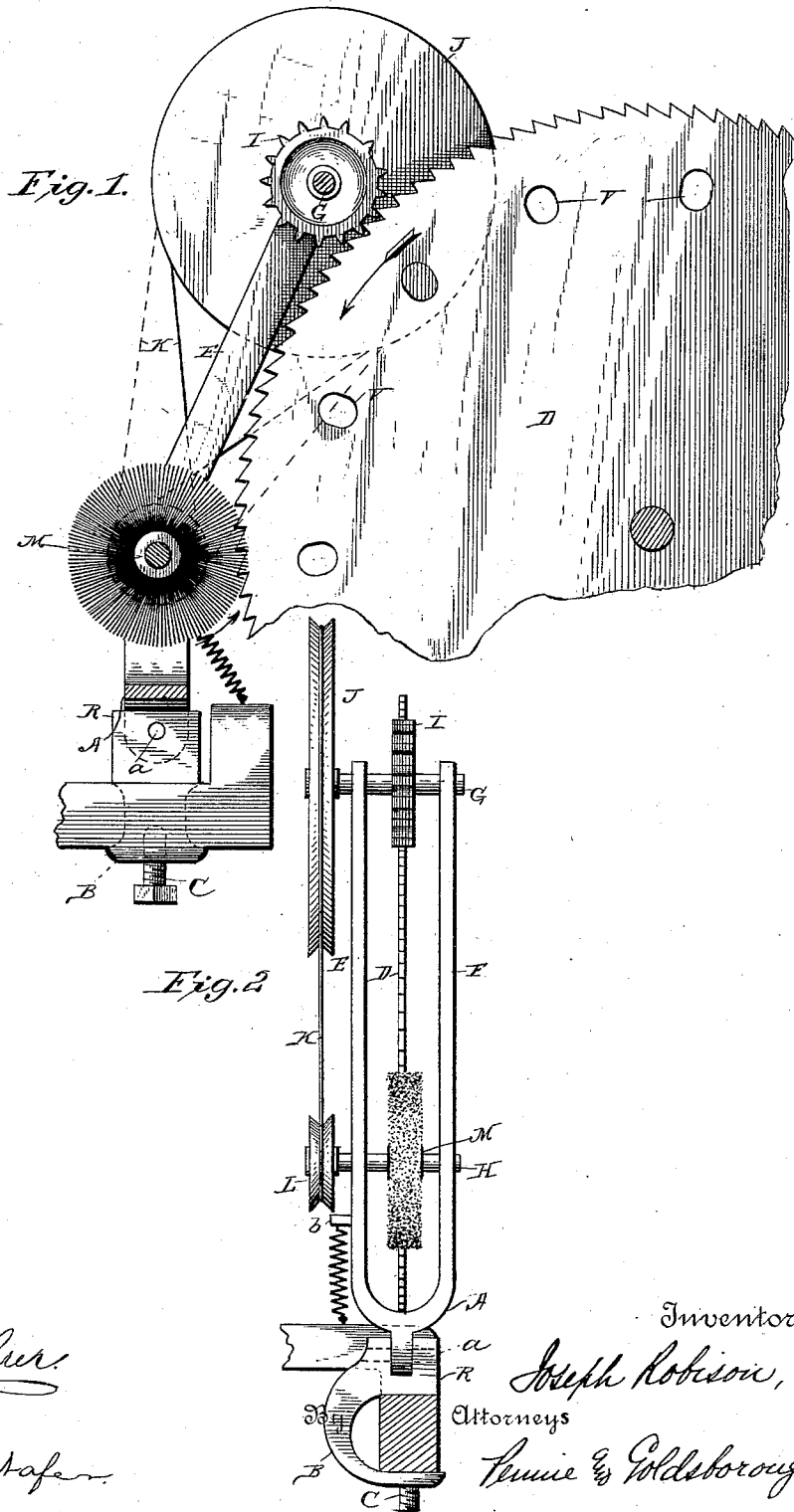


(No Model.)

J. ROBISON.
BRUSH ATTACHMENT FOR SAWING MACHINES.

No. 417,093.

Patented Dec. 10, 1889.



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UNITED STATES PATENT OFFICE.

JOSEPH ROBISON, OF GREENBUSH, NEW YORK, ASSIGNOR OF ONE-HALF
TO ROBERT J. PRATT, OF SAME PLACE.

BRUSH ATTACHMENT FOR SAWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 417,093, dated December 10, 1889.

Application filed July 5, 1889. Serial No. 316,535. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ROBISON, a citizen of the United States, residing at Greenbush, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Brush Attachments for Milling-Cutters and the Like; and I do hereby 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.

My invention relates to certain new and useful improvements in brush attachments for milling-cutters and metal-sawing machines, and is particularly adapted for use in connection with rail-sawing machines of the general character shown and described in the patent to Eben N. Higley, No. 389,149, dated September 4, 1888. In sawing-machines of the type shown in said Higley patent the efficiency of the action of the teeth is dependent in great measure upon clearing the notches between said teeth, as the latter come in contact with the metal to be sawed, of obstructions which otherwise tend to accumulate in said notches and diminish the clearance of the teeth. These obstructions are the clippings of metal produced during the sawing operation, which clippings enter the notches during the revolution of the saw, and being covered with lubricating-oil, which is ordinarily used to facilitate the saw's action, tend to remain in the saw-teeth notches unless positively dislodged. The purpose of my invention is to effect this dislodgment of the metal particles or clippings referred to, and in the accomplishment of this purpose I have devised the construction and arrangement of parts illustrated in the accompanying drawings, wherein—

Figure 1 represents a metal-cutting saw provided with the preferred form in which I have embodied my invention, the saw being shown in side elevation and partly broken away, and the attachment being shown in sectional side elevation. Fig. 2 represents an end elevation of the saw and the attachment.

