2 Sheets--Sheet 1.

J. GERHARDT.

Resawing-Machines.

No. 158,699. Patented Jan. 12, 1875.

Fig. 1.

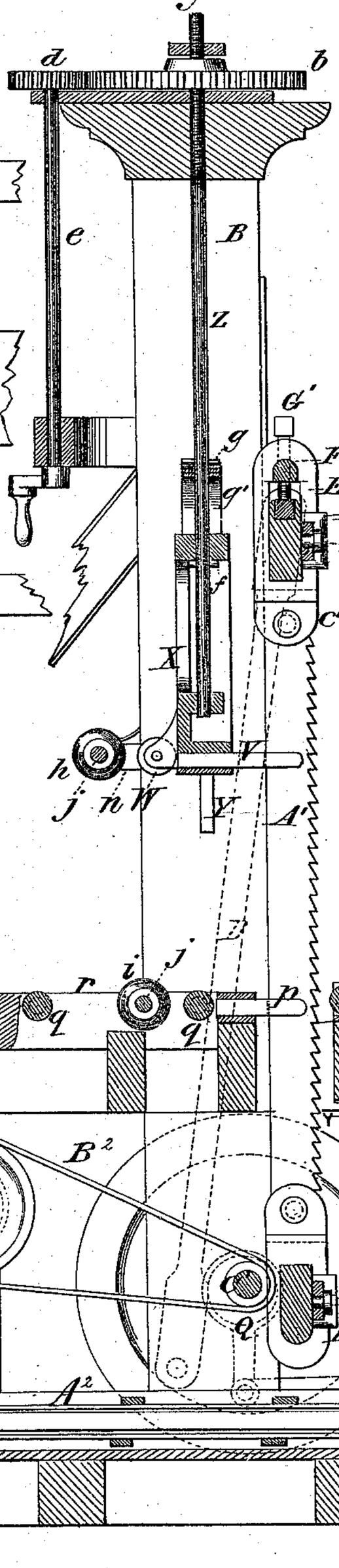


Fig. 2.

