

April 17, 1962

J. GREGORA
SANDING DRUMS

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2 Sheets-Sheet 1

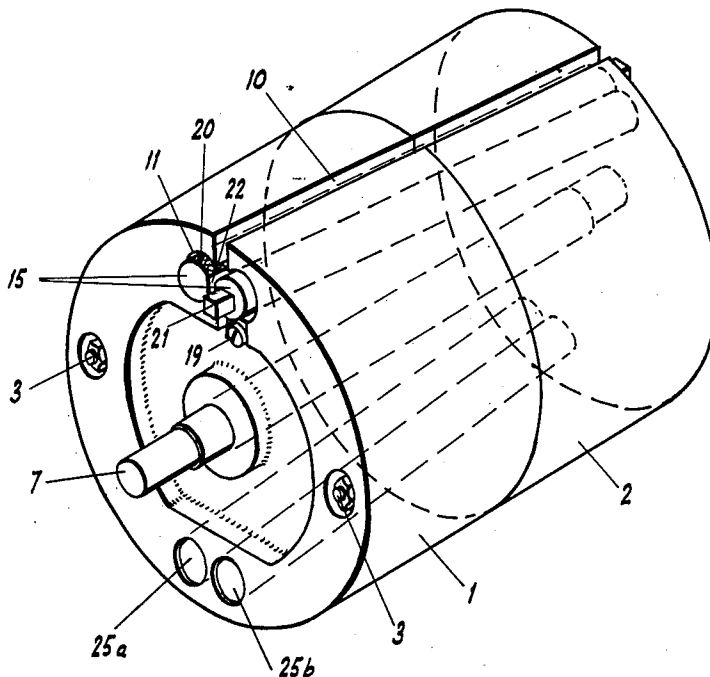


FIG. 1

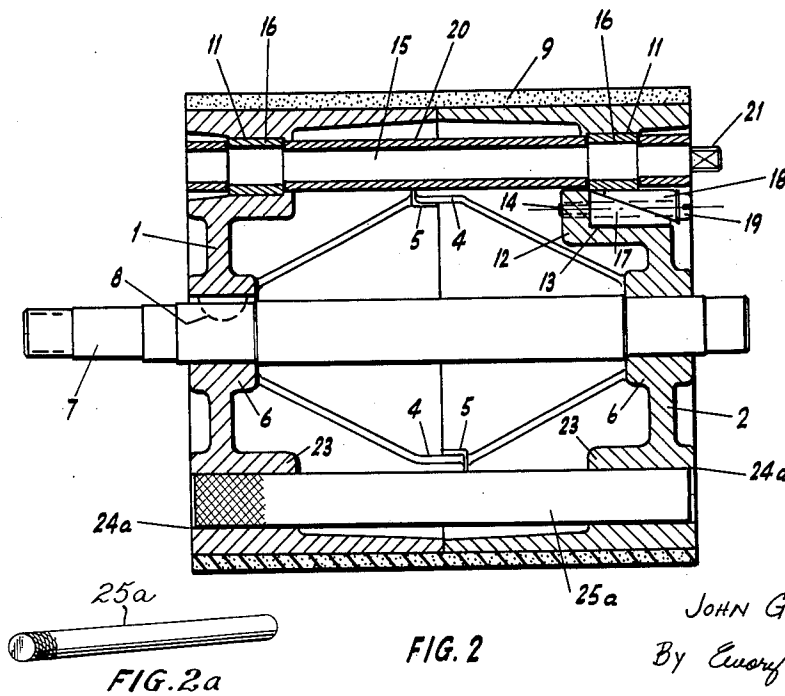


FIG. 2

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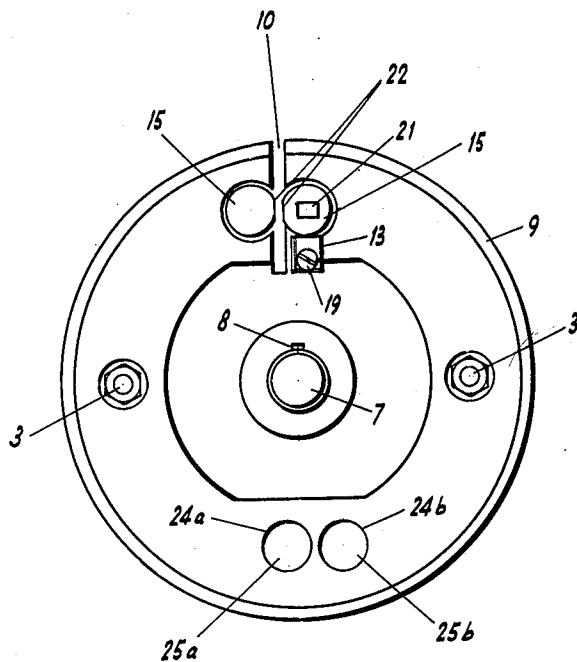


FIG. 3

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SANDING DRUMS

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4 Claims. (Cl. 51—169)

This invention relates to those sanding drums which have a slot through the wall at an acute angle to the axis of the drum. A sheet of sanding material is wrapped around the drum and the ends of the sheet are pressed through the slot. A pair of sheet-holding bars are located in the drum in juxtaposition to and at the same angle as the slot. The bars are rotatably mounted in the ends of the drum; they project through one end and have turn knobs and interlocking means on these ends.

These drums are out of balance and various forms of counterbalance weights have to be fixed to or in the drum with the object of achieving a balance drum. Owing to the angularity of the slot and the sheet-holding bars, and the general construction of a drum, the counterbalancing of each drum is a tedious operation, which substantially increases the cost of what should be a comparatively cheap component of a sanding machine.

