

No. 637,793.

Patented Nov. 28, 1899.

D. HUFHAND.

BRUSHING APPARATUS FOR POTTERY WARE.

(Application filed Aug. 18, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

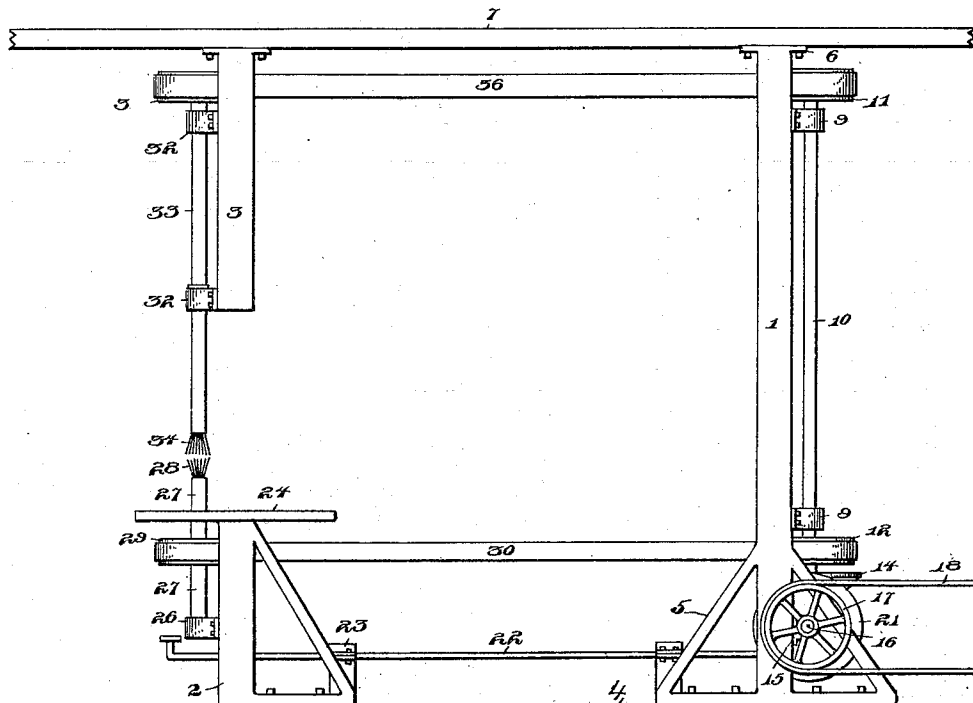
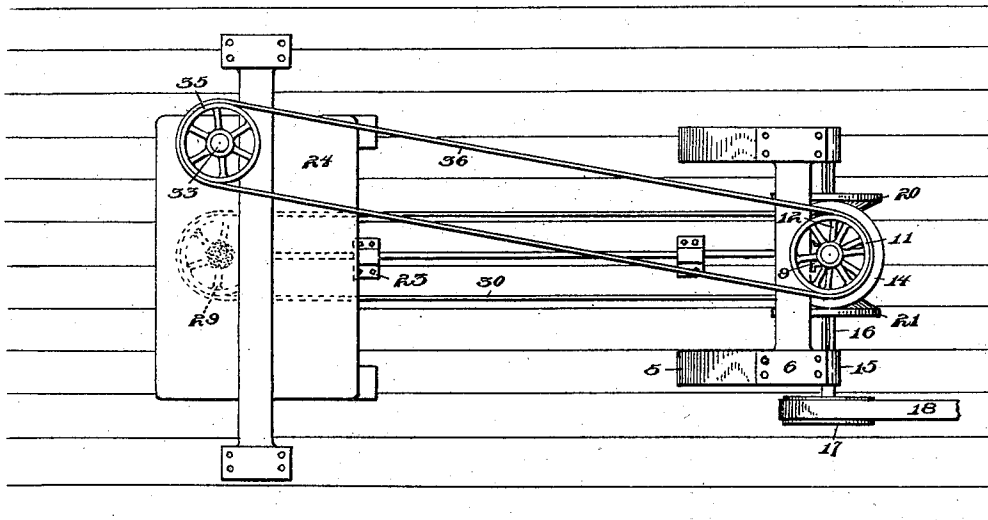


Fig. 2.



