B. TÓTH.

GRINDING AND DRESSING MACHINE FOR CASTINGS.

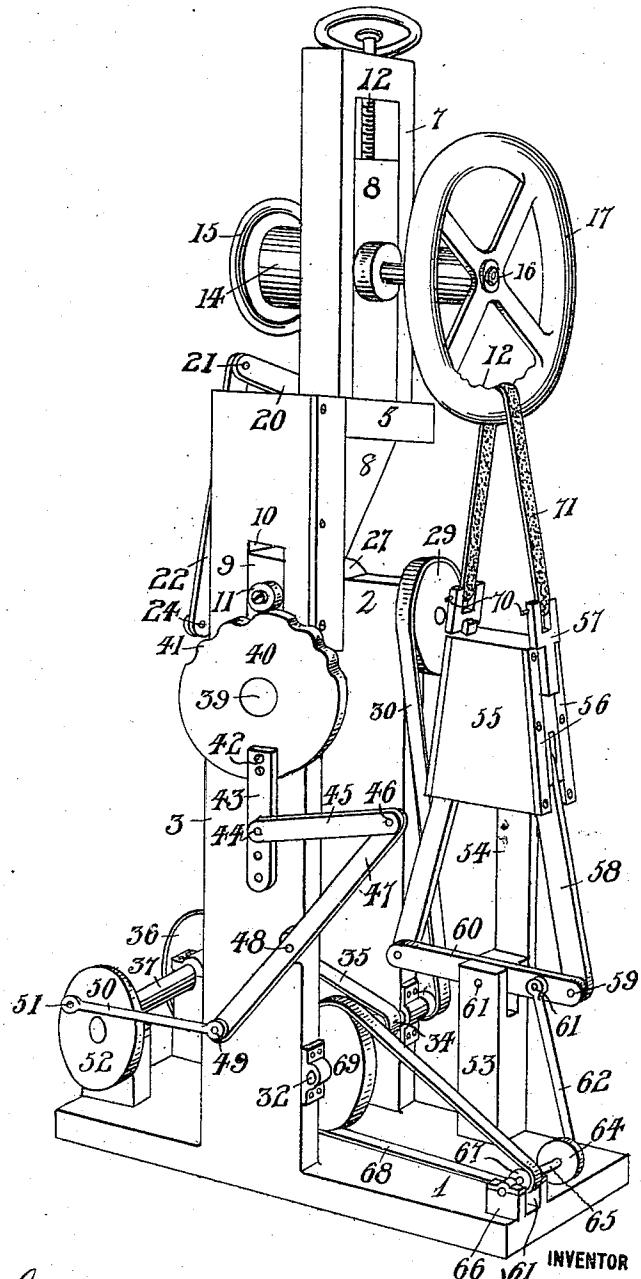
APPLICATION FILED DEC. 29, 1910.

987,511.

Patented Mar. 21, 1911.

2 SHEETS—SHEET 1.

FIG. 1



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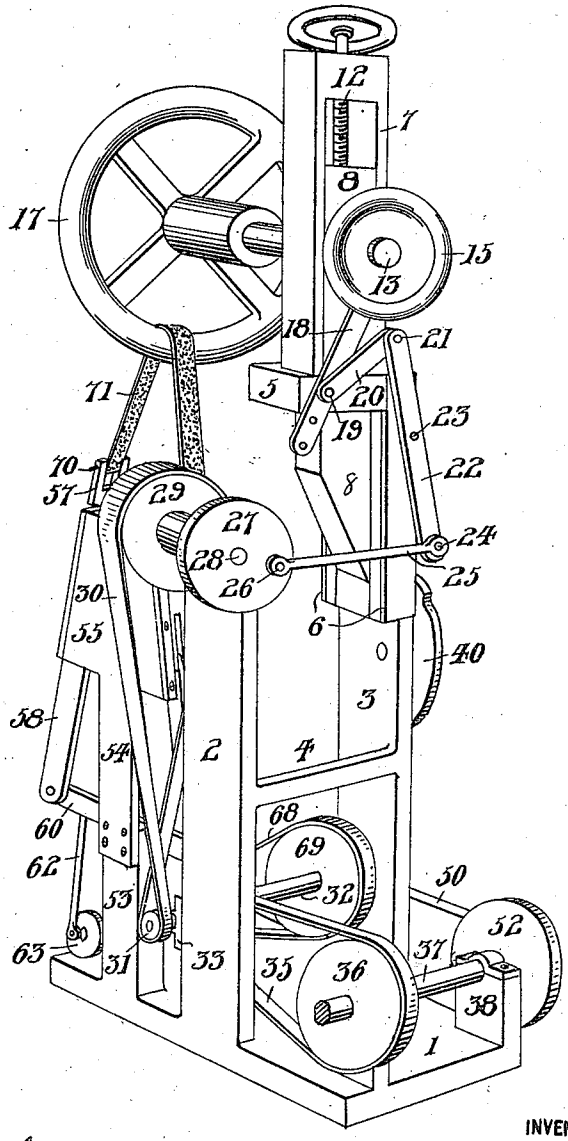
2 SHEETS—SHEET 2.

