T. L. CLARK.

HEAD BLOCK.

No. 75,371. Patented Mar. 10, 1868.

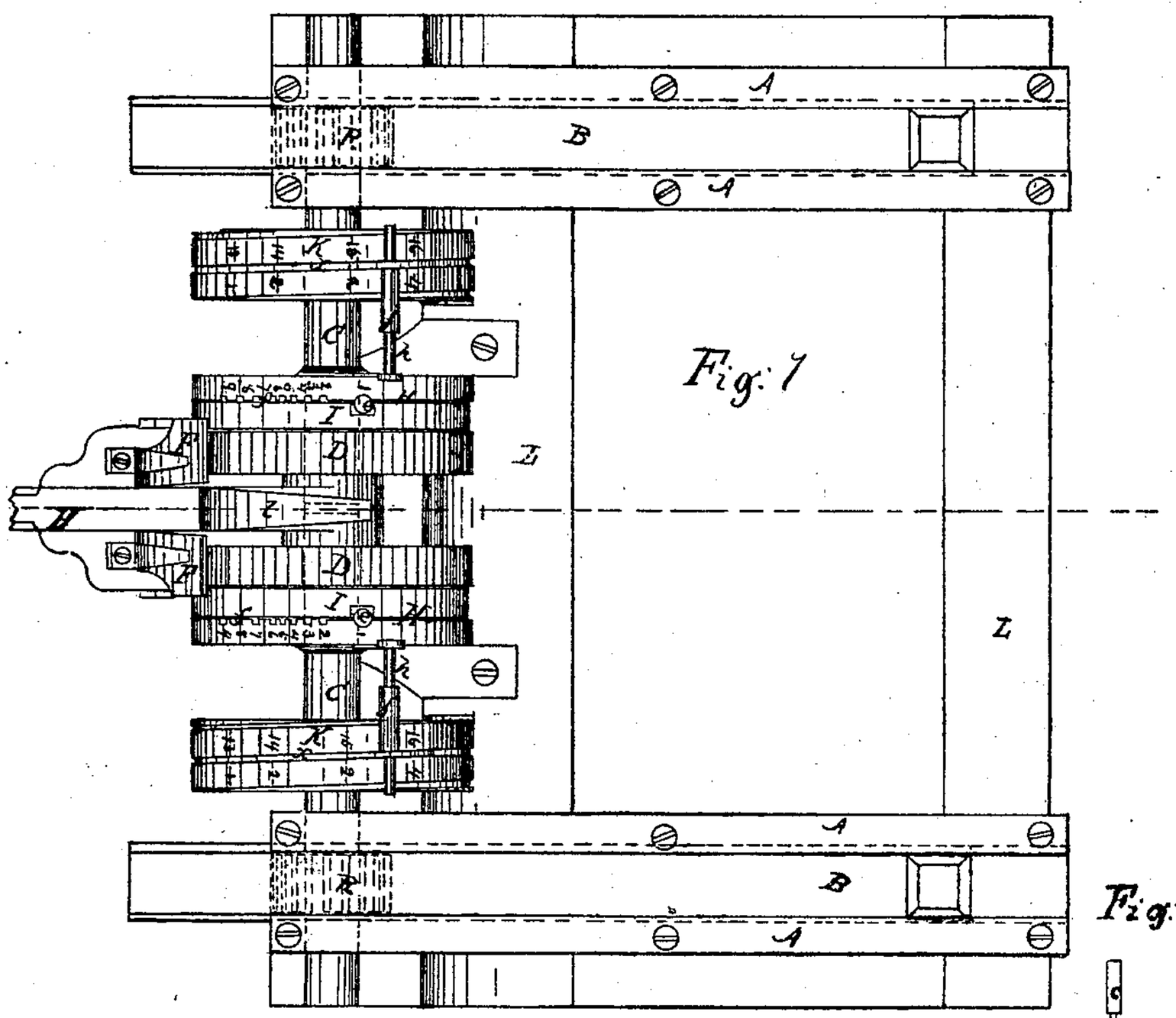

Fig: 1

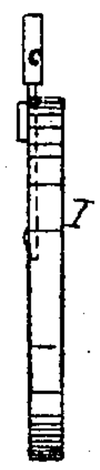

Fig: 3.

