

(No Model.)

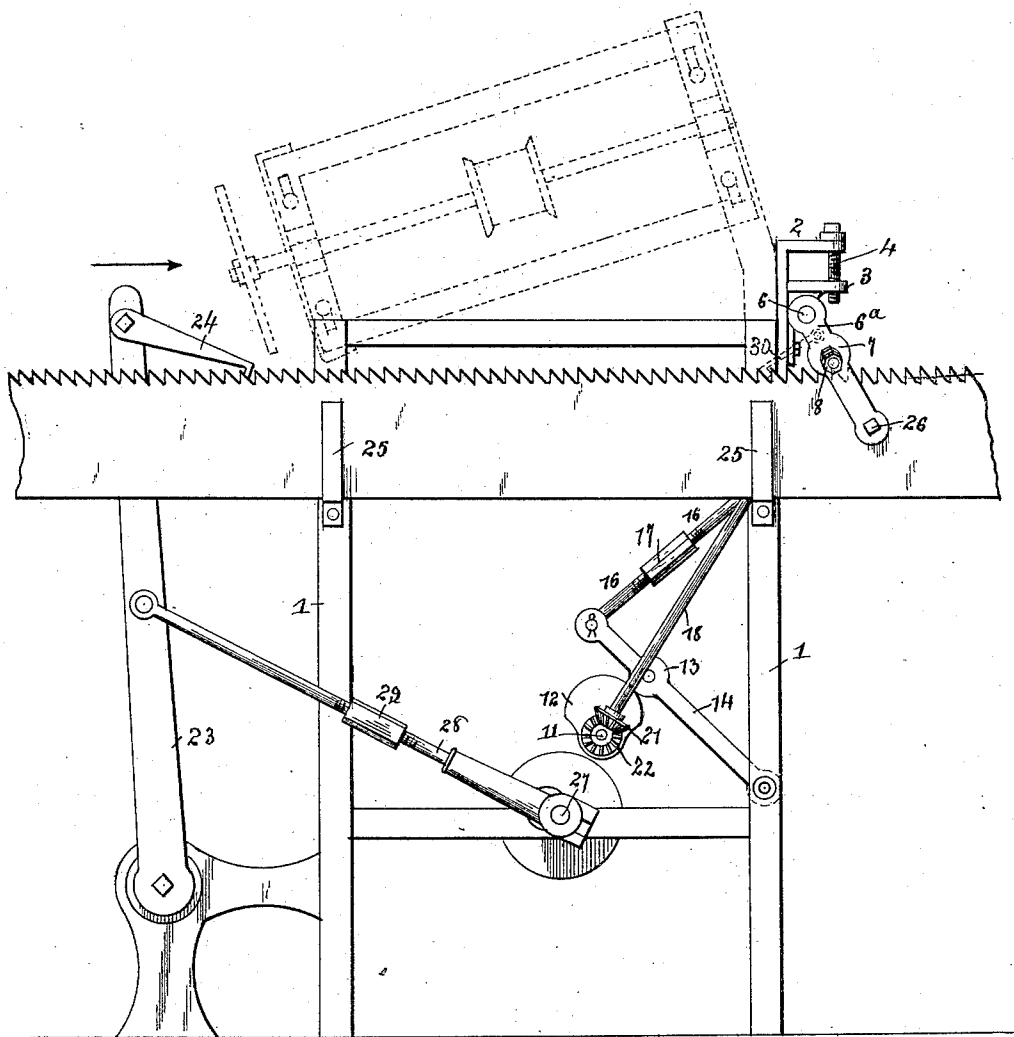
2 Sheets—Sheet 1.

J. W. STOKOE.
MACHINE FOR SIDE FILING SAWS.

No. 468,476.

Patented Feb. 9, 1892.

FIG. 1.



