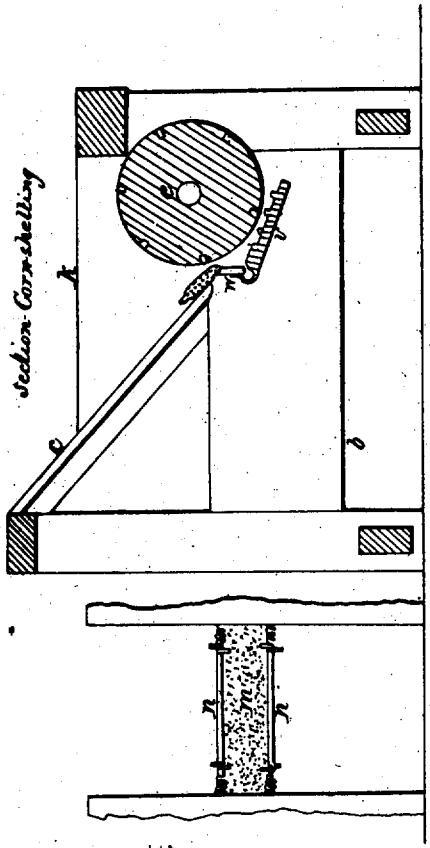
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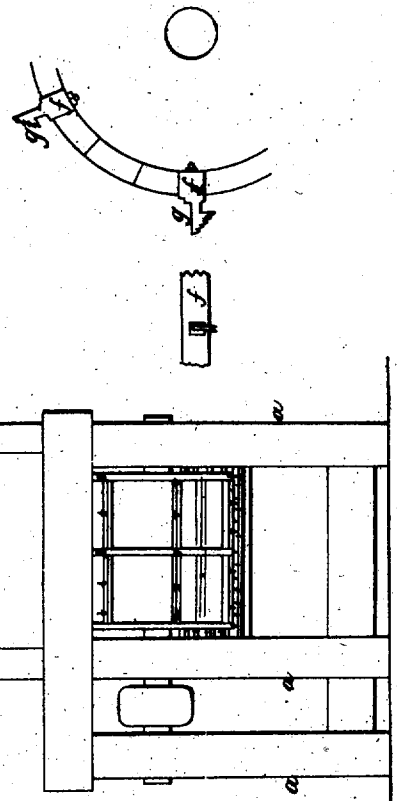
J. S. DICK.

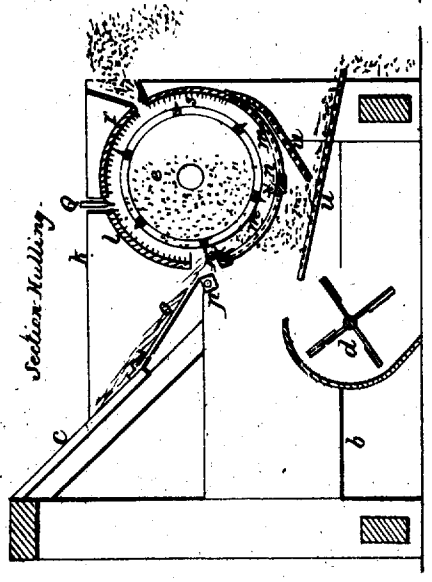
THRASHING, HULLING, AND SHELLING MACHINE.

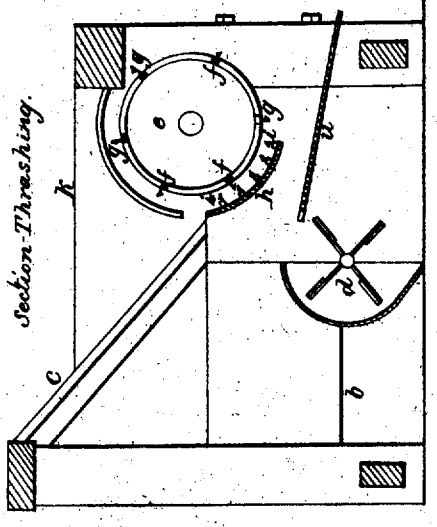
Patented Mar. 13, 1835.

