I. Z. A. Wagner,

Reciprocating Saw Mill,

No. 14,485, Patented Mar. 18, 1856.

Fig. 1

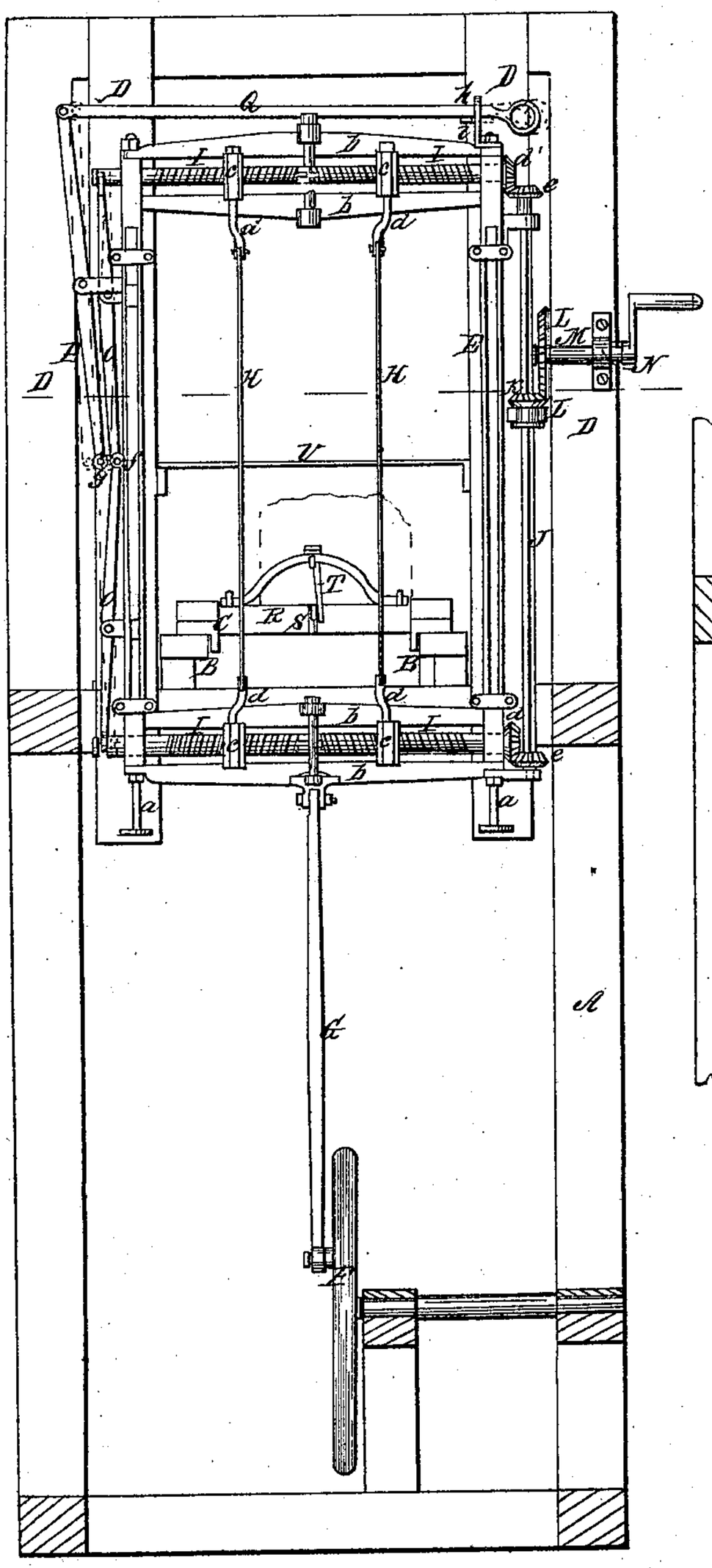
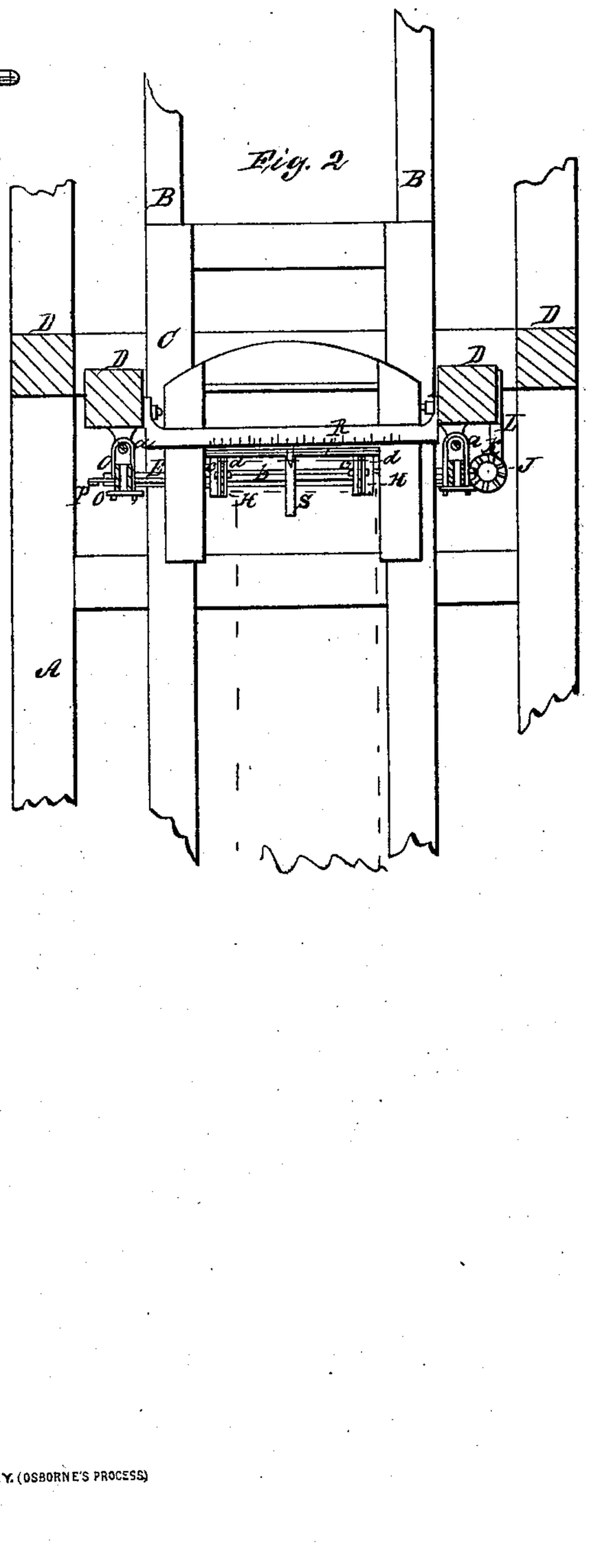


