Nov. 25, 1924. 1,517,073

J. W. KENT

MACHINE FOR DRESSING STONES

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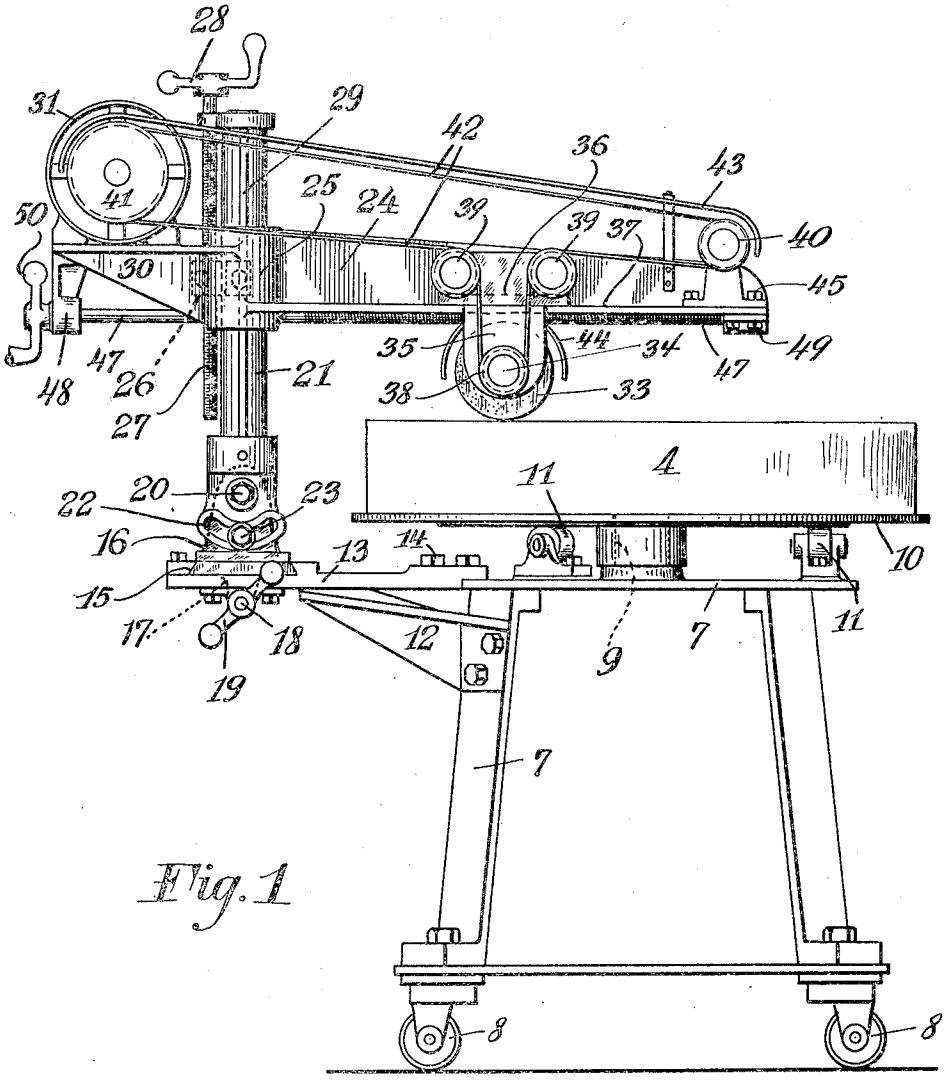


Fig. 1

James W. Kent Inventor

By his Attorney

Isaac E. A. Konigsberg

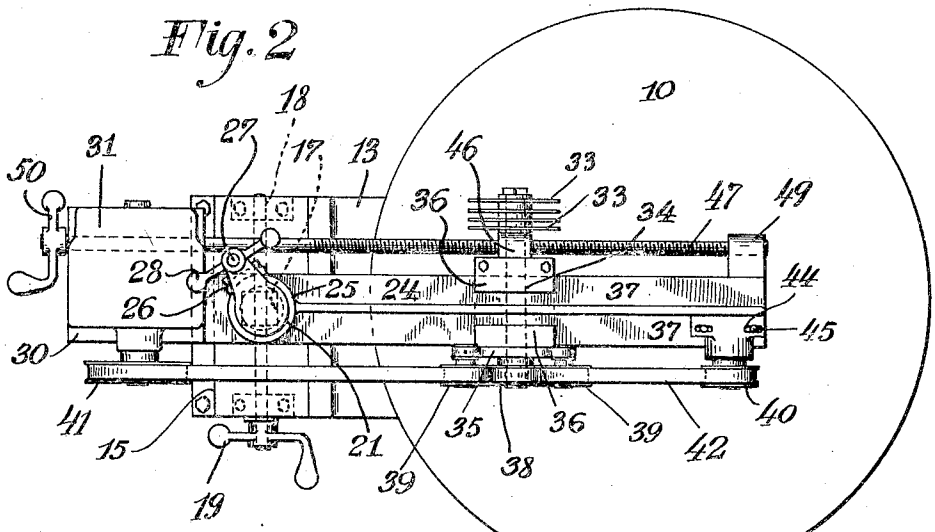
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Fig. 2



