No. 841,309. PATENTED JAN. 15, 1907.

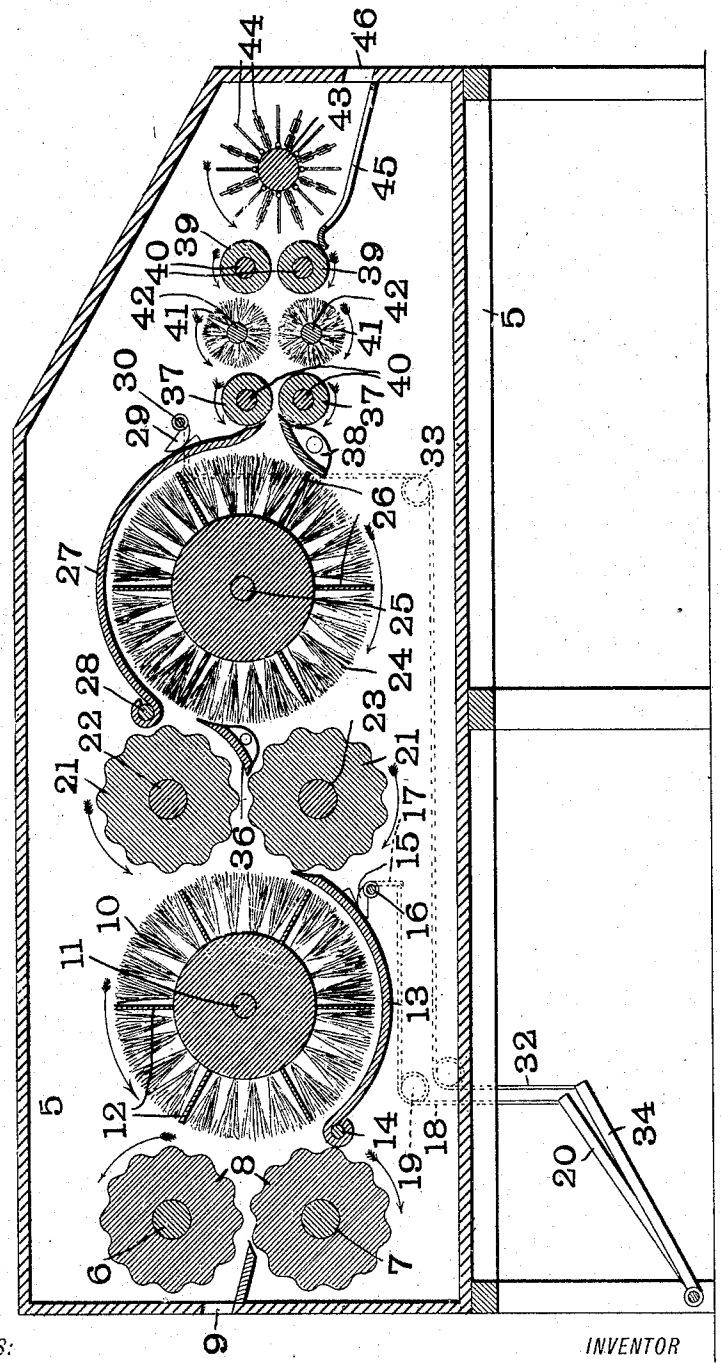
E. L. BUSCHMAN.

MACHINE FOR CLEANING BAGS AND THE LIKE.

