

D. B. Bartholomew,
Resawing Machine.
N^o 76,384. Patented Apr. 7, 1868.

Fig 1

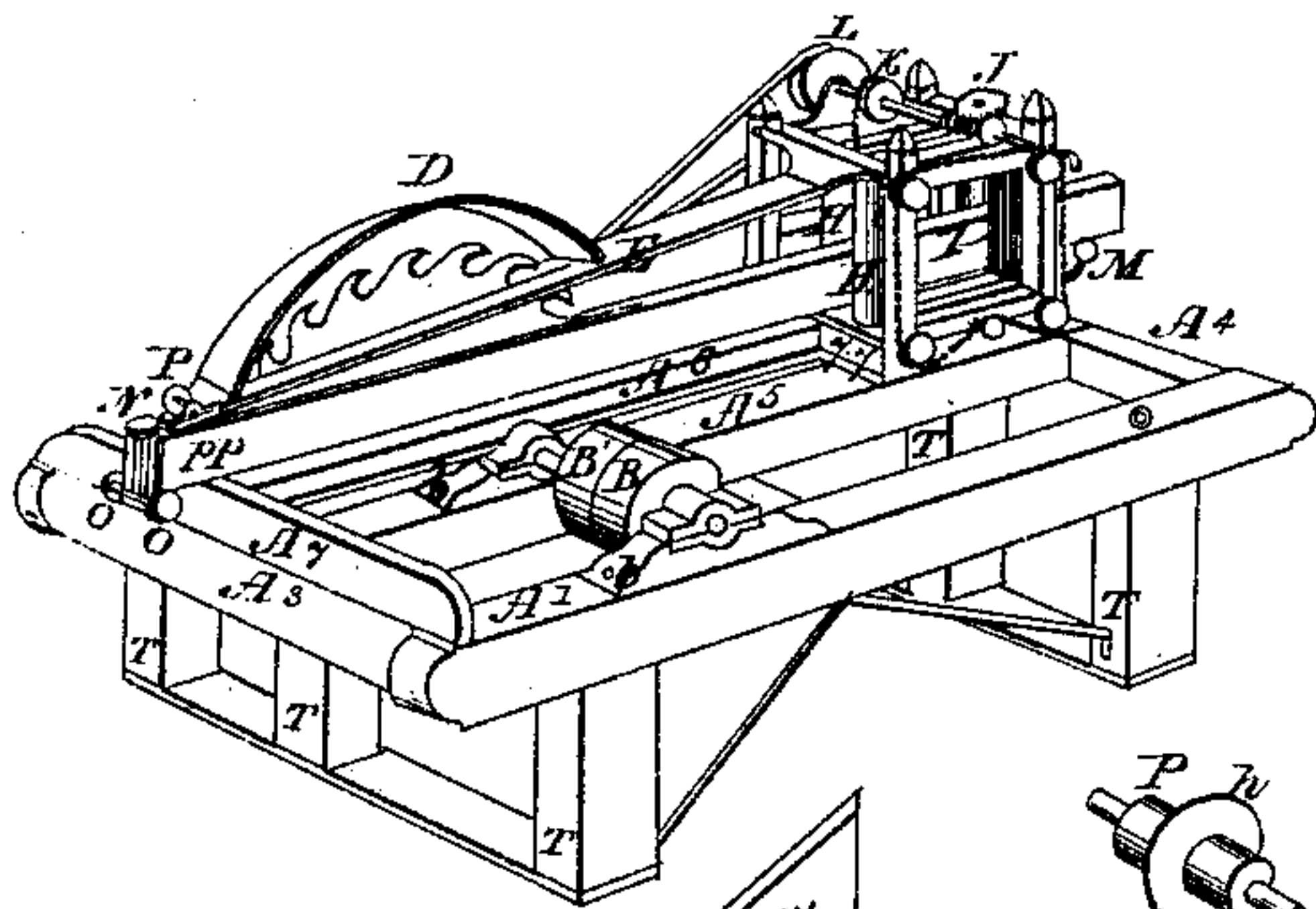


Fig 2

