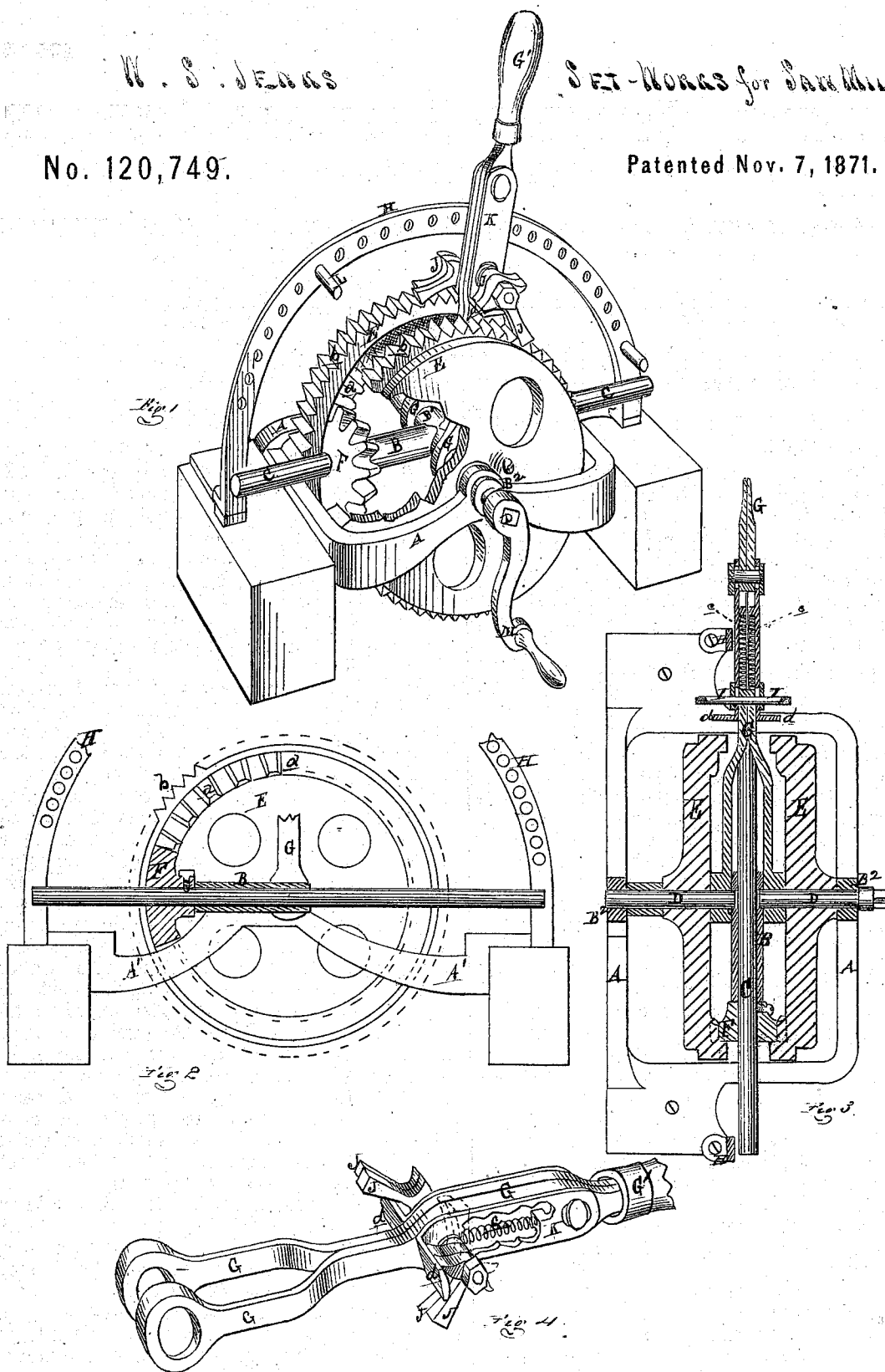


W. S. JENKS

SET WORKS for SUNDAYS

No. 120,749.

Patented Nov. 7, 1871.



ATT EST:

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UNITED STATES PATENT OFFICE.

WILLIAM S. JENKS, OF PORT HURON, MICHIGAN, ASSIGNOR TO HIMSELF AND
ORRIN L. JENKS, OF SAME PLACE.

IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

Specification forming part of Letters Patent No. 120,749, dated November 7, 1871.

To all whom it may concern:

Be it known that I, WILLIAM S. JENKS, of Port Huron, in the county of St. Clair and State of Michigan, have invented a new and useful Improvement in Head-Blocks for Saw-Mills; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective view of my improved set-works with a portion of the front ratchet-wheel broken away. Fig. 2 is a vertical section. Fig. 3 is a horizontal section, and Fig. 4 is a detached perspective view of the setting-lever, broken out to show the pawl-spring.