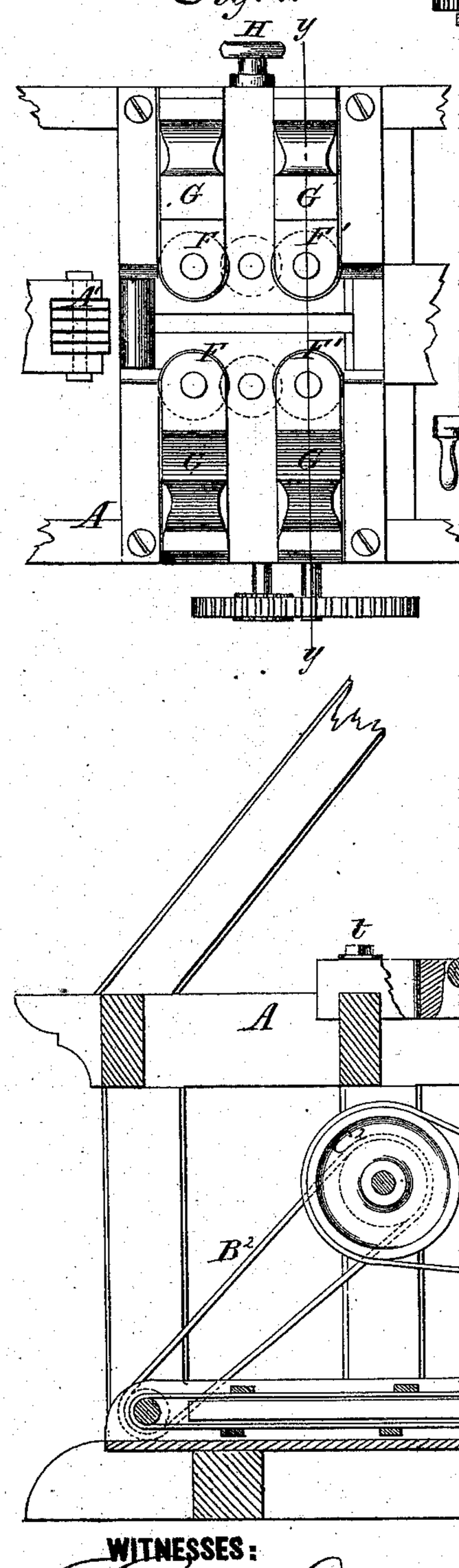
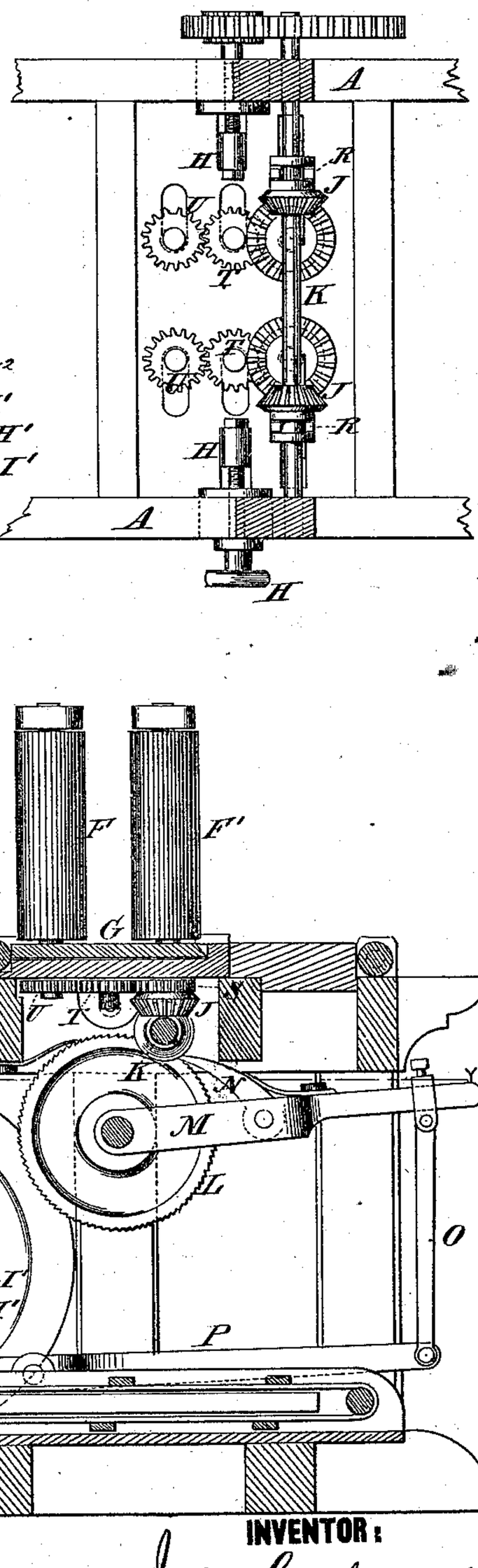


Fig. 3.



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2 Sheets--Sheet 2.

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Fig. 4.