APPLICATION FILED AUG. 24, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

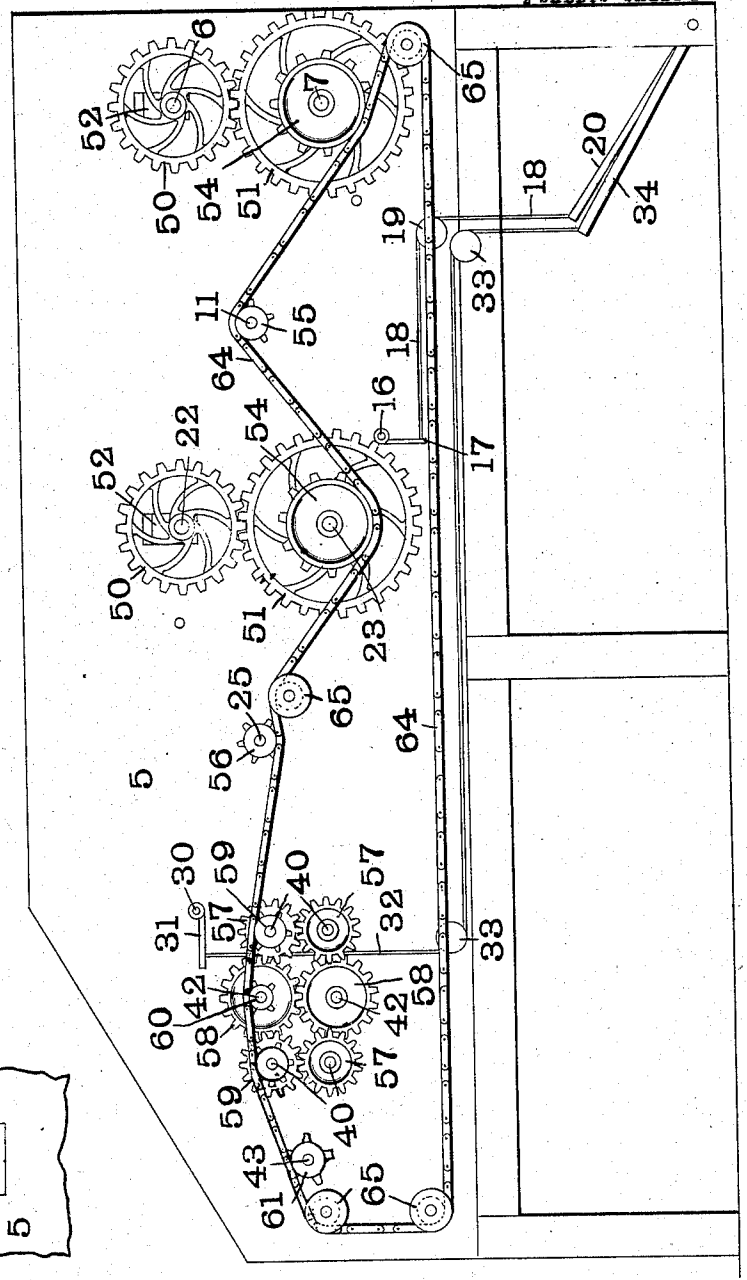
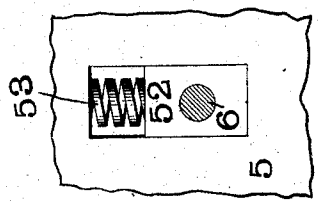


Fig. 3.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR CLEANING BAGS AND THE LIKE.

No. 841,309. Specification of Letters Patent. Patented Jan. 15, 1907.

Application filed August 24, 1905. Serial No. 275,530.

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 Orange, State of New Jersey, have invented a certain new and useful Machine for Cleaning Bags or the Like, 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 machine for cleaning bags or the like, and more particularly to a machine adapted to clean bags which have contained cement or other similar material which cakes upon the bags.

In the accompanying drawings, which illustrate one form of machine made in accordance with my invention, Figure 1 is a vertical central section. Fig. 2 is a side elevation, and Fig. 3 is an enlarged view showing a detail of construction.

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

5 is the casing of the machine. Journaled in the sides of the casing 5, near one end of the said casing, are a pair of shafts 6 and 7, upon which are carried corrugated rolls 8. Adjacent to these rolls 8 is the inlet-opening 9, through which the bags or other articles to be cleaned are fed into the machine. The shafts 6 and 7 are rotated by gearing, as will be hereinafter more fully described, so that one of the shafts rotates at a greater speed than the other in order that the corrugations of the rolls 8 may act to loosen the cement or other material adhering to the article to be cleaned.

At the rear of the rolls 8 is a rotary brush 10, mounted on a shaft 11. This brush 10 is provided with a number of scraping-blades 12, so as to act both as a brush and a scraper. The brush rotates in the direction indicated by the arrow in Fig. 1, and the articles to be cleaned are held against the under side of the brush by means of a concave 13, pivoted at 14. This concave 13 is controlled by means of a cam 15, carried on a shaft 16. Carried on the shaft 16 outside of the casing 5 is an arm 17, from which extends a cord or wire 18, passing over a pulley 19 and attached to a treadle 20, so that the concave may be controlled by means of the said treadle. At the rear of the brush 10 are a pair of corrugated rolls 21, similar to the rolls 8, hereinbefore described. These rolls 21 are mounted on shafts 22 and 23, which are driven in a manner similar to the shafts 6 and 7, as will be hereinafter more fully described. At the rear of the rolls 21 is a rotary brush 24, similar to the brush 10. This brush 24 is mounted upon a shaft 25 and is provided with scraping-blades 26, so as to act both as a brush and a scraper. The bags or other articles to be cleaned are held against the upper side of the brush 24 by means of a concave 27, pivoted at 28. This concave 27 is controlled by means of a cam 29 on a rock-shaft 30. This rock-shaft has secured to it outside of the casing an arm 31, to which is attached a cord or wire 32, passing over pulleys 33 and attached to a treadle 34, so that the concave 27 can be controlled by means of the treadle 34. 36 is a guide which is interposed between the rolls 21 and the brush 24, so as to insure the articles passing to the upper side of the brush. At the rear of the brush 24 are a pair of small rolls 37. The articles to be cleaned may be guided to these rolls 37 by means of a guide 38, interposed between the rolls and the brush 24. Some distance at the rear of the rolls 37 are similar rolls 39. These rolls 37 and 39 are each mounted upon a shaft 40.

