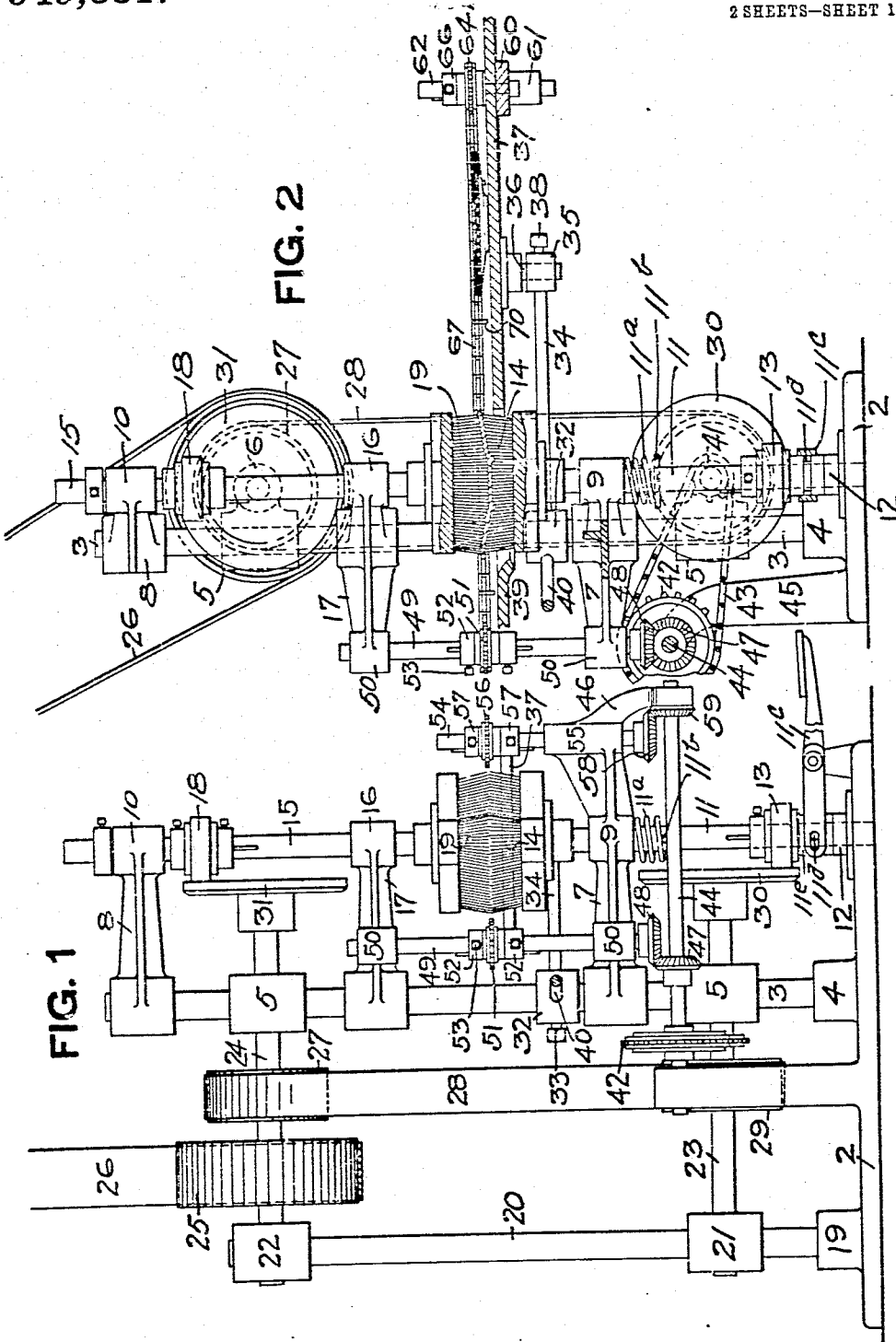


W. POLK.
MACHINE FOR BRUSHING EARTHENWARE.
APPLICATION FILED MAR. 11, 1908.

949,381.

Patented Feb. 15, 1910.

2 SHEETS—SHEET 1.



WITNESSES.

J. R. Keller
Robert C. Fother

INVENTOR.

William Polk
By Kay Fother Winter
Attorney

949,381.

