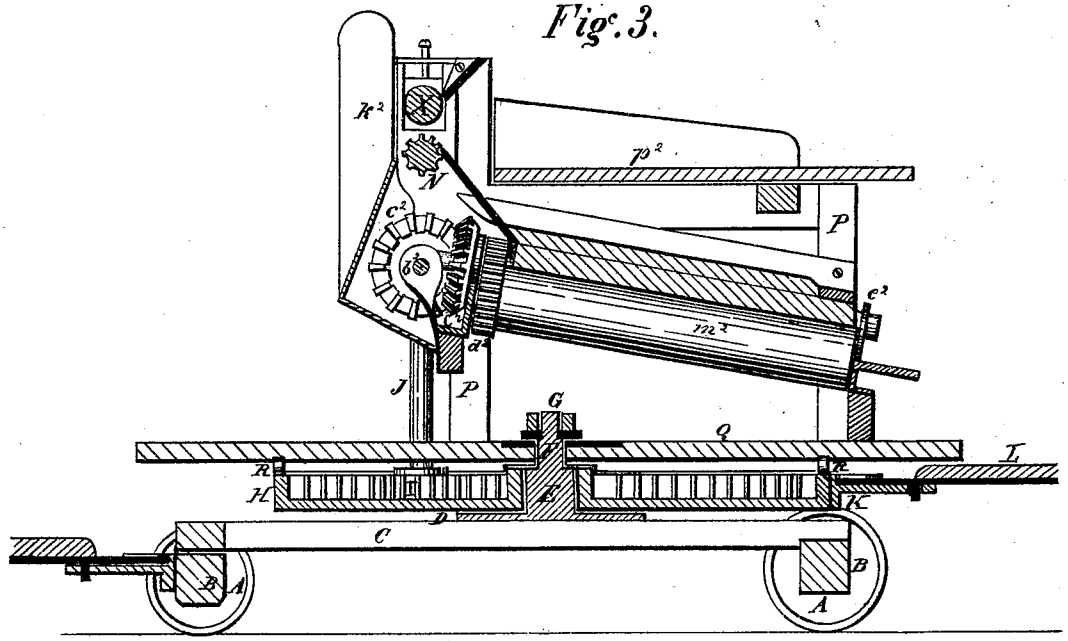
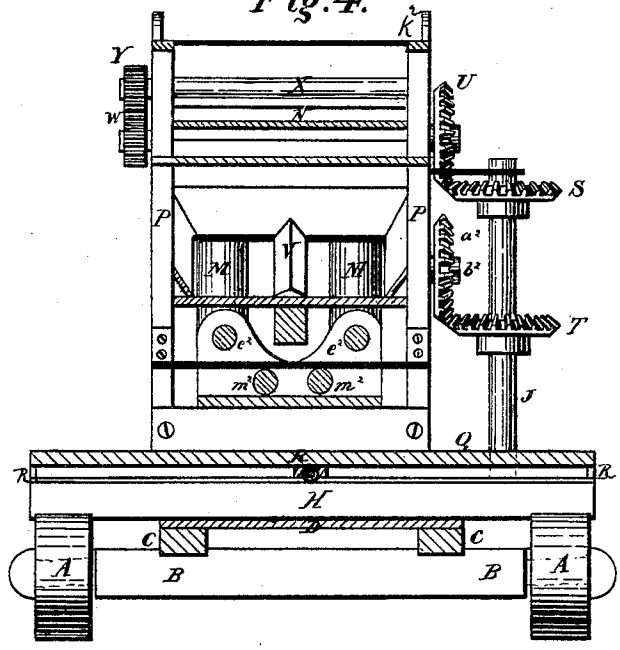


Fig. 4.



Witnesses:

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Fig. 5.

