(No Model.)

J. H. McFADDEN & P. HOUSER.

MACHINE FOR DRESSING MILL SAWS.

No. 327,294. Patented Sept. 29, 1885.

Fig 1

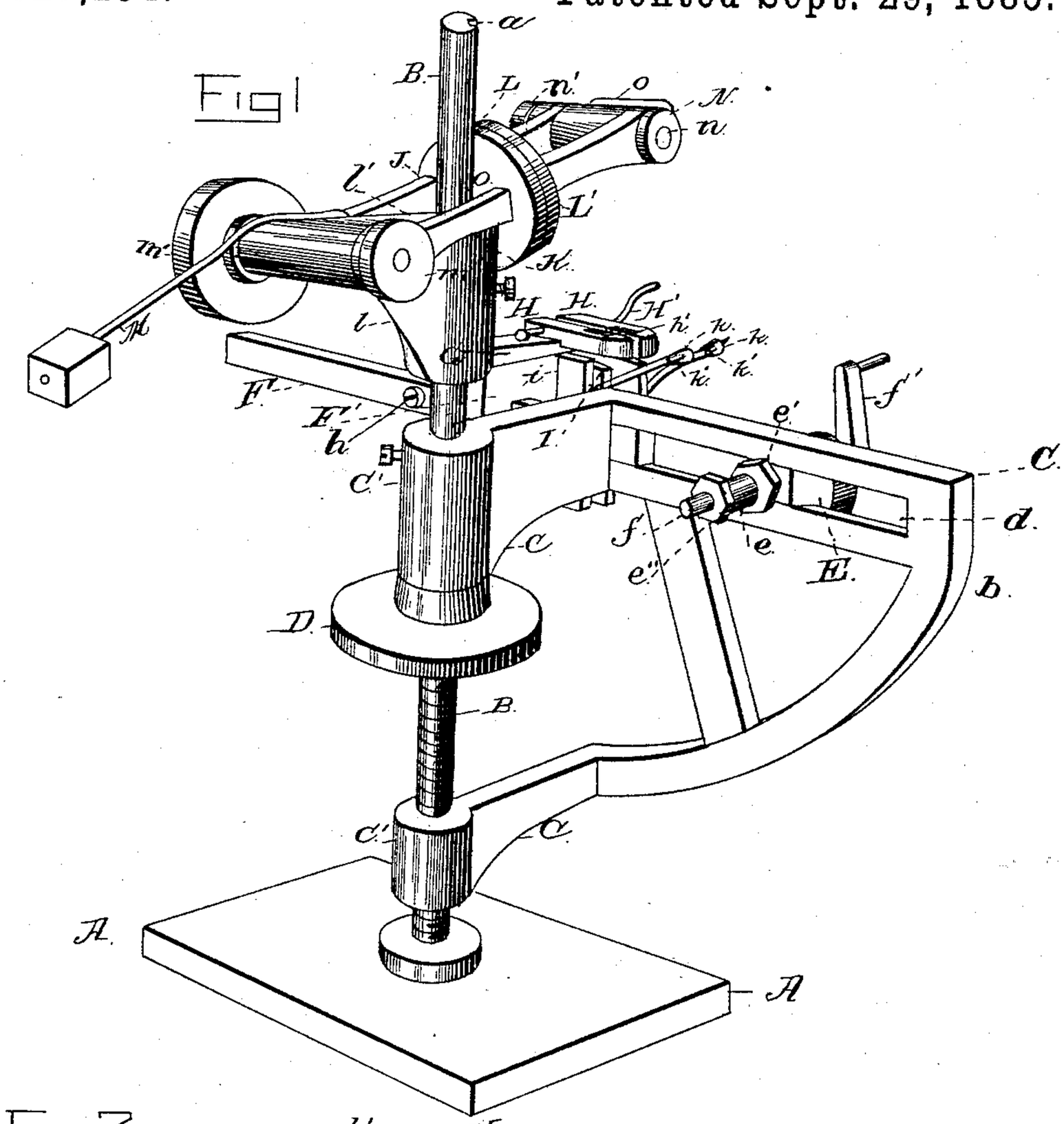

Fig 2