Similar letters of reference indicate corresponding parts in the several figures.

This invention has for its object an improvement in the construction of the set-works for circular-saw mills, whereby a more rapid and nearly continuous rotary motion is imparted to the set-shaft which moves the head-block in setting; and is more especially designed for operating that class of head-blocks which is moved by screws, and known as "screw head-blocks;" and it consists in the peculiar construction and arrangement of a pair of bevel-gear ratchet-wheels, rotating in opposite directions on independent shafts, giving a nearly continuous motion to a single set-shaft journaled between their inner faces through a bevel-pinion secured to said set-shaft, and with which pinion the bevel-gears of both ratchet-wheels mesh, the said ratchet-wheels being actuated by a single lever having two sets of reversible pawls, one set operating upon each ratchet; also, in the construction of the said lever and its spring-pawls, as more fully hereinafter set forth.

In the drawing, A represents the bed-frame of my set-works, secured to the front sill of the log-carriage. With the frame is cast a longitudinal arched rib, A', carrying at the top a long journal-bearing or box, B, through which the set-shaft C is passed and which rotates therein, end play being prevented by suitable collars. The box B is formed with a lateral bearing, B', projecting at right angles therewith, in line, from each side, each of which receives the inner end of the shafts D, whose outer ends are journaled in the boxes B² formed in the side plates of the

frame A. On the shafts D are rigidly secured the ratchet-wheels E, which are provided with bevel-gearing *a* on their internal faces, and with the spur-ratchets *b* on the peripheral internally-projecting flanges, as shown. F is a bevel-pinion on the set-shaft, with which the bevel-gears of both wheels mesh. G is a lever, in two parts, one of which is sleeved on the projecting ends of the boxes B¹, coming together above said bearing, and uniting in handle G' above the quadrant H longitudinally secured to the main frame. I are studs laterally projecting from the lever, one at each side, and on each of which is pivoted two reversible T-shaped pawls, J, which engage with the ratchets, as shown. K are two plates, one of which is secured to each side of the lever G in such a manner as to have a free vertical play. Underneath each plate the lever is recessed for the reception of a spiral spring, *c*, which bears against an inwardly-projecting lug at the upper part of the plate and presses it upward. The lower end of each plate is turned outward below the pawl-heads, as shown at *d*, so that they may be held to cause the other ends of said pawls to engage with the ratchets on either side of their axes; or if the ends be turned up the pawls will be kept disengaged from said ratchets. The quadrant is drilled with holes at regular intervals apart. In the last hole at the right-hand end a stationary stop-pin is inserted, while a movable stop, L, is provided to put in any other. A crank, M, is provided for the squared projecting end of the nearest shaft D. The set-shaft is extended each way until it engages with the head-block screws through suitable miter-gears.

The initial point in setting is with the lever resting on the stationary stop. To move the head-blocks and thus set the log or cant for a cut—say for an inch board—the setter moves the pin-stop L into the hole marked for one inch on the quadrant; he then throws up the lever until stopped by pin L; the pawls on the back side of the lever engaging with the further ratchet carry it along, and with it the set-shaft through its pinion, which gives the head-blocks one-half the required movement, and immediately returns the lever to the stop at the starting point, which in like manner, through the other ratchet-wheel, gives it the remainder of the required movement, as will be readily understood on reference to the drawing. After sawing up the log the head-blocks are quick-

ly withdrawn by rotating the shafts D to the right by the crank M, or by reversing the pawls and using the lever for that purpose.

Preferably I space off the quadrant to set by sixteenths of an inch from the fact that clear lumber of a given thickness—say one inch—must be one-sixteenth of an inch greater in thickness to pass inspection, while intermediate grades require to be only “plump” thickness; and common lumber may be “scant” one-sixteenth of an inch and still pass inspection—a very important item where two or more grades may be gotten out of a log by judicious setting, besides effecting a considerable saving of material.

The advantages of the screw head-blocks over all others are well known to all mill-men, their great drawback being their slowness in setting

and the labor of operating them, both of which I believe are overcome in the present device.

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

1. The construction and arrangement of the frame A A', bearings B B¹ B², shafts D D, bevel-gear wheels E E, pinion F, lever G, and pawls J for rotating the set-shaft C, substantially as described.

2. In combination with the above-named elements, the perforated quadrant H provided with the movable stop L, substantially as and for the purpose specified.

WM. S. JENKS.

Witnesses:

H. F. EBERTS,
MYRON H. CHURCH.

(130)