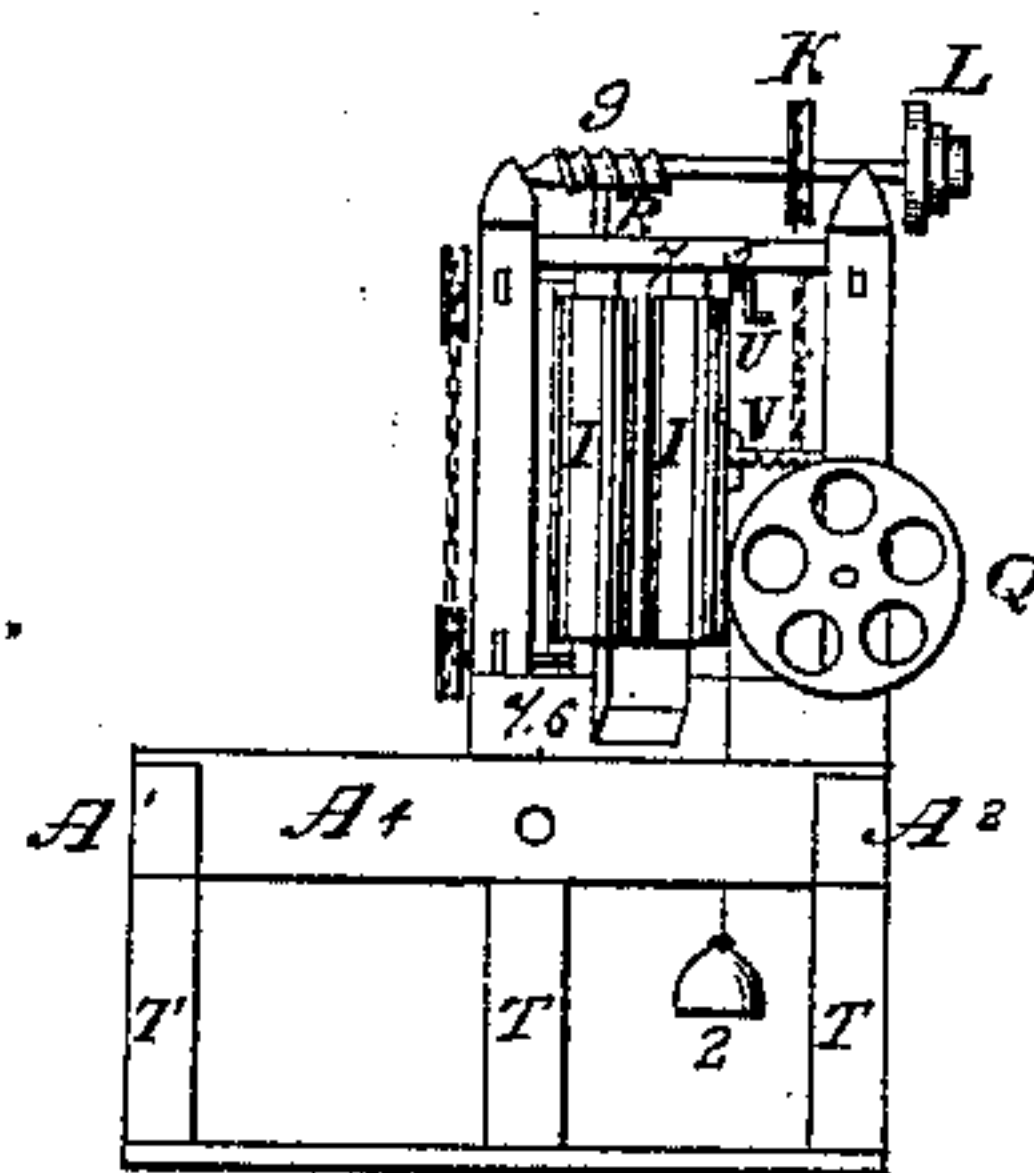


Fig 3

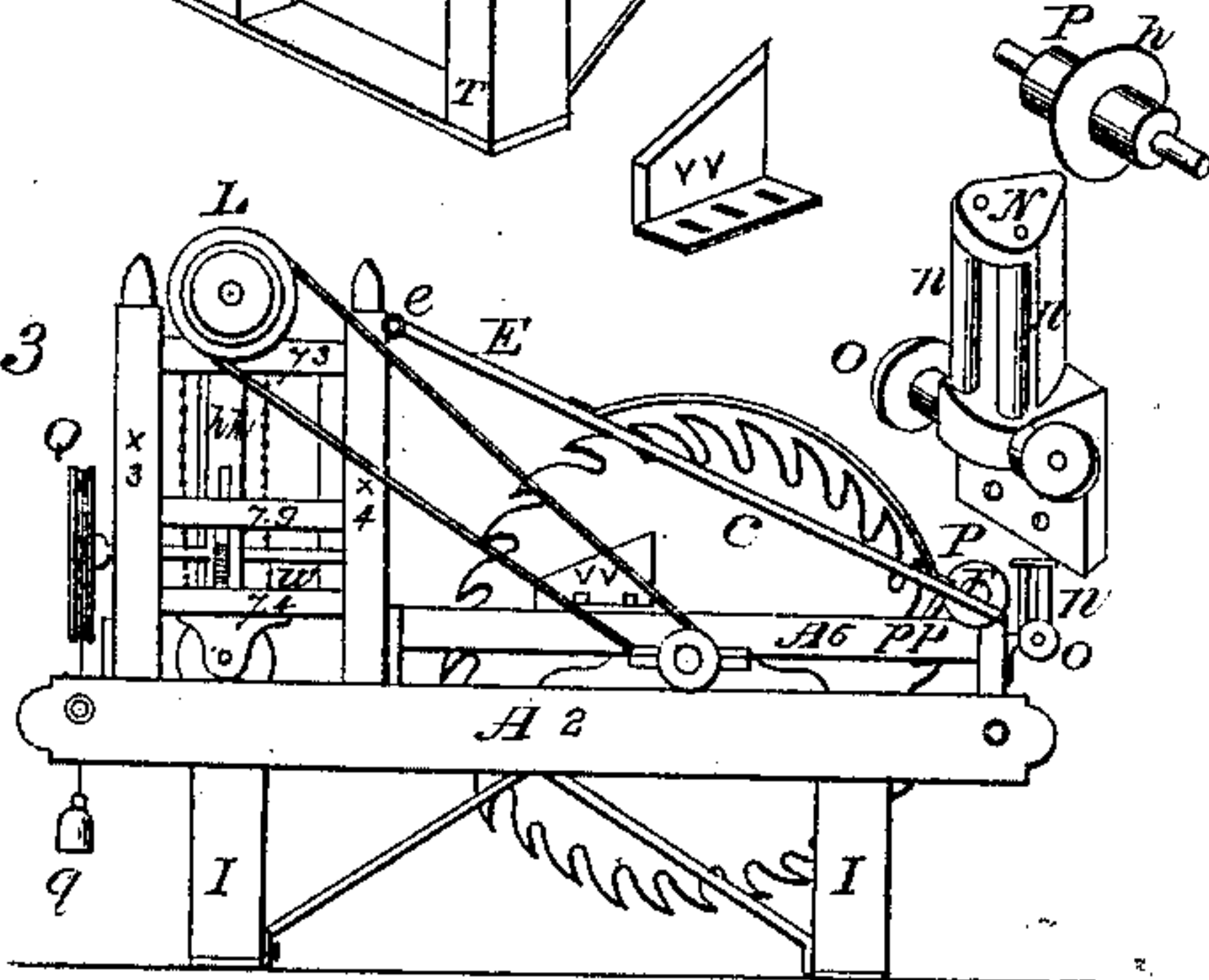