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2 Sheets—Sheet 2.

Fig. 3.

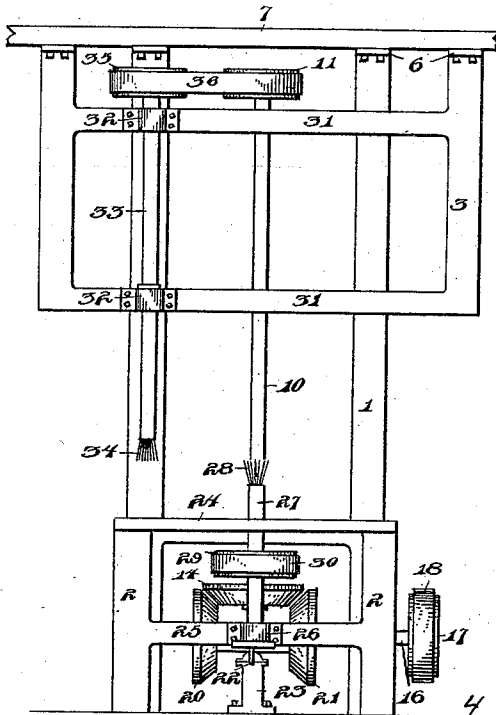


Fig. 4.

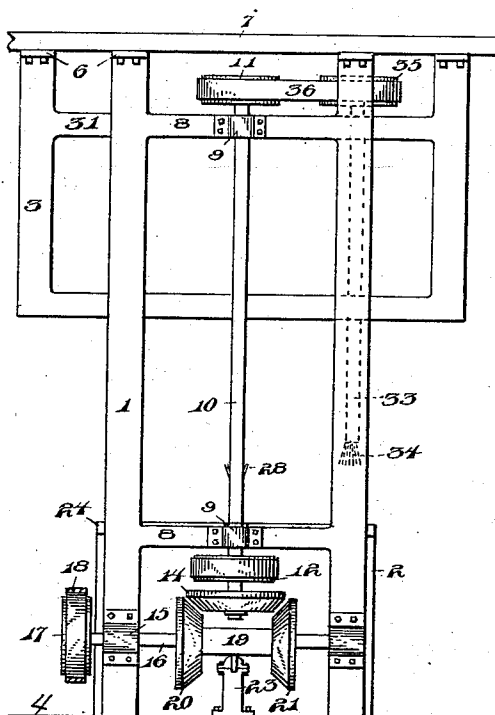


Fig. 5.

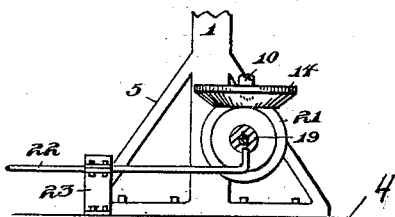


Fig. 6.

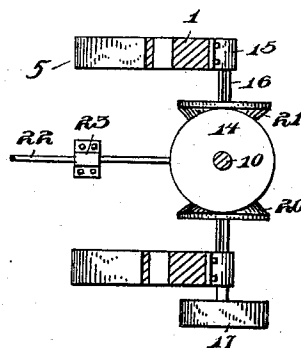
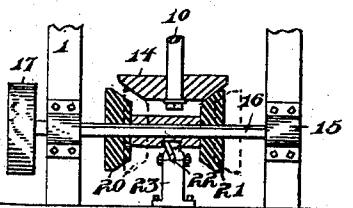


Fig. 7.



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UNITED STATES PATENT OFFICE.

DANIEL HUFHAND, OF MANORVILLE, PENNSYLVANIA.

BRUSHING APPARATUS FOR POTTERY-WARE.

SPECIFICATION forming part of Letters Patent No. 637,793, dated November 28, 1899.

Application filed August 18, 1899. Serial No. 727,652. (No model.)

