

J. E. BAKER.
MACHINE FOR CLEANING FABRICS.
APPLICATION FILED JUNE 10, 1910.

1,028,317.

Patented June 4, 1912

2 SHEETS—SHEET 1.

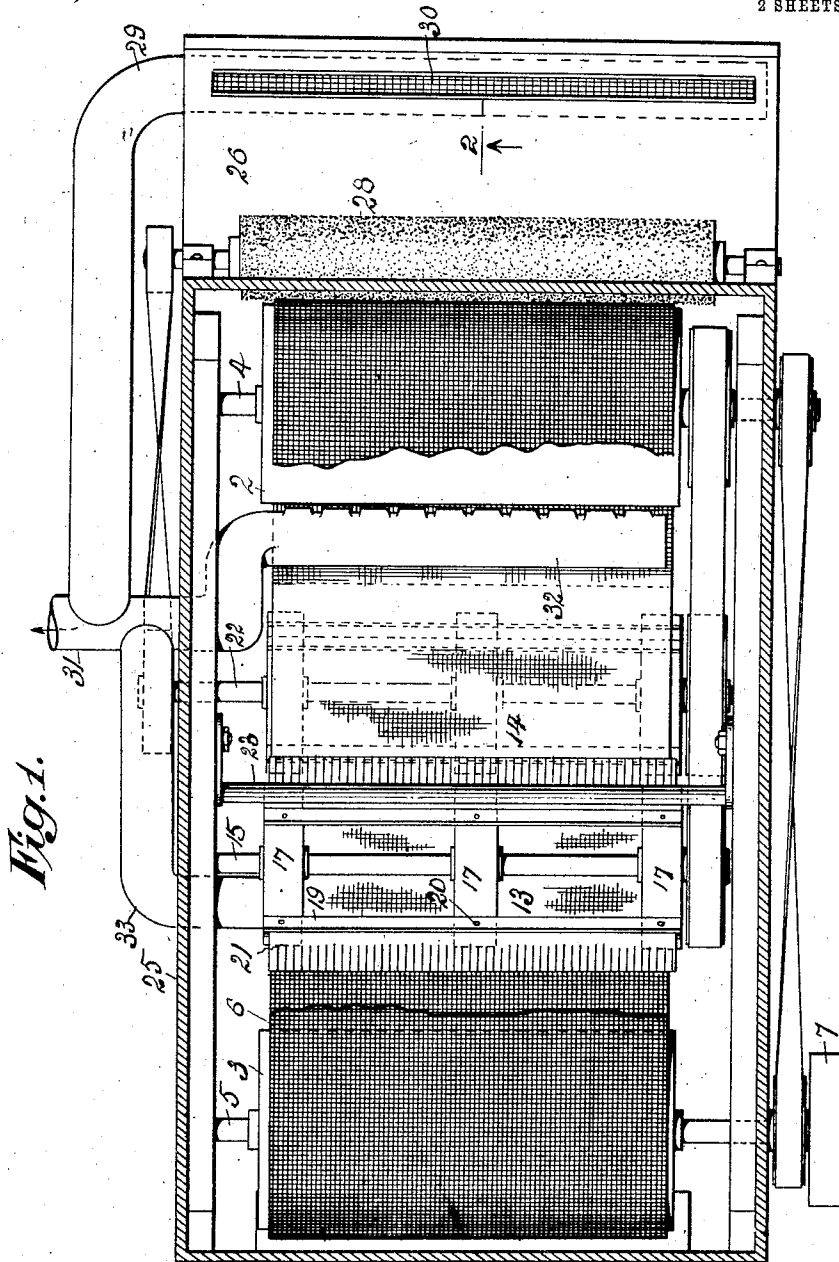


Fig. 1.