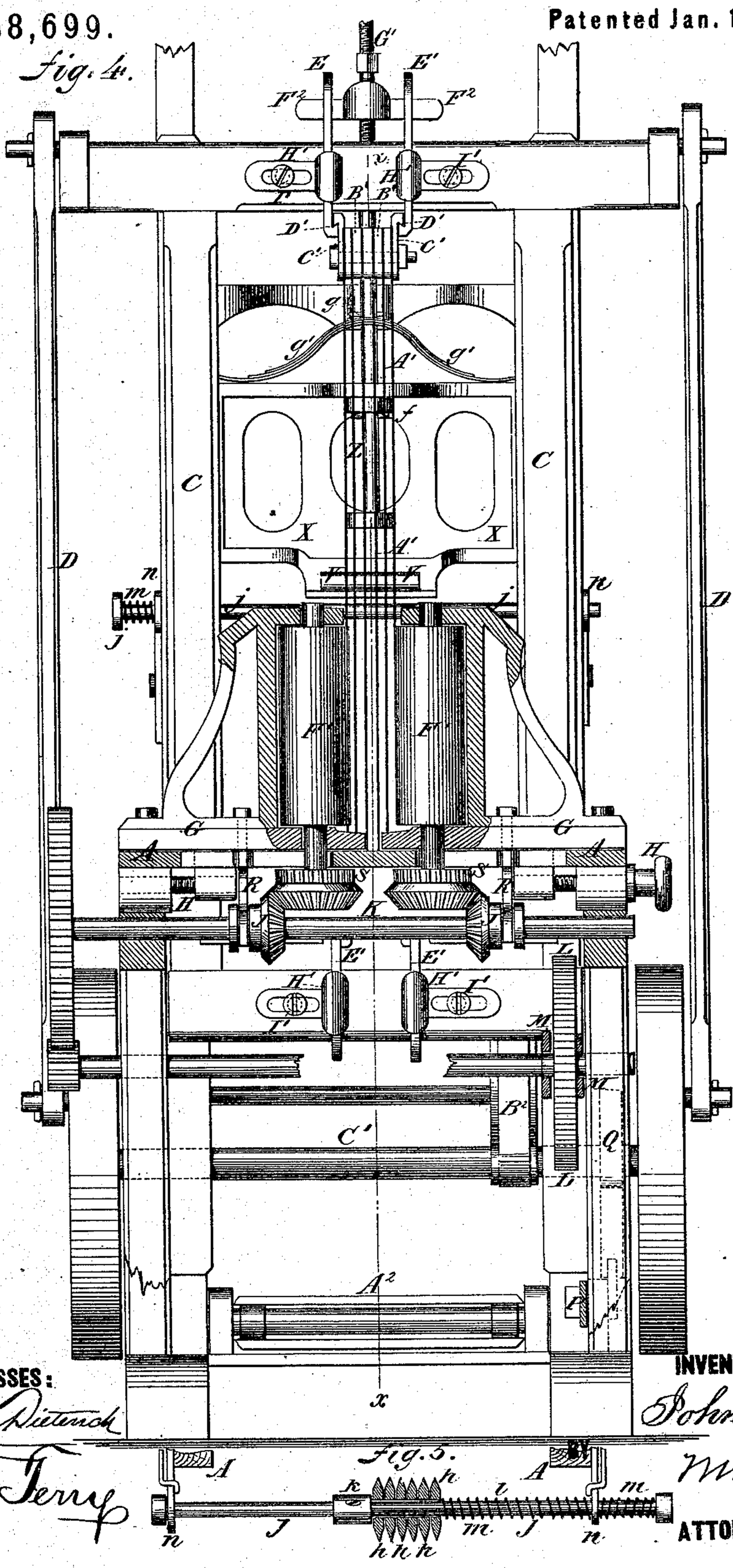

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN GERHARDT, OF MONTREAL, CANADA, ASSIGNOR TO HIMSELF AND JAMES HUTCHISON, OF SAME PLACE.

IMPROVEMENT IN RESAWING-MACHINES.

Specification forming part of Letters Patent No. **158,699**, dated January 12, 1875; application filed September 19, 1874.

To all whom it may concern:

Be it known that I, JOHN GERHARDT, of Montreal, Canada, have invented an Improvement in Resawing-Machines, of which the following is a specification:

The object of this invention is to provide a simple and efficient self-contained gang resawing-machine, which can be readily moved about and set up anywhere, and will be self-sustaining, requiring no fixtures or fastenings other than its own supports, which consists of a strong horizontal frame of suitable height, length, and breadth for a resawing-machine, on which is the usual upright frame for the saw-gate, also the driving machinery and the feeding and regulating apparatus.

The invention will first be fully described, and then pointed out in the claims.

Figure 1 is a longitudinal elevation of my improved resawing-machine, taken on the line *x x* of Fig. 4. Fig. 2 is a plan of a portion of the machine, showing the feed-rollers. Fig. 3 is a horizontal section of a portion of the machine, showing the mode of gearing and adjusting the feed-roller; and Fig. 4 is a transverse section of the machine, taken on the line *y y* of Fig. 2. Fig. 5 is a detail of the apparatus for regulating the spreading-disks.

Similar letters of reference indicate corresponding parts.

