Copy 263

A DESCRIPTION

To make James Ten Eyck's Patent Reaping, Cutting & Gathering Machine, is as follows:

BEGINNING with the box—the under part of the frame of said box, the two side pieces to be 2 by 3 inches—the three cross pieces, the front one 3 inches square, the middle and back piece 1 inch thick and 2 broad; mortis in the two side pieces, the front one to come up even with the upper part of the side pieces, with a grove cut half an inch deep and wide to receive a bottom of half an inch thick to make it even with the two side pieces; the side piece to be 8 feet long, the bottom plow'd or groved, made perfectly tight —both sides are made alike with 4 standards on each side, standing upright; the front one 1 inch square, halved in the side board; this is before the wheel—the 2d on which the wheel rests, 1 inch thick and 8 broad with 2 tenants 2 inches wide, while 4 inches is taken out of the middle of said board to leave room for the tenant of the front bottom piece; all the tenants and mortises to be 1 inch wide, except the two on which the wheel hangs—they are half an inch. This second standard is the one on which the cutting wheel hangs, and ought to extend about 3 inches above the wheel, which would make it about 3 feet 4 inches; the whole length also halved as far as the side board extends up; so the outside of the box be even.— The 3d standard is to come within 2 inches behind the wheel, fastened in the inside, not halved in the side; so the 4th upright, leaning somewhat back these 2 last uprights, to have a breast of 1 inch to stiffen it sideway and then tapering off to 1 inch at top, the bottom being 2 inches square. Also, 2 other uprights at the back end of the machine, of the same dimensions, but fastened on the outside with a notch of half an inch, to come under the bottom rave, at a proper distance to put in handles to manage the said machine, with an inch hole of equal height to receive the handles; the handles 8 inches long and a proper thickness to suit the hand; half way between the wheel and the back part, are fastened an upright piece on each side a board of 2 inches wide and 1 thick, with a top piece fastened; also, a top piece over and above the wheel to hold the two side pieces on with; the cutting wheel hangs together in order to cover the whole with a sheet to prevent the seed from flying out of the box; the box to be 6 feet clear in the insides, and at the end of each side piece to be a hand projecting out to draw in the seed before the wheel presses it down; the back end of the box to flair out on the top 6 inches to give room to step along. Beginning with the cutting wheel, this wheel is made 32 inches in diameter—the cylinder which runs through the middle is made out of a piece 5 inches square, turned round or made 8-square, with a nub at each end and one in the middle to receive the spokes; the distance between is made one inch less to make the nubs so the main part of the shaft or cylinder will be 3 inches in diameter; the hubs, or knobs, will be 5 inches diameter, the spokes 1 foot, the felloes 1 1-2 inches square; 4 felloes and 8 spokes, with a breat at each end of the spoke in each wheel; 3 wheels, one at each end of the cylinder & one in the middle; the 2 outside wheels to flare out, 1 inch dish, so as to receive a band round each end of the cylinder to prevent its splitting when the spokes and the gudgins are drove in the shaft—the gudgins at each end to go 6 inches in the cylinder and to extend over the side board 2 1-2 inches, made all the way square, except the part that comes on the side board on which it rests, which is made round; at the end of this gudgin, is a screw and bur to fasten on a board wheel which turn the machine, of 6 or 7 inches in diameter, in which is a grove cut of an inch deep and wide; the wheel is made out of two inch plank, one wheel at each gudgin, by which the wheel is turned with a band of raw hide going round the lower wheel on which the machine runs; this wheel is made from 18 to 24 inches, of two inch plank, with an inch grove round the same to turn the upper wheel.

Beginning now with the Springs :—Two springs, one on each side of the machine, 2 by 3 iuches and 5 1-2 feet long; these springs are fastened on an axletree, turned out of a piece of timber five inches square—turned round, leaving a breast of 1 1-2 inches all round.— The arm for the axletree 2 inches; this spring is fastened close to the wheel on the axletree by a 3-quarter bolt and bur going through the spring and axletree; the other end of the spring is fastened to the two side pieces on which the bottom is fastened. Those side pieces ought to extend 7 or 8 inches back of the box, so the hinge does not come in the inside of the box. This hinge is made stout and strong, fastened with 6 small bolts of a quarter of an inch square with a head at one end and a screw and bur at the other, 2 1-2 inches long, leaving the heads of the bolts to come together in the inside—3 screws in each half of said hinge, and each half of said hinge 6 inches long and 3 inches broad; a rivet is also necsessary at the end of said spring, by the hinge, as all the weight of the box & wheel rests on this hinge and spring.

For the ease of the person who handles this machine, two more wheels and one axletree may be fastened behind, & then it requires no handling only in turning, by raising the box to the height it is wanted; a board of 2 inches thick and 2 inches longer than the width of the machine is put between the springs and the box, and by running this piece back, you raise the box to its proper height; it also tightens the bands when they get too slack to turn the wheel with sufficient speed, Two holes are bored through the axletree of an inch for traces to draw the machine with a horse—the traces 12 or 14 feet long. Sixteen scythes are affixed to this machine— the first is fixed from the outside to the inside wheel—the next fastened on the same inside wheel close before or behind the first scythe on the middle wheel to the other outside wheel, turning one eighth round from the right side down to the opposite side. The scythes should be fastened within 2 or 3 inches before the spoke, as it will not strain the felloe so much; the scythes are let in the felloes—a small screw hole put through the scythe, with a screw, and then an iron hoop, of hoop iron, comes on the felloe and secures the scythes—one hoop to each wheel; the hoop is fitted and put on cold; 2 pieces of an old scythe, shaped to suit the gudgins to rnn in —also, a piece across under the scythes, hollowing in the inside and rounding on the outside, 6 inches wide, to come within half an inch from the scythes. Bands made of raw hide, and laid in soak at night, and wet at proper times, will prevent them getting too hard and slipping on the wheels. If the bands get too loose to give the cntting wheel sufficient motion, the piece lying between the springs and box is to be moved further back or forward to keep them at a right stiffness to turn the cutting wheels with a steady motion.