T. M. CHAPMAN.

Saw-Sharpening Machines.

No. 144,383. Patented Nov. 11, 1873.

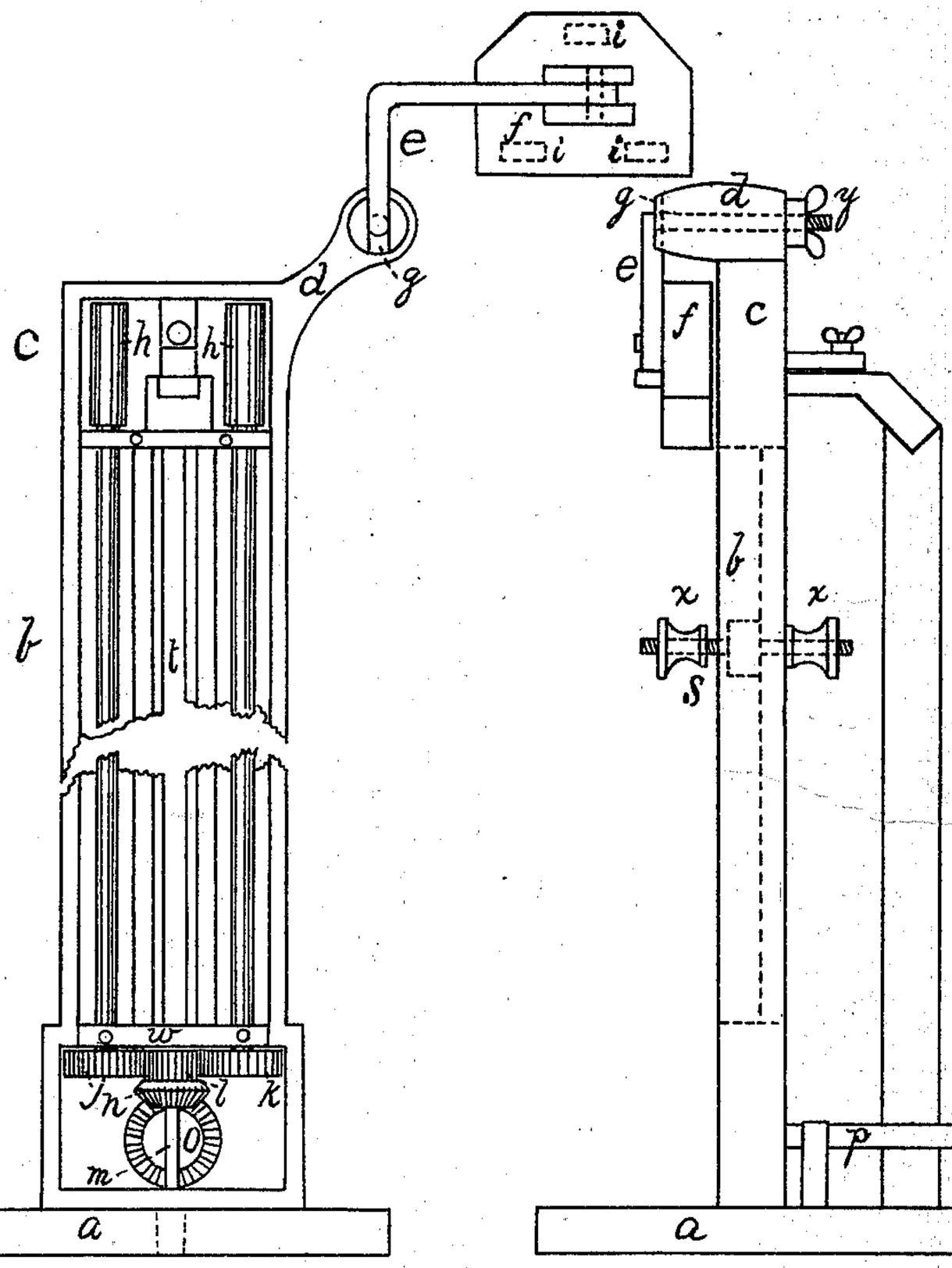

Fig 1.

