

C. F. PEASE.
 SCRUBBING AND BRUSHING MACHINE.
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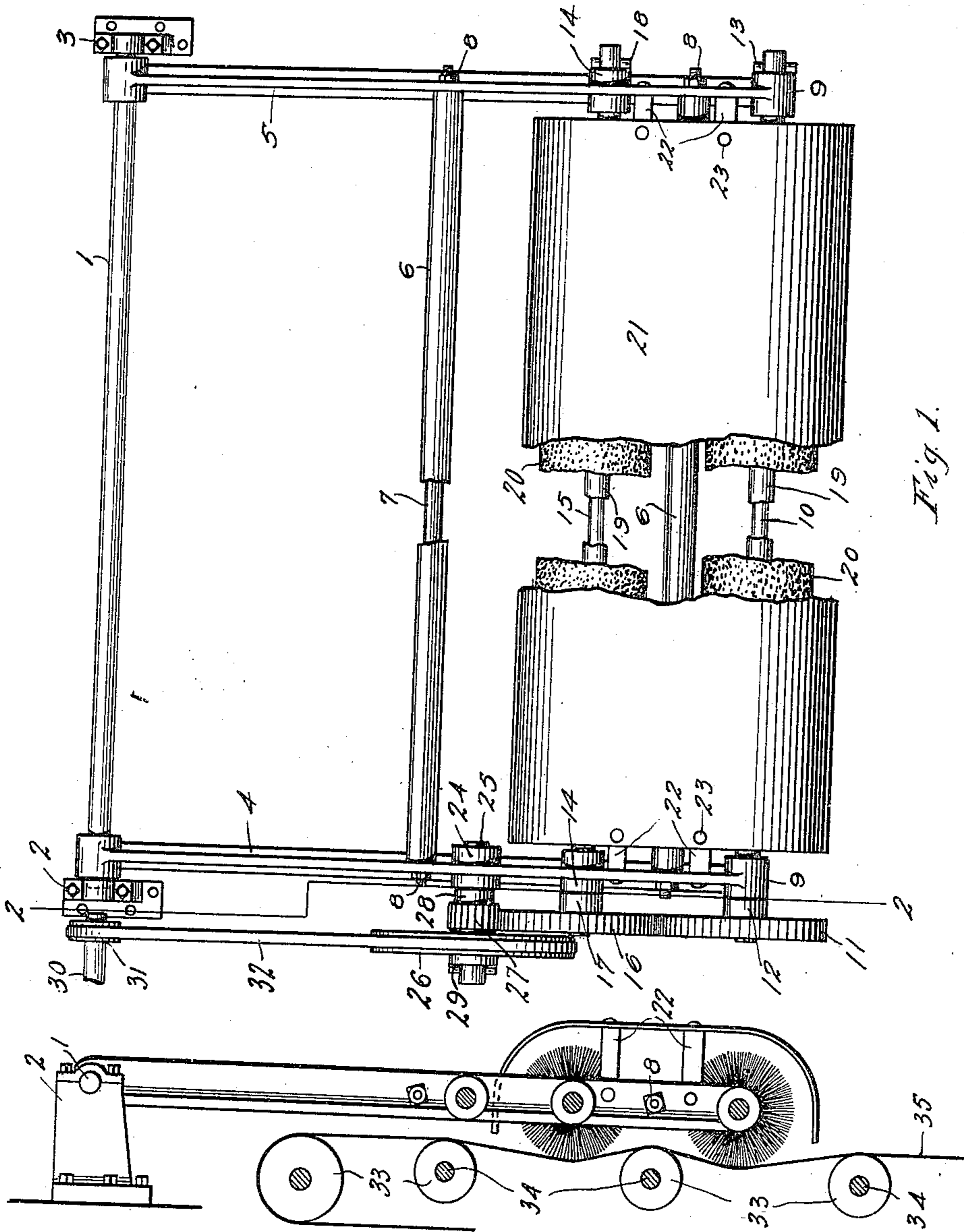


Fig. 1.

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

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SCRUBBING AND BRUSHING MACHINE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES F. PEASE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Scrubbing and Brushing Machines, of which the following is a specification.

My invention relates to a scrubbing and brushing machine.

My invention has for one of its objects the provision of a scrubbing and brushing machine, adapted to be used in the manufacture of wall paper or the like, and so constructed that said paper will not be subjected to pulls which might tear the same.

