

No. 701,821.

Patented June 3, 1902.

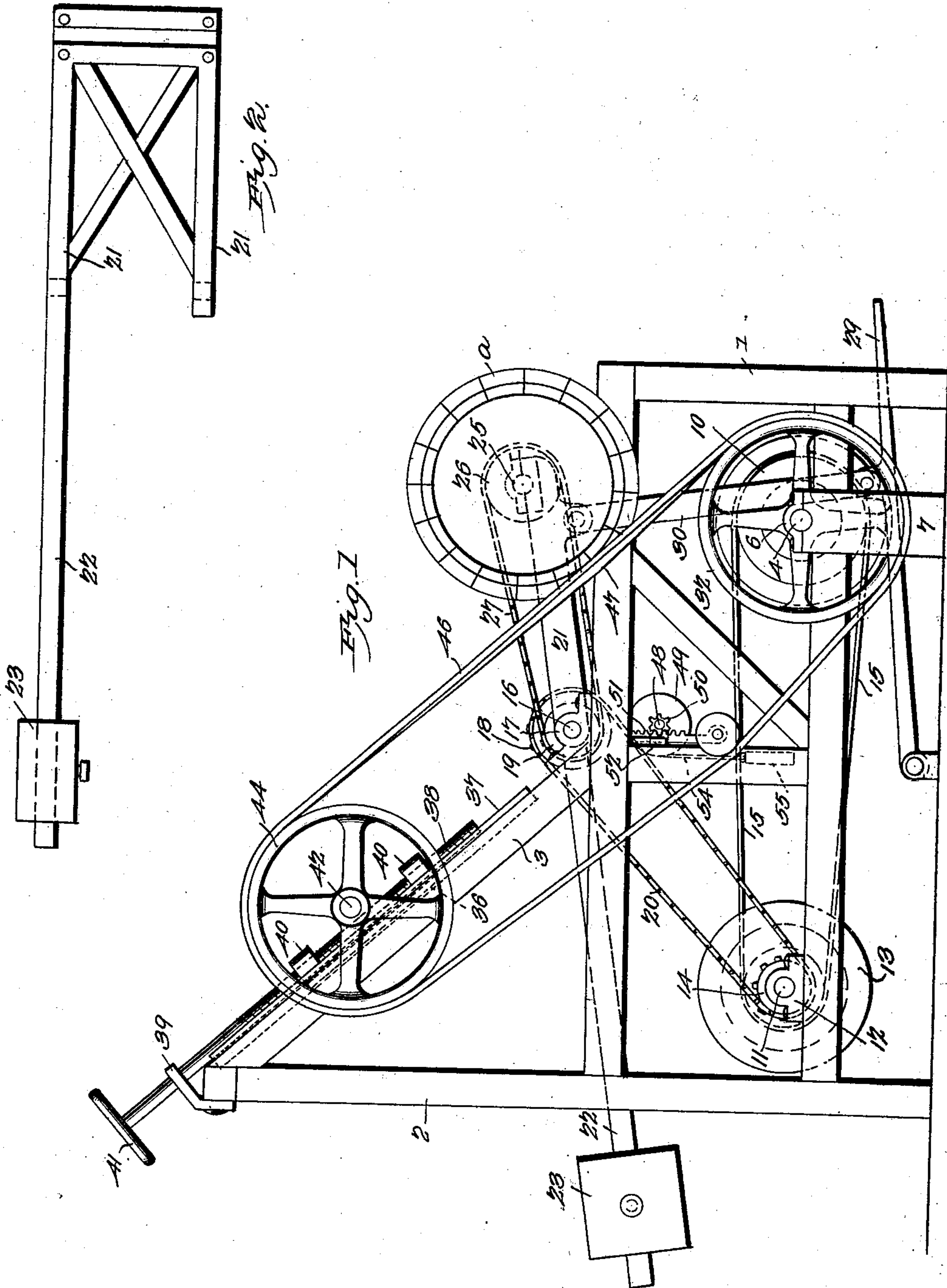
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MACHINE FOR SAND FINISHING TUBS, BUCKETS, &c.

