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(54) **CORN SHELLING**

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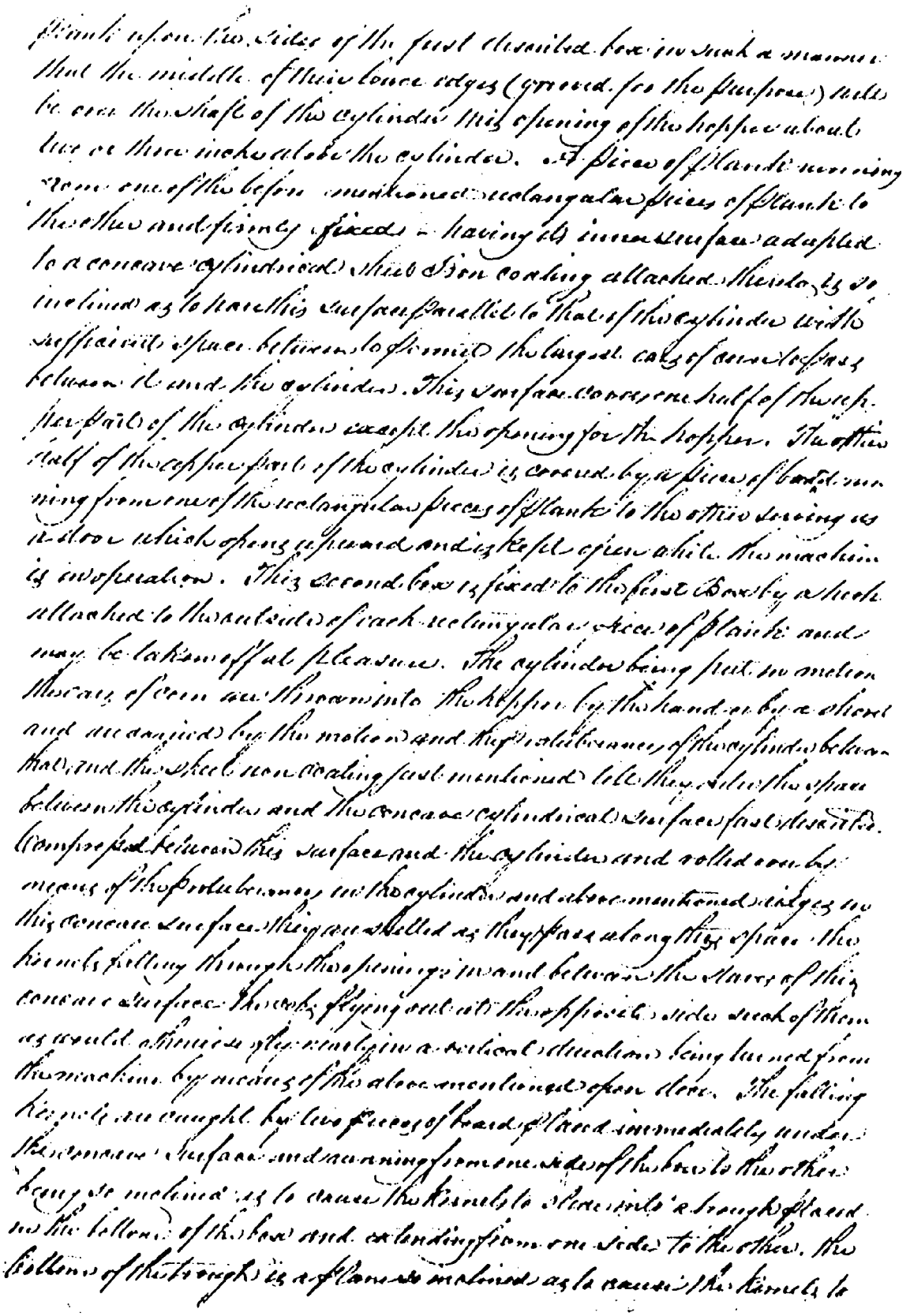
Letters Patent

The schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Isaac A. Hedges himself of his improvement in the machine for shelling corn