Attest:
H. C. West
H. C. West

James E. Baker Inventor:
by *H. Albertus West*

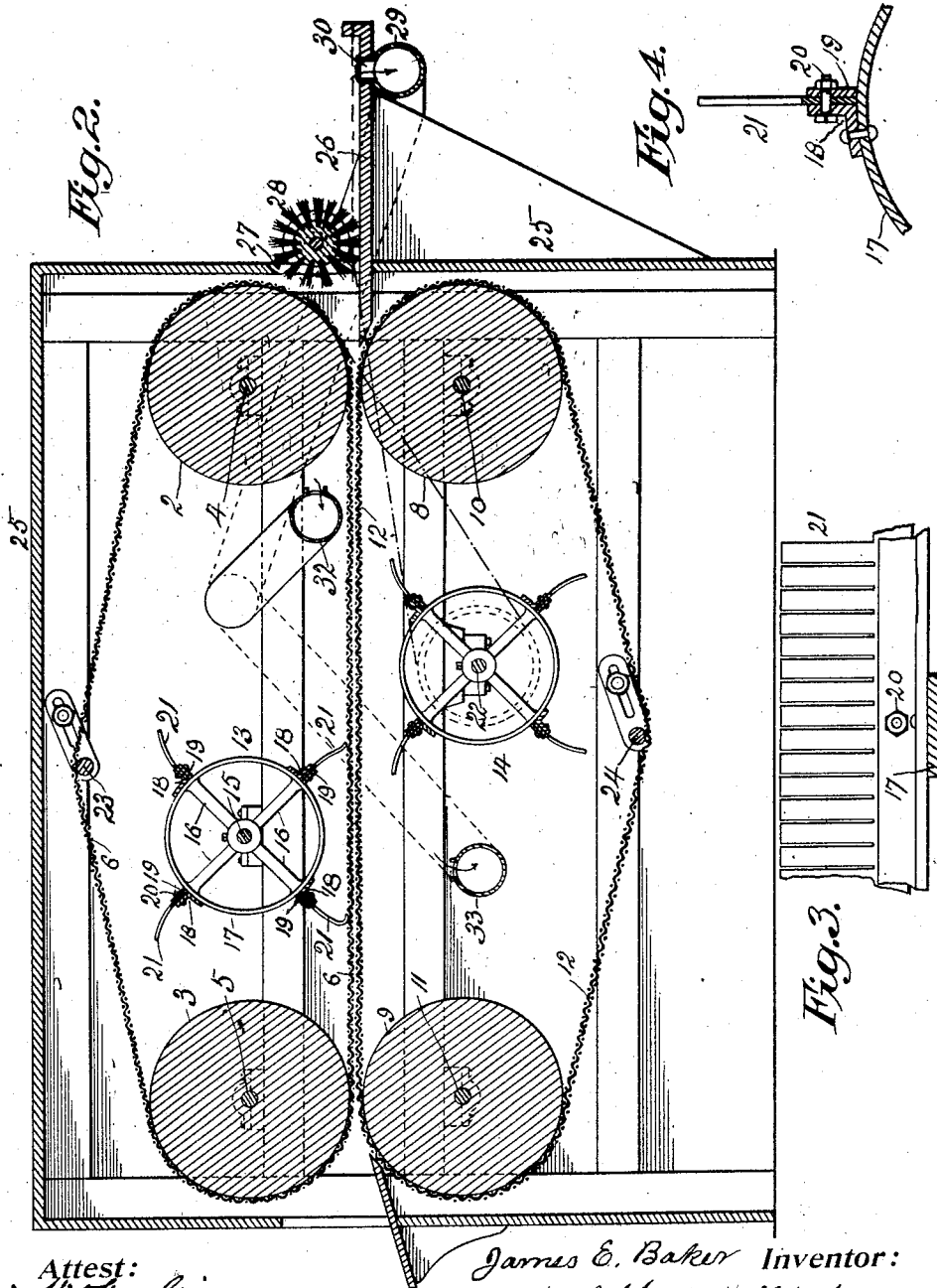
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UNITED STATES PATENT OFFICE.

JAMES E. BAKER, OF NEW YORK, N. Y.

MACHINE FOR CLEANING FABRICS.

1,028,317.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed June 10, 1910. Serial No. 566,278.

To all whom it may concern:

Be it known that I, JAMES E. BAKER, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Machines for Cleaning Fabrics, of which the following is a specification.

My invention relates to a machine for dry-cleaning fabrics. I employ it particularly for cleaning felt which has been ornamented by the use of flock the same having been dusted upon paint applied to the felt by means of stencils, the flock not retained by the paint and scattered over the unornamented surface of the felt being removed by the machine. The cleaning is done by violently vibrating or shaking the fabric the same being held between traveling aprons of wire cloth of small mesh, about 10 to the inch, the vibrators acting upon the surfaces of the aprons so as to vibrate them and with them also the fabric to be cleaned. The dust is removed from the inclosure or housing of the machine by means of an air exhaust.

My invention is also applicable for cleaning fabrics stenciled with gum or other adhesive material and dusted with bronze powder the non-adhesive portions of which are afterward removed by the machine and to cleaning lace curtains, cloth, furs, rugs, carpets, garments and the like.

In the accompanying drawings, to which reference is made, and which form a part of this specification, Figure 1. is a broken and sectional plan view of the machine. Fig. 2. is a sectional elevation of the machine taken on line 2—2 of Fig. 1. Fig. 3. is a detailed sectional front elevation of one of the vibrators and Fig. 4 is a transverse sectional elevation of the same.

In the drawings 2, 3 designate upper rollers or drums secured respectively upon shafts 4, 5. Upon these drums is placed an endless apron 6 of wire cloth of about ten mesh to the inch. The shaft 5 is provided with a pulley 7 for rotating it and the drum 3, thus imparting to the apron 6 a traveling motion.

The numerals 8, 9 (see Fig. 2) designate two lower drums secured respectively upon the shafts 10, 11. Upon these lower drums is placed an endless apron 12 of wire cloth the same as the upper apron 6, and these drums are rotated to impart a traveling mo-

tion to the apron 12 at a uniform speed with that of the upper apron 6.

