(No Model.)

J. BRANDY.

WOOL BAGGING MACHINE.

No. 594,321. Patented Nov. 23, 1897.

Fig. 1.

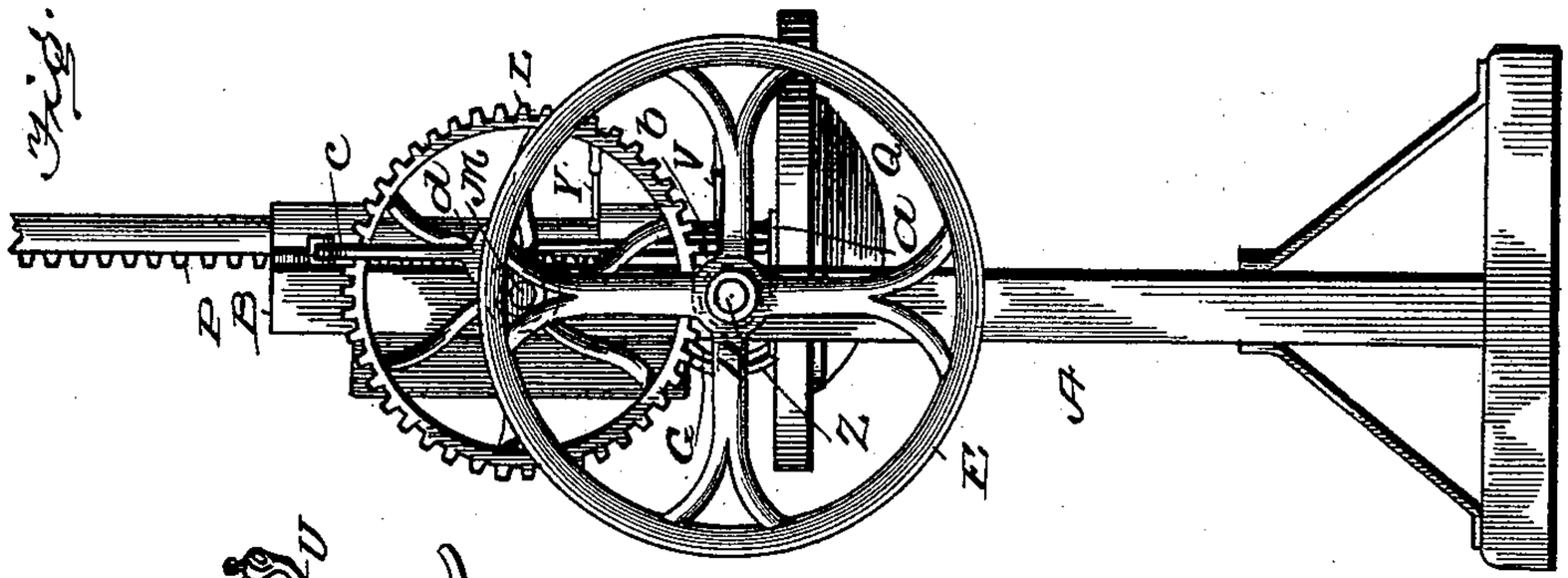

Fig. 3.

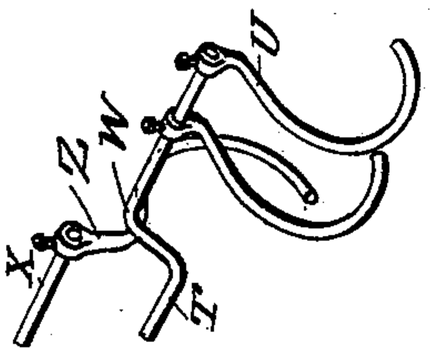

Fig. 2.

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UNITED STATES PATENT OFFICE.

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WOOL-BAGGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 594,321, dated November 23, 1897.

Application filed January 22, 1897. Serial No. 620,282. (No model.)

To all whom it may concern:

Be it known that I, JAMES BRANDY, a citizen of the United States, residing at Trinidad, in the county of Las Animas and State of Colorado, have invented certain new and useful Improvements in Wool-Bagging Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention is a machine for filling bags with wool or other substances; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a front elevation of a machine embodying my invention. Fig. 2 is an end elevation of the same, and Fig. 3 is a detail perspective view of the shifting-rods.