Between the two sets of rolls 37 and 39 are a pair of rotary brushes 41, carried by shafts 42. At the rear of the rolls 39 is a rotary member 43, to which are pivotally attached beaters 44. These beaters 44 are preferably partly composed of chains and partly of rigid members, as plainly shown in Fig. 1 of the drawings. The beaters 44 coöperate with a concave grating, (shown in section at 45,) which allows the dust from the articles cleaned to pass through into the lower part of the machine, after which the articles pass out of the machine through the outlet-opening 46.

Referring now more particularly to the mechanism for driving the various rolls and brushes, the shaft 6 has secured to it a gear-wheel 50, and the shaft 7 has secured to it a gear-wheel 51, meshing with the gear-wheel 50, so as to drive the two rolls in opposite directions, as indicated by the arrows in Fig. 1. The gear-wheel 50 is made smaller than the gear-wheel 51, so as to impart a greater speed to the upper roll than to the lower, and owing to the corrugated form of the rolls this will cause the corrugations to strike against the articles to be cleaned and loosen the cement or other material adhering to the articles.

Owing to the corrugated form of the rolls and the fact that one of the rolls is rotated at greater speed than the other, it is necessary that some provision be made for allowing one of the rolls to yield. This is accomplished by mounting the shaft 6 in sliding journals 52, as shown in detail in Fig. 3. These journals 52 are held in position by means of a spring 53, so that the roll can yield. On the shaft 7, in addition to the spur-wheel 51, is a sprocket-wheel 54. On the shaft 11 is mounted a sprocket-wheel 55. On the shafts 22 and 23 are mounted spur-wheels 50 and 51 and sprocket-wheel 54, similar to the wheels mounted upon the shafts 6 and 7 and similarly numbered. The shaft 52 is yieldingly mounted in the same manner as explained in connection with the shaft 6. On the shaft 25 is mounted a spur-wheel 56. On each of the shafts 40 is mounted a spur-wheel 57, the two wheels of each set of shafts meshing, so as to drive the rolls of each set in opposite directions, as shown in Fig. 1. The shafts 42 are in like manner provided with spur-wheels 58, which are in mesh. The two upper shafts 40 are provided with sprocket-wheels 59 and the upper shaft 42 with a sprocket-wheel 60. The shaft 43 is provided with a sprocket-wheel 61. 64 is a sprocket-chain which passes around the various sprocket-wheels and around suitable idle wheels 65 for guiding the said chain and holding it in position against the various sprocket-wheels.

In the operation of my machine the bags or other articles to be cleaned are fed into the machine through the inlet-opening 9, the article to be cleaned first passing between the two corrugated rolls 8, where the material adhering to the said article is loosened by means of the action of the corrugated rolls, after which the article passes between the concave 13 and the rotary brush and scraper 10. The pressure of the article against the brush and scraper can be regulated by means of the treadle 20. This brush and scraper 10 removes the material adhering to one side of the article, after which the article passes between the rolls 21, where it is again subjected to the action of the corrugated rolls to loosen any material which has not been loosened by the first set of rolls. After leaving this set of rolls the article passes to the upper side of the brush 24, so that the article is held between the concave 27 and the brush and scraper 24, and the other side of the article is operated on by the said brush and scraper. Both sides of the article have now been operated upon by the combined brushes and scrapers, after which the article passes between and is held by the two sets of rolls 37 and 39, and a final brushing is given to the article by means of the two brushes 41, arranged between these two sets of rolls, after which the article is acted upon by the rotary beaters 44 and any remaining dust adhering to the article thus forced through the concave grating 45, after which the article is discharged through the outlet-opening 46.

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 machine for cleaning bags or the like, the combination with a pair of longitudinally-corrugated rolls, of means for driving said rolls at different speeds, and a rotary brush operating on the material after the said material has passed between said rolls.

2. A machine for cleaning bags or the like comprising two pairs of longitudinally-corrugated rolls, means for driving the rolls of each pair at different speeds, a rotary brush between the pairs of rolls, a second rotary brush beyond the second pair of rolls and concaves under one brush and over the other brush to hold the material to the said brushes.

3. A machine for cleaning bags and the like comprising a pair of longitudinally-corrugated rolls, means for driving the rolls at different speeds, a rotary brush, a concave under the brush to hold the material thereagainst, a second pair of longitudinally-corrugated rolls to which the material is fed by the brush, a guide at the rear of said second pair of rolls to direct the material upwardly, a second rotary brush, a concave thereover, a second guide at the rear of the second brush and a pair of rolls receiving the material from the second guide.

4. A machine for cleaning bags and the like, comprising a pair of longitudinally-fluted rolls, a rotary brush in rear thereof, a pivoted concave thereunder, a treadle mechanism for raising the concave, a second pair of corrugated rolls receiving the material from the brush, a guide beyond the second pair of rolls, a second rotary brush, a second pivoted concave above said brush, and a treadle mechanism for depressing said second concave.

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

EDWARD L. BUSCHMAN.

Witnesses:
CLAUDE O. PEARCY,
BENNETTE PIKE.