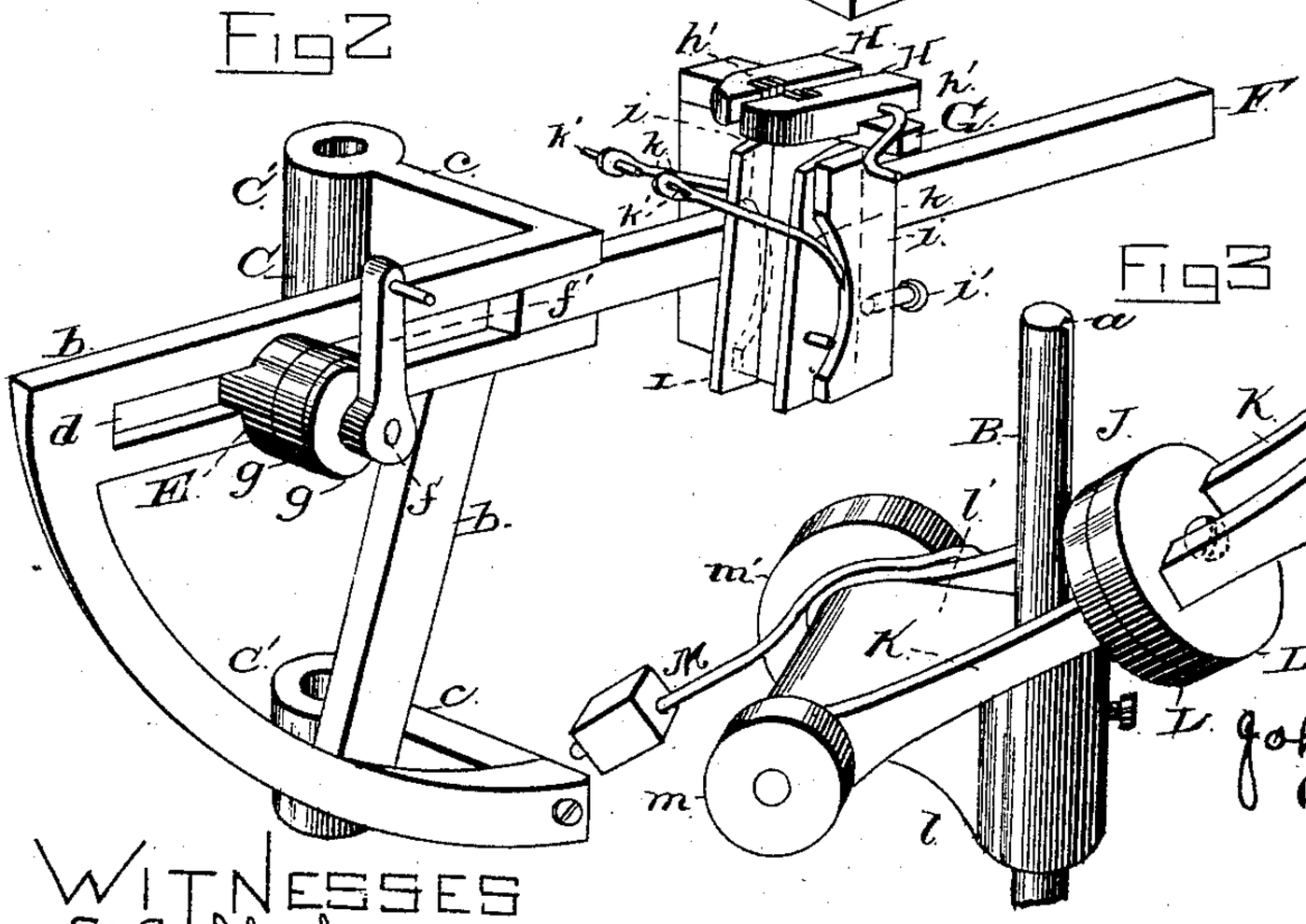

Fig 3

WITNESSES
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JOHN H. McFADDEN AND PETER HOUSER, OF WILLIAMSPORT, PA.