In carrying out my invention I employ a suitable frame consisting of the posts A and the cross bars or beams B C, the bar B being secured to and between the upper ends of the posts and the bar C extending between the posts a short distance below the upper ends thereof. Mounted in suitable bearings on the posts is a driving-shaft D, which is provided at one end with a balance-wheel E and at its opposite end with the fast pulley F and the loose pulleys G H. Belts I J pass around these pulleys and are driven in reverse directions by any convenient motor. Near the balance-wheel the driving-shaft carries a pinion K, which meshes with a gear-wheel L on the end of a counter-shaft M, which is arranged above the driving-shaft and journaled in suitable bearings on the posts A and a short vertical brace N, extending between the beams B C, which is employed for the purpose of giving greater rigidity to the shaft. At its center this counter-shaft is provided with a pinion O, which meshes with a rack-bar P, mounted vertically in bearings on the beams B C and adapted to slide in said bearings. This rack-bar carries at its lower end a plunger Q, having a convex lower surface, and its upper end projects above the frame, as clearly shown. On the upper side of the plunger is a bracket R, having its outer side S inclined upward and inward and adapted, when the plunger rises, to impinge against the inner end of a shifting-rod T, which is mounted horizontally on the frame and has the arms U secured at and near its outer end, adapted to engage the belt J, so that as the rod is operated the said belt will be shifted or transferred from the fast pulley F to the loose pulley H, or vice versa. The shifting-rod is also provided with a lever-handle V, the purpose of which will be more fully set forth hereinafter, and at an intermediate point of its length it is bent rearward, presenting the shoulder W, adapted to strike the outer end of an upper shifting-rod (presently described) when moved inward, so as to cause a simultaneous movement of both rods. Above the shifting-rod T is a second belt-shifting rod X, having a lever-handle Y at its inner end and provided at its outer end with the arm Z, adapted to engage the belt I and shift the same from the fast pulley F to the loose pulley G, or vice versa. On the upper side of the plunger, at a point opposite the bracket R, I secure a wear-plate *a*, which as the plunger ascends comes into contact with the lower end of a rod *b*, mounted vertically on the frame and having its upper end loosely connected with the inner end of a horizontally-disposed lever *c*, which is provided with a brake-shoe *d* at its outer end, adapted to bear upon the balance-wheel.

The operation of the machine will, it is thought, be readily understood. The bag to be filled is supported by any convenient bag-holder below the plunger, with its mouth distended. The wool or other substance is fed into the bag by hand or, if the space permits and the quantity of material handled warrants, by automatic feeding machinery, after which the upper shifting-rod is thrown outward, so as to throw the belt I onto the pulley F and thereby impart the motion of the said belt to the pulley and the driving-shaft, from which it is transmitted through the gearing shown and hereinbefore described to the counter-shaft. The central pinion on the counter-shaft is thus set in motion and acts

on the rack-bar, so as to force the same and the plunger downward, thereby packing the wool or other material in the bag, the convex form of the plunger causing it to act first on the central or thickest portion of the material. The plunger having descended to the proper point to sufficiently compress the material the lower shifting-rod is thrown inward by the lever V, thereby shifting the belt I from the fast pulley and the belt J onto the same, and consequently reversing the motion of the machine, so that the plunger will be raised. As the plunger approaches the upper limit of its movement the bracket on its upper side impinges against the inner end of the lower shifting-rod, so that the continued upward movement of the plunger will force said rod outward, causing it to shift the belt onto the loose pulley and insuring the automatic stopping of the machine. At the same time that the bracket begins to act on the shifting-rod the wear-plate on the plunger strikes the lower end of the rod *b* and forces the same upward, causing the brake-lever to swing on its fulcrum and apply the brake-shoe to the balance-wheel, so that the stopping of the machine will be accomplished without any jarring. Another supply of the material is now fed into the bag and the operation just described is repeated until the bag is completely filled.

It will be readily seen from the foregoing description, taken in connection with the accompanying drawings, that I have provided a machine of a very simple construction by the use of which wool or other expansive substances may be effectually and rapidly packed in bags. The automatic stopping of the machine at the upper limit of the plunger's stroke permits the operator to give his attention to the preparation of the next quantity of material for the bag and also prevents damage to the machine by the plunger striking against the frame. The arrangement of shifting-rods and oppositely-moving belts relieves the operator of almost all manual labor in handling the machine, it being only necessary for him to throw the upper shifting-rod outward to start the machine and to throw the lower shifting-rod inward when the plunger has descended in order to reverse the motion.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the frame, the vertically-movable rack-bar and plunger mounted thereon, a driving-shaft mounted on the frame and provided with a balance-wheel at one end, gearing between said driving-shaft and the rack-bar, means for rotating the driving-shaft, a brake-lever fulcrumed on the frame, a brake-shoe at the outer end of the brake-lever adapted to bear on the balance-wheel, and a rod depending freely from the inner end of the brake-lever and having its lower end in the path of and adapted to be struck by the rising plunger.

2. The combination of the frame, a driving-shaft mounted thereon and having fast and loose pulleys at its end, a plunger driven by said shaft and having an inwardly-inclined bracket on its upper side, a shifting-rod mounted on the frame and having its outer end adapted to move the driving-belt and its inner end arranged in the path of said bracket.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES BRANDY.

Witnesses:

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EDMUND JAMES HULING.