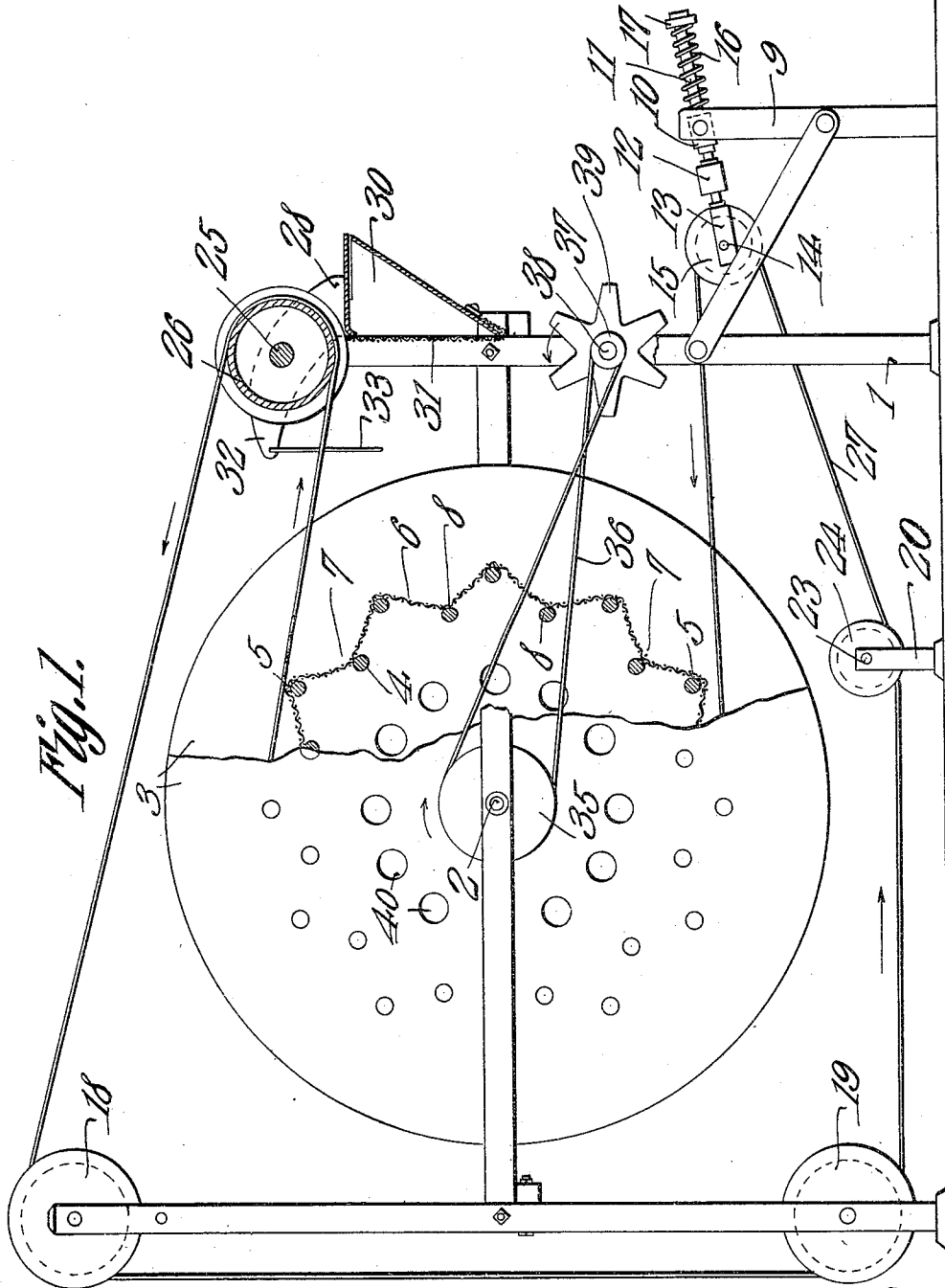


N. E. GARDNER.
MACHINE FOR CLEANING BAGS.
APPLICATION FILED APR. 3, 1909.

956,523.