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8690 X — March 13. 1835 — 245.

Jesse S. Dicks, County of Genesee, State of New York.

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 Jesse S. Dicks, himself of his improvements in a Thrashing, Clover Hulling & Corn Shelling Machine.

To all to whom these presents shall come: Be it known that I, Jesse S. Dicks, in the County of Genesee and State of New York, have invented a new and useful improvement in a Thrashing, Clover Hulling and Corn Shelling Machine and that the following is a full and exact description of the construction & operation of the said Machine as invented or improved by me.

The frame which is about three feet long and made of Timber of a sufficient strength, consists of three front and two back posts about 3 ft 2 In. and 3 ft. 11 In. high into which are tenoned near their middle, two substantial side pieces about 10 inches broad, the tenons in the front posts being short, and confined by screws so as to unshift and admit of being removed at pleasure; near the bottom of the posts are also tenoned side & cross girts to strengthen and support the frame, on the top of the back frame is a cross piece which together with two pieces rising obliquely & backwards from the top edges of the side pieces near their middle, to said cross piece forms a support for the inclined feeding apron to rest upon. The front posts are connected by a substantial cap or cross piece and to the back faces of the two outside posts and nearly on a level with the top edges of the side rails are fixed by tenons or screws the bearings of the journals of the cylinder which should run in composition boxes, the space between the two left hand posts being only sufficient for the arbor of the cylinder shaft to play between them. On the inside of the front ends of the side pieces

Thrashing Machine

pieces are made two circular grooves into which the concave
sides; the sides of the frame being closed from the front to near
the middle by planking on the inside of the side pieces extend
-ing to the ground. The fan is placed nearly under the con-
-cave having its bearings in the planking and being covered
in near by a circular case. also close under the concave
there is an inclined board which falls to the front that is let into
the side planks. The cylinder is composed of two heads or wheels
made of iron or other suitable Material secured to an iron shaft
On the circumference of these heads are placed longitudinally
5 or more iron bars of say 3/8 inch iron & the intermediate spaces
being filled with wooden strips or shaves of the same thickness made
moveable by means of screws, the whole is bound firmly together
by three iron bands, one placed at each end and one in the middle
dle of the cylinder. holes are made in these bars at equal
distances to receive the teeth which are to range on alternate
bars; these teeth are made of 1/2 inch iron in form resembling
the catch of a common thumb latch having a tang shoulder and
oblique side; the oblique side or edge is serrated like a saw or
beaded by the strokes of a chisel with a groove or channel passing
down the centre and are secured to the bars by screw nuts on the
under side, those on the extremity of each alternate bar pass
entirely through the band, bar and rim or wheel to confine the bands
to their places - as also do those on the middle. The concave which
is of cast iron 3/8 inch thick is one fifth of a circle with five
rows of teeth standing on ribs that project 1 1/2 inch, four of these
rows stand alternate but the fifth or bottom row has double the
number, and therefore range with the teeth and spaces
of the rest, these teeth are of the same form as those in the cylin-
-der except that they are not serrated, and are made fast
to the concave by screw nuts on the under side. The hopper
consists simply of two light side pieces which rest on the
feed apron already mentioned and fit close to the front
parts

