A. SCHULTE.

Rest for Hardening and Tempering Circular-Saws.

No. 168,927. Patented Oct. 19, 1875.

Fig. 1.

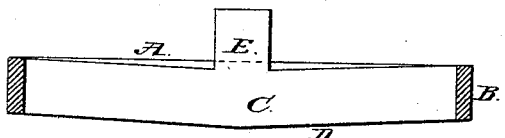
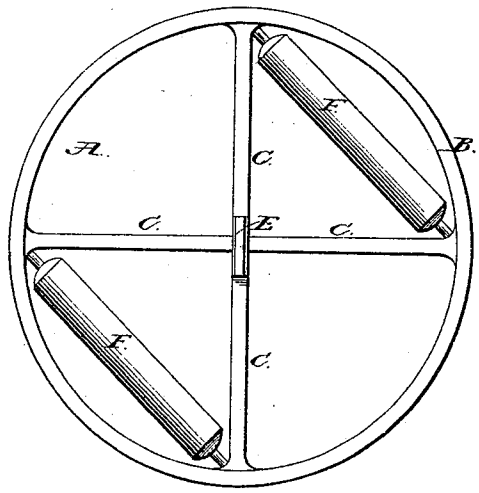


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ANTHONY SCHULTE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN RESTS FOR HARDENING AND TEMPERING CIRCULAR SAWS.

Specification forming part of Letters Patent No. **168,927**, dated October 19, 1875; application filed July 6, 1875.

To all whom it may concern:

Be it known that I, ANTHONY SCHULTE, of St. Louis, Missouri, have invented a new and useful Rest for Hardening and Tempering Circular Saws, of which the following is a full, clear, and exact description, reference being had to the annexed drawing making part of this specification, where—

Figure 1 is a sectional elevation on the line *x x'* of Fig. 2, and Fig. 2 a plan.

Like letters indicate like parts.

In making circular saws a principal feature is the tempering. For this purpose the saw is heated in a reverberatory furnace, and while in the furnace it has been customary either to let the saw rest immediately upon the furnace-bottom, or upon some rude support, which, in turn, rests upon the furnace-bottom. As a consequence, the saw, instead of being heated exclusively by the hot air or flame acting directly upon the saw, is heated partly by coming in contact with the furnace-bottom, or by the heat of the bottom being conducted through the support described. As the bottom of such a furnace is apt to be uneven, the saw, whether resting immediately upon the furnace-bottom or upon such a support as mentioned, heats unequally, which is objectionable; further, owing to the uneven action of the furnace flame, it is necessary to turn the saw around and over from time to time, so as to present all parts of it evenly to the flame. This operation, by reason of the conditions above stated, is troublesome, and frequently unsuccessful.

To overcome these difficulties, and to provide means whereby a circular saw can be heated uniformly in a reverberatory furnace and be easily handled therein, is the aim of the present invention.

In the drawing annexed, A represents a device or rest, consisting of a circular rim, B, of suitable size, provided with arms C C C C, extending from the rim inward, and slightly downward to its central point, D. This makes the center D a pivot, upon which the device rests and turns. E represents a post or guide arranged on the upper side of the rest at its center, and extending a little above the level of the rim. F F represent rollers journaled in the rest on either side of its center, and adjusted so as to come slightly below the lower edge of the rim, but above the pivot D.

In operation the saw is placed on the rest, its eye passing over the post E, which serves to hold the saw in place, and the rest, in turn, placed on the furnace-bottom. The saw is thus supported in the furnace in such manner as to enable the hot air or flame of the furnace to come freely underneath it, and, owing to the pivot being the only part coming in contact with the furnace-bottom, no appreciable excess of heat is conducted through the rest to the saw from the furnace-bottom; further, by rotating the rest on its pivot, the saw can be readily presented in any desirable way to the flame. In passing the saw into and out of the furnace the rest is tilted, so as to cause one of the rollers to bear on the furnace-bottom, and thus enable the rest bearing the saw to be rolled over the furnace-bottom.

While I prefer a rest constructed with an outer circular rim, as shown, it is apparent that a construction in the shape of a spider—*i. e.*, several radiating arms, without a rim connecting their outer ends—would largely answer my present purpose.

It is also manifest that, so far as supporting the saw in the furnace in such way as to practically prevent any conduction of heat from the furnace-bottom is concerned, the rim alone, if made thin, would be of great value.

Having described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The combination of the rim B, arms C C C C, post E, and pivot D, substantially as described.
2. The combination of the arms C C C C, post E, and pivot D, substantially as described.
3. The combination of the arms C C C C, rim B, and post E, substantially as described.
4. The combination of the arms C C C C, pivot D, and rollers F F, substantially as described.
5. The combination of the rim B and rollers F F, substantially as described.
6. The combination of the arms C C C C and rollers F F, substantially as described.
7. The combination of the rim B, arms C C C C, rollers F F, pivot D, and post E, substantially as described.

ANTHONY SCHULTE.

Witnesses:

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