To all to whom these Presents shall come. Be it known that I Isaac A. Hedges of Clinton in the County of Tioga and State of New York, have invented a new and useful machine for corn Shelling and that the following is a full and exact description of the construction and operation of the said machine as invented by me. A Box of about ten feet in height having the two sides of timber or plank bolted to posts, and these also bolted to cross plank which form the two ends, the sides are parallel to each other and upright the ends incline a little towards each other being further apart at the bottom. Upon the middle of the sides of this box are placed the ends of a horizontal iron shaft which projects a few inches beyond each side and is sunk into each side about half its diameter. The shaft thus lies about two feet from the bottom of the Box. This shaft passes through the centres of the two ends of a cylinder of about twenty inches in length and eight in diameter, the sides of the box being of sufficient distance apart to permit the cylinder to revolve freely between them. To one end of this shaft is fixed a balance wheel of iron or other material of from fifty to seventy five pounds in weight which together with the cylinder revolves with this shaft and is designed to give steadiness and momentum to the revolutions of the cylinder. To one side of this wheel about half way from its center to its circumference is fixed a handle for the purpose of being moved by hand. The wheel is about thirty inches in diameter. To the other extremity of the shaft is fixed a small wheel also resembling with it about a thicker description may be fixed for the purpose of connecting it with such machinery as may be requisite for moving the cylinder by Horse, Steam or

water power. When steam or water power is used the balance wheel may if judged necessary be disengaged from the chase. The cylinder is formed of cast iron staves. Upon its convex surface are shallow furrows of about one fourth of an inch in height arranged at moderate intervals in parallel lines at right distances from each other and now consisting of two lines as nearly straight as may be inclining towards the direction in which the cylinder revolves meeting midway between the two ends of the cylinder and forming there an angle of about one hundred and fifty degrees with each other. The iron staves which form the surface of the cylinder are secured by wrought iron bands passing round the ends of the cylinder. A communication used using cylindrical surface lying horizontally and having its upper edges in the same horizontal plane. This surface is of sufficient extent to cover nearly the whole of the lower half of the cylinder and when in its natural position the space between the cylinder and that edge of the surface at which the cards come out is about one and one fourth inches gradually diminishing till at the opposite edge where the cob leaves the cylinder this space is about five eighths of an inch. The spaces here mentioned are reckoned from the general surface of the cylinder to the summits of the ridges to be described in the concave surface. And these spaces may be increased or diminished in proportion to the sizes of cards in different combings. This concave surface consists of two or more rectangular pieces each running the whole length of the cylinder and exhibiting a semicircular line of notches made in a steel iron plate which is attached by bolts to the inside of the box on each side. These two plates also assist in forming a support to the shafts of the cylinder. About one inch of the ends of each plate is turned upwards so as to pass behind the card plate first mentioned thus preventing the rounds of cards from interfering with the springs attached to the backs of the staves. These springs may be of wood or of steel and may about three fourths of an inch broad. One of wood or spring is attached to the back of each stave by screws and extends both ways diverging a little from the stave

like it unless the mortises at the end of the slats and also on the ends of the mortises which lie further from the cylinder. On inlaying the slats the space between the spring and the slats is about three fourths of an inch. If of steel they are attached, one near each end of the slats inlaying the mortises in like manner. The concave surface will thus press the rags or cane against the cylinder and at the same time spring back more or less according to the different sizes of the rags & at no time pressing with sufficient force to break the fibre of cane. These rectangular slats which form the concave surface are about three eighths of an inch in thickness (Stringing) by flanges affixed to each edge of the slats and running obliquely about two thirds the distance from the edges of the mortises into which the slats enter and confines the slats in their proper place between the end or side plates. Each flange is about $\frac{1}{8}$th of an inch thick, thus giving a projection about one eighth of an inch between that side of the slats which is next the cylinder and about three fourths of an inch beyond the opposite side, thus strengthening the slats and forming edges in the concave surface. The breadth of each slat at the flanges attached is about two inches. The slats are perforated with holes, the centers of which are about one inch apart and sufficiently large to permit the tines of cards to pass through. Spaces are also left for the same purpose between the mortises. These holes are made between the spring and flange and not directly above the spring. A board two inches in depth and corresponding with the length of the cylinder is formed in the following manner. Two rectangular pieces of plank of about one foot in breadth and of sufficient length to fill the opposite edges of the ends of the box respectively and joined together by two pieces of board so as to leave spaces between each other sufficient to receive the ends of the slats. The opening at the lower part of this box is about three inches in breadth and of a length nearly equal to that of the cylinder. Pins are attached to these rectangular pieces of plank to guide the opening of the cane so as to prevent the cane from falling between the ends of the cylinder and the sides of the box. Having fixed the two rectangular pieces of



side rail of the box by an opening in the side of the box. This hook may be put in rail of the box and by hand within it in such manner as to cause the hook to pass out at either side of the box at pleasure — The said Isaac N Hedges claims as his invention the concave cylindrical surface by a combination of staves with springs attached as herein described and the application of such surface to the purposes of corn shelling as also the application of such surface to a cylinder for the same purpose

Witnesses: Wm Maxwell, Henry O'Brien

Isaac N Hedges.

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Ch SS V.