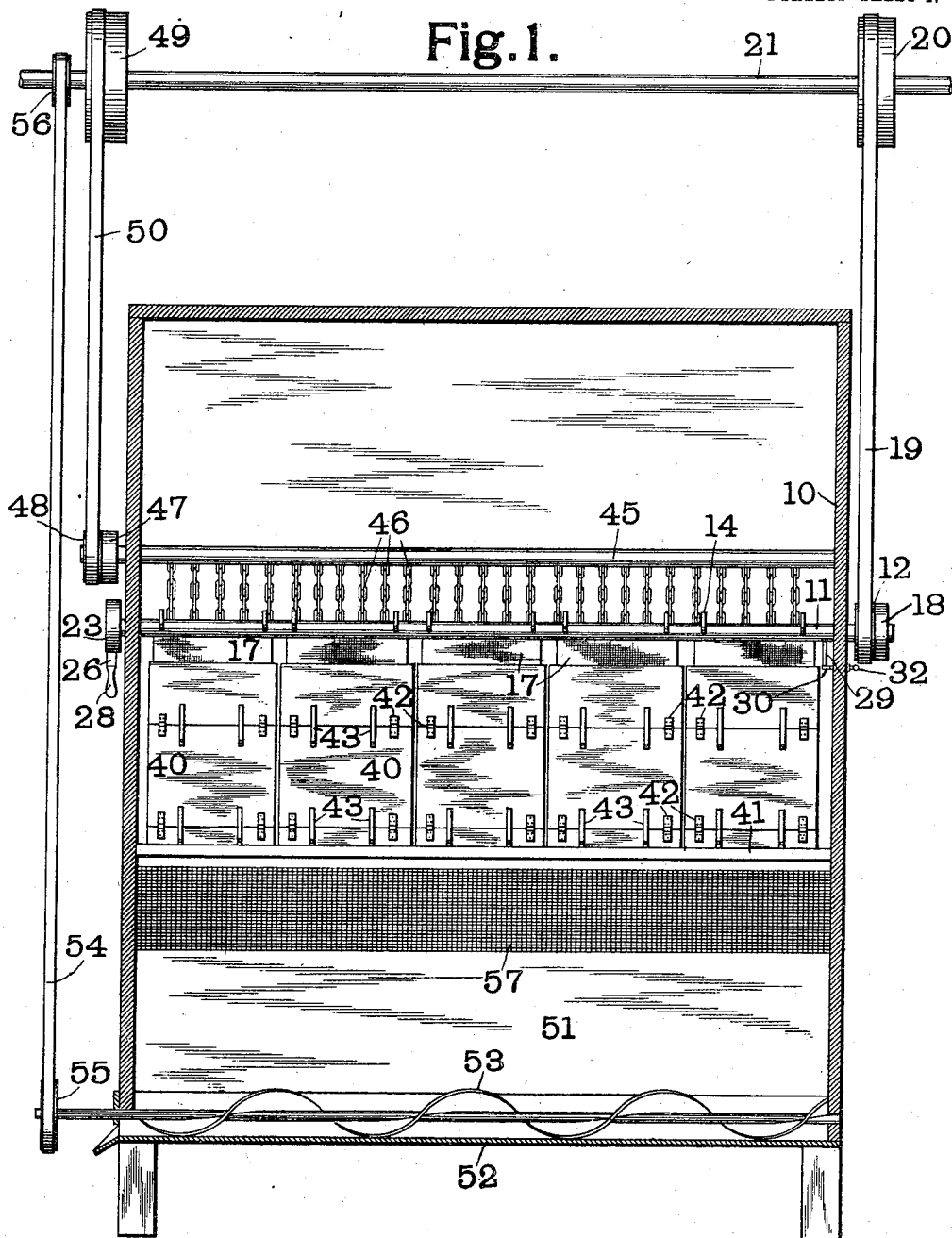


E. L. BUSCHMAN.
BAG CLEANING MACHINE.
APPLICATION FILED JULY 27, 1908.

966,522.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.