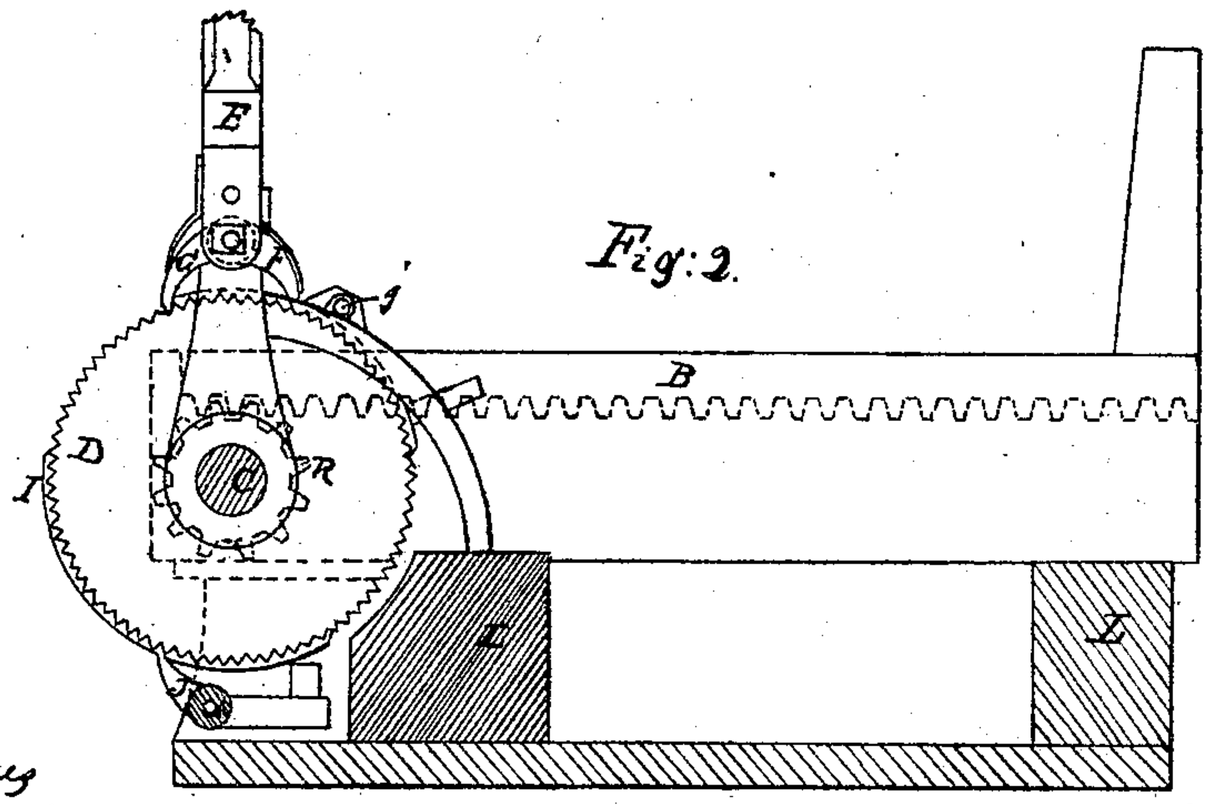

Fig: 2.

Witnesses:
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United States Patent Office.

THADDEUS L. CLARK, OF MOUNT VERNON, OHIO.

Letters Patent No. 75,371, *dated March* 10, 1868.

IMPROVEMENT IN HEAD-BLOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THADDEUS L. CLARK, of Mount Vernon, in the county of Knox, and in the State of Ohio, have invented certain new and useful Improvements in Head-Blocks for circular-saw mills; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and the letters of reference marked thereon.

In the annexed drawings, making a part of this specification, A A represent head-blocks, resting on and secured to an ordinary carriage or ways, L L, which is worked or operated by any of the known or ordinary methods now in use, and B B represent knees of the ordinary construction, provided with racks or cogs on their under sides, and fitting in grooves for that purpose in the head-blocks A A, and operated by means of the pinions R R, on and secured to the shafts C C. The head-blocks A A may be secured to the carriage at any desired distance apart to correspond with the length of the log or lumber to be sawed.

C C represent shafts of any required length, one end of each resting and working in the end of its corresponding head-block, and the other end working in the housings H H, which are fastened in any secure manner to the carriage-side L.

The shafts C C have attached to them the pinions R, which work in the end of the head-blocks A A, and operate the knees B B, and which may be adjusted on any part of the said shafts, by means of a screw or other device, so as to correspond with and operate in the head-blocks B B when they are adjusted to accommodate them to the length of a log. The said shafts have also the ratchet-wheels D D rigidly attached to them near their ends that come together, and which are operated by means of the lever E, with its pawls F F and G G.

The lever E is pivoted to or embraces and works on the ends of both the shafts C C, and beside being provided with the pawls F F and G G, is further provided with a projecting arc, *l*, which projects forward toward the carriage-frame L, and, together with the quadrants I I, regulates the distance which the ratchet-wheels D D are carried forward each time the lever E is operated or worked forward and backward.

The double quadrants I I are adjusted upon the shafts C C, between the housings H H and the ratchet-wheels D D, and close to the latter, for the purpose of throwing the pawls of the lever E and the pawls J J out of gear with the ratchet-wheels D D whenever desired. Said quadrants are provided with spring-levers *e e*, secured to their sides, and having projections to fit in the notches *f f* in the housings H H.

The circular disks H H, called housings, are rigidly fastened to the side L of the mill-carriage, and form a journal-box for the shaft C to work in, is provided with notches or grooves *f f*, for the projections of the spring-levers *e e* to fit in said notches, are cut at suitable distances apart, and marked by figures, and thus form a convenient scale by which to graduate the movement of the ratchet-wheels D D, and thereby the shafts C C and knees B B. There are attached to each of the housings H H suitable arms or spindles *h h*, extending horizontally right and left over the wheels K K, for the purpose of supporting the adjustable and movable indicators *j j*, which, being suspended over the spiral grooves *x x* of the indicating-wheels K K, work therein, and, by means of the figures on their periphery, indicate the distance the knees B B are from the saw.

