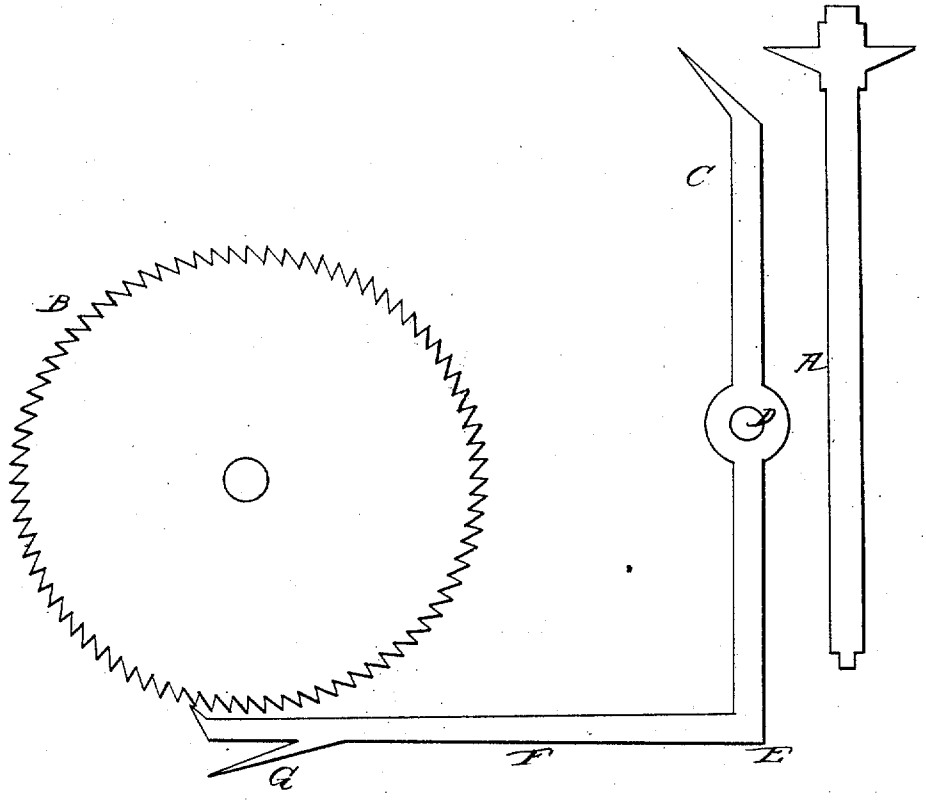
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S. G. Merriman,

Sharpening Reciprocating Saws.

Patented Apr. 11, 1836.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

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Apl. 11, 1836

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Samuel O'Merriman of Southington Connecticut

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Samuel O'Merriman himself of his improvement in cutting the teeth of circular saws.

To all to whom these Presents shall come: Be it known that I Samuel Owen Merriman of Southington in the County of Hartford and State of Connecticut have invented a new and useful improvement in the mode and method of cutting the teeth of circular saws and also for cutting the saws used for collon gins, and in the machinery necessary for effecting the same, and that the following is a full and exact description thereof. My invention and improvement consists in ... combining the motion of a circular index or graduated with the stroke of the punch, in cutting the teeth.

This may be effected by the following machinery connected with any press properly constructed for punching or stamping iron or other metals. To such a press, considering it as standing in its usual position. I attach two projections or studs to the front part of the frame, both below the die in the press & from six to twelve inches apart, one directly above the other, and projecting from six to twelve inches more or less according to the size of the saw to be cut. In the latter box bore made in each of these projections, one inch or more in diameter. Into these boxes let the arbor (marked A in the annexed drawings) be inserted perpendicularly about twelve inches in length. having two bearings or shoulders so fitted as to revolve steadily in said boxes and having the upper end as high or higher than the die in the press. To the lower end of this arbor fix horizontally the index or graduated marked B which is a circular metallic plate having a hole in the centre of the proper size to fit on to the lower end of said arbor, where it is firmly secured

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type used. This plate or index should have the same number of notches or indentations on the circumference as intended to embellish the paper. At the upper end of said arm be attached horizontally and perpendicularly with the plate intended to be cut into a paper, having a hole punched in the centre for that purpose and let the number be disposed that which receives it will bring the edge of the plate exactly over the die in the press. On the back part of the frame of the press is inserted a pivot and on this pivot is placed an upright lever (marked C) in one part thereof above the pivot marked D. so as to move freely on the pivot. The upper end of the lever being bent inwards and over a projection on the moveable part of the press. On the lower end of the lever at the point (marked E) by a joint, attach a horizontal rod (marked F) of the proper length and circular, having the end a little thinner or leaner so as to play into the indentations of the circular index bearing perpendicular at the end near the index by a plate or loop fastened to the press, or its frame so as to keep it in the same plane with the index. The die and punch in the press, must of course be suitable for cutting the letter required. At the lower end of the lever near the joint, a spring, or weight is attached to draw back the horizontal rod as hereafter mentioned. When the press with this machinery attached is put in motion for use, the upper moveable part as it descends will press by its projection against the upper or inner end of the lever, the effect of which will be to press the sharpened end of the horizontal rod into the notch in the index and cause it with the index and the plate to revolve, and as the upright moveable part of the press falls, the weight or spring will draw back the horizontal rod into the next indentation of the index. This rod is constantly pressed down upon the index by a spring marked in the drawings G. Thus every time the press rises, the index and plate by means of the lever will revolve so far as is necessary for the letter required. And each fall of the press will by means of the punch and die cut out a piece from the

the plate so as to form a tooth and at the same time the spring or weight will draw back the horizontal rod to the usual indentation.

The index may be formed by placing pins at a proper distance near the circumference of the index and at right angles with it, and in many other . . . . . ways in which case the liver should be made to correspond with the index and the operation will be the same. If it is required to cut a saw with a straight edge the same index may be used, and the plate to be cut placed upon the dies of the press and be made to move in a right line by means of a rack and pinion attached to the arbor. When it shall be required to cut a saw plate with half the number of teeth on the index this may be effected by causing the rising frame of the press with its projection to rise so high as to force the horizontal rod to push the index two notches instead of one at each rise and . . . fall. Different dies and punches may be used if necessary. For a more full illustration reference may be had to the drawings annexed as part of this specification and to the model deposited in the patent office.

From the operation of this machinery saw teeth are cut with great expedition and great accuracy, and as a result from this invention it is no longer necessary that a saw plate should be made exactly circular before the teeth are cut. Nor if a square or any irregular plate is brought under the operation of this improved machine it will of necessity produce a saw perfectly circular of course much trouble and expense saved in preparing the plate. I do not claim as my invention the press or other machinery heretofore used for cutting the teeth of saws by punch and die; nor do I claim as my invention an index or graduated as such, singly, and alone, both have been long known and used separately. But I do claim as my invention the combination or combined use of the index or graduated with the punch and die connected with any machinery or press for cutting saw teeth or all or any

Exceptionwise the manner and on the principles, as specified above, and for that combination and the machinery same may be effected the same as above specified & solicited Letters Patent. Dated this 19th day of March 1836.

Wit. Witnesses
Romeo Lowry
Rogers Whitney

Samuel G. Merriman

(1313 Words)

Drawings