Fig 4

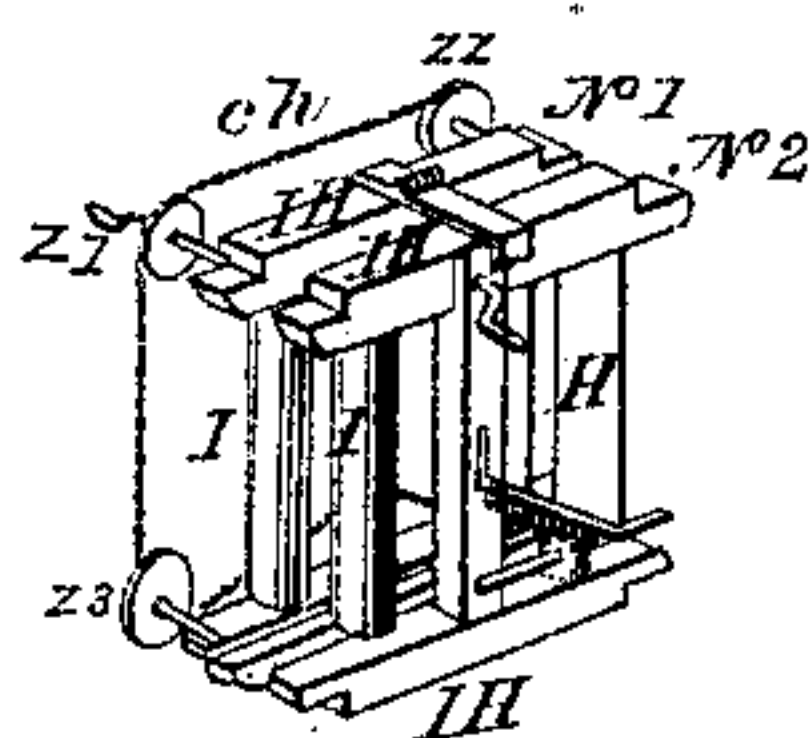


Fig 5