Witnesses

Inventor

Jas. L. McLaughlin

John W. Stokoe

Wm. Baggers

By his Attorneys,

C. A. Snow & Co.

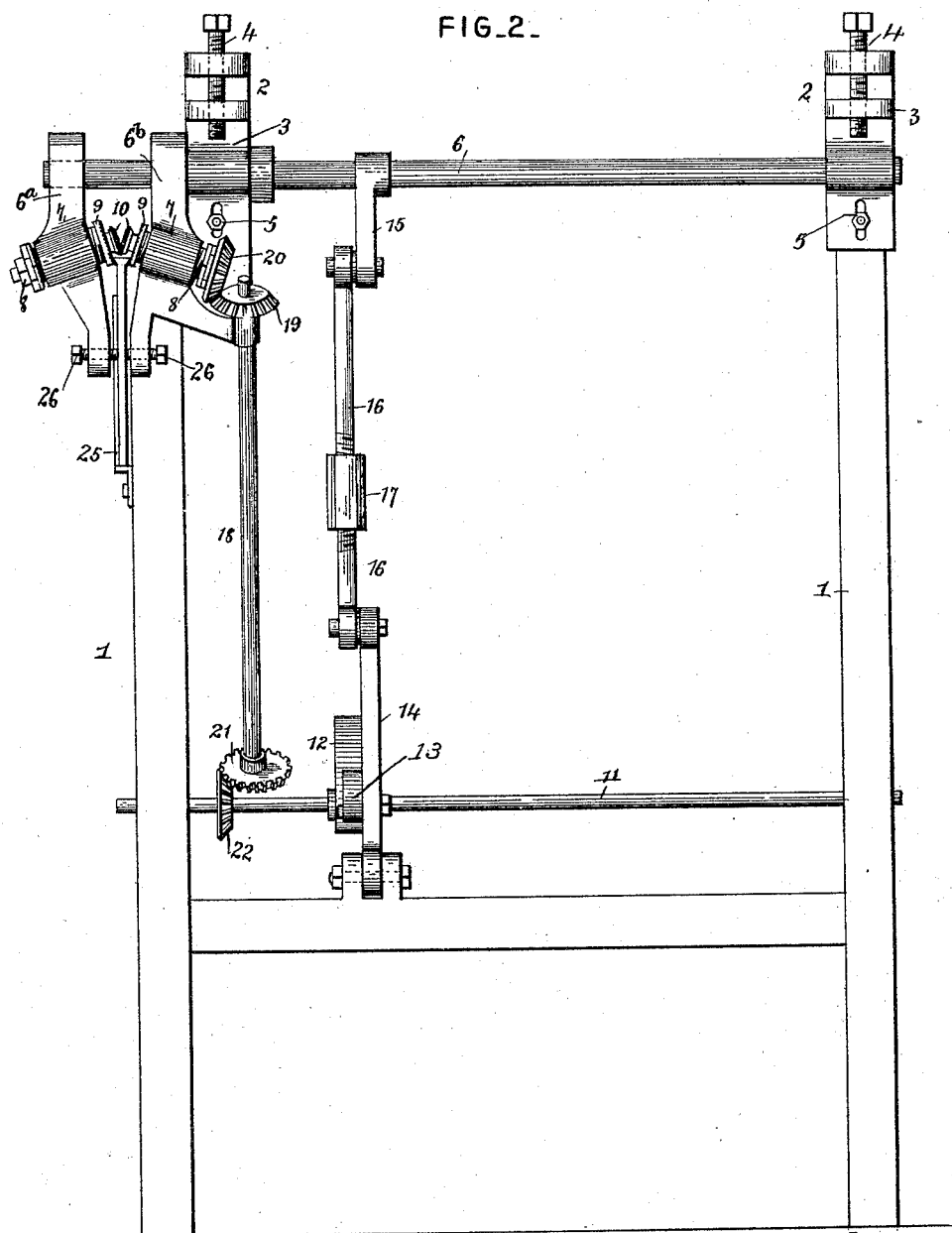
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UNITED STATES PATENT OFFICE.

JOHN W. STOKOE, OF JEANERETTE, LOUISIANA.