FIG. 2



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GRINDING AND DRESSING MACHINE FOR CASTINGS.

987,511. Specification of Letters Patent. Patented Mar. 21, 1911.

Application filed December 29, 1910. Serial No. 599,848.

To all whom it may concern:

Be it known that I, BÉLA TÓTH, a subject of the King of Hungary, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Grinding and Dressing Machines for Castings, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a grinding and dressing machine for castings, and the primary object of my invention is to provide a machine with means as will be hereinafter set forth for removing the rough edges, irregularities, and incrustations from molded articles, particularly wheels, the removal of the irregularities being expeditiously and economically accomplished, particularly in connection with large castings.

A further object of the invention is to provide a machine of the above type embodying novel means for shifting and reseating a piece of emery cloth or other abrasive material whereby a wheel can be easily ground or dressed and placed in a perfect condition.

I attain the above objects by a mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawings, wherein:

Figure 1 is a perspective view showing two sides of the machine, and Fig. 2 is a similar view illustrating the other sides of the machine.

A machine in accordance with this invention embodies a base plate 1 provided with oppositely disposed standards 2 and 3 connected by a brace 4. The standard 3 is of a greater height than the standard 2 and is provided with a lateral extension 5 and guides 6. The lateral extension supports a housing 7 and arranged in said housing is a movable bearing block 8, said block extending through an opening provided therefor in the extension 5 and having the lower end thereof provided with a right angular extension 9 extending through an opening 10 provided therefor in the standard 3. The right angular extension 9 supports a revoluble roller 11, the object of which will presently appear.

The movement of the bearing block 8 within the housing 7 is through the medium of a screw 12 mounted in the top of said housing, and journaled in the bearing block 8 is a shaft 13 retained therein by collars 14. One end of the shaft has a wheel 15 and detachably mounted upon the opposite end of the shaft by a nut 16 or other fastening means is the cast wheel 17 to be dressed by the machine. The wheel 15 is provided with a radially disposed fixed arm 18 and adjustably connected to the lower end of said arm by a pin 19 is a link 20. The link is pivotally connected by a pin 21 to the upper end of a lever 22 fulcrumed, as at 23, upon the edge of the standard 3. The lower end of the lever 22 is pivotally connected by a pin 24 to a pitman 25 and said pitman is pivotally connected, as at 26, to a wheel 27 mounted upon a shaft 28 revolubly supported by the upper end of the standard 2. Mounted upon the shaft 28 is a belt wheel 29 and passing over said belt wheel is a twisted belt 30, which also passes over a small belt wheel 31 mounted upon a shaft 32 journaled in bearings 33, carried by the standards 2 and 3 adjacent to the base plate 1. The shaft 32 has a small pulley 34 and over this pulley passes a belt 35 which also passes over a large pulley 36 mounted upon a driven shaft 37, journaled in bearings 38, carried by the base plate 1; the shaft 37 being driven by a motor or other suitable source of power.

Journaled in the standard 3 is a shaft 39 and mounted upon said shaft is a large wheel 40 having the edge thereof scalloped or toothed, as at 41, to engage the roller 11. Fixed to the large wheel 40, as at 42, is an arm 43 and adjustably connected to said arm by a pin 44 is the end of the link 45. The link 45 is pivotally connected by a pin 46 to the upper end of a lever 47 fulcrumed upon the side of the standard 3, as at 48. The lower end of the lever 47 is pivotally connected by a pin 49 to a pitman 50 and said pitman is pivotally mounted upon the wrist pin 51 of a wheel 52 mounted upon the end of the driven shaft 37.

