

(No Model.)

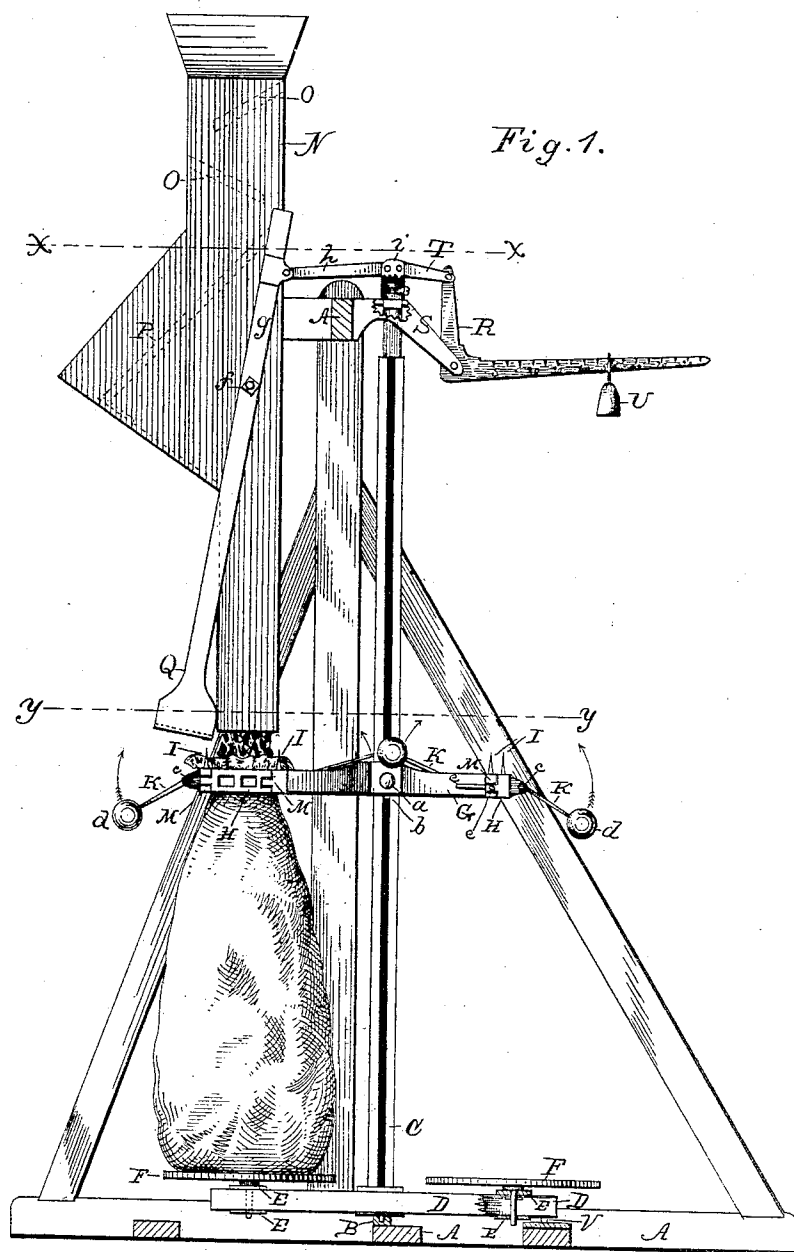
2 Sheets—Sheet 1.

R. H. PURNELL.

GRAIN SACKER.

No. 293,594.

Patented Feb. 12, 1884.



WITNESSES:

Thos Houghton.

W. X. Stevens.

INVENTOR:

R. H. Purnell
BY *Munn & Co*

ATTORNEYS.

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Fig. 2.

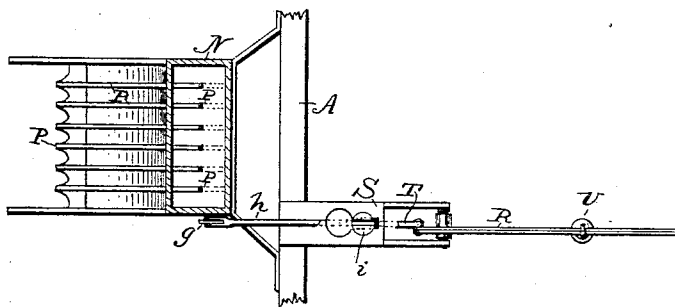
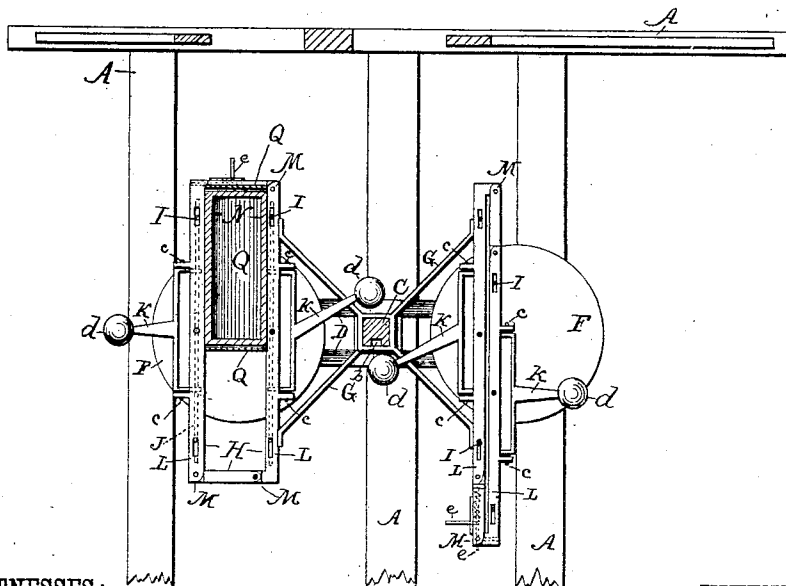


