(No Model.)

D. J. DAVIDSON.

MACHINE FOR RE-DRESSING MILL ROLLS.

No. 489,412. Patented Jan. 3, 1893.

Fig. 1.

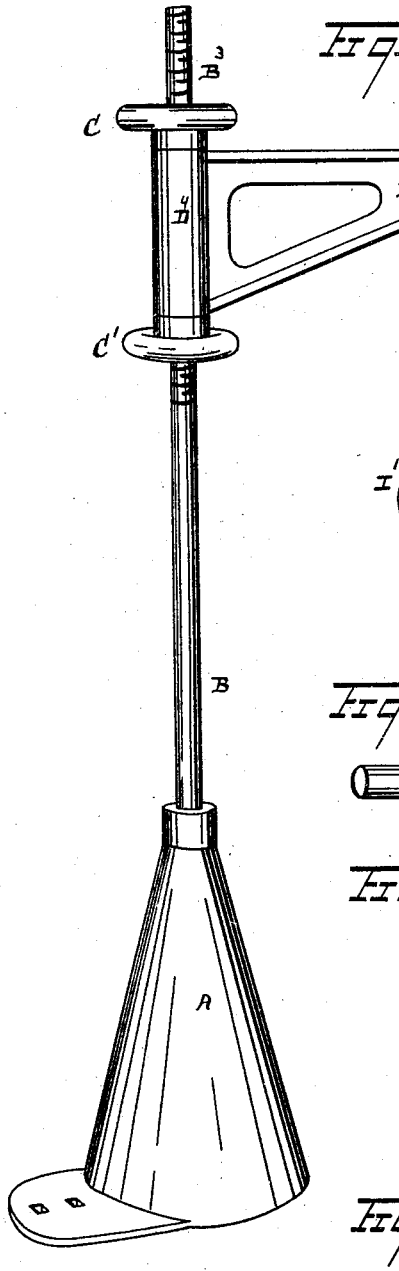


Fig. 2.

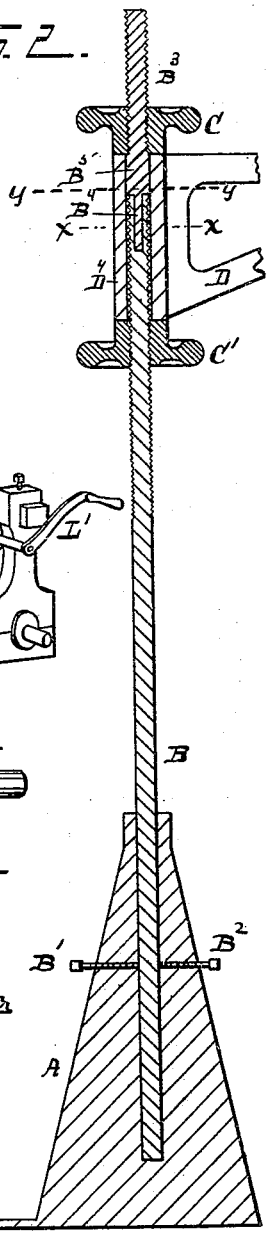


Fig. 3.

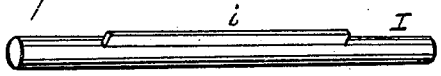


Fig. 4.

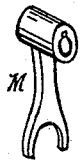


Fig. 5.

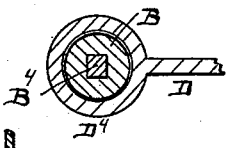


Fig. 6.

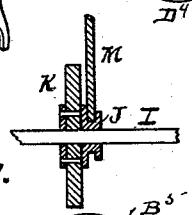
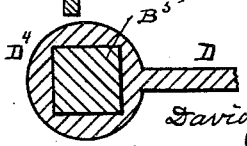


Fig. 7.



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UNITED STATES PATENT OFFICE.

DAVID J. DAVIDSON, OF BROCKWAY, MICHIGAN.

MACHINE FOR RE-DRESSING MILL-ROLLS.

SPECIFICATION forming part of Letters Patent No. 489,412, dated January 3, 1893.

Application filed May 23, 1892. Serial No. 434,058. (No model.)

To all whom it may concern:

Be it known that I, DAVID J. DAVIDSON, a citizen of the United States, residing at Brockway, county of St. Clair, State of Michigan, have invented a certain new and useful Improvement in Machines for Re-Dressing Mill-Rolls; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in a machine for re-dressing mill-rolls, and it consists of the construction, combination and arrangement of devices and appliances hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective embodying my invention. Fig. 2 is a vertical section through the support. Fig. 3 is a separate view of the shaft carrying the dressing wheel. Fig. 4 is a separate view of the device engaging the hub of the dressing wheel and the threaded bar. Fig. 5 is a sectional view on the line *x*—*x* Fig. 2. Fig. 6 is a sectional view through the dressing wheel. Fig. 7 is a view in section on the line *y*—*y* Fig. 2.

