No. 712,710. Patented Nov. 4, 1902.

A. J. NORRIS.

WOODWORKING MACHINE.

(Application filed June 30, 1902.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

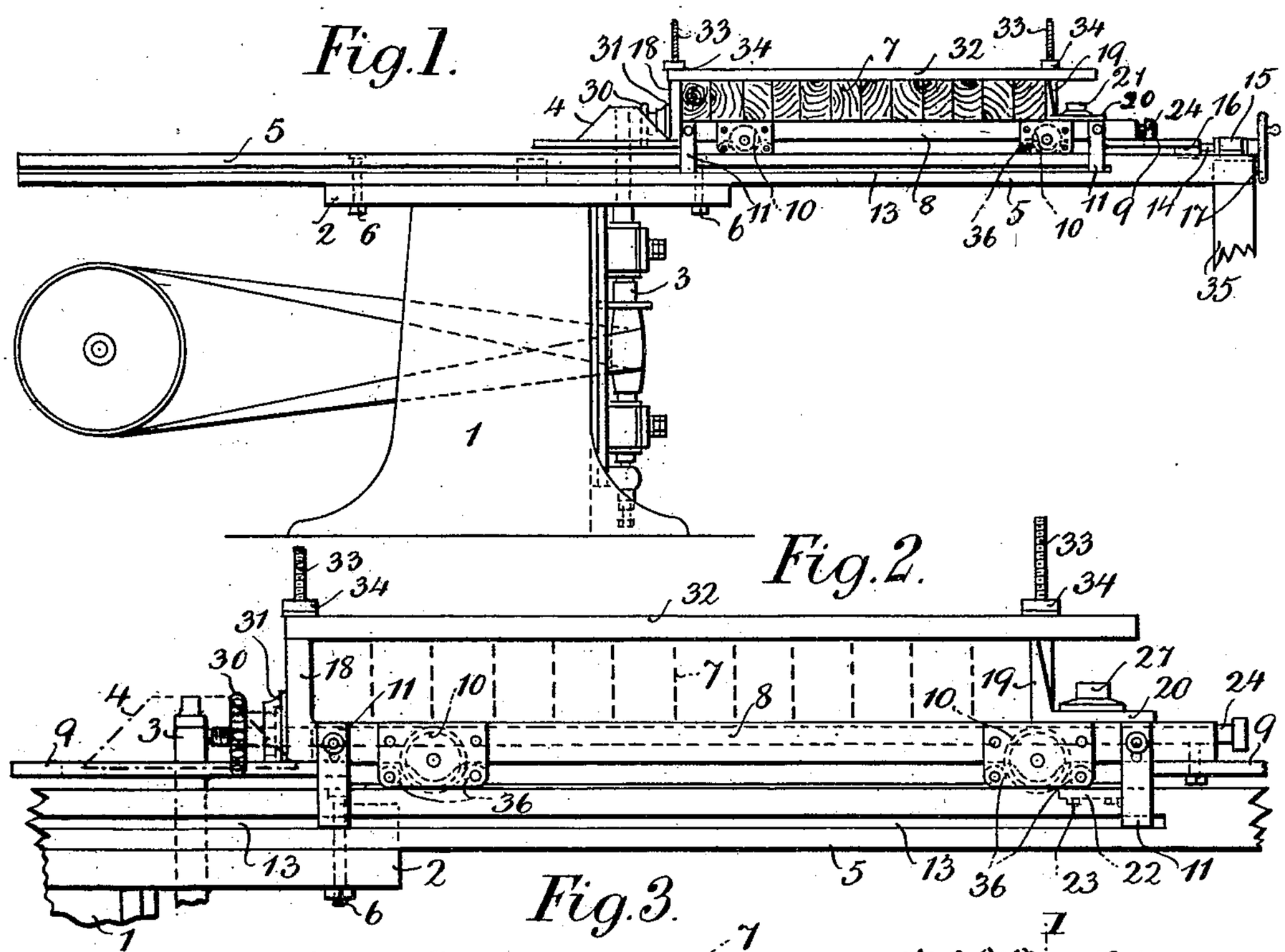
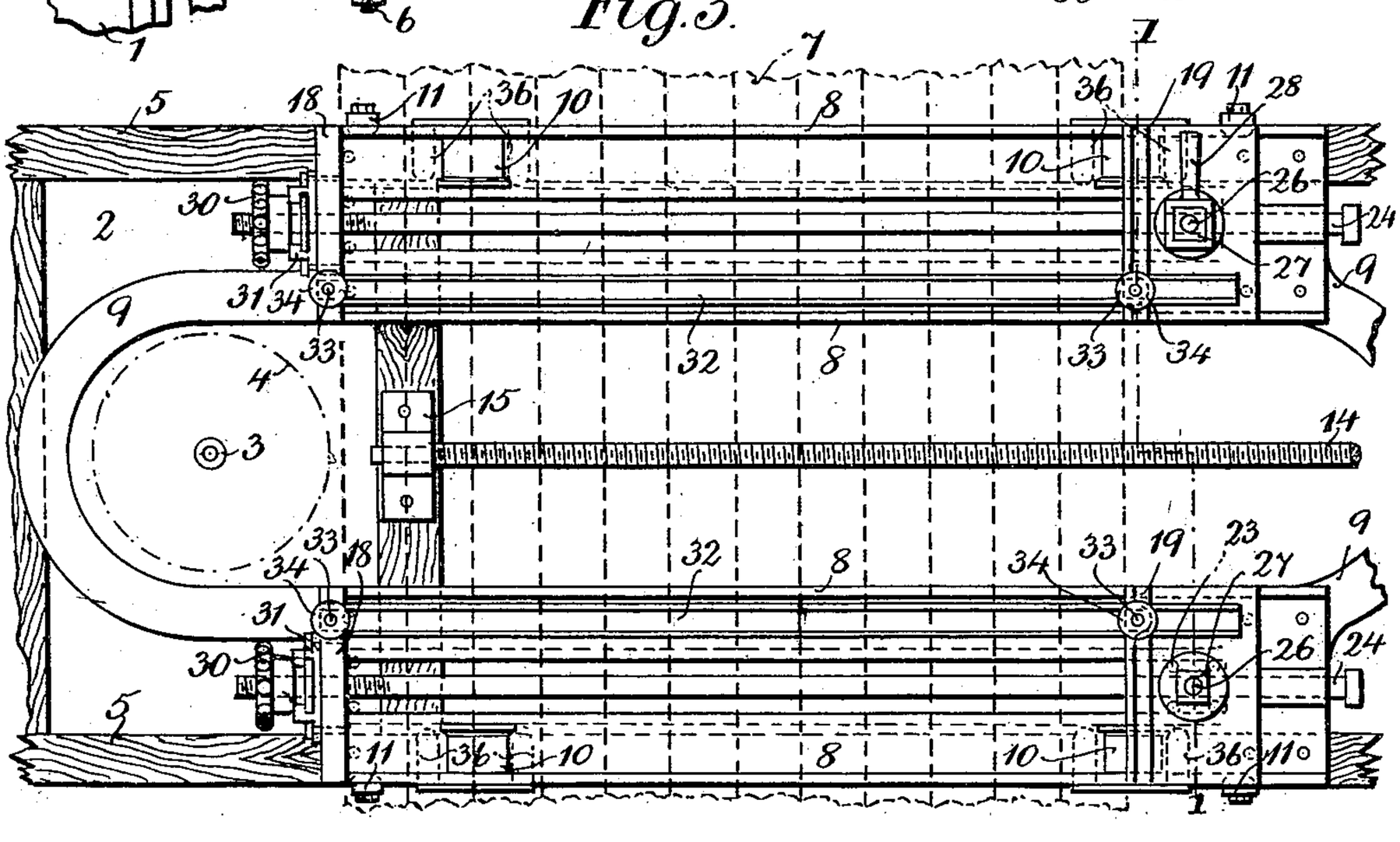


