No. 778,525. PATENTED DEC. 27, 1904.

E. P. ALEXANDER.

MACHINE FOR REMOVING SCALES FROM AXES.

APPLICATION FILED OCT. 26, 1903.

Fig. 2.

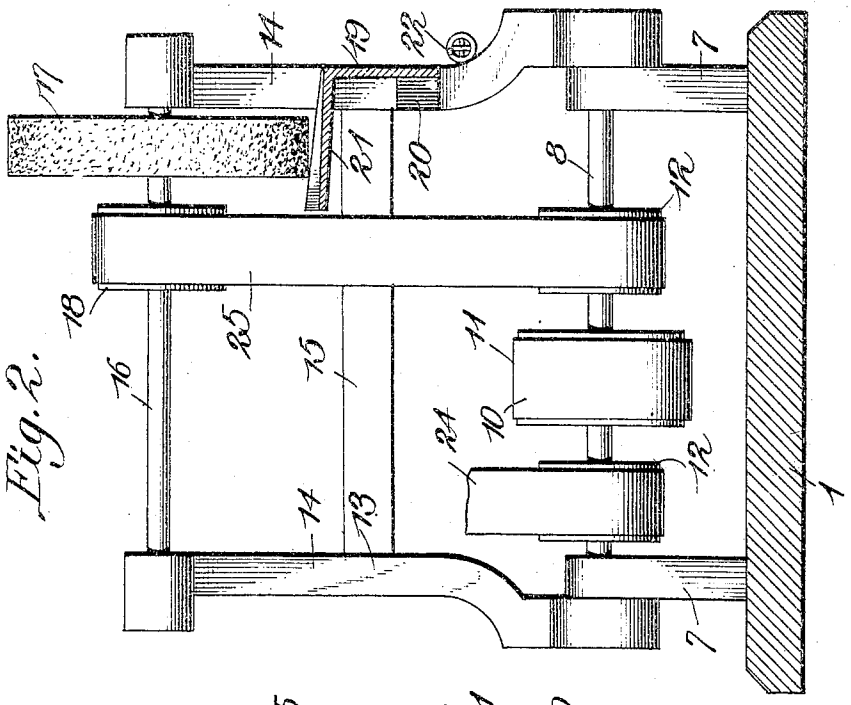
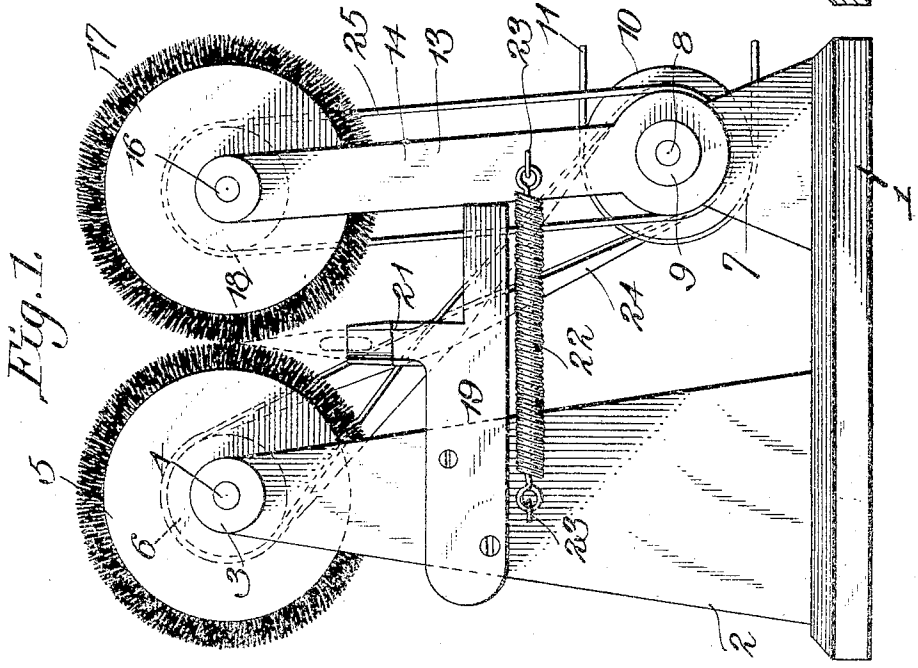


Fig. 1.



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No. 778,525. Patented December 27, 1904.

UNITED STATES PATENT OFFICE.

ELMER P. ALEXANDER, OF YEAGERTOWN, PENNSYLVANIA, ASSIGNOR TO JAMES H. MANN, OF LEWISTOWN, PENNSYLVANIA.

MACHINE FOR REMOVING SCALES FROM AXES.

SPECIFICATION forming part of Letters Patent No. 778,525, dated December 27, 1904.

Application filed October 26, 1903. Serial No. 178,631.

To all whom it may concern:

Be it known that I, ELMER P. ALEXANDER, a citizen of the United States, residing at Yeagertown, in the county of Mifflin and State of Pennsylvania, have invented a new and useful Machine for Removing Scales from Axes, of which the following is a specification.