Witnesses

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Patented Aug. 9, 1910.

2 SHEETS—SHEET 2.

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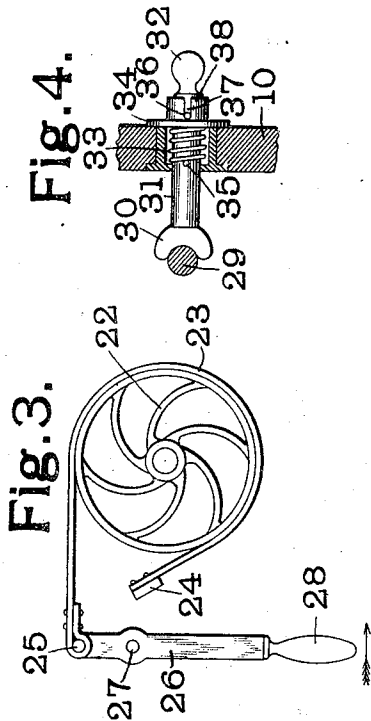


Fig. 4.

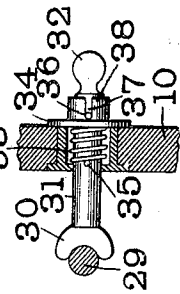


Fig. 5.

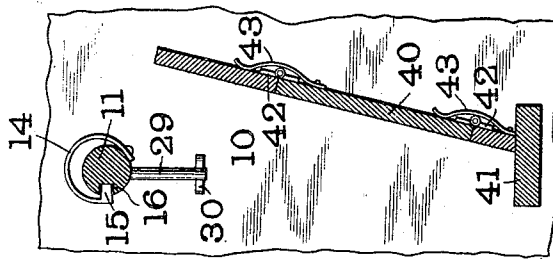
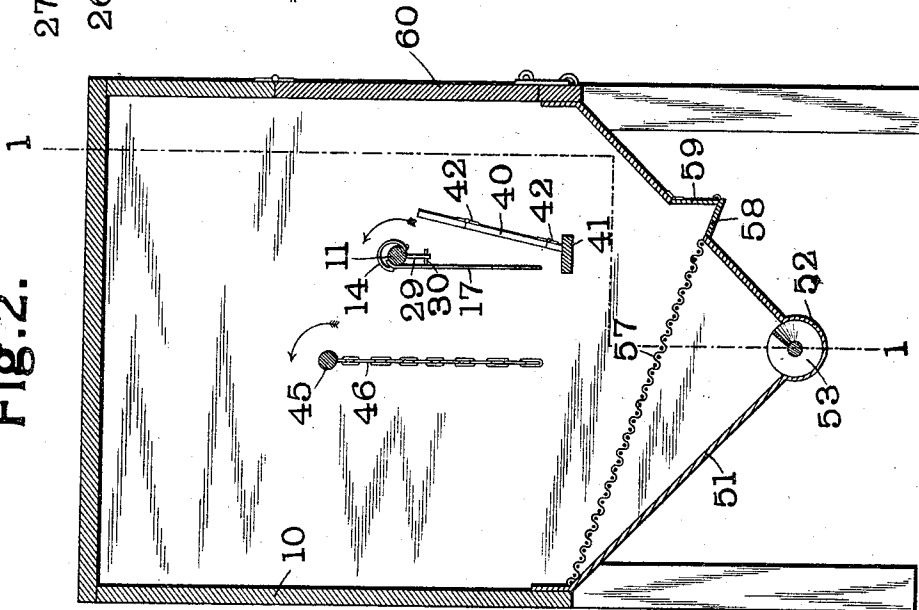


Fig. 2.



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UNITED STATES PATENT OFFICE.

EDWARD L. BUSCHMAN, OF EAST ORANGE, NEW JERSEY.

BAG-CLEANING MACHINE.

966,522.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed July 27, 1908. Serial No. 445,472.