The present invention has been devised to provide cheap and simple means for counterbalancing sanding drums of this type described. The means will compensate the angular displacement of the several parts described above, and the weight of the means can be easily varied to counterbalance variations of the out-of-balance parts.

Sanding drums according to this invention consist of a cylindrical drum having a drum mounting shaft mounted axially therein. A slot is formed through the cylindrical wall of the drum at an acute angle to the longitudinal axis thereof. A pair of sheet-holding bars are rotatably mounted in the drum in juxtaposition to and at the same angle as the slot for holding a sheet of sanding material wrapped around the drum, said bars projecting through the drum and having interlocking means on one end thereof. Counterbalance means are exchangeably mounted in the drum. The counterbalance means are located diametrically opposite the sheet-holding bars, but offset from the longitudinal axis of the drum at an angle which is equal to but opposite to the angle at which the sheet holding bars are mounted.

The invention will be described with reference to the annexed drawings, wherein:

FIGURE 1 is a perspective view of a sanding drum according to this invention.

FIGURE 2 is a longitudinal sectional elevation of the sanding drum with a rubber sleeve thereon.

FIGURE 2a is a detailed perspective view of one of the counter balance rods.

FIGURE 3 is an end view thereof.

The basic drum is formed in two halves 1 and 2, and these halves are preferably cast from a lightweight material such as aluminium. The halves 1, 2 are face-machined, and have aligned holes therein in which draw bolts 3 are mounted for connecting the halves together, and the said halves have projections 4 and slots 5 on and in the inner faces thereof adapted to respectively enter and receive opposed slots 5 and projections 4 when they are coupled by the draw bolts 3. Central bosses 6 are formed in the halves 1, 2 and they are bored to have a drum mounting shaft 7 axially non-rotatably mounted therein, and the drum mounting shaft 7 is secured by a suitable key 8. The assembled drum so described has spaced peripheral grooves therein (not shown), whereby a rubber sleeve 9 can be sealed upon the outside of the drum.

A slot 10 is formed through the wall of the drum and

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through the sleeve 9 at an acute angle to the longitudinal axis of the drum. The ends of the drum halves 1, 2 have bores 11 therein on each side of and in communication with the slot 10 and in the end of each drum half there is an internal boss 12 which has a transverse slot 13 therein in communication with one of the bores 11 forming a wedge housing, and which also has an adjusting screw hole 14 therethrough. Sheet-holding bars 15 are rotatably mounted in bearings 16 located in the bores 11 and a fixed wedge 17 and an adjusting wedge 18 are located in each wedge housing, and an adjusting screw 19 is provided to vary the pressure applied by the wedge 18 to the bearing 16 at that end of the drum. The longitudinal axes of the bars 15 are parallel to the slot 10 and hence the said bars 15 are located in juxtaposition to and at the same angle as the slot 10.

The sheet-holding bars 15 are circumferentially knurled or provided with sheet gripping surfaces 20. The bores 11 are enlarged at their outer ends to accommodate the ends of the shafts 15, and the shafts 15 project from opposite ends of the drum and have squared ends 21 formed thereon to receive a spanner or the like. The shafts 15 also have longitudinal flats 22 formed thereon whereby a sheet of sanding material wrapped around the drum has its ends pressed through the slot 10 between the flats 22, and the shafts 15 are rotated to tension the sheets on the drum with the ends thereof locked between the shafts 15.

The drum halves 1, 2 have an internal boss or bosses 23 thereon and these bosses are bored as at 24a, 24b in such manner and are so located that counterbalance means 25a, 25b are mounted in the bores 24a, 24b and are diametrically opposite to the sheet holding bars 15 but offset from the longitudinal axis of the drum at an angle which is equal to but opposite to the angle at which the sheet holding bars are mounted. The counterbalance means 25a, 25b are plain rods which may be hollow, profiled or a combination of both, to give a correct diametrical relationship of masses opposite the sheet-holding bars 15 to dynamically balance the drum. The counterbalance rods 25a, 25b are press fitted in their respective bores 24a, 24b. In one form of the invention, the counterbalance rods are knurled at one end and are plain at the other end as shown in FIGURE 2a and the rods are mounted in the drum with their knurled ends at opposite ends of the drum. When the counterbalance rods are so mounted, the knurled ends thereof slightly expand the bores 24a, 24b in which they are fitted, and hence slightly contract the adjacent bores 24b, 24a, in which the plain ends thereof are mounted, and thus the said counterbalance bars are held firmly in the drum, but can be "tapped" out as desired.

I claim:

1. A sanding drum comprising in combination, a cylindrical drum having a drum mounting shaft mounted axially therein, a slot through the cylindrical wall of the drum at an acute angle to the longitudinal axis of the drum, a pair of sheet holding bars rotatably mounted in the drum in juxtaposition to and at the same angle as the slot for holding a sheet of sanding material wrapped around the drum, said bars projecting through the drum and having interlocking means on one end thereof and counterbalance means exchangeably mounted in the drum to counterbalance the weight of said sheet holding bars, said counterbalance means being located diametrically opposite the sheet holding bars but offset from the longitudinal axis of the drum at an angle which is equal to but opposite to the angle at which the sheet holding bars are mounted.

2. A sanding drum according to claim 1 wherein the counterbalance means are a pair of rods, whereby a correct diametrical relationship of masses is provided op-

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posite the sheet-holding bars, to dynamically balance the drum.

3. A sanding drum according to claim 2, wherein the counterbalance rods are press fitted in aligned pairs of bores formed in the drum.

4. A sanding drum according to claim 2, wherein the counterbalance rods are knurled at one end and are plain at the other end, and are mounted in the drum with the knurled ends thereof at opposite ends of the drum.

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