Patented May 3, 1910.

2 SHEETS—SHEET 1.



Witnesses

E. J. Stewart
Herbert D. Lawson

Inventor
Norman E. Gardner.

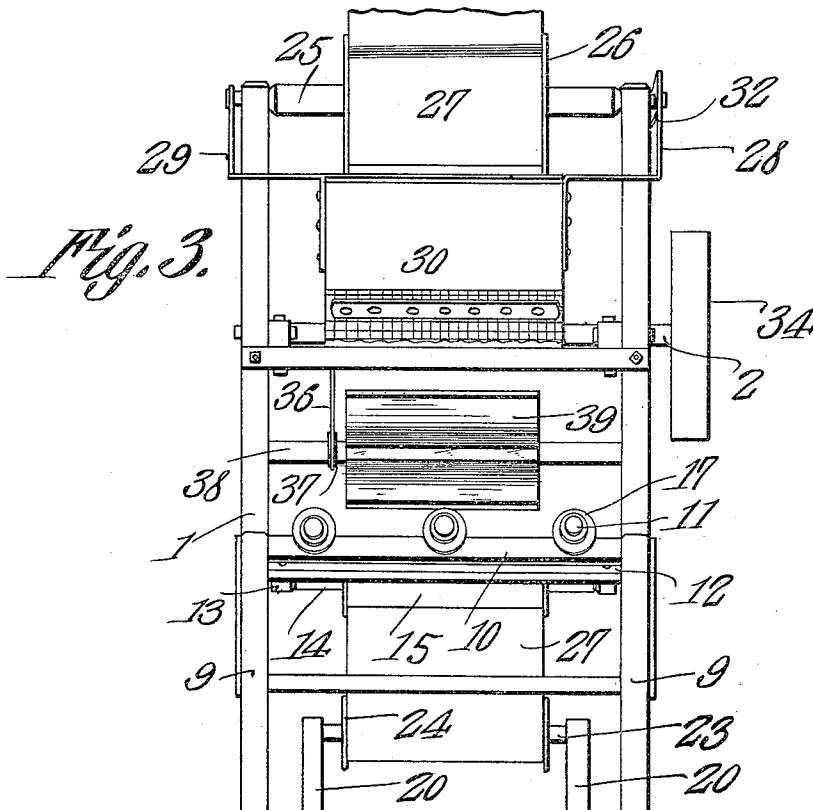
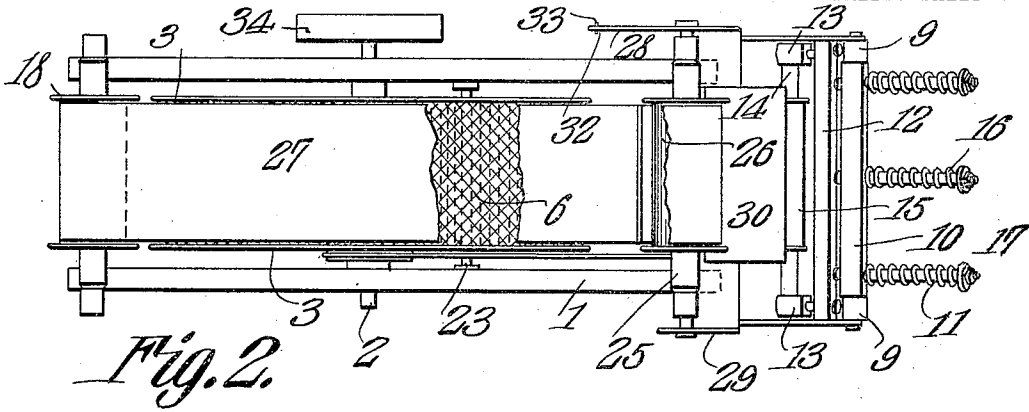
By *C. A. Snow & Co.*
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UNITED STATES PATENT OFFICE.

NORMAN E. GARDNER, OF EASTON, PENNSYLVANIA.