To all whom it may concern:

Be it known that I, EDWARD L. BUSCHMAN, a citizen of the United States, residing at the city of East Orange, county of Essex, and State of New Jersey, have invented a certain new and useful Bag-Cleaning Machine, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a bag cleaning machine and is particularly adapted for use in cleaning bags which have contained cement or other similar material which is liable to cake and adhere strongly to the bags.

The object of my invention is to provide a machine of the class referred to which will be simple in construction and effective in operation and which, in addition to cleaning the bags, will separate the finer particles of cement from the lumps.

In the accompanying drawings, which illustrate one form of bag cleaning machine made in accordance with my invention, Figure 1 is a vertical longitudinal section on the line 1—1 of Fig. 2; Fig. 2 is a vertical cross-section; Fig. 3 is an enlarged detailed view of the braking devices for the bag carrying shaft; Fig. 4 is an enlarged sectional view showing the locking devices for the bag carrying shaft and Fig. 5 is an enlarged sectional view showing the bag carrying shaft and one of the beater boards.

Like marks of reference refer to similar parts in the several views of the drawings.

10 is the casing of the machine which may be made in any suitable form. Journaled in the casing 10 is the main or bag carrying shaft 11. This shaft 11 is provided with clamping devices each consisting of a spring 14 secured to the shaft and provided at its end with a finger 15 adapted to enter an opening 16 in the shaft. The bags 17 are secured to the shaft as shown in Fig. 2 with the mouths of the bags downward when the shaft is in the position here shown. The shaft 11 is provided with tight and loose pulleys 12 and 18 and is driven by means of the belt 19 passing around one of the said pulleys and a pulley 20 upon a driving shaft 21 preferably located above the casing 10. In order to stop the shaft 11 without loss of time when the belt 19 is shifted to the

loose pulley 18, I provide the opposite end of the said shaft with a brake-wheel 22 surrounded by a band brake 23. The band brake 23 is secured at 24 to the casing 10 and the opposite end is secured to a pin 25 carried on a lever 26 pivoted at 27 to the casing 10 and provided with a handle 28. By moving the handle 28 in the direction indicated by the arrow in Fig. 3 the band brake 23 will be firmly clamped around the brake wheel 22, thus bringing the shaft 11 immediately to rest.

In order to secure the shaft 11 in the position shown in Fig. 2, I provide the said shaft with a pin 29. This pin 29 is adapted to be engaged by means of a detent 30 shown in detail in Fig. 4. The detent 30 is carried upon a stem 31. The stem 31 passes through the end of the casing 10 and is provided with a handle 32. Surrounding the stem 31 is a coil spring 33 engaging at one end with a casing 34 in which the stem 31 passes and at the other with a pin 35 on the stem 31. The coil spring 33 thus holds the detent in the position shown in Fig. 4. The stem 31 is also provided with a pin 36 adapted to enter a slot 37 in the sleeve 38, which sleeve is carried by the casing 34. By withdrawing the handle 32 against the pressure of the coil spring 33, the detent 30 is moved out of engagement with the pin 29. By now rotating the handle 32, the pin 36 may be made to engage with the end of the sleeve 38 thus retaining the detent out of engagement with the pin.

Adjacent to the shaft 11 are arranged a number of beater boards 40. These boards 40 are carried on a cross-piece 41 and are each divided into three parts. The parts are connected by means of hinges 42 and are normally held in alinement by means of springs 43. The springs and hinges, however, allow the two upper parts of the board to yield when they are struck by the bags carried by the shaft 11.

At the opposite side of the shaft 11 from the beater boards 40 is a shaft 45. The shaft 45 is provided with depending chains or other flexible beaters 46. The shaft 45 is driven by means of tight and loose pulleys 47 and 48 respectively. Surrounding one of these pulleys and the pulley 49 on the driving shaft 21 is a belt 50.

The lower part of the casing 10 is provided with a hopper 51 terminating in a trough 52 containing a spiral conveyer 53.