Fig. 2.

Fig. 3.



Witnesses:
C. H. White
A. W. Barrand.

Inventor:
Arthur James Norris
By White & Woodington
Attorneys.

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(No Model.) 3 Sheets—Sheet 2.

Fig. 4.

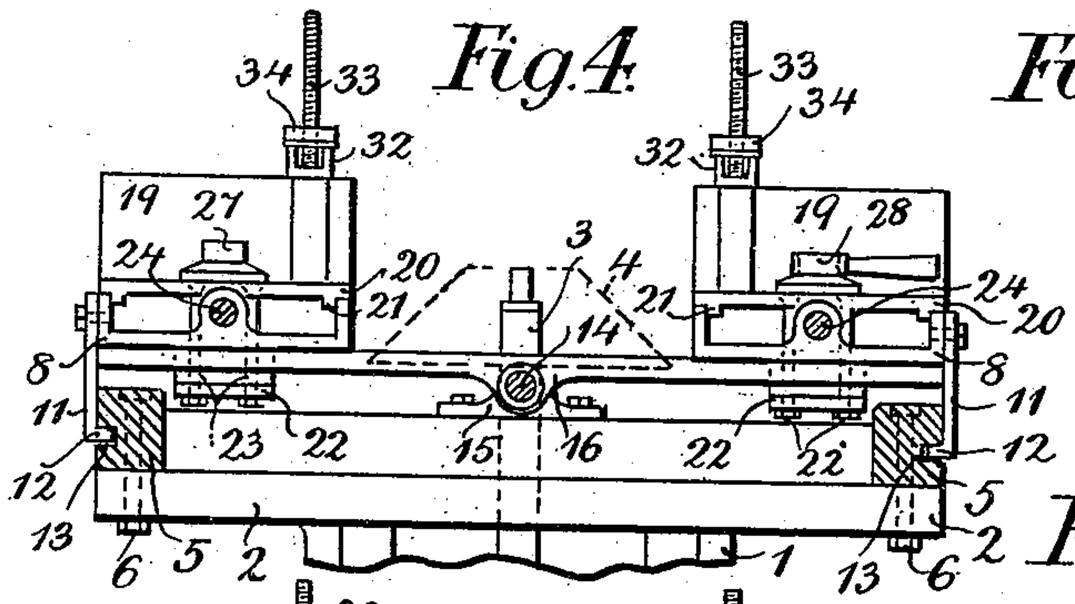


Fig. 6.