MACHINE FOR CLEANING BAGS.

956,523.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed April 3, 1909. Serial No. 487,640.

To all whom it may concern:

Be it known that I, NORMAN E. GARDNER, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented a new and useful Machine for Cleaning Bags, of which the following is a specification.

This invention relates to machines for cleaning fabric bags of that type used for holding grain and the like, one of the objects of the invention being to provide a machine of this type designed to thoroughly beat the bags so as to drive the dust therefrom, this beating operation continuing as long as desired, means being provided whereby, upon the completion of the cleaning operation, the bags may be thrown from the machine.

With these and other objects in view the invention consists in certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a view, partly in side elevation and partly in section, of the complete machine. Fig. 2 is a top plan view thereof on a reduced scale, a portion of the upper plies of the belt being broken away. Fig. 3 is a front elevation of the machine, the rear portion of the upper ply of the belt and the rear supporting roller thereof being removed.

Referring to the figures by characters of reference 1 designates a frame suitably constructed and within which is journaled a shaft 2 having spaced disks 3 fixedly secured thereon and connected by inner and outer annular series of cross-rods 4 and 5 respectively disposed in staggered relation. These cross-rods constitute supports for a band 6 preferably formed of wire fabric and which is extended around the rods and between the disks, said band being of the same width as the space between the disks, and, inasmuch as it is secured to all the rods 4 and 5, forms a plurality of concavities 7, shown particularly in Fig. 1. The screen 6 may be secured in any suitable manner to the rods as, for example, by sewing the same thereto by means of wire thread 8.

Mounted on standards 9 disposed in front of the frame 1 is a rock-bar 10, in which rods 11 are slidably mounted, these rods be-

ing connected at their inner ends to a draw-head 12 having brackets 13 extending from its ends. These brackets constitute bearings for a shaft 14 on which a spool 15 is journaled. Springs 16 extend around the rods 11 and bear at one end against the rock-bar 10 while their other ends bear against adjusting nuts 17 screwed on to the rods.

Upper and lower spools 18 and 19 respectively are journaled within the rear portion of the frame 1, and standards 20 are arranged below the drum formed by the disks 3 and the fabric 6 and constitute bearings for a shaft 23 carrying a guide spool 24. Another shaft 25 is journaled within the upper portion of the front of frame 1 and carries a guide spool 26. An endless belt 27 extends under the spools 19 and 24 and partly around the spool 15, from which it extends between the disks 3 and partly around the drum. Said belt then extends forwardly under and partly around the spool 26 from which it passes over the spool 18 and thence down to the spool 19. It will be apparent therefore that when the drum is rotated in the direction indicated by the arrow in Fig. 1 the belt will be operated as indicated by arrows and the lower intermediate ply thereof will thus operate to feed material between the belt and the lower portion of the fabric 6.

The shaft 25 constitutes a bearing for arms 28 and 29, from which is suspended an angular box 30 constituting a normally fixed separator, that face of the separator nearest the drum being preferably provided with a reticulated covering such as indicated at 31 and which facilitates the separation of dust, etc. from bags thrown against said covering. The arms 28 and 29 are L-shaped and designed to bear against the front of the frame 1, as shown in Figs. 2 and 3, so as to limit the inward swinging movement of the separator 30. One of the arms 28 has an extension 32 projecting beyond the bearing or fulcrum of the arm and the actuating cord or chain 33 is attached to this extension. By pulling down on the cord the separator can be swung outwardly. By referring to Fig. 1 it will be noticed that the separator 30 is disposed directly below the plane occupied by the upper intermediate ply of the belt 27. This is for the purpose hereinafter set forth.

The drum formed by the disks 3 and the

fabric 6 is designed to be actuated in any preferred manner, preferably by means of a belt mounted on a pulley 34 secured to one end of a shaft 2. A grooved wheel 35 is secured to the shaft 2 and drives a crossed belt 36 mounted on the upper grooved wheel 37. This last mentioned wheel is secured to a shaft 38 journaled within the frame 1 and directly below the separator 30, said shaft being provided with a beater 39 having a series of radial blades as indicated in Fig. 1. Openings 40 are preferably formed within the disks 3.