(Application filed Sept. 27, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
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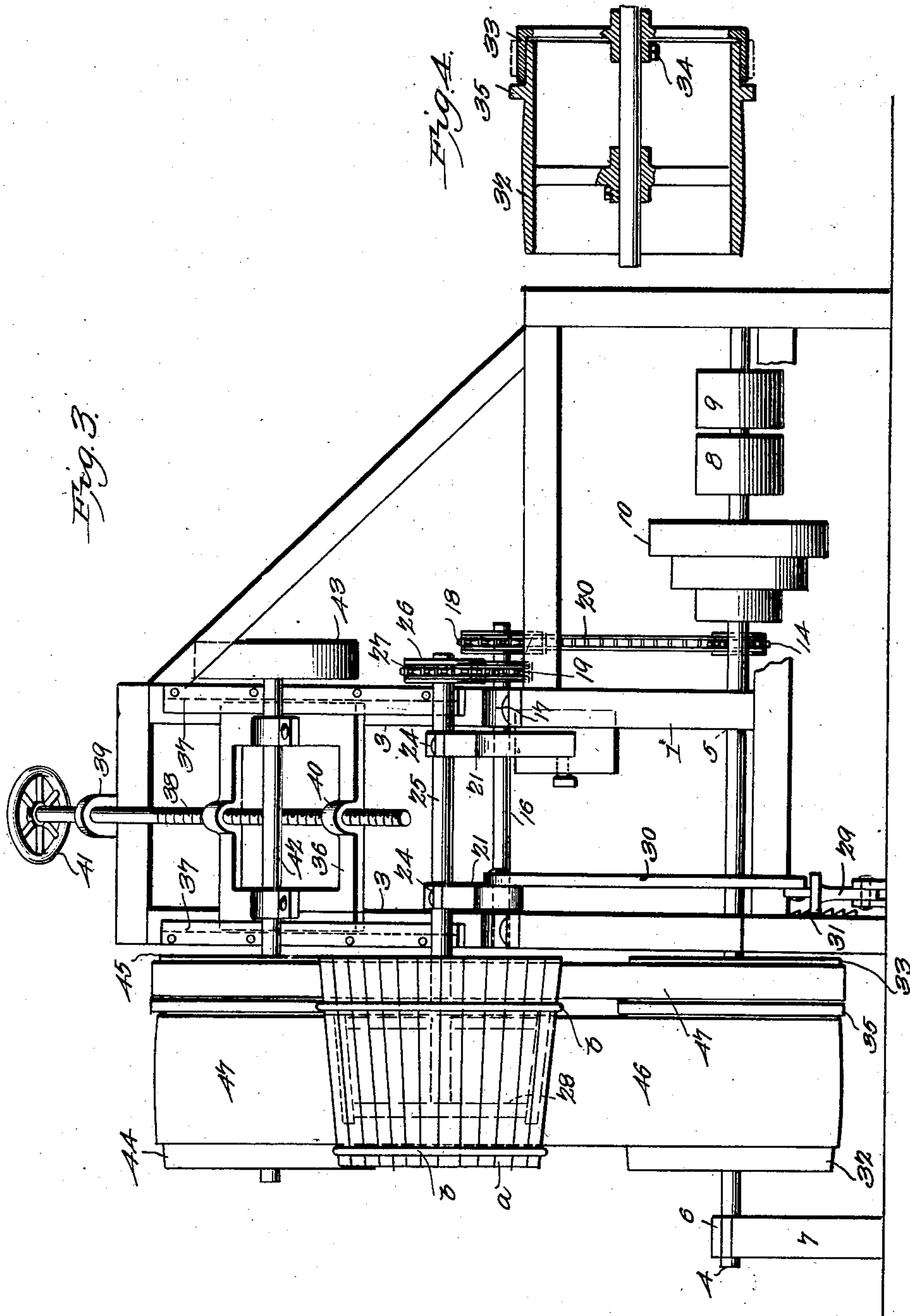
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UNITED STATES PATENT OFFICE.

LOUIS D. VOGEL, OF OMAHA, NEBRASKA, ASSIGNOR TO WOODEN PACKAGE MANUFACTURING COMPANY, OF OMAHA, NEBRASKA.

MACHINE FOR SAND-FINISHING TUBS, BUCKETS, &c.

SPECIFICATION forming part of Letters Patent No. 701,821, dated June 3, 1902.

Application filed September 27, 1901. Serial No. 76,792. (No model.)

To all whom it may concern:

Be it known that I, LOUIS D. VOGEL, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented a new and useful Machine for Sand-Finishing Tubs, Buckets, and other Articles, of which the following is a specification.