Fig. 3.



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UNITED STATES PATENT OFFICE.

RICHARD HOPE PURNELL, OF ROSEDALE, MISSISSIPPI, ASSIGNOR OF ONE-HALF TO THOMAS R. MCGUIRE, OF SAME PLACE.

GRAIN-SACKER.

SPECIFICATION forming part of Letters Patent No. 293,594, dated February 12, 1884.

Application filed July 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, R. H. PURNELL, a citizen of the United States, residing at Rosedale, in the county of Bolivar and State of Mississippi, have invented a new and useful Improvement in Grain-Sackers, of which the following is a specification.

My invention relates to that class of machines used to put cotton-seed, corn, and other grain into sacks and to weigh the same at one operation.

The object of my invention is to provide a machine whereby cotton-seed thrown into it in its usual lumpy and mixed condition will first be disintegrated, the seeds then separated from the cotton fiber, deposited in a sack, weighed, and the sack held to be sewed, the same being adapted to separate shelled corn from the cobs, and to sack and weigh the former and other grains.

To this end my invention consists in the combination and construction of parts herein-after described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a transverse vertical section, part in elevation, of my invention. Fig. 2 is a horizontal detail section, part in plan, at *x*, Fig. 1. Fig. 3 is a horizontal detail section, part in plan, at *y*, Fig. 1.

A represents the frame of the machine, in which a step, B, is fixed to receive the toe of a vertical shaft, C, which is square through its body portion and rounded, for bearings, at each end.

D is a pair of cross-bars, fixed on shaft C at its lower end, carrying bearings E, in which rotate the vertical spindles of two circular horizontal disks, F. These disks support the bags to be filled and sewed, and they rotate in order that the twist of the bag may run out when the bag is being filled, and when its mouth is closed to be sewed.

G is a frame, made vertically adjustable on shaft C by means of a set-screw, *a*, bearing on a spindle, *b*, which may slide in groove in the shaft. This frame is provided with a rectangular holder, H, at each side, having spurs I along both edges, on which the sack at its mouth is hooked to keep the mouth open, the body of the neck being placed within the holder H on the disk. The spurs I, of any suitable

number, are fixed to a rod, J, journaled in a lever, K, pivoted at *c* to the holder, and provided with a ball-weight, *d*, to keep the spurs projecting through and above the edge of the holder-jaw L. When the sack has been filled, its mouth is closed by bringing the sides of the sack together to be sewed. For this purpose I provide each rectangular holder H with hinge-joints M, adapting one side or jaw and one end of the holder to close against the other side and the other end, as shown in Fig. 3, one of the holders being shown closed and one open. In order to so fold against each other, the joints at the corners of the holders must be ruled or hinge joints, and in order that they may retain a rectangular form when open, the joints must be shouldered like a jackknife-blade.

To retain the holders in either an open or closed position, I provide a sliding bolt, *e*, which crosses one of the joints, entering the part opposite, at right angles, to the side of the part when the holder is open, and entering the same part parallel thereto when the holder is closed.

N is a vertical flue, hopper-mouthed at its top, supported on the main frame A over the mouth of one of the holders, for the purpose of guiding the seed or grain into the mouth of the bag held in the bag-holder. The upper portion of the flue is partly crossed by two or more sets of slanting bars, O, for the purpose of breaking the seed-lumps.

P is another set of slanting bars wholly crossing the flue, and passing their lower ends out at the side thereof, to carry off the cotton fiber from the seed, a slanting chute under these bars being adapted to carry the seed which drops between them back into the body of the flue. This is the separator for taking cobs and coarse matter from the corn or other grain, as well as the cotton from the seed.

