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PACKING AUGER FOR BAG FILLING MACHINES.
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Fig. 1.

Fig. 2.

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By
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To all whom it may concern:

Be it known that we, Joseph Fred McLaughlin and Willard Smith, citizens of the United States, residing at Bloomfield, in the county of Greene and State of Indiana, have invented certain new and useful Improvements in Packing-Augers for Bag-Filling Machines, of which the following is a specification.

This invention relates to packing augers for bag filling machines and more particularly to augers for packing flour, meal, and like material, and the primary aim of the invention is to provide an auger so constructed that it will effectually perform its packing function without any appreciable waste of the material being packed. In the use of the ordinary packing auger, when rotation of the auger is stopped for the purpose of removing a filled bag and placing an empty bag beneath the barrel of the packer, a greater or less quantity of the material will fall between the blades of the auger and be wasted. This is due partly to the fact that the upper end of each blade of the auger lies in the same vertical plane as does the lower end of the other blade of the auger, and further to the fact that no means is provided for closing the space between the upper end of one blade and the lower end of the other blade.

The present invention therefore contemplates extending the upper end of each blade over the lower end of the other blade, and providing means for automatically closing the space between the upper end of one blade and the lower end of the other blade when rotation of the auger ceases.

A further aim of the invention is to so construct and arrange the means for closing the space between the ends of the blades, that they will in no wise interfere with the passage of the material between the blades while the auger is rotating.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which—

Figure 1 is a side elevation of the auger embodying the present invention; Fig. 2 is a bottom plan view thereof.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

In the drawing, there is shown the lower end of the barrel of a bag filling machine indicated by the numeral 1, and mounted to rotate within the barrel is the usual shaft 2 which supports, at its lower end, the packing auger. This auger includes a sleeve 3 which is held upon the shaft 2 for rotation therewith by means of a set-screw 4 and formed upon the sleeve 3 are two helical blades 5 which are arranged at opposite sides of the sleeve, as in the case of the ordinary packing auger, and serve, when the shaft 2 is rotated, to feed the material within the barrel 1, into a sack or bag arranged at the mouth of the barrel and to pack the material in the said bag.

By referring to Fig. 1 of the drawing, it will be observed that the upper end-portion of each of the blades 8 projects over the lower end-portion of the other blade, or in other words overlies the same. In the ordinary form of packing auger, the upper end-edge of each blade is in the same vertical plane as the lower end-edge of the other blade and for this reason a greater or less quantity of the material being packed, will be lost from between the ends of the blades when rotation of the shaft 2 is stopped. In the form of auger shown in the drawing, however, when the shaft 2 ceases to rotate, the material between the blades, or more specifically speaking, between the upper end of each blade and the lower end of the other blade, will pack at about the dotted line shown in Fig. 1 of the drawing, and there will therefore not be the same tendency for it to fall from between the said ends of the blades as is the case in the use of the ordinary auger. In order to further insure against loss of material from between the blades when the auger is stopped, there is hinged adjacent the upper end of each blade, to the under side thereof, a gate 6 which rests by gravity with its lower end seating upon the upper face of the other blade at the lower end thereof. When the auger is rotating, the material, acting against the gates 6, will serve to swing these gates upwardly and they will seat in recesses 7 formed in the under sides of their respective blades, and be flush therewith. Thus, when the auger is rotating, the gates will offer no resistance to the passage of material between the ends of the blades, but as soon as rotation of the shaft 2 is stopped,
the gates will fall by gravity, thereby not only closing the space between the upper end of each blade and the lower end of the other blade, but also packing the material between the ends of the blades and thus further insuring against its loss.

Having thus described the invention what is claimed as new is:

1. A packing auger having helical blades arranged with the upper end of each blade projecting over the lower end-portion of the other blade, and a gate suspended from the projecting upper end of each blade and resting by gravity upon the upper side of the said lower end portion of the other blade.

2. A packing auger having helical blades, each blade being formed with a recess in its under side at its upper end, and a gate suspended from the upper end of each blade and adapted to be swung to position to lie within the recess of its respective blade.

3. A packing auger having helical blades arranged with the upper end of each blade projecting over the lower end portion of the other blade, and a gate supported for free swinging movement from the under side of the projecting upper end portion of each blade and resting, by gravity, at its lower end against the upper side of the projecting lower end portion of the other blade.

In testimony whereof, we affix our signatures in presence of two witnesses.

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