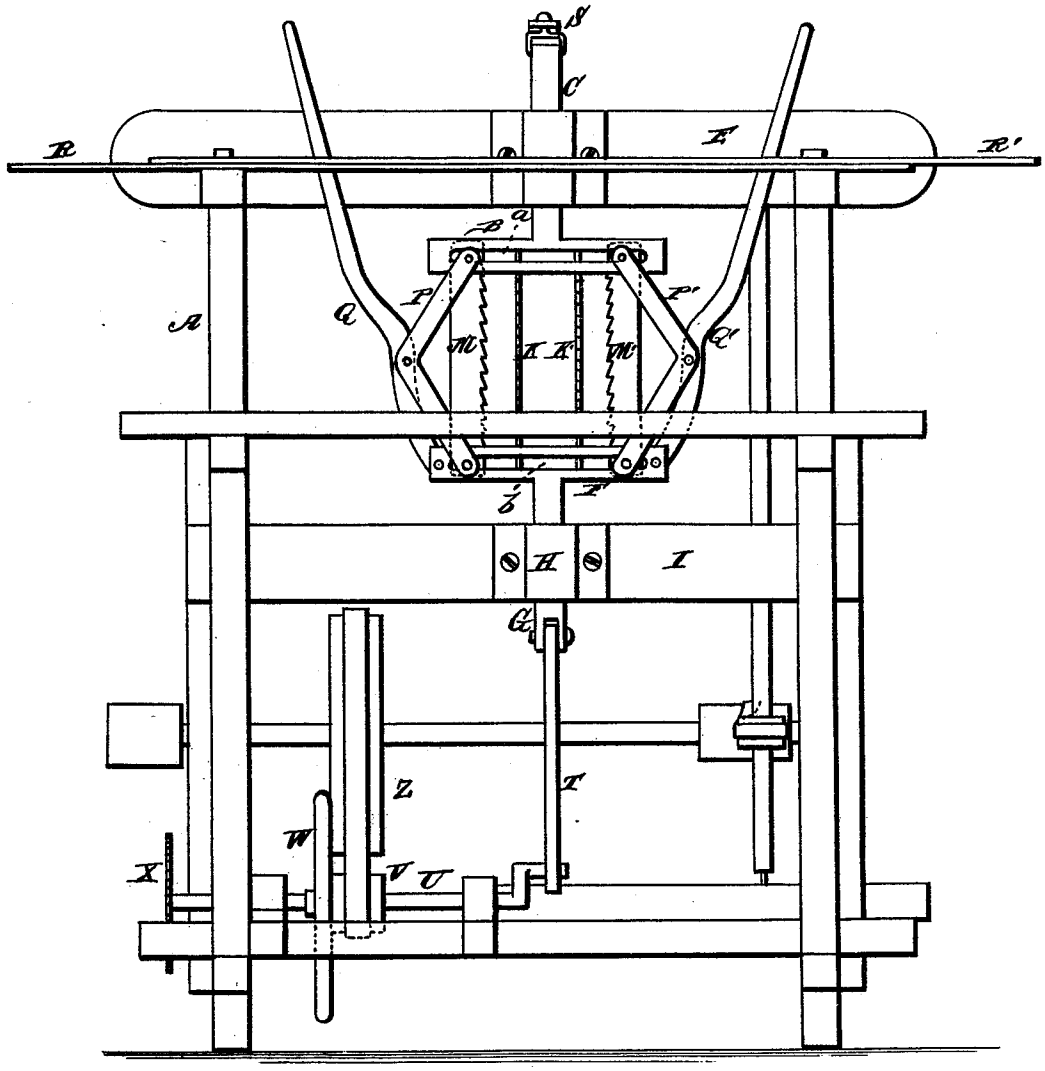
(No Model.) 3 Sheets—Sheet 1.

W. H. CLAYTON.

Tenon Sawing Machine.

No. 233,981. Patented Nov. 2, 1880.

Fig. 1.



WITNESSES

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(No Model.)

3 Sheets—Sheet 2.

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Fig. 2.