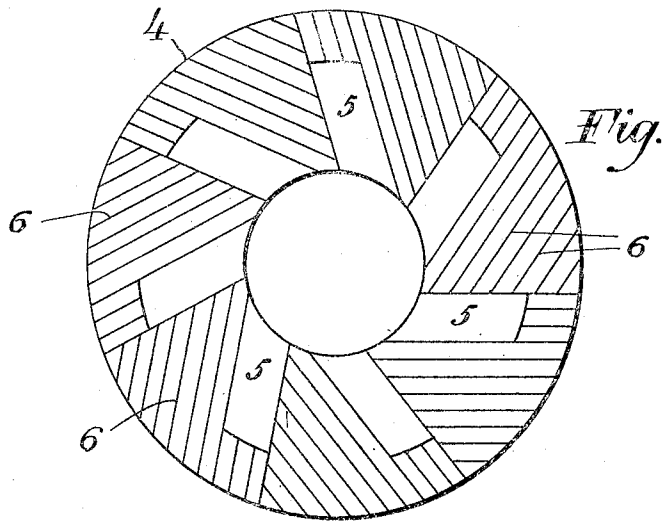


Fig. 3

James W. Kent Inventor

By his Attorney

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UNITED STATES PATENT OFFICE.

JAMES W. KENT, OF BROOKLYN, NEW YORK.

MACHINE FOR DRESSING STONES.

Application filed August 28, 1923. Serial No. 659,729.

To all whom it may concern:

Be it known that I, JAMES W. KENT, a citizen of the United States, and resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Machines for Dressing Stones, of which the following is a specification.

This invention relates to machines for dressing mill stones of the kind used in paint mills and other similar or analogous industries.

The object of the invention is to provide a generally improved stone dressing or cutting machine of the portable type in the sense, that the machine is adapted to be moved about easily to avoid the necessity for transporting the heavy stones to the machine. The objects of the invention also include simplicity of design and construction, accessibility of the various submechanisms for performing the several operations together with facility and ease in operating and adjusting the mechanism.

With the above and other objects in view, my invention is embodied in a stone dressing machine as hereinafter set forth, while reference is had to the acompanying drawings in which—

Fig. 1 is a side view of a stone dressing machine embodying my invention, showing the machine in operation on a stone.

Fig. 2 is a plan view of the machine with parts removed.

Fig. 3 is a plan view of a mill stone showing the work to be performed by the machine.

Referring first to Figure 3 the reference numeral 4 denotes a mill stone, such for instance as are used in paint mills. But the invention is not limited to a machine for dressing paint mill stones, but is capable of dressing or cutting stones for other purposes. In the instance illustrated the stone is provided with a number of larger grooves or depressions 5, 5 and is further divided into sections which are cut with a plurality of regularly spaced and arranged narrow grooves represented by the lines 6, 6. The machine according to this disclosure cuts the narrow grooves 6.

Referring now to Figure 1 the numeral 7 denotes a portable stand which supports the machine and the stone to be dressed. The stand is of suitable design and construction and is provided with wheels 8, 8, so as to transport the machine easily to the place where the stones may happen to be located or stored.

The stand is provided with a pivot 9 around which rotates a work table 10 on a plurality of suitable rollers 11, 11. The stone 4 is supported on the work table and is rotated by the operator as the work may require. To one side of the stand there is secured a bracket 12 which serves to support the machine base 13 which latter is also directly secured to the stand by bolts 14.

The base 13 of the machine forms a dove tailed groove 15 in which slides a bracket 16 having a depending portion forming a nut 17, see Figure 2. 18 is a screw shaft which is secured to the base 13 and is provided with a handle 19. The screw shaft engages the nut 17 in an obvious manner so that when said shaft is rotated by means of its handle 19, the bracket 16 is caused to slide in the groove 15.