Other objects and advantages of my invention will be apparent hereinafter.

In the accompanying drawings, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a side view of the device. Fig. 2 is a vertical cross sectional view taken on the line 2—2 of Fig. 1.

In the drawings, wherein is illustrated a preferred embodiment of my invention, the numeral 1 designates a horizontally arranged cylindrical shaft, which has its ends mounted within fixed brackets 2 and 3. Pivottally mounted upon the shaft 1 near the brackets 2 and 3 respectively, are swinging arms 4 and 5. These arms in their normal position occupy preferably a substantially vertical position, as shown, and it is to be understood that the same are capable of swinging laterally by virtue of their pivotal connections with the shaft 1. The arms 4 and 5 are rigidly connected and held in a parallel position with relation to each other, by means of spaced sleeves 6, arranged horizontally between the same as shown. Each of the sleeves 6 has a rod 7, arranged within its axial opening, which extends beyond the same and pass through openings formed in the arms 4 and 5. The ends of the rod 7 are screw threaded to receive nuts 8, whereby the sleeve 6 may be clamped to the arms 4 and 5.

The lower end of each of the arms 4 and 5 is provided with a cylindrical enlarged portion or head 9, which has an axial opening formed therethrough, within which is rotatably mounted a cylindrical shaft 10. The shaft 10 extends beyond the heads 9 and is provided at its left end with a pinion 11

having a hub 12, which is rigidly mounted upon the shaft 10. The opposite end of the shaft 10 is provided with a transverse opening to receive a pin 13, which prevents the longitudinal displacement of the shaft. The arms 4 and 5 are further provided near and spaced from the heads 9, with cylindrical enlarged portions 14, which are provided with axial openings to rotatably hold a cylindrical shaft 15.

As shown in Fig. 1, the shafts 10 and 15 are arranged in a horizontal position, and these shafts are accordingly parallel to each other. The shaft 15 extends outwardly beyond the enlarged portions 14 and is provided at its left end with a pinion 16, having a hub 17 which is rigidly mounted upon the shaft 15 by any suitable means. The opposite end of the shaft 15 is provided with a transverse opening to receive a pin 18, which prevents the longitudinal displacement of the shaft 15 with relation to the arms 4 and 5. Each of the shafts 15 and 10, have arranged thereon a tubular member 19, which is keyed or otherwise prevented from having rotation with relation to the shaft upon which the same is arranged. The tubular member 19 forms the body portion of a rotary brush 20. The bristles of the brush 20 may be secured upon the tubular member 19 in any preferred or well known manner. A shield 21, substantially U-shaped in cross section, is arranged upon the outer side of the brushes 20, and is supported by brackets 22, which are fixedly connected to said shield and to the arms 4 and 5, as shown at 23. Below and near the upper sleeve 6, the arm 4 is provided with a cylindrical enlarged portion 24, which has an axial opening formed therethrough to receive and rigidly hold a stud shaft 25. Upon this stud shaft is rotatably mounted a pulley and pinion 26 and 27 respectively, which are preferably cast integral. A collar 28 is arranged upon the stud shaft 25, as shown to retain the pinion 27 in its proper position so that the same will be in constant mesh with the pinion 16, which is also in constant mesh with the pinion 11. The stud shaft 25 extends outwardly beyond the pulley 26 and is provided with a transverse opening to receive a pin 29, which prevents the displacement of the pulley 26 and pinion 27. A driving shaft 30 is arranged adjacent the shaft 1 and is provided with a pulley 31 rigidly mounted

upon the same. An endless belt 32 is trained about the pulleys 26 and 31, and affords means whereby rotation may be imparted to the brushes 20 from the shaft 30.