2 SHEETS—SHEET 2.

FIG. 4

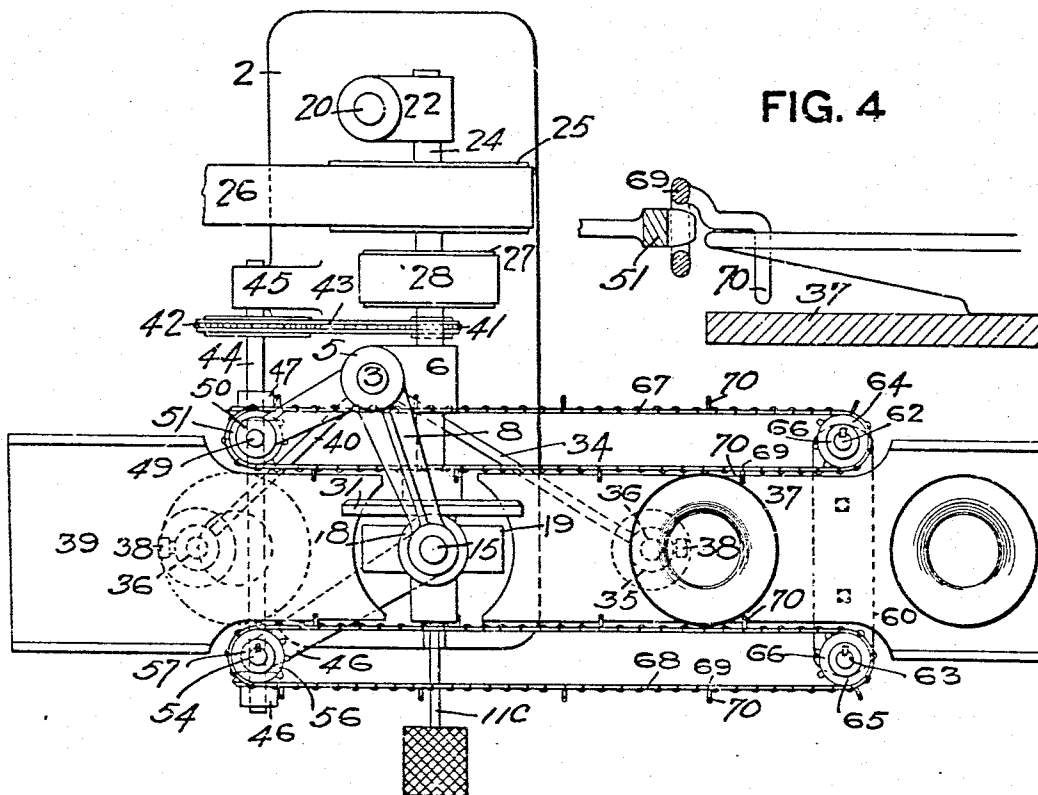
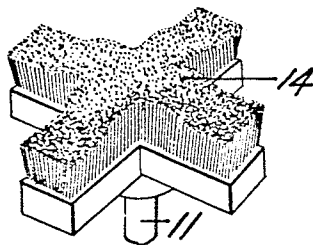


FIG. 5



INVENTOR.

J. R. Keller
Robert C. Zotten

William Post
2 Kay Bottenbinder
attorneys

UNITED STATES PATENT OFFICE.

WILLIAM POLK, OF EAST LIVERPOOL, OHIO.

MACHINE FOR BRUSHING EARTHENWARE.

949,381.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed March 11, 1908. Serial No. 420,372.

To all whom it may concern:

Be it known that I, WILLIAM POLK, a resident of East Liverpool, in the county of Columbiana and State of Ohio, have invented a new and useful Improvement in Machines for Brushing Earthenware; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to machines for brushing or cleaning earthenware before the glaze is applied thereto.

In the manufacture of earthenware in the form of plates, bowls, etc., it often happens that grains of sand or other small particles of foreign matter adhere to the surface of the plate and unless it is removed it will produce a defect in the plate after the glaze has been applied and burned in, said particle appearing in the form of a slight protuberance or spot on the plate.

The object of my invention is to provide a simple form of apparatus by means of which brushing of the ware can be done rapidly and at much less expense than heretofore where the cleaning of the ware was done by hand.

To these ends my invention comprises, generally stated, a suitable frame with oppositely driven shafts mounted therein substantially in line with each other and brushes or other suitable polishing devices mounted on said shafts, the brushing faces of said brushes being contiguous to each other, and means for automatically feeding the ware to said brushes.

In the accompanying drawing Figure 1 is an end elevation of my improved machine; Fig. 2 is a side elevation partly in section; Fig. 3 is a plan view; Fig. 4 is an enlarged detail of the feeding mechanism; and Fig. 5 is a perspective view of one of the brushes.