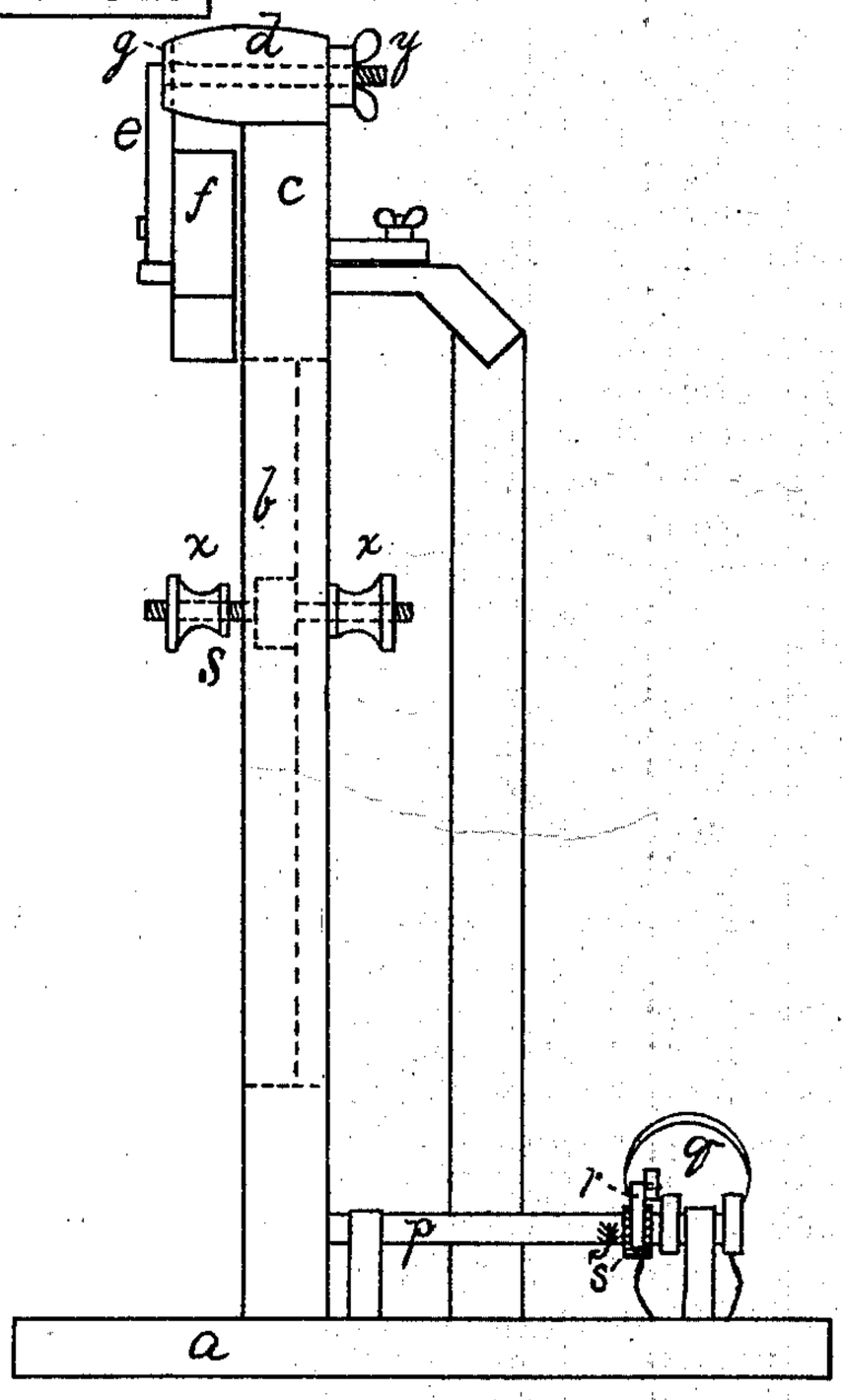

Fig. 2.

Witness
N. H. Brown.
H. N. Fairbanks

Inventor
Thos. M. Chapman
per Chas Franklin Searle Atty.

UNITED STATES PATENT OFFICE.

THOMAS M. CHAPMAN, OF OLD TOWN, MAINE.

IMPROVEMENT IN SAW-SHARPENING MACHINES.

Specification forming part of Letters Patent No. **144,383**, dated November 11, 1873; application filed June 6, 1873.