My invention is an improved machine for sand-finishing tubs, buckets, and other articles; and it consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a sand-finishing machine embodying my improvements. Fig. 2 is a detail plan view of the rock-arm which carries the expansion-head. Fig. 3 is a front elevation of my improved sand-finishing machine. Fig. 4 is a detail sectional view of a pair of the pulleys which carry the sanding-belts.

The frame 1, which may be either of the form here shown or of any other suitable construction, is provided at its rear side with a vertical extension 2. Inclined beams 3 connect the said vertical extensions to the top of the frame 1. A power-shaft 4 is journaled in bearings 5 and is disposed at a slight distance above the floor and near the front side of the frame 1. One end of the said power-shaft projects beyond one side of the frame, as shown in Figs. 1 and 2, and is journaled in a bearing 6, which is carried by a standard or block 7, that rests on the floor, which supports the machine. The said shaft 4 is provided with a fast pulley 8, a loose pulley 9, and a cone-pulley 10. A counter-shaft 11 is journaled in bearings 12, with which the frame is provided near its rear side. The said counter-shaft 11 is in the same horizontal plane as the power-shaft 4 and is provided with a cone-pulley 13 and a sprocket-wheel 14. A power-belt 15 connects the cone-pulley 10 of power-shaft 4 to the cone-pulley 13 of counter-shaft 11 and is adapted to be shifted on the said cone-pulleys to drive the counter-shaft at any desired rate of speed.

A shaft 16 is journaled in bearings 17 on the frame 1 and is provided with a sprocket-wheel 18 and a sprocket-wheel 19. The former is

connected to the sprocket-wheel 14 on the counter-shaft 11 by an endless sprocket-chain 20. Hence power is communicated to the shaft 16, as will be understood, and the same is rotated when the machine is in operation. The said shaft 16 forms the support for the rock-arm 21, which is fulcrumed thereon, extends nearly to the front side of the frame, and has a rearwardly-extending lever 22, that projects beyond the rear side of the frame on which is an adjustable weight 23. The said rock-arm is provided at its front end with bearings in which is journaled a shaft 25. Said shaft has at one end, which I will call its "inner" end, a sprocket-wheel 26, which is connected to the sprocket-wheel 19 on the shaft 16 by an endless sprocket-chain 27. Thereby the said shaft 25, which is carried by the rock-arm and is adapted to be raised and lowered thereby, is rotated when the machine is in operation. The outer end of the shaft 25 projects beyond one side of the frame 1 and is provided with an expansion-head 28 of suitable construction and which is indicated in dotted lines in Fig. 2. The said expansion-head is adapted to carry and rotate a tub, bucket, or other similar article placed thereon to be finished. The weight 23 counterbalances the front portion of the rock-arm 21 and the shaft 25 and parts carried thereby and normally raises the said front end of said rock-arm. I provide a foot-lever 29 to depress the front end of the rock-arm, and thereby lower the tub or other article which constitutes the work, the said foot-lever being connected to the said rock-arm by a rod or pitman 30. A rack-plate 31 is secured to one side of the frame 1 and is adapted to be engaged by the said foot-lever to lock the latter and the front end of the rock-arm when the work has been lowered to the desired point.

On the projecting portion of the power-shaft 4 is secured a broad pulley 32 and a relatively narrow pulley 33, which telescopes over the broad pulley, at the inner side of the latter, and is shiftable laterally on the power-shaft and provided with a set-screw 34, by which it may be secured to the said power-shaft at any desired adjustment with relation to the broad pulley 32. The latter has a pe-

ripheral flange 35 of suitable width at or near its inner side.