MACHINE FOR DRESSING MILL-SAWS.

SPECIFICATION forming part of Letters Patent No. 327,294, dated September 29, 1885.

Application filed July 30, 1884. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. McFADDEN, of Williamsport, in the county of Lycoming and State of Pennsylvania, and PETER HOUSER, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Machines for Dressing Mill-Saws; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention relates to certain improvements in machines for dressing circular saws; and its object is to produce better work more rapidly and in less time than is ordinarily consumed in the dressing of saws, and to carry out the several stages of the work without removing the saw after it has been mounted upon the machine.

To the accomplishment of the above the novelty of our improvements consist in their construction and arrangement upon an upright screw-threaded and grooved shaft, and in the various adjustments to which they are adapted, all as more fully hereinafter described, and pointed out in the claims.

For the better understanding of the construction, arrangement, and operation of the parts of this machine, attention is invited to the accompanying drawings, in which—

Figure 1 is a perspective view of the machine complete; Fig. 2, a detail view of the crane and its attachment for supporting and side-dressing the saw, and Fig. 3 a view in detail of the head and its counterbalanced arm, which carries the emery-wheel.

Like letters denote corresponding parts in the several views.

A denotes a base or other suitable support provided at its center with an upright shaft, B, which for a portion of its length up from the base A is screw-threaded, and has a vertical groove, *a*, extending from the upper terminus of the screw-threads to its upper end, which may be secured in any suitable manner.

C is a crane composed of a skeleton frame, *b*, preferably of segmental form, secured to brackets or arms *c c* that extend out radially from a pair of sleeves, *c' c'*, which loosely encircle the shaft B, so that the crane C can be easily turned in either direction around the shaft or raised and lowered upon the same. Normally the upper sleeve or support of the crane rests and turns upon a disk or turn-table, D, which is arranged upon the shaft B intermediate the two sleeves, and is internally screw-threaded, so that by turning it in either direction the crane is accordingly raised or lowered. After adjustment to the desired point upon the shaft the crane is there held by means of a suitable set-screw, with which the upper sleeve is provided.

The top of the frame *b* of the crane is provided with a long rectangular slot, *d*, in which a cylindrical journal-box, E, is so arranged as to be easily moved from one end of the slot *d* to the other end. This journal-box E is tenoned on one end to fit nicely within the slot *d*, and at this end is provided with a short and hollow cylindrical extension, *e*, having a washer or nut, *e'*, which together with the shoulders formed by the tenon on the end of the journal-box prevent lateral movement of the same. This journal-box supports the shaft or arbor *f*, which is provided on its outer end with a crank-arm, *f'*, by which it may be revolved, and intermediate this crank-arm *f'* and the larger end of the journal-box are mounted two collars, *g g*, between which the saw to be dressed is secured, so as turn with the revolution of the shaft or arbor *f*. This shaft or arbor *f* passes entirely through the journal-box, and is secured against transverse movement by a washer or nut, *e''*, slipped over its inner protruding end up against the extension *e* of the journal-box.

By removing the washers or nuts *e'* and *e''* the shaft or arbor can be taken from the journal-box and the latter removed from the slot.

A long arm, F, extends from the slot *d* outward in the same line and plane, and upon this arm a frame, F', is arranged to be moved backward and forward, with a set-screw, *h*, on one side, whereby it may be moved and then secured at any point upon the arm F. Upon the top of this frame F' is secured a track or guide, G, beveled on its front edge to accommodate the jaws H H, which fit and travel on the same. These jaws are mounted at their rear ends upon a screw-shaft, H', properly journaled upon the track or guide G, and

are opened and closed by means of said shaft, which is provided with a right and left thread at the points where it passes through the jaws.

The facing sides of the jaws are provided with a series or gang of short files, *h' h'*, of suitable construction and arrangement, and which for convenience of repairs and removal are removably secured thereon.

The face of the frame F' is provided with two wings, *i i*, between the upper ends of which is pivoted a dust-trough, I, which may be adjusted and held at any angle of inclination by means of a set-screw, *i'*, which passes through the frame F' from the rear.