Similar letters of reference indicate similar parts throughout the several views.

Referring to the drawings, D represents a saw-blade of the kind described in the patent to Higley above referred to, said saw-blade being driven from its periphery by means of gearing intermeshing with perforations *v*, as described more fully in said patent. The attachment constituting my improvement consists of a yoke A, pivoted at *a* to a base-piece R, which has a curved arm B, having a threaded aperture for the reception of a clamping-screw C, whereby it is adapted to be secured to any portion, as T, of the frame-work of the sawing-machine. The bifurcated arms E F of the yoke A form journals for shafts G H, as shown, the upper shaft G being provided with a fixed pinion or cog-wheel I, having teeth adapted to intermesh with the saw-teeth, as more clearly shown in Fig. 1. A grooved pulley J is also fixed upon the shaft G, and within the said groove is located the driving-cord K, which driving-cord also passes around the grooved pulley L, fixed upon the outer end of shaft H. Upon the shaft H is also mounted the brush M, whose bristles extend outwardly in the path of movement of the saw-teeth, so as to enter the saw-tooth notches during the revolution of the saw. A spiral spring V, connecting the frame of the machine with a stud *b* upon the yoke A, holds the cog-wheel I against the saw-teeth so as to insure its constant engagement with said teeth, but without rigidity.

The saw D during its revolution revolves the pinion I, and this motion is imparted to the grooved pulley J, which in turn revolves the grooved pulley L and the brush M in a direction depending upon the endless-cord connection K. This cord may simply span the two pulleys L and J, as shown in the outside dotted lines of Fig. 1, or the two sides of the cord may cross each other, as shown in the inside full lines of said figure. I prefer, however, that the direction of rotation of the brush M shall be as indicated by the arrow in Fig. 1—that is, so that the bristles shall move against the advancing saw-teeth. In some instances, however, it may be preferred to rotate the brush in the opposite direction, or even transversely to the plane of the saw, and I do not therefore restrict myself to any particular direction or plane of

rotation for said brush, provided, always, that it shall revolve with such relation to the saw-teeth that its bristles shall clear the notches during the revolution of the saw of the metal particles or clippings contained in said notches.

For purposes of convenience I prefer to locate the brush at that point of the periphery of the saw just in advance of the place where the saw enters the rail or other metal operated upon; but it is obvious that the purpose of my invention may be secured by locating the brush at any point of the periphery of the saw beyond that point where the teeth leave the rail or other metal operated upon.

In the drawings I have shown the brush as driven from the teeth of the saw, and I prefer this arrangement in practice, as it permits of a more convenient location of the attachment with respect to the frame-work of the sawing-machine. The brush may, however, be driven either directly from the motor-gearing which actuates the saw, or by a pinion intermeshing with the apertures *v*, or by means of a friction disk or disks in contact with and actuated by the saw-blade. It is also obvious that other suitable gearing may be employed than the grooved wheels J L and cord K for transmitting motion from the shaft G to the brush M and shaft H.

Having thus described my invention, what I claim is—

1. The combination, with the saw-blade of a sawing-machine, of a brush located at the periphery of said blade, the bristles of said brush sweeping the saw-teeth notches during the saw's revolution, substantially as described.

2. The combination, with the saw-blade of a sawing-machine, of a brush located at the periphery of said blade, the bristles of said brush sweeping the saw-teeth notches during the saw's revolution, and gearing intermediate of the saw and brush, substantially as described.

3. The combination, with the saw-blade of a sawing-machine, of a brush located at the periphery of said blade, the bristles of said brush sweeping the saw-teeth notches during the saw's revolution, and gearing interposed between the saw and brush, the initial member of said gearing being driven by the saw-teeth, substantially as described.

4. The combination, with the saw-blade of a sawing-machine, of a brush located at the periphery of said blade, the bristles of said brush sweeping the saw-teeth notches during the saw's revolution, gearing interposed between the saw and brush, the initial member of said gearing being driven by the saw-teeth, and a spring for holding said initial gear against the saw-teeth, substantially as described.

5. A brush attachment for sawing-machines, consisting of a supporting-frame, shafts G H, mounted in said frame and provided, respectively, with pinion I and brush M, and gearing connecting said shafts, substantially as described.

6. A brush attachment for sawing-machines, consisting of a pivoted supporting-frame, shafts G H, mounted in said frame and provided, respectively, with pinion I and brush M, gearing connecting said shafts, and a spring for pressing the pivoted frame forward, substantially as described.

7. A brush attachment for sawing-machines, consisting of a base R, provided with means for attachment to the frame of the sawing-machine, yoke A, pivoted to said base and having arms E F, shafts G H, provided, respectively, with pinion I and brush M, grooved pulleys J and L and connecting-cord K, and spring V, substantially as described.

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

JOSEPH ROBISON.

Witnesses:

ROBT. J. PRATT,
O. E. WINGER.