The indicating-wheels K K are rigidly attached to the shafts C C, and are provided with spiral grooves *x x*, and a series of figures on their peripheries, the grooves *x x* for the indicators *j j* to work in, and, by means of the figures, to indicate the number of inches or parts of an inch the knees B B may have been operated or moved from a certain given point or position.

The indicating-wheels K K, being rigidly attached to the shafts C C, are moved or turned at the same time therewith by means of the lever E, with its pawls; and the indicators *j j*, being suspended above and working in the grooves *x* of said wheels K K, and placed at zero, (0,) when the knees B B are close or even with the side of the saw, will point to certain figures on the periphery of the wheels K, when the same are turned backwards, and the knees B B are withdrawn from the saw, and thereby made to indicate the number of inches or parts of inches the said knees have been withdrawn or may be from the line of the plane of the saw.

Now, if a log be placed in front of the knees B B, and there adjusted, one edge or side of it being in a plane with the saw, and the indicator showing the number of inches the knees are from the saw, they must necessarily show the number of inch boards there are contained in said log; and, by a different series of num-

bers on the peripheries of the wheels K, the numbers of three-fourths inch boards there are in the same log; and, by still another series, the number of inch and a quarter boards; and so on. The time and trouble of calculation and application of measures and rules are thereby obviated.

Thus it will be seen that this is both a labor and time-saving device, enabling, as it does, the operator to know at once the number of boards of a given thickness that there is in the log as soon as it is adjusted on the head-block.

J J represent self-acting or adjusting pawls, attached to or suspended by a shaft, *b*, which is secured beneath and in the framework which secures the housings H H to the side of the mill-carriage. These pawls are pivoted or suspended near their middle, and have weights on one end, to throw their face in gear with the ratchet-wheels D D, when the same are not thrown and held out by means of the quadrants I I.

All of the pawls, F F, G G, and J J, are constructed so that their face or catching-edges are wider than the thickness of the ratchet-wheels D D, so that they may be thrown out of or let in gear with said ratchet-wheels by means of the quadrants I I.

Attached to the double quadrants I I are two spring-levers *e e*, with projections on their sides, fitting into the notches *f f*, cut in the housings H H for that purpose.

When the spring-levers *e e* are placed in the notches 1 1, the pawls F F and J J are thrown off from the ratchet-wheels D D, and, by moving the lever E back, the pawls G G will work in said ratchet-wheels, and draw the knees B B back from the saw to any desired point or distance from it.

When the spring-levers *e e* are placed in the notches 2 2, the quadrants are thereby moved back, allowing the pawls J J to catch in the ratchet-wheels, and thereby prevent a backward movement of the same, and admit the pawls F F to enter or catch in front of the quadrants I I; and then, by throwing the lever E forward until the projecting arc *l* of the lever E rests upon the side, L, of the mill-carriage, the knees B B are thrown forward, and thereby the log on the head-blocks A A is placed in position, and moved so as to saw lumber of such thickness as may be desired, and which may be determined by means of the scale or notches *f f* in the housings H H.

Different series of numbers may be placed upon the periphery of the indicating-wheels K K, for the purpose of not only showing the distance between the saw and the front of the knees B B in inches, and thereby to show how many, or the number of boards or planks of a given thickness is contained in a log, but to indicate how many boards or planks of a different thickness are contained in the same log or part of a log; for example, one series of numbers, to indicate the number of inch boards, and another, to indicate the number of three-fourths inch boards, in a log, as soon as it is finally adjusted on the head-blocks B B, and so on, as many series as may be required for the convenience of the operator.

The shafts C C, supporting and extending right and left from the lever E, are operated by said lever and its pawls, either separately or together, as may be desired, by means of the pawls of the lever E being thrown out of or into gear with the ratchet-wheels D D, or either of them, by means of the quadrants I I, which are adjusted separately by means of the spring-levers *e e*, and thereby the line of the knees B B may be kept parallel with the saw, or obliquely thereto; and thus a tapering piece of lumber may be sawed, or a board may be cut thick at one end and thin at the other, of whatever dimensions that may be desired.

It is obvious that by the arrangement above described the head-blocks A A and the knees B B are independent of each other, although they are operated by the same lever E, and may be operated at the same time or not, as may be desired.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The indicating-wheels K K, provided with grooves *x x*, and different series of figures on their peripheries, in combination with the indicators *j j*, as and for the purpose set forth.

2. The combination of the shafts C C, indicating-wheels K K, and ratchet-wheels D D, with the housings H H, quadrants I I, and levers E, when constructed and operated substantially as described, and used for the purpose set forth.

In testimony that I claim the foregoing, I have hereunto set my hand, this 18th day of December, 1867.

T. L. CLARK.

Witnesses:

NORMAN GURNNSEY,

JULIA E. TURNER.