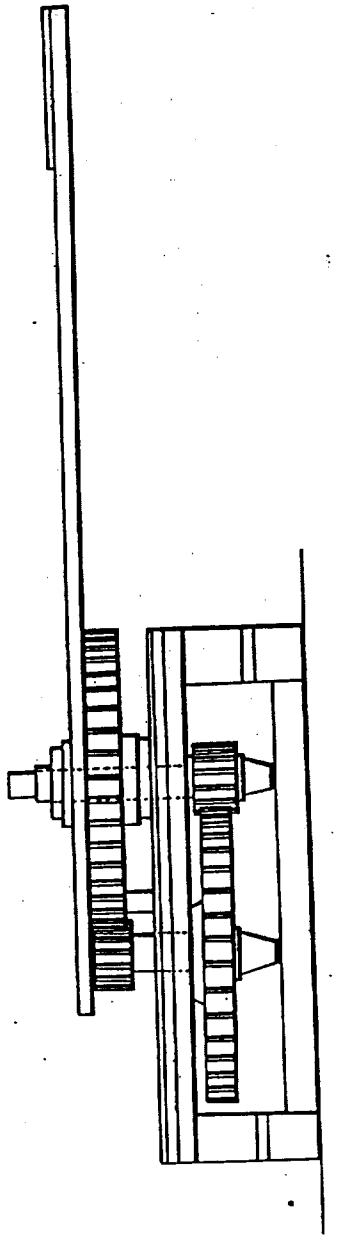
8737½ x

S. S. Allen,

Horse Power.

Patented Apr. 3, 1835.



A.M. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

Apl 3 1835

3/3.

Samuel D. Allen.

8737½ X 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 Samuel D. Allen, himself of his improvement in the Machine for threshing grain, and for hulling and cleaning clover and other seeds.—

To all whom it may concern.

Be it known that I Samuel D. Allen, of Saratoga in the County of Saratoga, and State of New York, have invented an improved Machine for the purpose of threshing grain, and hulling and cleaning seeds; and I do hereby declare that the following is a full and exact description thereof. A frame is to be made to sustain a cylinder and concave in the manner in which frames are ordinarily made for such Machines, A principle point of difference between my Machine and those heretofore constructed for similar purposes consists in the manner in which I form my concave, and by which it is readily adapted to the purpose of either threshing or hulling and may be made to act upon the grain to be threshed for a greater or lesser period of time according to its nature or the state of the weather.— To the inner sides of the frame I attach two circles of casting, one on each side, which circles are to receive the slats or staves of which the concave consists. In a Machine of which I have constructed these circles are five inches wide, and seventeen inches in diameter; they have on their insides two fillets or ridges which project inwards, and form a groove to receive and retain the slats above alluded to; they are bolted to the sides of the frame in such a way that they can be raised or lowered at pleasure. The slats or staves which constitute the concave must be of strong plank of such thickness as to receive and hold the teeth which are to be driven into them,

and

3 3/4.

8737 1/2 x

and they may be of such width that about twelve of them when placed in the circular groove will fill the semicircle, when used for thrashing the concave bed may extend round from the bottom to the feeding table, and from about one fifth of a circle, but the number of slats may be diminished or increased depending upon the ripeness and dryness of the grain, when used for hulling clover or other similar seeds, the whole of the semicircle may be filled with slats.— The cylinder is to be made of wood in the usual way, and teeth are to be driven into the cylinder and concave, in the following manner. Each slat is to be divided lengthwise by drawing thereon two parallel lines, about one inch apart, and transverse lines at the distance of about one inch and eight apart, from end to end. The teeth are then to be set at the intersections of these lines in the following manner commencing at the end of the first row in the first slat, and setting a tooth in every other cross line alternately setting one and missing one, the second row then commences in the second line so that the teeth in this slat follow the blanks in the first row, and this manner of setting is to be continued throughout all the pieces forming the concave.— The teeth may be cast from ½ rod iron, and are to project out about one inch, they may be either square or round, in the best however, I prefer to use the square, excepting in two or three of the first rows, as the straw is then less apt to be drawn in, In order to give them greater strength, I set the first rows double; this may be done by setting a row of square teeth, and immediately in front of them a row of round ones leaning or raking back, so that the outer ends of the two are in contact, The teeth throughout, are not to stand vertically but are to incline back at an angle of four or five degrees, according to the judgment of the builder the exact rake not being important, the object of this is to prevent the cutting and damaging of the straw but in accomplishing this it is necessary to be careful not to give such a rake as would allow the straw to pass too readily through the Machine.

The

8737 ½X

The cylinder is to be divided into circles corresponding with those on the bed piece, or concave, and twelve parallel equidistant lines are then to be drawn from end to end; in the intersections of these lines the teeth are to be placed; alternately in every third circle, letting one and missing two; the second parallel line should commence one tooth back of the first, so as to follow a blank, the third row commences in the third circle, and so on throughout the whole. I prefer to let the whole of these teeth double, in which case a square tooth may be first set vertically and then around one leaning back against it. at a proper take, for the same purpose as in the bed— I cover the cylinder with sheet iron, first boring the holes in the wood for the teeth, and and afterwards punching through the sheet iron to set them. The feeding table is like those in common use— I have already stated that for hulling the concave bed is to be widened and in doing this I have found it advantageous to make the teeth of greater breadth in the two or three last additional rows, to cause the rubbing to be more completely performed; and instead of the iron teeth, in this part. I sometimes employ pieces of raw hide. It is scarcely necessary to observe that in drawing the circles and setting the teeth, care must be taken that those on the cylinder will pass between those in the concave. When seed is to be hulled a hopper is to be placed above the cylinder, provided with a slide, or shoe board to regulate the feed, the seed being placed in the hopper is carried round the semicircular bed, and delivered at the back of the machine at about the centre of the cylinder where it falls down an inclined board, under which is a fan wheel, by which the seed and chaff are separated. I have in the foregoing machine described many parts of which I do not claim to be the inventor, and I have, in some instances mentioned the dimensions of certain parts, which however admit of much variation according to the size of the machine, and the power to be employed in driving it. All that I

376.

8737 1/2X

I claim as my invention is the employment of the semicircular plates or other contrivance by which a semicircular groove can be formed, admitting of the increase or diminution of the concave in the manner and for the purposes described, adapting the machine, by this means, to the better thrashing of grain in its different states— and also to the hulling and cleaning of clover and other seeds.— .

Witnesses

Samuel S. Allen

Ed. John Brandon

H.H. Vanch Stollmeier

1400 rods

(Drawing)

Issued April 3. 1835.