To all whom it may concern:

Be it known that I, DANIEL HUFHAND, a citizen of the United States of America, residing at Manorville, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Machinery for Operating Brushes for Pottery-Ware, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in machinery for operating brushes for pottery-ware.

The invention has for its object to construct a cleaner adapted to be used for removing the sand and other foreign substances from the surface of pottery-ware, metal plates, or other objects and to provide or arrange in this connection two independently-rotatable brushes, one of which is adapted to engage the one side of the plate or other object and the other of which engages the other side when the plate is moved into engagement therewith.

Briefly described, the invention consists of a suitable frame having a drive-shaft journaled therein and adapted to be driven by belt or other connection with an engine or other driving-power. Loosely mounted upon this drive-shaft and adapted to be moved laterally thereon by suitable means is a pair of friction-gears adapted to impart motion through belt or other suitable connection to the cleaning-brushes, one of said gears imparting motion to the brushes in one direction and the other of said gears the reverse motion to the brushes.

Various novel features of construction enter into my invention, and these will be hereinafter more specifically described and then particularly pointed out in the claims, and in describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference will be used to designate similar parts throughout the several views of the drawings, in which—

Figure 1 is a side view of my improved plate-cleaner. Fig. 2 is a top plan view of the same. Fig. 3 is a front view, and Fig. 4 is a rear view, of the same. Fig. 5 is a vertical sectional view through the drive-shaft, showing a portion of the frame and two of the drive-gears. Fig. 6 is a horizontal sectional

view through the frame, showing the drive-gears in top plan. Fig. 7 is a rear view of a portion of the frame, showing the drive-gears in vertical section.

To put my invention into practice, I provide a suitable frame, which comprises in its construction a pair of standards or housing 1, a pair of standards or supports 2, and a bracket or frame 3, the construction of each of which will now be specifically described. The standards or housing 1 are adapted to be bolted or otherwise firmly secured to the floor 4 of the building in which the cleaner is placed and may have formed integral therewith or secured to the base and sides of the standard the short braces 5 5 to effect rigidity of the upright standards. At their upper ends these upright standards are formed with flanges 6 6, which are suitably apertured for the reception of securing-bolts for fastening the standards to the roof or ceiling 7. These two standards, forming the rear portion of the frame, are secured to the floor and ceiling a suitable distance apart and exactly opposite each other and are connected by cross-braces 8 8, one near the upper and the other near the lower end, which, besides serving as braces, are provided for the purpose of mounting thereon bearings 9 9, in which is journaled the vertical shaft 10, having mounted upon its upper end, above the cross-brace 8, a belt wheel or pulley 11 and having mounted below the lower cross-brace 8 a similar belt wheel or pulley 12. On its lower end this vertical shaft 10 has rigidly mounted thereon a bevel friction-gear 14, through which motion is communicated to said shaft.

Secured to the rear faces of the standards 1 1, near their base, are bearings 15 15, in which is journaled the horizontal drive-shaft 16, having its one end extended beyond the one of the standards and mounted thereon a belt wheel or pulley 17, which receives the belt 18, connecting with the engine or other motive power. Loosely mounted upon this drive-shaft 16 is a sleeve 19, which has rigidly secured to its ends the bevel friction-gears 20 and 21, non-metallic in their composition, being preferably composed of a material or substance which will have a considerable frictional engagement with the metallic gear-wheel 14, the sleeve 19 being of such length that only one of the gears 20 21 may be in engagement at one time with the gear 14.

This sleeve 19 is moved laterally upon the drive-shaft, so as to alternate the engagement of the gears 20 21 with the gear 14 by means of a foot-lever 22, which is journaled in standards 23, secured to the floor, with its rear end engaging the sleeve, as shown in Figs. 5 and 7, and its forward end in a position where it may be readily engaged by the operator, the partial rotation of said lever serving to move either the gear 20 or the gear 21 into engagement with the gear 14, according to the direction in which the foot-lever has been moved.