The spiral conveyer 53 is driven by means of a belt 54 passing around a pulley 55 on the shaft of the said conveyer and a pulley 56 on the driving shaft 21. Arranged above the conveyer 53 is an inclined screen 57 best shown in Fig. 2. This screen 57 allows the finer particles of cement to pass through it to the conveyer 53, but guides the lumps and coarser portions into the trough 58 which is provided with a door 59 by means of which the said lumps may be removed.

60 is a door formed in the side of the casing 10 to allow the insertion and removal of the sacks 17.

The operation of my machine is as follows: Both the shafts 11 and 45 are stopped by means of shifting the belts 19 and 50 to the loose pulleys. The door 60 may now be opened and the bags secured to the shaft 11 by means of the springs 14. After the casing is closed, the detent 30 is withdrawn from the pin 29 so as to allow the shaft 11 to freely rotate and the belt 19 is shifted to the tight pulley 12. The shaft 11 is now rotated so as to cause the bags 17 to strike against the beater boards 40 and also against the shaft 45 and chains 46. After a portion of the cement has been thus removed from the bags, the belt 19 is shifted to the loose pulley 18 and the brake 23 applied to the brake wheel 22 so as to stop the rotation of the shaft without loss of time. The detent 30 is now caused to engage with the pin 29 so as to hold the shaft 11 in the proper position so that the bags 17 will hang down in the position shown in Fig. 2. The belt 50 is now shifted to the tight pulley 47 so as to cause the shaft 45 to rotate and thus cause the chains 46 to strike against the sides of the bags 17 and complete the cleaning of the bags. The screen 57 will separate the finer particles of cement from the coarser so that the finer may pass to the conveyer 53 and be delivered into any suitable receptacle, while the coarser particles collect in the trough 59.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a bag cleaning machine, the combination with a shaft, of means for rotating said shaft, means for securing a bag to said shaft, and a hinged striking board adjacent to said shaft against which the bag strikes as the shaft rotates.

2. In a bag cleaning machine, the combination with a shaft, of means for rotating said shaft, means for securing a bag to said

shaft, a striking board hinged at a plurality of points and arranged adjacent to said shaft, and springs opposing the movement of the hinges of said board.

3. In a bag cleaning machine, the combination with a shaft, of means for securing a bag to said shaft, an abutment on one side of said shaft, a second shaft at the opposite side of said first shaft, flexible beaters carried by said second shaft, and means for rotating said shafts.

4. In a bag cleaning machine, the combination with a shaft, of means for securing a bag to said shaft, a yielding abutment at one side of said shaft, a second shaft at the opposite side of said first shaft, flexible beaters carried by said second shaft, and means for rotating said shafts.

5. In a bag cleaning machine, the combination with a shaft, of means for securing a bag to said shaft, a hinged striking board at one side of said shaft, a second shaft at the opposite side of said first shaft, flexible beaters carried by said second shaft, and means for rotating said shafts.

6. In a bag cleaning machine, the combination with a shaft, of means for securing a bag to said shaft, a hinged striking board at one side of said shaft, springs opposing the movement of the hinges of said board, a second shaft at the opposite side of said first shaft, flexible beaters carried by said second shaft, and means for rotating said shafts.

7. In a bag cleaning machine, the combination with a shaft, of means for securing a bag to said shaft, a retaining device for temporarily securing said shaft in a given position, a second shaft adjacent to said first shaft and provided with flexible beaters, and means for rotating said shafts.

8. In a bag cleaning machine, the combination with a shaft, of means for securing a bag to said shaft, a retaining device for temporarily securing said shaft in a given position, a yielding striking member arranged at one side of said shaft, a second shaft arranged at the other side of said first shaft, and means for separately rotating each of said shafts while the other is at rest.

In testimony whereof, I have hereunto set my hand and affixed my seal in the presence of the two subscribing witnesses.

EDWARD L. BUSCHMAN. [L. s.]

Witnesses:

BESSIE S. MORAN,
CHAS. E. VAN WICKLE.