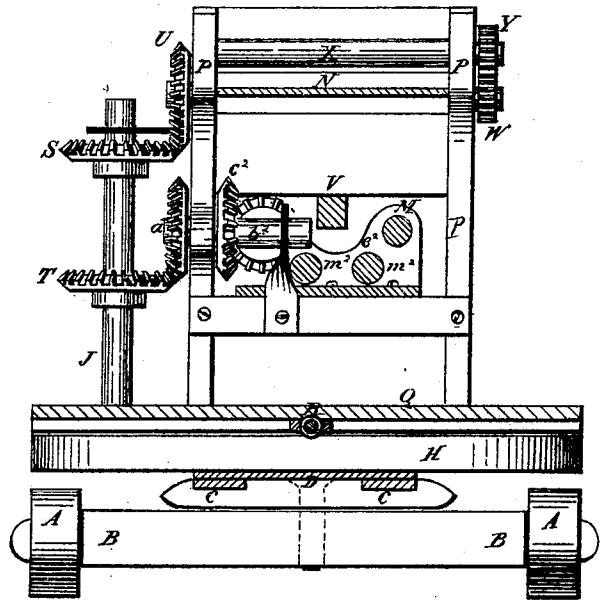
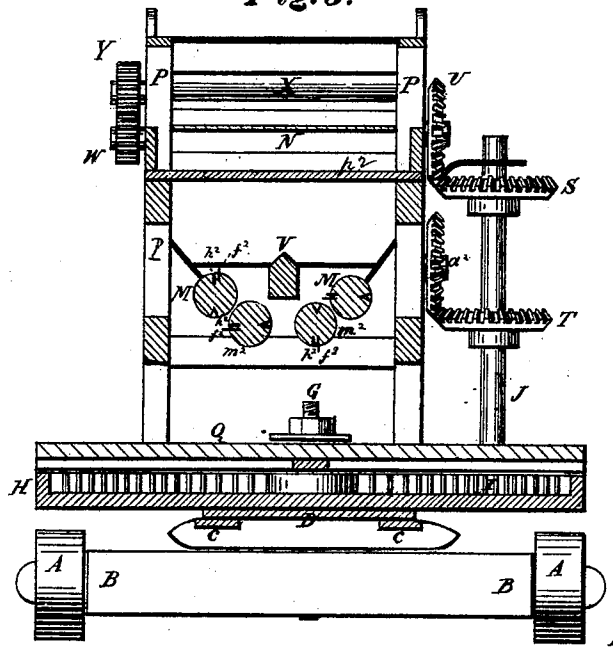


Fig. 6.



Witnesses:

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Improvement in Corn-Husking Machines.

No. 127,801. Patented June 11, 1872.

Fig. 7.

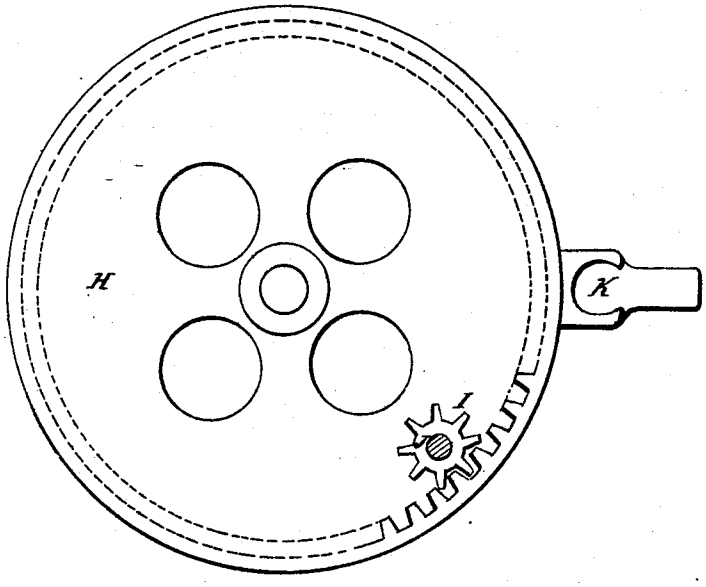
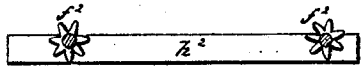


Fig. 8.

Fig. 9.



Witnesses:

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UNITED STATES PATENT OFFICE.

JACOB RUSSELL, OF NEW YORK, ASSIGNOR TO JACOB CHACE AND JAMES DUNNING, OF BROOKLYN, N. Y.

IMPROVEMENT IN CORN-HUSKING MACHINES.

Specification forming part of Letters Patent No. 127,801, dated June 11, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JACOB RUSSELL, of the city, county, and State of New York, have invented certain new and useful Improvements in Horse-Power Corn-Husker Machines; and I do hereby declare the following to be a full description of the same.