Referring to the drawings the numeral 2 designates a suitable bed-plate upon which is mounted the upright 3 which is stepped in the collar 4 on the bed-plate. Secured to the upright 3 are the sleeves 5 with the bearings 6 formed therein. Mounted on the uprights 3 and projecting out therefrom are the arms 7 and 8, said arms having the bearings 9 and 10 respectively. A vertical shaft 11 is stepped in the collar 12 of the bed-plate and secured to said shaft is the pulley 13. The shaft 11 also fits within the bearing 9 of the arm 7. At the upper

end of the shaft 11 is secured the brush 14 which may be formed in the form of a cross, as illustrated. This brush may be formed of bristles, or other suitable material, adapted to give the necessary cleaning action to the ware. The shaft 11 is vertically movable and a spring 11^a is interposed between the pin 11^b and the sleeve 9. A treadle 11^c engages pins 11^d on the collar 11^e loosely mounted on said shaft 11. A shaft 15 is mounted in the bearing 10 and the bearing 16 of the arm 17 on the shaft 3. The shaft 15 is also provided with the pulley 18 and with brush 19 similar to the brush 14. The brushes 14 and 19, when in position, are in close proximity to each other so that the proper friction will be applied to the ware when inserted between said brushes, as fully hereinafter set forth.

Stepped in the collar 19 of the bed-plate 2 is the upright 20 which has the collars 21 and 22 secured thereto with bearings for the shafts 23 and 24. The shaft 24 has the pulley 25 thereon which is driven by the belt 26. The shaft 24 has the pulley 27 which is connected up by the belt 28 to the pulley 29 on the shaft 23. Secured to the outer ends of the shafts 23 and 24 are the friction driving disks 30 and 31. These disks 30 and 31 contact with the pulleys 13 and 18 and impart rotary movement to the shafts 11 and 15. As the disks 30 and 31 are driven in the same directions, it is apparent that the shafts 11 and 15 will be driven in opposite directions and consequently the brushes 14 and 18.

Secured to the upright 3 is the collar 32 secured by the thumb screw 33, said collar having an arm 34 projecting out therefrom, which arm carries the collar 35 adapted to receive the stem 36 of the shelf or support 37. A thumb screw 38 is adapted to hold the shelf 37 in position. A second shelf 39 is supported in like manner by an arm 40 on the collar 32.

On the shaft 23 is the sprocket wheel 41 which is connected up to the sprocket wheel 42 by the chain 43. The sprocket wheel 42 is mounted on the shaft 44 journaled in bearings in the standard 45 and in the hanger 46 of the arm 7. A bevel pinion 47 on the shaft 44 meshes with a like pinion 48 on the vertical shaft 49. The shaft 49 is journaled in bearings 50 in the arms 7 and 17. On the shaft 49 is the adjustable sprocket wheel 51.

keyed to said shaft and held in place thereon by the collar 52 secured in place by set screws 53.

A vertical shaft 54 is journaled in bearings 55 in arm 7 and said shaft carries the sprocket wheel 56 held in place by collars 57. At the lower end of the shaft 54 is the beveled pinion 58 which meshes with the like pinion 59 on shaft 44.

Secured to the shelf 37 is the cross piece 60 and journaled in bearings 61 on said cross piece are the vertical stub shafts 62 and 63. Sprocket wheels 64 and 65 are mounted on splines on said shafts and are held in place by collars 66.

Chains 67 and 68 engage the sprocket wheels 51 and 64 and 56 and 63 respectively. These chains are made up of links and at suitable intervals in said chain are the links 69 with the fingers 70, as shown in Fig. 4.

When my improved machine is in use the ware to be cleaned is piled upon the outer end of the shelf 37 and power is applied to rotate the brushes 14 and 18, as well as drive the chains 67 and 68. The operator places a plate on the shelf in position to be engaged by the fingers 70 of the chains 67 and 68 and as said fingers come around they engage the edge of the plate at opposite sides and move same along said shelf and insert it between the brushes 14 and 18 from the front of the machine and as said plate is forced between the brushes the abrading action of the brushes rotating in opposite directions acts to thoroughly clean the top and bottom of the plate so as to remove any imperfections in the way of roughness due

to particles of sand, or other substance. Furthermore, by having the brushes rotating in opposite directions the plate is acted on equally by said brushes and the plate is held between the brushes without liability of slipping therefrom. The plate is carried through the brushes by the chains and discharged from the rear of the machine. The polishing is done very quickly and the plates may follow each other in quick succession, the operator simply placing the plates in position to be acted on by the conveyer, so that no time is lost.

What I claim as my invention is:

1. In apparatus for brushing earthenware, the combination of a suitable frame, shafts in line with each other, means for rotating same, brushes on said shafts opposed to each other, and a shelf or support, and endless conveyer chains at each side of said shelf in position to engage the ware resting thereon.

2. In apparatus for brushing earthenware, the combination of a suitable frame, shafts in line with each other, means for rotating the same, brushes on said shafts opposed to each other, a shelf or support, endless conveyer chains at each side of said shelf, and over-hanging projections on said chains in position to engage the ware resting on said shelf.

In testimony whereof, I the said WILLIAM POLK have hereunto set my hand.

WILLIAM POLK.

Witnesses:

M. D. VOGEL,

ROBT. D. TOTTEN.