This invention relates to machines for removing scales from axes and other metal tools.

The object of the invention is to provide a machine by means of which the scale formed on the surface of axes and other tools of steel or iron in the process of manufacture may be quickly and easily removed prior to finishing them for market.

In the manufacture of axes and other steel tools as ordinarily carried on it is customary to remove the scale of oxid formed thereon in process of manufacture by means of grinding or by the use of steel brushes wielded by hand. Neither of these modes of procedure is entirely satisfactory, because the former is difficult to perform evenly and quickly and the latter is slow and laborious.

The object of the present invention is to provide a machine by means of which the scale, particularly that formed upon axes, may be removed almost instantly in a uniform manner and without the employment of skilled labor.

With the object above stated in view the invention consists in the novel construction and combination of parts of a machine for removing scale hereinafter fully described, illustrated in the accompanying drawings, and particularly set forth in the appended claims.

In the drawings, Figure 1 is a front elevation of the machine. Fig. 2 is a vertical section looking toward the right in Fig. 1.

Referring to the drawings, in which corresponding parts are designated by similar characters of reference throughout, 1 designates the base of the machine, on which there are rigidly secured at one side two uprights or standards 2, provided at their tops with bearings 3 for the reception of a shaft 4, having near one end a large brush of circular form composed, preferably, of steel wire and designated 5. Near the other end of the shaft there is rigidly attached thereto a pulley 6. At the side of the base opposite the standards 2 are mounted a pair of brackets 7, each of which is provided at its upper end with bearings for a shaft 8 and also has an outwardly-projecting stud 9, through the center of which the shaft 8 extends. The shaft 8 is provided with a large pulley 10, over which runs a belt 11, by which power is imparted to the pulley and two smaller pulleys 12, arranged on opposite sides of the large pulley 10. The studs 9 on the brackets 7 serve as supports for a frame 13, consisting of side bars 14 and a cross-bar 15, connecting the side bars. Each of the side bars 14 is pivotally mounted on one of the studs 9, so that the frame may swing about the shaft 8 as an axis of movement. The upper ends of the bars 14 form bearings for a shaft 16, which bears a brush 17, similar in all respects to the brush 5, already described, and arranged opposite thereto. There is also mounted on the shaft 16 a pulley 18 of the same size as the pulley 6 and arranged immediately above one of the pulleys 12 on the shaft 8.

Mounted on the standard 2 adjacent to the brushes 5 and 17 is a member 19, which extends horizontally and is provided at one end with a lug 20, adapted to serve as a stop to limit the movement of the frame 13 toward the standards 2. The member 19 is also provided with a lateral extension 21, which is bent to form a trough-shaped guide beneath the point of contact of the brushes 5 and 17. The extension 21 is inclined slightly, as shown, and is of a suitable size in the present instance to receive the butt portion of an ax.

In order to hold the brushes 5 and 17 normally in contact, a coiled tension-spring 22 has its ends secured by staples 23 to one of the standards 2 and one of the side bars 14 of the frame 13, respectively.

Motion is imparted to the entire machine by means of the belt 11, running over the pulley 10 on the shaft 8, and motion is imparted from the shaft 8 to the shafts 4 and 16 by means of belts 24 and 25, connecting the pulleys 12 with pulleys 6 and 18, respectively. The belt 24 will be crossed in order to impart

rotation to the shaft 4 in the direction opposite to that in which the shaft 16 is rotated, so that the portions of the brushes 5 and 17 which come into contact may have a peripheral movement in the direction indicated by the arrows.

The operation of the machine is extremely simple and will be readily understood from the description and the drawings. Motion having been imparted to the brushes by means of the driving devices already described, the removal of scale from an ax will be accomplished by merely passing the ax butt foremost downward between the rapidly-revolving brushes 5 and 17 and bringing the butt in contact with the guide formed by the extension 21 of the member 19, then drawing the ax forward and downward along the incline of the guide. If all of the scale is not removed at a single operation, it may be seen at once, and the operation may be easily repeated as often as may be necessary to effect the complete removal of the scale.

In the construction of the machine any suitable materials may be employed, iron or steel being preferred for the purpose, and the proportions and exact mode of assemblage may be altered without departing from the spirit of the invention or sacrificing its advantages.

Having thus described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A machine of the class described comprising a pair of rigid standards, a shaft journaled on the standards and carrying a brush, a swinging frame carrying a brush coacting with that first named, means for causing the brushes normally to approach each other, and a work-support disposed beneath the brushes and having means to limit the movement of a swinging frame.

2. A machine of the class described comprising a pair of rigid standards, a shaft journaled on the standards and carrying a brush, a swinging frame carrying a brush to coact with that first named, means for causing the brushes normally to approach each other, and a work-support rigid with the standards and disposed beneath the brushes, and having means to limit the movement of the swinging brush-supporting frame.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ELMER P. ALEXANDER.

Witnesses:

EMMETT E. BIGELOW,

G. M. GIBBONY.