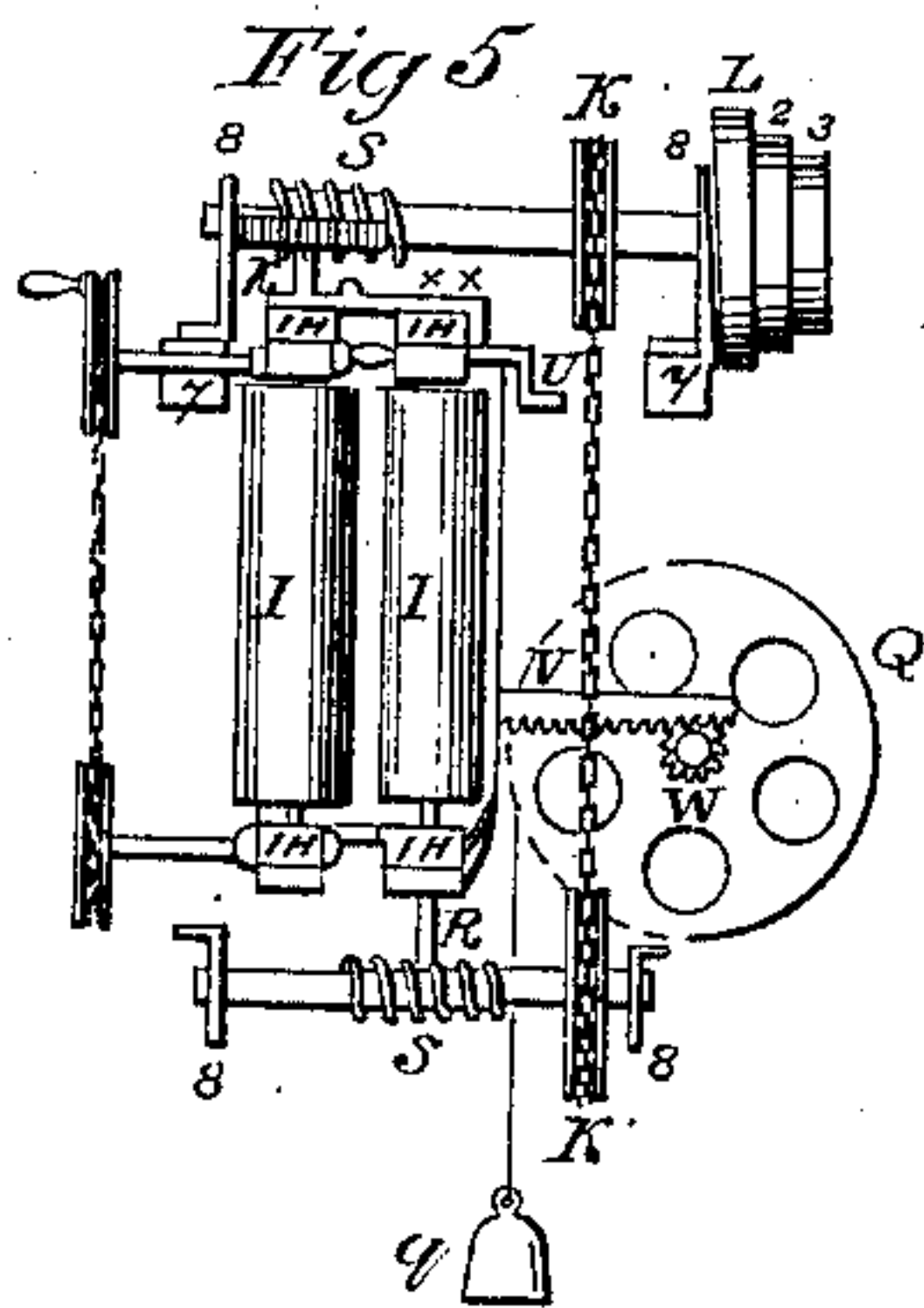
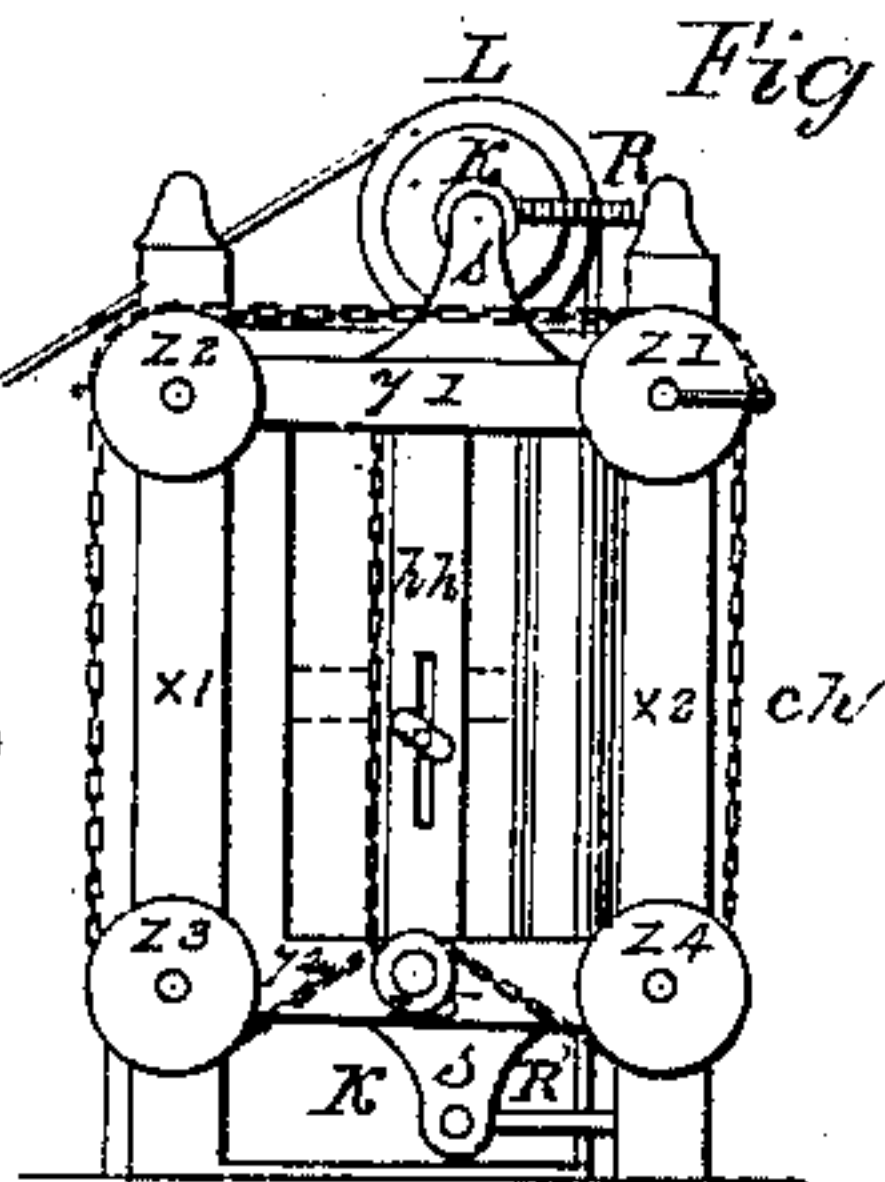