A shiftable bearing 36 is supported on the inclined beams 3 and engaged by guideways 5 37 on the upper sides of said inclined beams. A screw-shaft 38, which revolves in a bearing 39 at the upper side of the vertical extension 2 of the frame, has its threaded portion engaging threaded openings 40 in the shiftable bearing, and the latter may be shifted by turning the said screw-shaft, as will be understood. A hand-wheel 41 is here shown at the outer upper end of said screw-shaft, by which it may be readily revolved to shift the 15 bearing 36. A shaft 42 is mounted for revolution in the shiftable bearing 36 and is carried thereby. At the inner end of said shaft is a fly-wheel 43. The outer end thereof projects outwardly beyond the frame 1 and is provided with counter-pulleys 44 45, which 20 are respectively identical with the pulleys 32 33. A broad sanding-belt 46 connects the pulleys 32 44 and a narrow sanding-belt 47 connects the pulleys 33 45. The said pulleys 25 32 44 are crowned at the centers to enable them to carry belts of different widths. Owing to the fact that the shaft 42 is disposed in an elevated position, the sanding-belts are disposed in an inclined position, as shown clearly 30 in Fig. 1, hence enabling the said sanding-belts to be of considerable length, while enabling the frame 1 to be only of minimum length, and hence the machine is compactly constructed and occupies comparatively little 35 room. By shifting the bearing 36 the sanding-belts may be tightened or slackened, as may be required by the work. The fly-wheel 43 causes the shaft 42, which carries the counter sanding-belt pulleys, to rotate evenly, and thereby 40 cause the sanding-belts to run smoothly and counteract any tendency of the sanding-belts to slip on the counter-pulleys 44 45. It will be understood from an inspection of the drawings that the tub or other article on the expansion-head and indicated at *a* bears upon the upper side of the upper leads of the sanding-belts when the rock-arm 31 is lowered and that by the motion of the sanding-belts and the independent revoluble motion of the 50 tub or other article imparted thereto by the shaft 25 the outer surface of the work is effectually sand-finished and smoothed. The flanges 35 on the sanding-belt pulleys separate the sanding-belts sufficiently to clear the 55 band or hoop *b* near the upper side of the tub or other article which constitutes the work.

It will be further understood from an inspection of the drawings that the work is supported at the front end of the frame and at 60 such a slight height above the floor as to be convenient to the operator. In connection with my improved sand-finishing machine I propose to employ an exhaust-fan to carry off the dust.

55 The narrow sanding-belt 47, which finishes the upper portion of the tub or other article

at the point of its greatest diameter, is provided with an independent tightening mechanism, which I will now describe.

A shaft 48, which is journaled in a bearing 70 with which the frame 1 is provided, has a drum 49 and a pinion 50. The said pinion engages a vertically-movable ratchet-bar 51, which is guided in vertical ways 52, and at its lower end carries an idler 53, which bears 75 on the upper side of the lower lead of the narrow sanding-belt 47. A cord 54, which is on the said drum, has a weight 55 attached thereto, which weight through the action of the drum, pinion, and ratchet-bar depresses the 80 idler 53 and causes the same to tighten the belt 47.

While the exterior surface of the tub or other article is being finished by the machine the operator with a hand sand-pad will finish 85 the inside and edge of the mouth of the said tub or other article, thus enabling both the exterior and interior surfaces of the work to be finished simultaneously.

Having thus described my invention, I 90 claim—

1. In a sand-finishing machine of the class described, a frame, pulleys on one side thereof near opposite ends and at different elevations, inclined endless sand-belts connecting 95 said pulleys, means to rotate the latter, a rock-arm, a shaft carried thereby, and having a work-holding element above said belts and disposed near the front end of the machine above the lower pulley, means to rotate 100 said shaft, and means at the front end of the machine to raise and lower the front portion of said rock-arm, substantially as described.

2. In a sand-finishing machine of the class described, the combination with endless traveling sanding-belts and supporting-pulleys therefor, of a counterbalanced rock-arm, a shaft mounted thereon and having a work-holding element above said sanding-belts, 105 means to rotate said shaft and said work-holding element, and means to depress said rock-arm and lock the same in depressed position, substantially as described.

3. In a sand-finishing machine of the class described, the combination of a plurality of 115 endless sanding-belts, means to actuate the same, a revoluble work-holding element adapted to be moved toward and from said sanding-belts, and means to independently tighten said sanding-belts, substantially as 120 described.

4. In a sand-finishing machine of the class described, the combination of a power-shaft, a counter-shaft, in shiftable bearings, pulleys on said shafts, sanding-belts connecting 125 said pulleys and means to tighten one of said sanding-belts independently of the other and a work-holding element adapted to be moved toward and from the sanding-belts, substantially as described. 130

5. In a sand-finishing machine of the class described, the combination of a power-shaft,

a counter-shaft, in shiftable bearings, pulleys on said shafts, sanding-belts connecting said pulleys and yielding means bearing on one lead of one of said sanding-belts, to
5 tighten the same independently of the other, substantially as described.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in the presence of two witnesses.

LOUIS D. VOGEL.

Witnesses:

W. H. WHEELER,
A. L. MARK.