Q is a gate pivoted to the flue at *f*, to swing to and fro across its lower end. The upward arm *g* of the gate is connected with the top of shaft C by a rod, *h*, pivoted in a slotted head, *i*, in which the shaft is journaled to rotate freely. The upper cylindrical or bearing portion of the shaft C is flattened on two sides, and a narrow slot extends from the back side of the shaft-bearing, into which the flattened portion of the shaft may enter edgewise by the shaft

rocking to the rear on its toe. To cause it to rock to the rear, an elbow-lever, R, fulcrumed in a bracket, S, of the main frame, is connected at one arm by a pivoted rod or link, T, to the head i, and provided on the other arm with graduations, and a poise, U.

The operation is as follows: The holder, with the open sack, being brought under the flue, the weight of the poise U tips the top of the shaft back, causing the holder supporting the sack to rise a little, at the same time swinging the gate open and allowing the contents of the flue to descend into the sack until the weight of seed required in the sack tips the shaft forward and shuts the gate. When so tipped forward, the flattened part of the shaft is in the round portion of the bearing, and the shaft and frames carried by it may be rotated to bring the filled sack out from under the flue. Then the bolt c is withdrawn, the holder is closed, bringing the two sides of the sack-mouth together. Then the sack is to be sewed, as usual. This completes the duty of the machine, and by raising the balls d the spurs are withdrawn and the full sack is free to be removed. The poise U will of course be set at a point on its bar, indicating the weight required in the sack. When the top of the main shaft tips back, the rear end of the cross-bars D enter a notch, V, in a piece secured on the main frame, to assist the flattened top of the shaft in preventing the holder-frames from turning. When the shaft tips forward by the weight of the filled sack, the bars D are freed from notch V. The frame G is vertically adjustable, to adapt it to hold the mouth of a sack of any length, while its bottom rests on one of the disks F. The spurs I fit tightly on rod J, yet they may be driven along the rod, to fit sacks of different widths.

What I claim as my invention and wish to secure by Letters Patent, is—

1. A horizontal disk or table provided with and supported on a vertical pivot, in combination with means independent of said table for holding a bag open thereon, said table being free to revolve on its pivot, to accommodate any twisting tendency of the bag, as described.

2. The combination, with two parallel jaws; of a series of spurs adapted to play vertically through the faces of said jaws, two rods supporting said spurs, levers pivoted to the jaws, supporting said rods at one end and weighted at the other end, whereby the spurs are held projecting from the jaws, or may be withdrawn, to hold or release a sack, as described.

3. A pair of parallel jaws adapted to hold a sack by the sides of its mouth, in combination with a pair of parallel end pieces hinged to said jaws at the four ends thereof, with rule-joint and jack-knife-blade hinges, as described,

whereby a sack may first be held with its mouth open, and then the two sides be closed together while attached to the holder, as specified.

4. A vertical shaft stepped to rotate in a frame, a pair of cross-bars secured upon said shaft near its lower end, a disk or base-piece on each end of said bars, a frame provided with jaws for holding open sacks upon said base-pieces, and means, substantially as described, for adjusting said frame vertically, for the purpose specified.

5. A vertical shaft, a step for the same to rotate in, means for supporting an open sack on either of two sides of the shaft, and a cylindrical bearing at the upper end of the shaft flattened on two sides, in combination with an upper bearing having a circular hole to fit the cylindrical portion, and a narrow extension of the hole on one side, adapted to fit the flattened portion of the shaft, as described, whereby the shaft will be free to rotate when tipped one way and held from rotation when tipped the other way, as described.

6. A vertical shaft, a step for it to rotate in, means for supporting a sack open on either of two sides of the shaft, and an upper bearing in which the shaft may vibrate laterally, in combination with a flue suspended over the sack-holder, a gate swinging across to close the lower end of the flue, and a rod connecting the gate with the top of the shaft, whereby the filling of the bag vibrates the shaft and closes the gate, as described.

7. The combination, with a vertical shaft adapted to vibrate upon its toe and to rotate in an upper bearing, of a head journaled on top of said shaft, and a rod pivoted to said head, connecting it with a flue-gate, whereby the gate is operated to open and close by the vibrations of the shaft, yet the shaft is free to rotate without affecting the gate-connections.

8. A vertical shaft stepped to rotate in a frame and to vibrate laterally at its top, means for supporting a sack on said shaft, to be filled, a flue secured to the frame, with its delivery over the mouth of the sack-holder, a gate adapted to vibrate across the flue, and a connection between the gate and the top of the shaft, in combination with an elbow-lever pivoted in the main frame, connected by one arm with the top of the shaft, having a graduated scale on the other arm, and provided with a balance-poise, as described, whereby the filling of the sack causes the shaft to vibrate to close the gate, and the graduated arm and poise decide the amount required to fill the sack, as described.

RICHARD HOPE PURNELL.

Witnesses:

ALBERT MILLER,
ISIDORE SUGARMAN.