MACHINE FOR SIDE-FILING SAWS.

SPECIFICATION forming part of Letters Patent No. 468,476, dated February 9, 1892.

Application filed April 11, 1891. Serial No. 388,615. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. STOKOE, a citizen of the United States, residing at Jeanerette, in the parish of Iberia and State of Louisiana, have invented a new and useful Machine for Side-Filing Band and other Saws, of which the following is a specification.

This invention relates to machines for filing the sides of the teeth of saws; and it has for its object to provide a device of this class which shall be simple in construction and effective in operation, and which may be readily adapted to the frame of a machine of well-known construction for grinding the cutting-faces of the teeth, thus reducing the expense, inasmuch as certain parts of such machine may be utilized to operate my invention.

The invention consists in the improved construction; arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a side elevation of a saw-filing machine constructed in accordance with my invention, showing the same attached to the frame of a well-known saw-sharpening machine, parts of the latter having been shown in dotted lines and other parts omitted. Fig. 2 is a front elevation of the same.

Like numerals of reference indicate like parts in all the figures of the drawings.

The numeral 1 designates the frame of a saw-sharpening machine of any well-known construction adapted for grinding the cutting-faces of the teeth to sharpen their cutting-edges. Such machine is shown in dotted lines in Fig. 2 and forms no part of the present invention. It may be omitted; but I preferably mount on its frame the herein-described machine comprising my invention.

Upon the frame 1 are suitably bolted brackets 2 2, having vertically-sliding boxes 3 3, which are adjustable by means of the double-threaded bolts 4 and tightening-bolts 5, and which are provided with bearings for the shaft 6, which may be vertically adjusted, when desired, by means of the sliding boxes 3, carrying the same. The latter is provided near one of its ends with arms 6^a and 6^b, having obliquely-arranged boxes 7, in which are mounted the spindles 8, the inner ends of which carry the files or cutting-disks 9. The

extreme inner ends of the spindles 8 are also provided with pinions 10, meshing together, as shown, so that the files or cutters 9 shall operate simultaneously.

The frame of the machine has a shaft 11, which is provided with a cam 12, engaging a roller 13, mounted upon a lever 14, which is suitably pivoted at one end to the frame of the machine. The other end of said lever is connected with an arm 15 upon the shaft 6 by means of a compound connecting-rod composed of two parts 16, connected by a right and left hand threaded nut 17 to enable the said compound connecting-rod to be lengthened or shortened, as may be found necessary, the said connecting-rods being adapted to intermittently cause the shaft 6 to be oscillated, and thus swing the files backward from the saw-tooth and upward at the same time, thus allowing the files to slide over and recede from the beveled surfaces of the teeth. It may also be readily noted that the shaft 6, when desired, by means of the adjusting-bolt 4 may be raised or lowered to operate upon saws of different widths, the compound rod 16 of course being lengthened or shortened to compensate for the raising and lowering of the shaft. One of the arms 6^b, extending from the shaft 6, has a bearing for the upper end of the shaft 18, provided with a beveled pinion 19, meshing with a pinion 20 upon the adjacent spindle 8. The lower end of the shaft 18 is likewise provided with a beveled gear 21, adapted to be thrown into mesh with a beveled gear 22 upon the shaft 11, from which it receives motion. Motion is in this manner transmitted to the spindles 8, which, being connected by the gear-wheels 10, will rotate in unison.

Suitably pivoted to the frame of the machine is a lever 23, having near its upper end a vertically-swinging pawl 24, adapted to engage the teeth of the saw which is being operated upon, and which is meanwhile supported upon suitable brackets 25, bolted to the frame of the machine. The lower ends of the arms 6^a and 6^b are provided with set-screws 26, adapted to bear against the sides of the saw, and thus to guide the latter into position to be operated upon. The lever 23, carrying the feed-pawl 24, is connected with a crank or eccentric disk 27 upon the shaft

11 by means of a compound connecting-rod 28, which may be adjusted by means of the right and left hand threaded nut 29, by which its parts are connected.