It is the purpose of my invention to provide a simple and efficient re-dressing machine, portable and adjustable, wherewith any miller may re-dress his own rolls without removing them from the machine, the re-dressing machine being applied to the rolls to be re-dressed, instead of applying the rolls to the re-dressing machine.

I carry out my invention as follows:

In the drawings A represents any suitable support.

B represents a vertical standard having a vertically adjustable engagement with said support.

B′ and B^2 denote set screws to hold the standard in any position to which it may be adjusted. Other means may be employed to serve the same purpose as said set screws.

Engaged with the standard B is an additional standard B^3 having a squared portion B^5, the two standards B B^3 being threaded, respectively, above and below said squared portion.

C and C′ denote upper and lower adjusting hand wheels engaged respectively with the threaded portions of the standards B B^3.

The standard B^3 is removably engaged with the upper end of the standard B in any suitable manner, as by recessing the one, and providing the other with a corresponding arm B^4 to engage in said recess.

D denotes a crane engaged upon the standards B B^3. This crane is formed with a hollow arm D^4 having a squared interior portion to engage upon the squared portion of the vertical standard B^3, to prevent the crane from turning laterally upon said standard.

The two hand wheels C C′ are located the one above and the other below the arm D^4, whereby the arm may be adjusted upward or downward upon the vertical standards B B^3. Said standards when united, as above described, in reality form one combined support to carry said crane. I do not limit myself solely, however, to a support so constructed. The opposite end of the crane is also constructed with one or more orifices at D^2, in which is located an adjustable supporting arm E, said latter arm constructed with a threaded portion E′ and a base E^2 adjustably engaged with the arm E in any suitable manner. Hand wheels F F′ are engaged upon the threaded portion of the arm E, one above and the other below the adjacent end of the crane to control the adjustment of the arm E. The base E^2 is constructed with a channel at E^3 to receive a bar G. Upon the extremities of said bar are engaged hangers H H′. These hangers carry a shaft I provided with a small pulley I′, and a rib "*i*," upon which is engaged a sleeve or hub J. K is a dressing or emery wheel rotatable upon said hub, and laterally movable upon said shaft. The hangers H H′ also carry a threaded bar L which may be provided with an operating handle L′, the bar L being rotatable in said hangers.

M denotes a carrier arm having a threaded engagement with the bar L, and also with the hub of the emery wheel. It will be seen that as the threaded bar L is rotated, as by the hand of the operator, the emery wheel will be moved to and fro upon the shaft I so as to

dress the roll from one end to the other. It will be seen that the re-dressing machine may thus, be readily placed adjacent to the rolls in their accustomed place, in any desired position. The crane carries the emery wheel over the rolls, where it may be adjusted to any desired operative position. The pulley I′ is belted with the shaft of the roll to be dressed. When the rolls are set in rotation by the accustomed mechanism, the emery wheel is thus rotated. By this construction the roll may revolve slowly, while the emery wheel rotates at a high rate of speed in the opposite direction. In this manner the usual power which drives the roll drives the re-dresser also.

What I claim as my invention is:

1. In a machine for re-dressing mill rolls the combination of a support, a crane having an adjustable engagement with the support, a supporting arm having an adjustable engagement with the opposite end of said crane, and a rotatable shaft provided with a dressing roll engaged with said arm, and means to reciprocate said roll upon said shaft substantially as described.

2. In a machine for re-dressing mill rolls, the combination of a support, a crane having an adjustable engagement with the support, a supporting arm having an adjustable engagement with the opposite end of said crane, a rotatable shaft provided with a dressing roll engaged with said arm, said shaft provided with a pulley, and said dressing roll laterally movable on said shaft, substantially as described.

3. In a machine for re-dressing mill rolls, the combination of a support, a crane having an adjustable engagement with the support, a supporting arm having an adjustable engagement with the opposite end of said crane, a rotatable shaft provided with a dressing roll engaged with said arm, said shaft having an adjustable connection with said arm, and means of moving said dressing roll laterally upon said shaft, substantially as described.

4. In a machine for re-dressing mill rolls, the combination of a supporting standard, a crane adjustably engaged therewith, means to adjust the crane vertically and to prevent its lateral movement upon said standard, a supporting arm adjustably engaged with the opposite end of the crane, means to adjust said supporting arm, a rotatable dressing wheel suspended from said arm, and means to move the dressing wheel laterally, substantially as described.

In testimony whereof I signed this specification in the presence of two witnesses.

DAVID J. DAVIDSON.

Witnesses:
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C. W. HANNA.