The nature of my invention consists: First, in the combination of a corn-husker machine with a platform and horizontally-revolving horse-power cog-wheel elevated upon or supported by the axles of a four-wheeled truck, whereby the husker-machine may be transported from row to row of corn throughout the field to husk the corn by the simple operation of unshipping the horses from horse-power cog-wheel and connecting them to the axle of the truck. Second, in the combination of a husker-machine and platform with a horizontally-revolving horse-power cog-wheel and vertically-rotating pinion-wheel shaft, for the purpose of transmitting rotatory motion to the stripper-rollers and husker-rollers by suitable bevel-cog wheels on said vertical shaft for that object. Third, in combination with a husker-roller, by means of longitudinal grooves therein, one or more adjustable comb-racks or rods of metal, having secured thereto one or more revolving spur-wheels, for the purpose of presenting a succession of revolving points to act on the husk to assist in separating it from the ear of corn; but

To describe my invention more particularly I will refer to the accompanying drawing forming a part of this specification, the same letters of reference wherever they occur referring to like parts.

Sheet 1, Figure 1 is a side elevation of the horse-power corn-husker. Sheet 1, Fig. 2 is a plan view of the same. Sheet 2, Fig. 3 is a sectional view through the line $x\ x$, Fig. 2, Sheet 2. Sheet 2, Fig. 4 is a front-end view of same. Sheet 3, Fig. 5 is a back-end view of same. Sheet 3, Fig. 6 is a transverse sectional view through the line $x^2\ x^2$, Fig. 2, Sheet 2. Sheet 4, Fig. 7 is a detached plan view of the horse-power cog-wheel and pinion-wheel for rotating the husker and stripper rollers. Sheet 4, Fig. 8 is a detached view of one of the husker-rollers, showing the revolving husker-teeth or combs combined therewith. Sheet 4, Fig. 9 is a detached view of the revolving husker-teeth and adjustable rack to which they are attached.

Letters A, B, and C represent the wheels, axles, and reaches of an ordinary four-wheeled truck. Upon the reaches, at about midway between the axles, is secured, by suitable bolts, a metal bed-plate, D, having a central cylindrical pin or stud, E, projecting from its upper surface, and terminating in a square arbor, F, and screw-tap G, for the purpose of connecting the truck with the horse-power and platform of the husker-machine. This bed-plate is intended to be broad enough to form a good steady support for the horse-power wheel H to rotate on. The wheel rotates round the stud E, and, for the purpose of communicating rotatory motion to the husker and stripper rollers of the machine, cogs or teeth are formed on its inner circumference or outer circumference, as may be desired. These cogs engage with a pinion-wheel, I, secured to the lower end of a vertical shaft, J, and thus give rotatory motion to it when the horse-power cog-wheel is rotated. For this purpose a socket, K, is formed on the outer edge of the horse-power cog-wheel of such form and strength as to admit of holding the end of a lever, L, to which the horses are attached to rotate the wheel. The length of this lever is governed by the area of the truck, around which the horses attached to the outer end of the lever have to travel to propel the husker-rollers M and stripper-rollers N. These rollers are arranged in suitable bearings in a frame, P, secured upon a platform, Q, in a solid and permanent manner by bolts or other suitable means, so as to make the platform and frame as one entire frame of the husker-machine. The object of this is, first, to make a standing place on the truck-frame for the man engaged in feeding the stalks of corn into the stripping and husking rollers; second, in making a platform for the support of the husker on the truck-frame; and, third, for the purpose of combining the husker with the truck-frame and horse-power cog-wheel. This latter operation is effected by means of the square arbor F on the head of the stud E, which fits into a square