Fig. 2



UNITED STATES PATENT OFFICE.

I. Z. A. WAGNER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED METHOD OF ADJUSTING RECIPROCATING SAWS.

Specification forming part of Letters Patent No. **14,485,** dated March 18, 1856.

To all whom it may concern:

Be it known that I, I. Z. A. WAGNER, of Philadelphia, in the county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Lumber-Sawing Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view of a reciprocating saw-sash, showing my improvements. Fig. 2 is a horizontal section of the same, *x x* showing the plane of section.

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

This invention relates to certain new and useful improvements in machines for sawing lumber where reciprocating saws are employed.

The invention consists in so arranging the saws—one or more—in the sash or gate and having certain appurtenances connected therewith, as will be presently shown and described, that the saw or saws may be moved laterally in the sash or gate either while it is in motion or at rest, and the saws thereby adjusted so that lumber may be sawed of the requisite thickness without adjusting or setting the log as is now practiced.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents a framing having ways or guides B B on its upper part, on which ways a carriage C is fitted and works in the usual manner.

D represents upright posts attached to the framing A, two of said posts having rods *a* attached to their front sides and serving as guides to a saw sash or gate E. The sash or gate E is of the usual rectangular form, and is driven by a crank F and pitman G in the ordinary manner. The sash or gate E has two rails or cross-pieces *b b* at its upper and two at its lower end, and between these rails or cross-pieces nuts *c* are fitted. In the drawings two are represented at the top and two at the bottom of the sash or gate. The nuts are allowed to slide freely between the rails or cross-pieces and have straps *d* attached to them, between which saws H H are strained.

I represents screw-rods, which pass one through each nut *c*. There are two screw-rods at the upper and two at the lower end of the sash or gate E, the screw-rods having reverse threads upon them, as clearly shown in Fig. 1. The outer ends of the screw-rods at one side of the sash or gate have bevel-pinions *d'* upon them, and these pinions gear into corresponding pinions *e e*, which are attached one to the upper and the other to the lower end of a shaft J, which is fitted in bearings on the side of the sash or gate. The shaft J is of square form and works freely through the center of a bevel-pinion K, which is fitted in an arm L, attached to one of the upright posts D.

L is a bevel-wheel which gears into the pinion K, the wheel L being hung on a shaft M, which has its bearing in an arm N, attached to one of the upright posts D.

The outer ends of the screw-rods I at the opposite side of the sash or gate E have the outer ends of levers O O attached to them—one to each. The inner ends of these levers are connected by a pivot *f* and are also both connected by a link *g* to the inner end of a lever P. The levers are all connected to or have their fulcrums at the side of the sash or gate E. The outer or upper end of the lever P is attached by a pivot to an arm Q, which works through a loop *h* at one side of the upper part of the sash or gate E, the arm having a projection *i* at its end. (See Fig. 1.) The inner ends of each pair of screw-rods lock into each other so as to become connected, and by operating the arm Q the rods may be detached or connected. This will be understood by referring to Fig. 1.

R represents the head-block at the front end of the carriage C. This head-block has a lug or projection S attached to it, on which lug or projection the front end of the log to be sawed rests. This projection prevents the front end of the log from interfering with the lateral movement of the saws. A dog T is attached to the head-block for the purpose of securing the log on the lug or projection. A block is attached to the back end of the carriage and is provided with the usual dogs.

V represents a gage attached to the posts D for the purpose of enabling the saws to be set at proper points.

The operation is as follows: The log to be sawed is secured upon the blocks of the car-

riage C, the center of the front end of the log resting upon the lug or projection S, and the saws are moved laterally within the sash or gate E by turning the wheel L till they are at opposite sides of the log and at proper points to take off the slabs. The sash or gate is then put in motion, the carriage C being operated in the usual manner to feed the log to the saws. When the first cuts are made, the carriage is gigged back and the saw set by turning the wheel L, so as to cut stuff of the requisite thickness. Thus it will be seen that the saws, instead of the log, are adjusted to regulate the thickness of the stuff to be sawed, and the saws may be adjusted without stopping the motion of the saw sash or gate, as the shaft J works through the bevel-pinion K.

If it is desired to use one saw only or adjust one saw laterally without the other, the screw-rods I are disconnected by operating the arm Q.

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

1. Hanging the saws H H within the saw sash or gate E on or to nuts *c c*, which work or are fitted on right-and-left screw-rods I, substantially as shown, for the purpose specified.

2. Operating or adjusting the saws H H laterally in the saw sash or gate E by means of the pinion K, placed loosely on the shaft J, so that said shaft may work freely through it, the shaft J having bevel-pinions *e e* at its ends, which pinions gear into corresponding pinions *d'* at the outer ends of two of the screw-rods, as described.

3. Connecting and disconnecting the screw-rods I by means of the levers O O P and arm Q, arranged substantially as shown and described, for the purpose specified.

I. Z. A. WAGNER.

Witnesses:

JNO. B. KENNEY,

EDWARD G. WOOD.