posts, the top edge being level and their front ends connected by a circular or square case which incompasses that part of the cylinder contiguous thereto except a small portion near the lip of the apron sufficient for the feeding. Operation for Thrashing. The cylinder being put in revolution by a band from the power wheel to the pulley the sheaves are placed on the apron so that the heads pass between the cylinder & concave and the thrashed grain and straw is discharged on the opposite front side of the Machine in the usual way. For hulling the hopper, the staves of the cylinder and the concave as above described are removed, and the following parts substituted or added. To remove the concave it only being necessary to unship the front posts of the frame. A hopper formed of a bottom piece and side pieces similar to that used for thrashing except that the front is formed by the upper concave instead of the cylinder case and the lower edges of the front ends descends to the grooves of the concave and are shaped to coincide with them having a frame and wire or punched iron seive fitted thereto which takes the place of the concave just removed being of the same size. Viz. 16. of a circle on the upper sides of the two cross bars of the seive frame rests two small Metal shafts which have their bearings on the side pieces of the hopper and to the upper side of which are fixed by brazing or otherwise teeth that point towards the center of the cylinder, said shafts are also furnished with spiral springs at their extremities made fast to the side of the hopper for the purpose of permitting a partial revolution of the shafts when the teeth are engaged and to bring them again to their places. The lip of the feed apron in this hopper is a strip of board 6 or 8 inches wide attached by hinges to the apron and caused when the Machine is in operation to vibrate rapidly by the revolutions of a square shaft on which its outer edge rests. The apron concave above mentioned commences a short distance above

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this lip being a segment of the same circle with the lower lever and extends to near the top edge of the of the sides of the hopper where it meets with and buts against a division board which seall the regulator that slides in grooves made in the sides of the hopper at right angles to the concave and reaches from the concave to the upper edge of the hopper, the lower edge of this regulator is armed with strong points as also the upper and lower margines of the concave, the intermediate space of the latter being filled with shorter points made of light iron wire say ⅛ inch diameter to project ⅞ of an inch, the groove of the concave in the side pieces is continued to the ends of said pieces for the purpose of receiving a portion of a similar concave on the opposite or front side of the cylinder which may be termed the upper front section. For supporting this upper section two perpendicular side pieces are raised of the same height as the front ports and of a width apart to admit them between the inner front ports of the frame their front edges meeting the front edges of the hopper, being notched where requisite to accomplish that object in the lower part of these side pieces grooves are cut which receive and support a frame and sieve in front of the cylinder precisely similar to that already described in its rear of which it is only a continuation, this same groove is further continued upwards and receives another section or concave similar to those above described which extends from the last mentioned sieve to within a short distance of the upper front concaves leaving between them an opening for the discharge of the hulls &c. when the Machine is operating. From the lower edge of the upper front concave a division board of the whole width of the Machine extends obliquely upwards and forward to the top of the side pieces and together with a similar division board hinged to the top edge of the lower front concave forms the discharging opening for the chaff &c. the object of

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of the hinges being to regulate the discharge, and for the purpose of forming the wind channel, there are three other division boards one passing obliquely under the lower edge of the lower front concave to the center of the sieves or cylinder, the other a short distance under that last mentioned which reaches beyond said center nearly to the fan. Operation. The hopper being filled the cylinder is set in revolution, opposite to the direction used in threshing and also by means of bands the fan and feeding shaft by the vibrations of the feeding lip the clover is fed to the cylinder, the inserted edges of the teeth drag it through the points of the concaves, the seed fall through the sieves and passing through the current of wind from the fan fall upon the lower inclined division board and are delivered under the Machine in front of the fan the chaff &c. being discharged through the opening between the front concaves left for that purpose. For Shelling Corn. that part of the Machine first described for threshing is to be used only that substitute for the concave a flat bed piece the front portion or margin of which is ribbed diagonally and having two upright face pieces which are pressed against the cylinder by means of springs attached to the back edge of the bed piece. The Corn being fed in between these face pieces and the cylinder is held against the latter and the cob falling on the front or ribbed edge of the bed piece is conveyed in a lateral direction and discharged at the end thereof.

Now what I claim as new and as my invention in the above described Machine is, First the peculiar form of the teeth in the cylinder with inserted or bearded edges. 2nd the revolving bars or shafts of the sieves armed with long teeth and furnished with springs, and 3rd the arrangement of the parts so adapted to each other as to allow of their being changed to use the Machine for the purposes herein specified not intending hereby to claim the concave cylinder, feeding apron &c. separately. In Testimony that the foregoing is a true specification of my said improvement I have hereunto set my hand this 26th day of February 1836.

Witnesses B K Morsell D. S. Wiles.

Jesse A. Dick

[2/16/36]