To all whom it may concern:

Be it known that I, THOMAS M. CHAPMAN, of Old Town, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Saw-Clamps; and I do hereby declare that the following is a full, clear, and exact description thereof, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 shows a side view, and Fig. 2 a front elevation, of my invention.

Same letters show like parts.

My invention consists of a clamp for holding saws while being filed, and also of certain devices for feeding the saw to the file without unclamping it. It is capable of holding saws of all descriptions, and possesses many advantages over ordinary clamps, which are inconvenient in many respects, having to be loosened each time the saw is moved forward, and being but poorly adapted to holding saws having projecting collars.

Referring to the drawing, *a* shows a base or platform, to which is attached a standard, *b*, of convenient height, the upper portion of which forms one side or jaw, *c*, of the clamp. To this standard, at one side of and rising above the jaw *c*, is a projection or horn, *d*, having a hole therein, through which passes one end of an arm, *e*, so constructed as to turn in said horn in a vertical plane, and also having a longitudinal motion therein. To the other end of this arm, which is curved downward, is attached the movable jaw *f* of the clamp. The manner of attachment of the arm *e* to the horn *d* enables the jaw *f* to be swung vertically up when a saw is to be inserted in the clamp. This takes it entirely out of the way. The saw being placed in position, it is swung downward, holding it from the top instead of from the bottom or center, in consequence of which the collar (if any) upon the saw does not interfere with the clamp. The jaw *f* is set up to the jaw *c* by means of a thumb-screw, *y*, upon the end of the arm *e*, which passes through the horn, by means of which said arm and attached jaw are drawn in toward the stationary jaw *c*. The arm is kept from turning in its socket in the projection *d* by means of a slot, *g*, in the face of said projection, which engages and holds it when raised or clamped.

The construction and operation of the vertically-swinging jaw will be understood by referring to the drawing. In Fig. 1 it is shown raised, preparatory to inserting the saw, while Fig. 2 shows it down, as when the saw is clamped.

In order to enable the saw to be fed forward to present successive teeth to the action of the file, I provide both jaws *c* and *f* with rollers, between which the saw is held. The rollers *h h* in the stationary jaw *c* are revolved when required by appropriate machinery giving motion to the saw, while the rollers *i i i* in the movable jaw *f* serve to lessen the friction.

I will explain the method by which I propose to give revolution to the rolls *h*. I extend their shafts downward through the standard *b* to a bearing, *w*, and attach to their ends gears *j k*. Between and meshing into them I place a third gear, *l*, upon an upright shaft, *m*, which shaft has also upon it a bevel-gear, *n*, meshing into a second bevel-gear upon a horizontal shaft, *p*. Upon the other end of this shaft *p* is a treadle, *q*, moving loosely thereon, but actuating the shaft *p* in one direction by means of a pawl, *r*, meshing into a ratchet, *s*, upon said shaft. When the saw is to be fed forward the treadle is operated, transmitting the motion through the intermediate gears and shafting to the rolls *h h*, which feed the saw forward, as required.

The standard *b* and all its attachments are constructed so as to turn upon a vertical pivot, as common. The arrangement of the bevel-gears *n o* permits this to be done without interfering with their operation, the gear *o* turning around the gear *u* as the standard moves. A clamp, *x*, is provided, adjustable perpendicularly in a slot, *t*, of the standard *b*, enabling the saw or saw-rest to be secured at different heights on the standard. It also affords an

adjustable center, upon which circular saws may be hung, and around which they may revolve when actuated by the feeding-rolls *h h*.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the stationary jaw *c*, the vertically-swinging jaw *f*, attached to the arm *e*, and clamped to the jaw *c* by the set-screw *g* on the end of said arm, substantially as set forth.

2. The feeding devices, as set forth—to wit, the friction-rollers *i i i*, feeding-rollers *h h*, with their shafts and gears *l n* and shaft *m*, bevel-gear, and shaft *p*, connecting them with the loose treadle *q*, whereby motion is transmitted to said rollers, all arranged as herein set forth, for the purposes described.

3. The combination of the feeding devices with the swiveling standard, as described.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of June, 1873.

THOMAS M. CHAPMAN.

Witnesses:

J. B. BASS,

WM. FRANKLIN SEAVEY.