The base plate 1 is provided with an additional bearing 53 having an upright 54 for a tapering guide head 55. The tapering guide head is provided with guides 56 for movable strap holders 57 and pivotally connected to the lower ends of said holders are arms 58 pivotally connected by pins 59 to the ends of the cross heads 60 fulcrumed by a pin 61 in the upper end of the bearing 53. The cross head 60 is pivotally connected by a pin 61 to a pitman 62 and said pitman has

the lower end thereof pivotally mounted upon a wrist pin 63 carried by a wheel 64 mounted upon a shaft 65. The shaft 65 is journaled in bearings 66, carried by the base plate 1, and upon said shaft between the bearings is mounted a small pulley 67. Over this small pulley passes a belt 68 that also passes over a large pulley 69 mounted upon the shaft 32.

Detachably connected to the strap holders 57 by pins 70 are the lower ends of a strap 71, said strap being made of emery cloth or an abrasive material. This strap is adapted to extend upwardly over the rim of the cast wheel 17 and remove irregularities, as designated 72 from the rim of said wheel.

Through the medium of the driven shaft 37, belt 35, shaft 32, belt 30, shaft 28, pitman 25, lever 22, link 20, and the arm 18 of the wheel 15, the shaft 13 will be rocked in the bearing block 8, the rocking movement of the shaft being sufficient to move the cast wheel 17 whereby the strap 71 will contact with that portion of the wheel rim between two of the spokes of the wheel. During this rocking movement of the shaft 13 the bearing block 8 is vertically reciprocated through the medium of the right angular extension 9, revoluble roller 11, scalloped wheel 40, shaft 39, arm 43, link 45, fulcrumed lever 47, pitman 50, wheel 52, and the driven shaft 37. The reciprocatory movement of the bearing block 8 raises and lowers the cast wheel during the rocking movement thereof, and it is this reciprocatory movement that allows the strap 71 to seat and unseat itself upon the rim of the cast wheel 17. Simultaneous with the rocking and reciprocatory movement of the cast wheel 17, the strap 71 is shifted back and forth over the rim of the wheel through the medium of the strap holders 57, arms 58, cross heads 60, pitman 61, wheels 64, shaft 65, belt 68, shaft 32, belt 35, and the driven shaft 37. The three movements of the machine contribute toward a rapid and economical reduction or removal of the irregularities upon the inner side of the rim of the cast wheel 17, the rim of the wheel being shifted whereby the strap 17 can contact with the rough surface of the same, besides preventing the strap from being continuously worn in one place.

It is thought that the operation and utility of the machine will be apparent without further description, and while in the drawings there is illustrated a preferred embodiment of the invention it is to be understood that the structural elements are susceptible to such changes as fall within the scope of the appended claims.

What I claim, is:

1. A machine of the type described embodying standards, a housing carried by one of said standards, a reciprocatory bearing block movably mounted in said housing, a rock shaft journaled in said bearing block and adapted to support a wheel, a guide head, strap holders movably mounted upon said guide head, a strap having the ends thereof connected to said holders and adapted to pass through and upon the rim of said wheel, means including a scalloped wheel adapted to reciprocate said bearing block, means including a rock head adapted to move said strap holders, and means including a fulcrumed lever adapted to rock the shaft of said bearing block.

2. A machine of the type described embodying standards, a housing carried by one of said standards, a reciprocatory bearing block movably mounted in said housing, a rock shaft journaled in said bearing block and adapted to support a piece of work, means carried by said housing and adapted to limit the movement of said reciprocatory bearing block, a guide head, strap holders movably supported by said guide head, a strap having the ends thereof connected to said holders and adapted to pass through said piece of work, means including a scalloped wheel adapted to reciprocate said bearing block, means including a rock head adapted to shift said strap holders, means including a fulcrumed lever adapted to rock the shaft of said bearing block, and means including a driven shaft adapted to actuate the last three mentioned means, substantially as described.

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

BÉLA TÓTH.

Witnesses:
KARL PURSCH,
ELEMER MASZTICS.