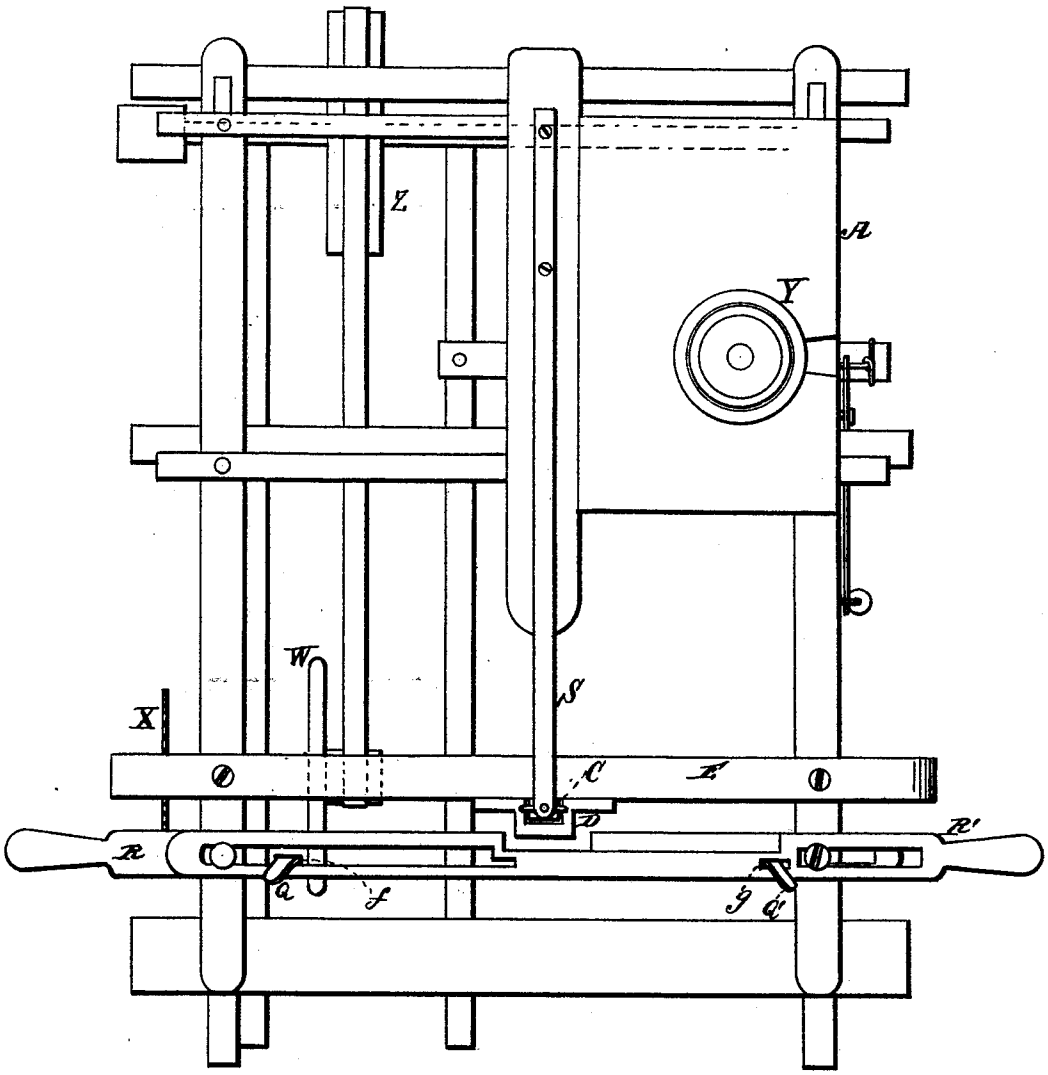
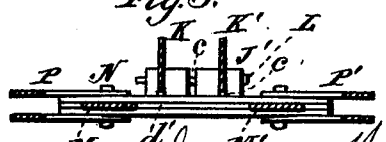


Fig. 3.



WITNESSES

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(No Model.) 3 Sheets—Sheet 3.

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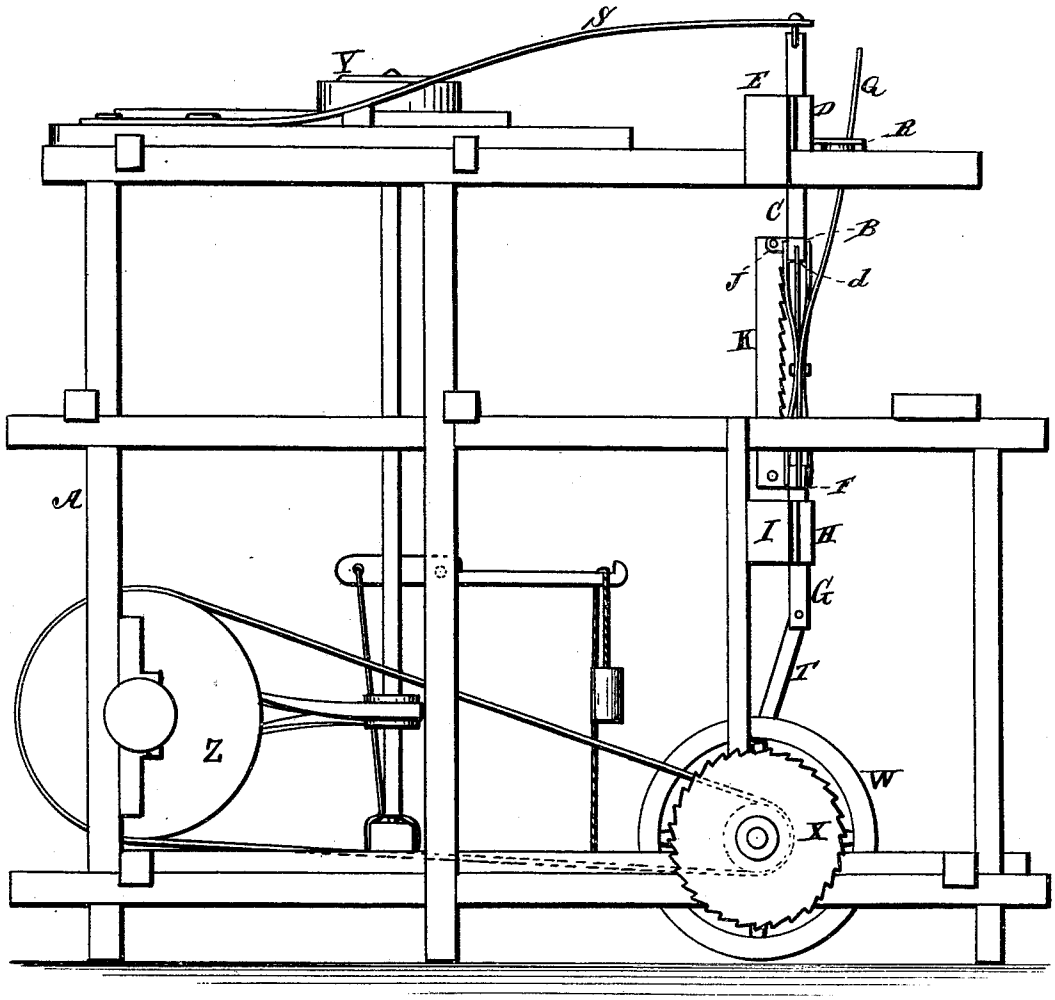
Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM H. CLAYTON, OF CARROLLTON, GEORGIA.