To the bracket 16 is pivoted at 20 a cylindrical upright or cutter arm guide support 21. The upright is at its bottom provided with a curved slot 22 through which passes a bolt 23 into the bracket 16. Hence by loosening said bolt the upright 21 may be adjusted in a vertical plane around the aforesaid pivot 20 after which the bolt 23 is tightened to secure the upright in adjusted position.

The numeral 24 denotes a cutter arm, which is provided with a boss 25 which surrounds and slides on the upright 21. To this end there is secured a nut 26 to the said boss, and to the upright is secured a screw shaft 27 having a handle 28. The screw shaft passes through said nut 26 in engagement therewith. When the screw shaft is rotated by its handle, the cutter arm is moved up and down on the upright 21. A key 29 on the upright prevents relative rotative movement between the upright and the cutter arm as is obvious.

The cutter arm extends to one side of the upright 21 and in over the work table 10 where said arm supports the cutting means. To the opposite side of the boss 25 the cutter arm 24 forms a motor base 30 upon which is mounted an electric motor 31. The cutting means comprises a plurality of cutting wheels or cutters 33, 33 mounted to rotate on a shaft 34. The shaft 34 is journaled in a cutter carriage 35 which hangs beneath the cutter arm 24 and on which arm

the carriage is arranged to slide by means of suitable guides or flanges 36, 36 which overlie and slide on the cutter arm base 37, see Figure 2, on both sides of said arm. The cutter shaft 34 carries a pulley 38. Two guiding pulleys 39, 39 are also mounted on the cutter carriage and an adjustable pulley 30 is secured to the cutter arm. The motor 31 is provided with a driving pulley 41 and drives the cutter shaft 34 my means of a belt 42 which passes over all of the pulleys aforesaid. A belt guard 43 and a cutter guard 44 may be provided if desired.

The belt 42 is tensioned by adjusting the pulley 40 by means of the slots 44 and bolts 45, see Figure 2. The cutter carriage 35 forms a nut 46, Fig. 2, and through the latter passes a screw shaft 47 having its bearings 48 and 49 on the cutter arm 24. The shaft 47 is rotated by a handle 50 to cause the cutter carriage to slide along the cutter arm in an obvious manner.

In operation, the machine is wheeled to the place where the stone happens to be. The stone is placed on the rotatable work table 10, preferably in concentric position thereon. Thereafter the machine is adjusted for the operation, that is, the cutter carriage 35 is moved towards the upright 21 by rotation of the screw shaft 37 to properly position the cutters at the edge of the stone. The proper elevation of the cutters is obtained by rotating the screw shaft 27, and the cutting plane is adjusted laterally by tilting the upright 21 around the pivot 20, certain stones having raised, curved or slanting upper surfaces require more or less adjustment of the upright 21 from its normal vertical position. The cutters are positioned transversely of the stone parallel to the shaft 34 by means of the shaft 18 aforesaid. The motor is then started and the cutters commence to rotate to cut or dress the stone. As the cutting proceeds, the cutters are fed in over the stone by operating the handle 50 to rotate the screw shaft 47 while at the same time the cutters are adjusted vertically by operation of the screw shaft 27. Whenever required, the work table 10 with the stone 4 is rotated to obtain the proper angle of the grooves to be cut.

It will be seen, therefore, that the machine includes the means for driving and feeding the cutters over the stone as may be required, and that the stone is rotated manually to suit the work.

The machine is simple in construction and operation. It consists of comparatively few parts and the work is at all times under the eyes and the control of the operator.

I claim:—

1. A machine of the character described comprising a portable stand, a work table mounted to rotate thereon, a base member secured to said stand, a bracket slidably supported on said base member, an upright pivoted on said bracket, means for adjusting said upright towards and away from said work table, a cutter arm adapted to slide on said upright, means for adjusting said cutter arm, cutting means supported on said cutter arm in position to be operated in over said work table, driving means for said cutting means, manually operated means for moving said cutting means in over the work resting on said work table, which latter is adapted to be operated manually to position the work with respect to said cutting means.

2. A machine of the character described comprising an upright, a cutter arm supported thereon in non-rotatable relation thereto, cutting means slidably mounted on said cutter arm, driving means on the latter for said cutting means, mechanism on said cutter arm for operating said cutting means thereon while said cutting means are being driven by said driving means, a work support mounted beneath said cutter arm, mechanism for raising and lowering said cutter arm to bring the cutting means into working relationship with the work, means for adjustably supporting the said upright, means for operating said adjustable supporting means to position said cutter arm in predetermined lateral relationship with the said work support, a stand for supporting the latter and all of the other aforesaid elements, said work support being rotatably mounted on the said stand for the purpose specified.

JAMES W. KENT.