In using the machine herein described the shaft 2 is set in motion and the belt 27 caused to travel in the direction indicated by the arrows. The bag or bags to be cleaned are then placed between the beater 39 and the separator 30, and inasmuch as this beater is rapidly rotated by the belt 36 it will be apparent that the same will throw the bag downwardly on to the lower intermediate ply of the belt, which will operate to convey the bag between said ply and the fabric 6. Any dust separated from the bag during this operation will pass through the fabric and into the middle portion of the drum. The bag will be carried by the belt over the upper portion of the drum and will be thrown violently against the screen face 31 of the separator 30. A portion of the dust will thus be beaten from the bag and said bag will then drop on to the beater 39 which will again throw it on to the lower intermediate ply of the belt, whereupon the foregoing operation will be repeated. This operation can be carried out as long as desired, and when the operator considers the bag to be sufficiently clean he may pull upon the cord 33 so as to swing the separator 30 upwardly away from the frame 1. It will be seen therefore that the next time the bag is projected forwardly from between the drum and the upper intermediate ply of the belt it will pass outwardly through the opening formerly occupied by the box. As soon as the cord 33 is released the separator 30 will return to its initial position, whereupon another bag may be placed in the machine and cleaned in the manner heretofore described.

Obviously various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. In a machine of the class described, an actuating drum, an endless belt extending partly around the drum, a normally stationary stop for intercepting objects discharged from between the drum and belt, and revoluble means adjacent the stop for directing the intercepted bags between the drum and the belt.

2. In a machine of the class described an actuating drum, an endless belt extending partly around the drum, a normally stationary reticulated screen for intercepting objects discharged from between the drum and belt and revoluble means adjacent the screen for directing the intercepted bags between the drum and the belt.

3. A machine of the class described including a supporting structure, a drum mounted for rotation therein, a belt extending partly around the drum, a normally stationary reticulated screen adjacent the belt and the drum and disposed in the path of objects discharged from between the belt and the drum, said screen having a reticulated covering and a beater mounted for rotation between the separator and the belt.

4. A machine of the class described including a supporting structure, a drum mounted for rotation therein, and having a reticulated peripheral portion, an endless belt extending partly around said drum and bearing on said peripheral portion, a normally stationary reticulated screen interposed between portions of the belt and adjacent the drum and in the path of objects discharged from between the drum and the belt, and a rotary beater below the screen and adjacent the belt.

5. A machine of the class described including a supporting structure, a drum mounted for rotation within the structure and having a reticulated peripheral portion, an endless belt extending partly around the drum, portions of the belt being extended in one direction from the drum and spaced apart, and a normally stationary screen interposed between the spaced portions of the belt and in the path of objects discharged from between the drum and the belt.

6. A machine of the class described, including a supporting structure, a drum mounted for rotation therein, and having a reticulated peripheral portion, an endless belt extending partly around the drum and having portions thereof extended in the same direction and spaced apart, a pivotally supported, normally stationary stop interposed between the said spaced portions of the belt and having a reticulated covering disposed in the path of objects discharged from between the belt and the drum.

7. A machine of the class described including a supporting structure, a drum mounted for rotation therein and having outlet openings in the heads thereof, said drum being provided with an irregular reticulated peripheral portion, an endless belt extending partly around and bearing upon the peripheral portion of the drum and having oppositely disposed looped portions projecting in one direction beyond the drum, a pivotally supported, normally stationary

stop interposed between said looped portions
and having a reticulated cover disposed in
the path of objects discharged from between
the drum and the belt, and a rotary beater
5 interposed between the said stop and one of
the loops of the belt.

In testimony that I claim the foregoing

as my own, I have hereto affixed my signature in the presence of two witnesses.

NORMAN E. GARDNER.

Witnesses:

FRANK L. LESHNER,
E. C. WELLER.