TENON-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 233,981, dated November 2, 1880.

Application filed September 7, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CLAYTON, a citizen of the United States, resident at Carrollton, in the county of Carroll and State of Georgia, have invented certain new and useful Improvements in Combination of Saws; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention has relation to a combination of saws for tenoning timbers; and it consists in the features of construction and combination hereinafter fully described, and particularly pointed out in the claim.

Figure 1 is a front elevation of a machine embodying the improvements in my invention. Fig. 2 is a plan view. Fig. 3 is a horizontal transverse sectional view through the saws, and Fig. 4 is a side elevation of the machine.

Referring by letter to the drawings, A designates the frame of the machine, which supports the operative mechanism.

B is the upper cross-head for the saws, slotted horizontally at *a*, the vertical arm C of which works in a guideway, D, in the upper cross-beam, E. The lower cross-head, F, is slotted horizontally at *b*, and its arm G works in a guideway, H, in the lower cross-beam, I, of the frame A.

Blocks J J′ are formed with or secured to the rear sides of the cross-heads B and F, as shown, and are recessed vertically at *c*, to receive the ends of the rear vertical saws, K K′, and are provided with longitudinal horizontal openings to receive the rods or bolts L, by which the saws K K′ are secured in their respective recesses *c*. Vertical saws M M′ are placed to cut at right angles and toward the kerfs cut by the saws K K′. The opposing faces of the cross-heads B and F are slotted longitudinally through into the slots *a* and *b*, and the ends of the saws M M′ project through the slots *d d′* in the faces of the cross-heads B and F into the slots *a* and *b*, and the pins N are passed through holes in the ends of the saws M M′ and project on each side of the cross-heads.

Angular frames P P′ are secured to the pins N, and levers Q Q′, having their lower ends fulcrumed in the ends of the lower cross-head, F, are pivoted to the apices of the angular frames P P′. These levers Q Q′ extend upwardly above the top of the frame A and pass through slots *f* and *g* in the hand-slides R R′.

The vertical arm C of the upper cross-head, B, is connected with a spring, S, secured to the top of the frame A.

The vertical arm I of the lower cross-head, F, is connected by a pitman, T, to a crank-shaft, U, carrying a band-wheel, V, fly-wheel W, and having a circular saw, X, at its outer end.

A large band-wheel, Z, on a shaft at the rear of the frame is connected by a belt with the band-wheel V.

I have also, for the convenient use of farmers and others, connected in the same frame with my saws a grinding-mill, as shown at Y; but nothing is claimed herein either upon the circular saw or the grinding-mill.

The operation of my combination of saws is quite simple, their action certain, and is as follows: The piece of timber to be tenoned is fed to the saws K K′, which cut the longitudinal parallel kerfs, and when they have reached the proper depth the feed is stopped, and the saws M M′ are then operated by pushing in the hand-slides R R′ to cut the lateral kerfs and complete the tenon.

It is obvious that where a block is only to be cut from one side of the pieces of timber one of the saws K or K′ may be removed and the saw M or M′, as the case may be, operated independently, as these latter saws are not connected.

The slots in the hand-slides prevent the saws M M′ from coming too close together, or a block or stop may be placed in the slot *a* for the same purpose.

By removing either the saw K or K′ and changing the remaining saw from its recesses to the central recesses, *c*, the saw K or K′, as

the case may be, or another one in their stead, may be used as a scroll-saw.

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

In a machine for sawing tenons, the combination of the cross-heads B and F, slotted at *a* and *b* and vertically at *d d'*, the saws K K', the saws M M', frames P P', levers Q Q', and slotted hand-slides R R', constructed and operating substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WM. H. CLAYTON.

Witnesses:

W. E. JOHNSON,

W. C. ADAMSON.