5 The operation of this invention is as follows: When the shaft 11 revolves and the cam 12 engages the roller on the lever 14, the connecting-rod 16 will raise the arm 15 of the shaft 6, thus oscillating the latter in its bearings and swinging the arms 6^a and 6^b in a backward and an upward direction, thus drawing and raising the files or cutters at an angle from the saw which is being operated upon. At the same time the lever 23, carrying the feed-pawl 24, is moved in the direction of the arrow, thus causing the pawl 24 to feed the saw forward the space of one tooth. When the cam 12 passes from under the roller 13 of lever 14, the latter descends, as do the arms 15, 6^a, and 6^b of the shaft 6, thus carrying the files or cutters 9 back at the proper angle into contact with the tooth of the saw which is to be operated upon. This operation is repeated, each tooth being successively operated upon until each tooth of the saw has been filed. It will be observed that the files or cutters occupy an oblique position with relation to each other, being thus adapted to file saw-teeth which are beveled upon opposite sides and in which the point of the saw-teeth is the widest. Large band or similar saws cannot easily be operated upon by filing-machines of ordinary construction, the object being to preserve the bevel of the points of the saw-teeth, which is important for the purpose of keeping the saws in good condition. This is effectively accomplished by my improved machine, which, as will be seen from the foregoing, is exceedingly simple and not liable to get out of order, while at the same time its operation is altogether automatic.

In Fig. 1 of the drawings I have shown in dotted lines a modification of my invention, which consists in connecting with the arms 6^a and 6^b a pivoted feed-pawl 30 of suitable construction. This pawl may, when desired, be used as a substitute for the lever 23. The pawl 24 and the connecting-rod 28 is likewise dispensed with when said pawl 30 is used. The construction formerly described is, however, deemed preferable.

Having thus described my invention, I claim—

55 1. In a machine of the class described, the combination of the main shaft having a cam, a vertically-adjustable oscillating shaft having a radially-extending arm, a compound con-

necting-rod pivotally connecting said arm with a lever pivoted to the frame and having a roller lying in the path of the cam upon the main shaft, and saw-filing mechanism connected to and depending inwardly at an angle from one end of the vertically-adjustable shaft, substantially as and for the purpose set forth.

2. The combination of a rock-shaft mounted in vertically-adjustable boxes or bearings, arms extending rearwardly from said rock-shaft and having obliquely-arranged boxes or bearings, spindles mounted in the latter and provided at their inner ends with miter-gears meshing with each other and with suitable files or cutting-disks, suitable operating mechanism for the said file-carrying spindles, and mechanism for oscillating the rock-shaft to swing back and up the saw-filing mechanism when the saw is to be fed forward, substantially as set forth.

3. In a machine of the class described, the combination of the main shaft having a cam, a vertically-adjustable shaft having a radially-extending arm, a compound connecting-rod pivotally connecting said arm with a lever pivoted to the frame and having a roller lying in the path of the cam upon the main shaft, saw-filing mechanism connected to one end of the vertically-adjustable shaft, a lever pivoted to the frame and having a feed-pawl at its upper end, and a compound connecting-rod connecting said lever with a cam or eccentric upon the main shaft, substantially as set forth.

4. The combination of a rock-shaft mounted in vertically-adjustable boxes or bearings, arms extending from said rock-shaft and having obliquely-arranged boxes or bearings, spindles mounted in the latter and provided at their inner ends with miter-gears meshing with each other and with suitable files or cutting-disks, suitable operating mechanism for the said file-carrying spindles, a feed-pawl 24, lever 23, and connections with the main shaft to operate the pawl and its lever to feed the saw forward, and mechanism for oscillating the rock-shaft to raise the saw-filing mechanism when the saw is to be fed forward, substantially as set forth.

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

JOHN W. STOKOE.

Witnesses:

H. F. DUPEIRE,
C. E. COLGIN.