A represents a strong frame of wood or iron of suitable height for being conveniently attended by one standing on the ground, and as long and wide as needed for a resawing-machine, on which, near about the middle is erected the upright frame B, on which the saw-gate C is arranged to work in the usual or any approved way, and it is connected at the upper end with the double crank-shaft C′, by the long rods D, by which an easy action is obtained. The saws A′, having the necessary washers B′ between them, are bolted together between two cheek-plates, *c′*, which hook at D′ to plates E E′ fitted on the saw-gate beam, and having a straining-key, F², and screw G′ for drawing the saws up taut. These plates are adjustable laterally on the beam by the clips H′, which are held at any point by binding-screws I′. The driving-shaft is provided with a large heavy balanced pulley at each end, to which the power is applied by belts from any suitable driving-machine. F and F′ represent a pair of vertical pressure feed-rollers on each side of the way for the log, cant-plank, and other stuff to be sawed, the said rollers being mounted on strong slides G moving toward and from the timber by adjusting-screws H for setting them up to the work. The front roller F of each pair gears, by bevel-wheels J, with a shaft, K, which is turned by the ratchet-wheel L, pawl-lever M, and pawl N, the lever being connected by rod O with a lever, P, which is worked by an eccentric, Q, secured on the driving-shaft C′. The bevel-wheels J on the shaft K are fitted to slide on it forward and backward as the other wheels move with the feed-rollers, and are connected with the slide by a crotched pusher, R, for being so moved. The rollers F¹ gear with rollers F by wheels S, T, and U, and are turned thereby. V represents the upper saw-guide, and W is the upper pressure-roller for keeping the boards down. They are both mounted on the vertically-adjustable beam X, which slides up and down on the guides Y, and has the adjusting-screw Z arranged in the top of the saw-frame for working it. The screw is geared at the top of the frame by the wheel *b* and pinion *d* with the vertical crank-shaft *e* for adjusting the roller W and guide V. The beam X is confined on the rod between the pins *f* and *g*, with the spring *g′* above it and below the pin *g*, so that the pressure-roller may rise against the spring in case of need by reason of any irregularity in the surface of the stuff, or in case any small objects, such as chips or accumulations of sawdust, happen to pass under it, and the roller is held on the stuff by spring-pressure. *h* represents the upper spreading-disks, and *i* the lower ones. They are contrived to shift along the shafts *j* for shifting them according to the thickness of the boards, ,and putting washers between them for holding them properly, and they are held by an adjustable collar, K, on one side, and a coiled spring, *l*, on the other, and the shafts are capable of lateral motion against a spring, *m*, so that they can yield in either direction in case of need to accommodate the stuff, and will be returned

to their normal position from either direction by the spring. The shaft supporting the upper disks is mounted on arms *n*, which are pivoted to the saw-frame, so that the disks can rise and fall to suit the height of the stuff. The lower saw-guide *p*, lower separating-disks, and the "slip" rollers *q*, are arranged on a frame, *r*, which is secured to the main frame A by bolts *t* passing through slots, so that the former can be shifted to adjust the guides and rollers to the saws, as required. A^2 represents an endless carrier in the lower part of the machine for carrying out the dust to a convenient place for taking away. It is driven by belts B^2 and intermediate pulleys C^2.

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

1. The laterally and vertically adjustable hook-plates E E′, and hooked check-plates C′, combined with the saws and the saw-frame, substantially as specified.

2. The adjusting-screw G′ and straining-key F^2, combined with the hooked plates E and E′, substantially as specified.

3. The combination of saw-guide V and guide W with the same vertically-adjustable beam *x*, having the subjacent pin *g* and the superposed spring *g′*, as and for the purpose set forth.

4. The spreading-disks *h* arranged to slide on their shafts between an adjustable collar, K, and a spring, *l*, and the shafts arranged to slide laterally against a spring, *m*, arranged, in the relation described, to the collar K, substantially as specified.

5. The upper spreading-disks *h* arranged on a vertically-adjustable shaft, substantially as specified.

6. The lower guide *p*, spreading-disks *i*, and the slip-rollers arranged adjustably to the saws on the shifting-frame *r*, substantially as described.

Montreal, 9th September, 1874.

JOHN GERHARDT.

Witnesses:
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WILLIAM STAFFORD.