5 Inwardly of the arms 4 and 5 are disposed spaced rollers 33, mounted upon suitably supported shafts 34. These rollers are driven in the same direction by any desired means. The material to be brushed
10 and scrubbed, such as wall paper, is designated by the numeral 35, and is shown as traveling about the rollers in the form of an endless belt. The rollers 33 are arranged in a plane which is parallel to the arms 4
15 and 5, when such arms are in their normal vertical position. The rollers 33 are also arranged at a suitable distance from the arms 4 and 5, so that the brushes 20 will engage the material 35, as clearly illustrated in Fig. 2.
20 In the operation of my machine, the paper 35 is first run through a suitable receptacle containing the liquid with which said paper is to be treated, and then said paper is made to travel along the rollers 33, as illustrated
25 in Fig. 2. The rotation of the driving shaft 30 is imparted to the pinion 27, which accordingly rotates the pinion 16, whereby the brushes 20 are made to rotate in opposite directions. When the arms 4 and 5 are in their
30 normal vertical position, the oppositely rotating brushes 20 will engage the material or paper 35 to brush and scrub the same. I wish it understood that I do not restrict myself in this manner of applying the liquid
35 to the paper, as said liquid may be applied to the paper 35 by pouring the same thereon or by pouring the liquid upon the brushes 20. It is obvious that a certain strain is put upon the material 35 by the rotation of the
40 rollers 33 to cause the paper to travel about the same. By having the brushes 20 driven in opposite directions, no additional pull is added to the paper in the direction of its travel or against the direction of its travel.
45 The strain exerted upon the paper by the oppositely rotating brushes, is confined entirely to the portion of the paper between said brushes. If the pull upon the paper exerted by the rollers 33 should be increased,
50 so that said paper is drawn tight, owing to the swinging ability of the arms 4 and 5, said brushes 20 will be automatically moved away from the paper to relieve the same of some of its strain.

55 I wish it understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that certain changes in the form, shape, and arrangement of parts may be resorted to without departing from the spirit of my invention, as set forth in the annexed claims.
60 Having fully described my invention, I claim:—

65 1. In a machine of the character described, a suitably supported shaft, arms pivotally

connected to the same, rotary brushes mounted between the said arms, and means to rotate said brushes in opposite directions.

2. In a machine of the character described, a suitably supported shaft, arms pivotally
70 connected to the same, shafts journaled through said arms, rotary brushes mounted upon said shafts, pinions mounted upon said shafts and in engagement with each other, and driving means for one of said pinions
75 to effect the rotation of said brushes in opposite directions.

3. In a machine of the character described, a suitably supported shaft, arms pivotally
80 connected to said shaft, to be capable of oscillating laterally, shafts journaled through said arms, rotary brushes mounted upon said shafts, pinions mounted upon said shaft to mesh with each other, a third pinion rotatably mounted upon one of said arms to
85 mesh with one of the first named pinions, and means to rotate said third pinion to effect the rotation of said brushes in opposite directions, without interfering with the oscillatory movement of said arms. 90

4. In a machine of the character described, a suitably supported shaft, arms pivotally
95 mounted upon the same, shafts rotatably mounted upon said arms, rotary brushes arranged upon said shafts, a train of gears to rotate said shafts in opposite directions, a pulley connected to one of the gears of said
100 train of gears, a driving shaft, and driving connecting means between the same and said pulley.

5. In a machine of the character described, a suitably supported shaft, arms pivotally
105 mounted upon the same, rotary brushes mounted between said arms, a train of gears to rotate said brushes in opposite directions, a pulley connected to one of the gears of said train of gears, a driving shaft, driving connecting means between the same and said
110 pulley, and a shield connected to said arms to partially cover said brushes.

6. In apparatus of the character described, the combination with means over which the fabric is passed, of a swinging structure arranged to cooperate with said means, brushes
115 connected with said structure, and means to effect the rotation of said brushes.

7. In apparatus of the character described, the combination with means over which the fabric is passed, a swinging structure arranged to cooperate with said means, brushes
120 connected with said structure to engage the fabric, and common means to rotate said brushes in opposite directions.

8. In apparatus of the character described, a support, a swinging supporting structure
125 having suitable connection with said support, brushes suitably connected with said swinging supporting structure, and means to rotate said brushes in opposite directions.

9. In apparatus of the character described, 130

a support, a swinging supporting structure having suitable connections with said support, brushes suitably connected with said swinging supporting structure, means to rotate said brushes in opposite directions, and a shield connected with said swinging supporting structure to cover portions of said brushes.

10. In apparatus of the character described, a swingingly mounted supporting

structure, a pair of brushes arranged near each other and suitably connected with said supporting structure, and means to rotate said brushes in opposite directions.

In testimony whereof I affix my signature 15
in presence of two witnesses.

CHARLES F. PEASE.

Witnesses:

FRANK H. HALLEFAX,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