Fig 6



Witnesses:

N B Haley
Philip S Baker

Inventor:

D B Bartholomew

United States Patent Office.

DAVID B. BARTHOLOMEW, OF LANCASTER, PENNSYLVANIA.

Letters Patent No. 76,384, dated April 7, 1868.

IMPROVEMENT IN SAW-MILLS.

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, DAVID B. BARTHOLOMEW, of Lancaster, in the county of Lancaster, and State of Pennsylvania, have invented certain new and useful Improvements on Re-sawing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the entire machine, with my improvements in place, with a board, in the act of being slit, introduced.

Figure 2 is a rear elevation.

Figure 3, a side elevation.

Figure 4, a perspective view of the combination of the feed-rollers, Nos. 1 and 2.

Figure 5, the fluted rollers I I' and their gearing for adjusting and operating them.

Figure 6, a side view of the four grooved pulleys and central adjusting-pulley; also the upper and lower bearings of the worm-shaft and pinions, by which the fluted pulleys are revolved, with other detached illustrations designated by letters of reference.

The nature of my invention consists in the gearing, arrangement, and adjustability of the feed-rollers, so that boards, &c., can be slit of equal thickness, or of unequal thickness or bevel; also in the manner of separating, holding, and guiding the slit materials, as they are fed forward and slit by the saw, in a vertical position, and to prevent crowding on the saw.

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

The timbers of the framework, marked from A¹ to A⁷, and supports or legs T, with the rear elevated framework, consisting of four posts *x* and nine cross-pieces *y*, for the several bearings, as also the driving and loose pulleys B' B on the main shaft, with its boxes *b*, or bearings for a circular saw, C, of any approved make, present no special novelty, and require no special description. Fig. 1 clearly illustrates these several parts, which may be driven by any power most desirable.

The arrangement of my vertical feed-rollers is shown by figs. 4 and 5. A fluted roller, I, and plain roller H are combined, and have their bearings in a top and bottom cross-piece I H, which are boxed out, so that their projecting ends above come under the upper cross-pieces *y*, and their lower ends on top of the under cross-pieces *y*, seen in the rear and front of the elevated framework, on the hind end of the machine, and on and against which said cross-pieces *y*, the two pairs of rollers No. 1 and No. 2, with their bearings I H, slide in their adjustment. These two pairs of rollers are independent of each other, and are made adjustable laterally for the reception of the board or material to be slit by the saw, as in my former patent of 1857, only that each pair has a smooth roller, H, in front, and a fluted or corrugated feed and traction-roller, I, behind. These latter, I I', are revolved inwardly, by means of a pinion, R R', on a prolonged spindle, the one above and the other below their several bearings, at which points they mesh into a worm-gear, S S', on a shaft horizontally held in brackets or side bearings *s s*. The worm-shafts have each a grooved pulley, K, with an endless chain, or its equivalent, from the upper, K, to the lower, K'. The upper screw or worm-shaft is prolonged to one side, and is provided with a conic pulley, L, which derives motion from a pulley on the main shaft, that carries the saw C, by means of a strap-connection, as shown.