mortise hole in the center of the platform, and is held securely therein by a screw-nut on the screw-tap G binding against the upper surface of the platform to hold it firmly down upon the head of the stud E. By this means the platform and husker-machine is held firmly to the truck-frame while permitting the horse-power cog-wheel H to rotate freely on its axis E underneath it to transmit a rotatory motion through the pinion-wheel I to the husker and stripper rollers of the machine. For the purpose of adding to the support of the platform and giving steadiness of motion to the horse-power cog-wheel as it rotates, friction-rollers R are secured to the lower side of the platform in suitable bearings, so that they will rest upon the upper surface of the horse-power cog-wheel at opposite parts of it, and thus balance each other to keep the platform and husker in a level and steady position while rotating the husker and stripper rollers. The rotation of these several rollers is effected by means of bevel-cog wheels S and T secured on the vertical shaft J through the rotation of the pinion-wheel I. The bevel-cog wheel S gears into a cog-wheel, U, on the lower stripper-roller N, having on its opposite end a small cog-wheel, W, to transmit rotatory motion to the upper stripper-roller X by means of the cog-wheel Y on its end. These stripper-rollers are arranged in suitable bearings transversely of the upper back end of the husker-machine, and are made substantially like the stripper-rollers shown in my patent of the 21st March, 1871, and therefore I do not deem it necessary to give any particular description of their precise construction. To rotate the husker-rollers the bevel-cog wheel T gears into the cog-wheel a^2 on the outer end of a shaft, b^2, at right angles to the vertical shaft J, and arranged in suitable bearings at the back end of the husker-frame on a line with the upper ends of the husker-rollers, and about half way across the husker-frame. On the inner end of the shaft b^2 is a second bevel-cog wheel, c^2, for transmitting rotatory motion to the husking-rollers through the series of cog-wheels on their upper ends, and gearing one into the other to connect them all together and give them a uniform and simultaneous rotatory motion to strip the husk from the ear of corn. These husker-rollers are arranged, in pairs, in suitable bearings e^2 at the front and back ends of the husker-frame, so as to have a gradual descent from the back end of the frame to its front end, that as the husk is stripped from the ear of corn it will readily descend the slant of the rollers and be discharged from the machine. Between each pair of husker-rollers is a guide-strip, V, which forms one side of a trough, of which the husker-roller M is the opposite side and the husker-roller m^2 is the bottom of the trough. The object of this arrangement of the rollers M and m^2 with reference to the guide-strip V is to keep the ear of corn in close contact with the rollers, and thus enable them to seize hold of the husks to strip it from the ear of corn. To facilitate this operation, revolving spur-wheels f^2 are secured in their faces by means of longitudinally-adjustable metal racks h^2. These racks are made of metal, of the length of the husker-rollers, and have secured to them revolving spur-wheels, and, by means of grooves or longitudinal channels in the face of the husker-rollers, are secured therein by bands of metal around the ends of the rollers or by screws, as may be desired. The object of making the rack and revolving spur-wheel together is, first, for the purpose of obtaining a succession of points to act on the husk to tear it from the ear of corn, and thus avoid the great delay of inserting solid points when they happen to break off, as they often do; second, for the purpose of obtaining a yielding point should it be opposed by any great strain, and yet, by the rotation of the spur, present a new point to attack the husk; with a fixed or solid point inserted in the face of a roller, when opposed by any great strain it must break off or slip past the ear, and thus allow the ear of corn to escape from the troughs before the rollers could act on it again; and third, for the purpose of making the spur-wheels and racks to which they are secured removable or adjustable in the husker-rollers. The reason for this will be obvious. In husker-rollers the points are usually not more than the eighth of an inch in length, and perhaps a little more in diameter. These are constantly breaking off or rounding off by the constant wear they are subjected to by the gritty nature of the husks, and thus become utterly worthless and have to be renewed. To renew them requires the husker-rollers being taken out of the machine, and to a drilling-machine, to extract the old stumps, thus often losing days of time; whereas, by making the spurs and securing them to racks, and channeling the husker-rollers, new sets of points may be secured into the rollers in a few minutes. Of course, the spurs are previously supplied to the purchaser. When thus supplied, they are attached to the adjustable rack by the simple transfer of the old spur from its center pin, and, as they cannot get off it when the rack is inserted in the channel in the roller, the whole operation of renewing the points causes but a slight delay in the operations of the machine, while at the same time it is an immense saving in time and money to the farmer. Letter k^2 is a shield or gear-protector, secured by hinges to the back end of the frame of the husker-machine; and p^2 is a hinged table-board, secured to one of the upper rails of the husker-machine, so that when shut down it forms a table on which the bundle of stalks is placed preparatory to being fed into the stripper-rollers, and when open admits of access to the husker-rollers to clean or adjust them, as may be required.

Having now described my invention, I will

proceed to set forth what I claim and desire to secure by Letters Patent of the United States:

1. I claim, in a locomotive horse-power corn-husker, the combination of the truck A B C with the cog-wheel H and stud and arbor E and F, all constructed and arranged substantially as set forth.

2. The combination of the revolving spur-wheel or comb f^2 and removable or adjustable rack h^2 with the husker-rollers M and m^2, secured in longitudinal channels therein, substantially as hereinbefore described, and for the purposes set forth.

JACOB RUSSELL.

Witnesses:

CHARLES L. BARRITT,

FRANKLIN BARRITT.