The standards 2 2 comprise two substantially triangular pieces set a short distance from and in alinement with the standards 1 1 and are likewise adapted to be securely bolted or otherwise fastened to the floor of the building and have mounted on their upper ends a suitable bed-plate 24. These standards are connected together by a cross-brace 25, having mounted thereon a bearing 26, in which is mounted for rotation a short shaft 27, extending upwardly through and a short distance above the bed-plate 24, with the cleaning-brush 28 mounted in its upper end. Rigidly mounted upon this shaft 27 between the bed-plate 24 and the cross-brace 25 is a belt wheel or pulley 29, which is connected by a belt 30 with the belt wheel or pulley 12 of the vertical shaft 10.

The frame or bracket 3 comprises the two end standards, which are flanged at their upper ends and securely bolted or otherwise secured to the ceiling 7 and are suspended therefrom directly above the bed-plate and standards 2 2. They are connected together by cross-braces 31 31, having mounted on their forward face the bearings 32 32, in which is journaled a shaft 33, extending downward some distance below the frame or bracket, with the brush 34 secured in its lower end, which brush is slightly above the horizontal line of the brush 28. Rigidly secured to the upper end of this shaft 33 is a belt wheel or pulley 35, which is connected by belt 36 with the belt wheel or pulley 11, that is mounted on the upper end of the shaft 10. Upon motion being communicated to the drive-shaft 16 through the pulley 17 and belt 18 the foot-lever is operated, so as to move either the frictional bevel-gear 20 or 21 into engagement with the metal bevel-gear 14, thus rotating the shaft 10 and transmitting the motion through the belts 30 and 36 to the shafts 27 and 33 to rotate the brushes 28 and 34. Upon the shifting of the sleeve 19 so as to bring the other of said gears 20 or 21 into engagement with the gear 14 the reverse movement will be imparted to said shafts and brushes. The machine may thus be continuously operated and two plates may be under process of cleaning at all times, as the lower brush 28 is adapted for cleaning the under side of the plate as it is held and the upper plate 34 for cleaning the upper face of said plate, so that the operator may have two plates, one in the right hand in engage-

ment with brush 28, and when the under side of this plate is cleaned the plate is shifted to the left hand and held in under the cleaning-brush 34 and another plate held by the right hand over brush 34.

While I have described and shown the various elements entering into the construction in detail, yet I do not wish to unduly limit myself thereto, as it will be observed that various changes may be made in such details of construction without departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for cleaning pottery-ware, metal plates, and other objects, the combination with a suitable frame, of a drive-shaft journaled therein, a rigidly-connected pair of non-metallic friction-gears loosely mounted on said drive-shaft, a vertical shaft journaled in the frame, a metallic friction-gear mounted on the lower end of said shaft and adapted to be engaged by the friction-gears of the drive-shaft, a pair of independent shafts journaled in the front of the frame and each carrying a cleaning-brush, and connections between said shafts and the vertical shaft whereby motion is transmitted from the latter to the former, substantially as described.

2. In combination, a frame with a drive-shaft journaled in the rear thereof, a laterally-movable sleeve mounted on said drive-shaft, means for so moving said sleeve, a friction-gear rigidly connected to each end of said sleeve, a vertical shaft journaled in the rear of the frame with belt-wheels 11, and 12, mounted thereon, a bevel-gear rigidly mounted on the lower end of said shaft and adapted to be engaged by the gear-wheels of the drive-shaft, brush-shafts 27 and 33, journaled in the front of said frame with pulleys 29 and 35, mounted on said shafts, connections between the pulleys 29 and 12, and separate connections between the pulleys 35 and 11, and means for operating said drive-shaft, substantially as described.

3. In combination, a frame, a pair of independent brush-shafts journaled in the front thereof, a drive-shaft journaled in the rear thereof, a vertical shaft also journaled in the rear of the frame and having a friction-gear on its lower end, belt connections between said vertical shaft and the brush-shafts, a pair of laterally-movable friction-gears mounted upon the drive-shaft in a manner that but one at a time may engage the friction-gear of the vertical shaft, means for moving said friction-gears laterally upon the drive-shaft, and means for communicating motion to said drive-shaft, substantially as described.

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

DANIEL HUFHAND.

Witnesses:

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E. W. ARTHUR.