Within the apron 6 is placed a device 13 for vibrating its lower portion and within the apron 12 is placed another similar device 14 for vibrating its upper portion. The lower vibrator 14 is located in advance of the upper vibrator 13, as shown, or this order may be reversed. These vibrators may be, and are, by preference, duplicates of each other, and by preference rotatory by means of belts and pulleys, as shown in Fig. 1, or in any other suitable way. The upper vibrator 13 is secured to a shaft 15 and comprises a plurality of pokes 16, 16 to which are secured two or more, preferably three, circular bands 17 (see Fig. 1), forming a skeleton drum. To the said bands are secured four angular plates 18 (see Fig. 4), to which are secured by means of clamp plates 19 and bolts 20 the vibrator arms 21 preferably four in number. These vibrator arms are made of material suitable to depress the lower portion of the apron 6 as they pass in contact with it, but not of such material as will damage the apron. I have found that heavy sole leather is very suitable for these arms. The lower vibrator 14 is secured to the shaft 22 and is a duplicate of the upper vibrator and need not therefore be described in detail, but its vibrator arms 21^a operate to lift the upper portion of the apron 12 as they pass in contact with it and this lower vibrator is by preference rotated in a direction opposite to that of the upper vibrator, and the vibrator arms of the lower one not only lift the upper portion of the apron 12 but they also lift the lower portion of the upper apron 6. In this way the two vibrators impart a violent shaking or vibratory action to both of the traveling aprons. The violence of this shaking or vibratory motion may be controlled by the belt adjuster 23 for the upper and 24 for the lower apron, by which the tautness of the aprons, one or both, may be increased or relaxed. It is preferable to adjust the upper apron so that at its lower portion it will sag in contact with the lower apron, or rather sag in contact with the article to be cleaned as it is carried along by the traveling movement of the aprons.

25 designates the inclosure or housing of the machinery and 26 designates a feeding table at the front of the machine. Working upon this table and partially within the

feeding opening 27 in the inclosure is placed a rotating brush 28, designed to assist in feeding the article to be cleaned into the machine between the aprons. Attached to the table 26 is an exhaust or vacuum pipe 29 with an opening 30 through the table. This pipe connects with a main exhaust or vacuum pipe 31 and from this latter pipe a branch 32 leads into the endless apron 6 and another branch 33 leads into the apron 12, the two branches operating to draw the dust from the interior of the machine and to discharge it through the main pipe 31 outside of the building or into any suitable dust receiver. The pipe 29 carries away the dust from the table 26, which would otherwise lodge there.

The fabric to be cleaned is illustrated (see Fig. 2) in dotted lines on the table 26. Its thickness is greater than the width of the space between the adjacent surfaces of the two aprons and it is carried along by the latter and is snugly held between them and partakes of the vibratory action of both aprons. This vibratory action thoroughly cleans the fabric without the slightest injury thereto and without the slightest injury to the ornamentation applied to the fabric, no matter how delicate or frail.

I do not limit myself to the use of wire cloth as the material for the endless apron, but the durability and the elasticity and springiness of this material renders it very effectual in performing the work and particularly so when the fabric to be cleaned is of a frail and delicate nature.

Having thus described my invention what I claim as new and desire to secure by Letters-Patent is:

1. A machine for cleaning fabrics comprising a pair of upper rotating drums, an endless apron on said drums, a pair of lower drums, an endless apron of foraminous ma-

terial mounted on said lower drums, a vibrator arranged to rapidly vibrate the adjacent portion of both of said aprons between the pairs of drums, a housing inclosing the operative parts of the machine and an air exhaust for the housing, substantially as described.

2. A machine for cleaning fabrics comprising a pair of upper rotating drums, an endless apron of foraminous material mounted on said drums, a pair of lower drums, an endless apron of foraminous material mounted on said lower drums, a vibrator located within the upper apron, a vibrator located within the lower apron, a housing inclosing the operative parts of the machine and exhaust or vacuum pipes arranged within the housing, substantially as described.

3. A machine for cleaning fabrics, comprising a pair of upper rotating drums, an endless apron of wire cloth applied to said drums, a pair of lower rotating drums, an endless apron of wire cloth applied to said lower drums, a rotating vibrator located within the upper apron and a rotating vibrator located within the lower apron, one of said vibrators being located in advance of the other, substantially as described.

4. A machine for cleaning fabrics comprising a pair of upper rotating drums, an endless apron of wire cloth mounted on said drums, a pair of lower drums, an endless apron of wire cloth mounted on said lower drums, a vibrator located within the upper apron, a vibrator located within the lower apron, a housing inclosing the operative parts of the machine and exhaust or vacuum pipes arranged within the housing, substantially as described.

JAMES E. BAKER.

Witnesses:

F. McFARLAN,
WALTER DUKE.