To the front of each wing *i* is secured a bow-shaped rod, *k*, the outer end of which has a set-screw, *k'*, between which the saw is held while it is being dressed by the files in the jaws.

Upon the upright shaft B, above the crane C, is mounted the vertically-adjustable head J, which consists of a sleeve, *l*, with a key fitting in the vertical groove of said shaft, and with an arm, *l'*, which supports a shaft carrying a pulley, *m*, on one end, and a driving-wheel, *m'*, on the other end. Upon this same shaft are loosely mounted the two ends of a frame, K, which consists of two separate pair of arms connected intermediately by two disks, L L'. These disks are joined together, preferably by a screw, whereby the disk L' and that portion of the frame K attached thereto may be made tight in their connection with the other portion of the frame, or loosened so as to be turned independently thereof. The entire frame K is counterbalanced by the weighted lever M, and carries at its outer free end a shaft, *n*, provided on one end with a pulley, *n'*, and on the other end with the grinding-wheel or gummer N, composed of a consolidated wheel of emery, which, by means of a handle, *o*, may be presented to the work at any desired angle.

Motion is imparted to the grinding-wheel by means of a band passing from the pulley *m* to and around the pulley *n'*.

The head J, with the frame K and its attachments, may be adjusted vertically and held at any desired point upon the upright shaft B by means of a suitable set-screw passing through the sleeve *l* of said head.

The means just described as being mounted upon the shaft B above the crane C comprise a very simple and convenient saw gummer or sharpener, which may be used to advantage at the option of the operator.

With its use in connection with our improved dresser the saw to be operated on is first placed upon the arbor, and with respect to its size the crane C, journal-box E, and head J are accordingly adjusted, and the grinding-wheel or gummer is turned to give the desired angle of inclination to the saw-teeth. After the operation of the emery-wheel upon the periphery of the saw is completed the latter is moved forward or the frame F is adjusted to the proper point to receive the teeth between the files of the jaws. The saw is then clamped by the screws K' of the bow-rods K, and the jaws with their files are brought into contact with the saw. The saw is then revolved by turning the crank on the saw-arbor, and the work of side-dressing the teeth is proceeded with.

An important feature connected with our machine is that the teeth are side-dressed uniformly, and therefore can make a better and smoother cut, and the work of side-dressing is facilitated by the adaptation of the crane to be turned to any position to obtain the best light.

With the exception of a swage-bar and hammer this machine is all that is necessary in the file-room of the shop.

What we claim, and desire to secure by Letters Patent, is—

1. In a machine for dressing mill-saws, the combination of an upright screw-threaded shaft and a swinging and vertically-adjustable crane, substantially as described.

2. In a machine for dressing mill-saws, the combination of an upright screw-threaded shaft, a swinging and vertically-adjustable crane, and a horizontally-adjustable arbor for the saw, substantially as described.

3. In a machine for dressing mill-saws, the combination of an upright screw-threaded shaft, a swinging and vertically-adjustable crane, and a horizontally-adjustable side-dresser, substantially as described.

4. In a machine for dressing mill-saws, the combination of the upright screw-threaded shaft, the swinging and vertically-adjustable crane, and the horizontally-adjustable frame F', provided with the jaws and files adjustable toward or away from each other, substantially as described.

5. In a machine for dressing mill-saws, the combination, with the swinging and vertically-adjustable crane, of the horizontally-adjustable frame F', having the adjustable jaws and files, the bow-rods, and clamping-screws, and the adjustable dust-trough, substantially as described.

6. In the machine described, the combination of the shaft B, the crane C, having the slot *d*, and the journal-box E, carrying the saw-arbor, substantially as described.

7. In the machine described, the combination of the shaft B, the crane C, having the arm F, and the frame F', provided with the jaws H H, provided with files *h' h'*, the dust-trough I, the rods *k k*, and screws *k' k'*, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN H. McFADDEN.
PETER HOUSER.

Witnesses:
O. H. REIGHARD,
JAMES B. CORYELL.