The external pair of rollers, with their bearings No. 1, are made adjustable laterally, at four points, by means of screws connected with the same, which screws are provided each with a grooved pulley, *z*¹ to *z*⁴, as shown, and combined in the unity of their action by an endless chain, *c h*, or its equivalent, by means of a crank-handle affixed to one of them. In order to give more or less tension to the endless chain *c h*, an intermediate adjustable pulley, *z*⁵, is applied centrally between the lower pair. By slackening the chain, the upper pair can be revolved by hand in one direction, and the lower pair in the opposite direction, so as to throw the feed-rollers into a sloped position to present the material between the pair obliquely to the action of the saw, which will slit the same diagonally or in a bevel manner, so often required for various purposes. The other pair of rollers, No. 2, will readily adjust themselves to the slope, and are prevented from falling over by means of a

hinged, hooked holder, *x x*, connecting the top bearings I H of the rollers Nos. 1 and 2. The latter pair are further combined in their bearings by a vertical piece, *h h*. This has a slot for adjusting a rack, V, connected therewith. Said rack meshes into a pinion, W, which pinion is held on the spindle of the large grooved pulley Q, to which a cord and weight, *g*, are attached, to adjust and give pressure against the inner pair, or No. 2 rollers. When a narrow board is introduced between the feed-rollers, there is a tendency that the free pair of rollers, No. 2, incline inwards above, and, in order to keep them parallel, there is a handled screw, U, provided to prevent the same by proper adjustment. The lower bearing I H of No. 1 has also blunted pins VI resting against the lower bearing of No. 2, so that both pairs of rollers can be adjusted laterally, in order to present the material held between them in position with respect to the saw, so that the desired thickness can be slit off.

If desirable to operate the upper and lower pairs of pulleys independently, the grooves may be doubled, and each pair have an additional chain, in order to move them in unison, and not separately, if found more convenient; but I dispense with the extra chains, and use the central pulley *z*³ to slacken or tighten the chain at pleasure. I also provide a slotted bar, E, centrally over the saw-blade, and through which slot the saw partially enters. This bar E is hinged to the top cross-piece *y* of the elevated framework aforesaid, and inclines over the saw. There is also a curved guard-plate, D, to prevent the operator from coming in contact with the teeth of the saw. This hinged bar E can be folded back out of the way, and is provided in front with a roller, P, having a central wedge-shaped flange, *p*, to enter the scarf of the parted board, while on the lower side are two projecting pins *p p*, one on each side, to prevent the split board from falling outward while it is raised upward on its hinge, as the slit portions are fed forward to the wedge-shaped separator N on the outer cross-piece A⁷ of the main frame. This separator N has two vertical rollers *n n*, and also two horizontal flanged rollers *o o*, one on each side, upon which the slit pieces slide easily forward in a vertical position by the combined arrangement set forth, and prevents all strain upon the saw. For a further protection to the saw-blade, to prevent choking or strain, I also provide a deflector *v v* on each side, made adjustable by set-screws in slots in the base of the same, bent out at right angles, and resting upon the guide-timbers that are in close proximity on each side of the saw, marked A⁶. The triangular vertical portion of the deflector is in close contact with the saw at the rear end, and deflects the slit boards more or less outward.

Having now described the several parts as briefly as the nature of the invention will admit of, there are other minor improvements that will be seen, and their utility suggested, on a close inspection of the various arrangements and combinations, some of which, separately considered, are, perhaps, common to other machines, and such I desire to disclaim otherwise than when combined and operating substantially as shown and set forth.

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

1. The combination of the movable frame I' H', carrying the feed-rollers I I and H H, with the slotted post *h h*, rack V, pinion W, weighted pulley Q, hand-screw U, and latch *x x*, when constructed, arranged, and operated in the manner and for the purposes described.

2. The hinged slotted bar E, upon which are saw-guard D, pins *p p*, and wedge-roller P, all constructed and operating substantially as described.

3. The deflecting-device, when constructed with the rollers *n n* and *o o*, and operating substantially as set forth.

D. B. BARTHOLOMEW.

Witnesses:

WM. B. WILEY,
PHILIP S. BAKER.