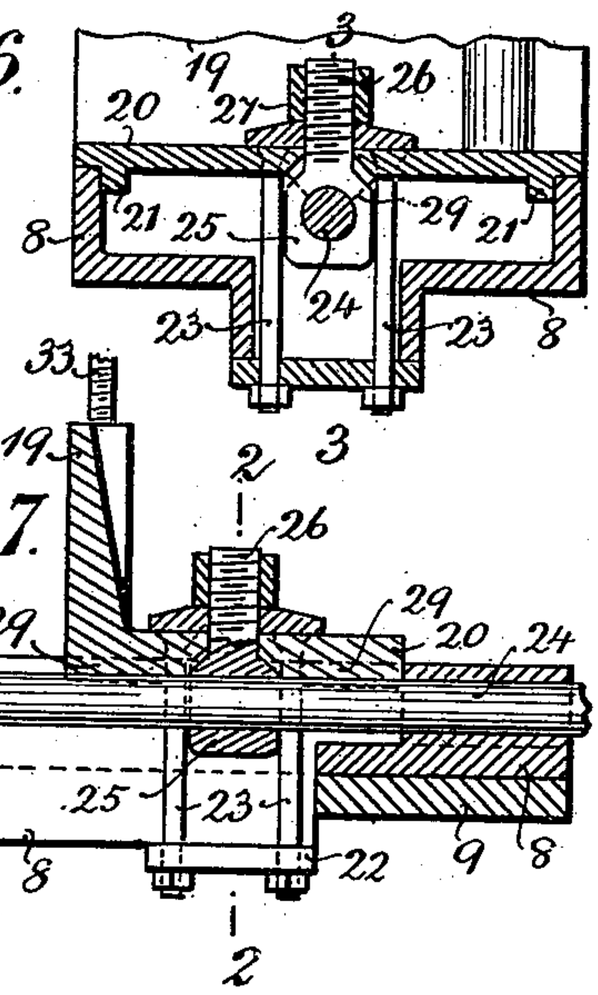


Fig. 7.

Fig. 5.

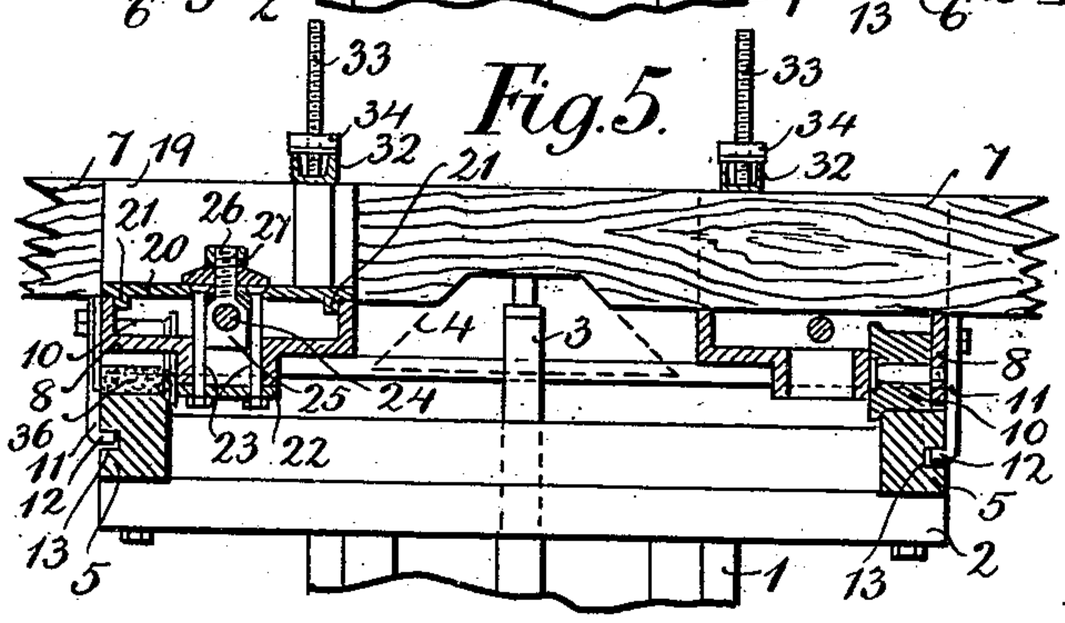


Fig. 9.

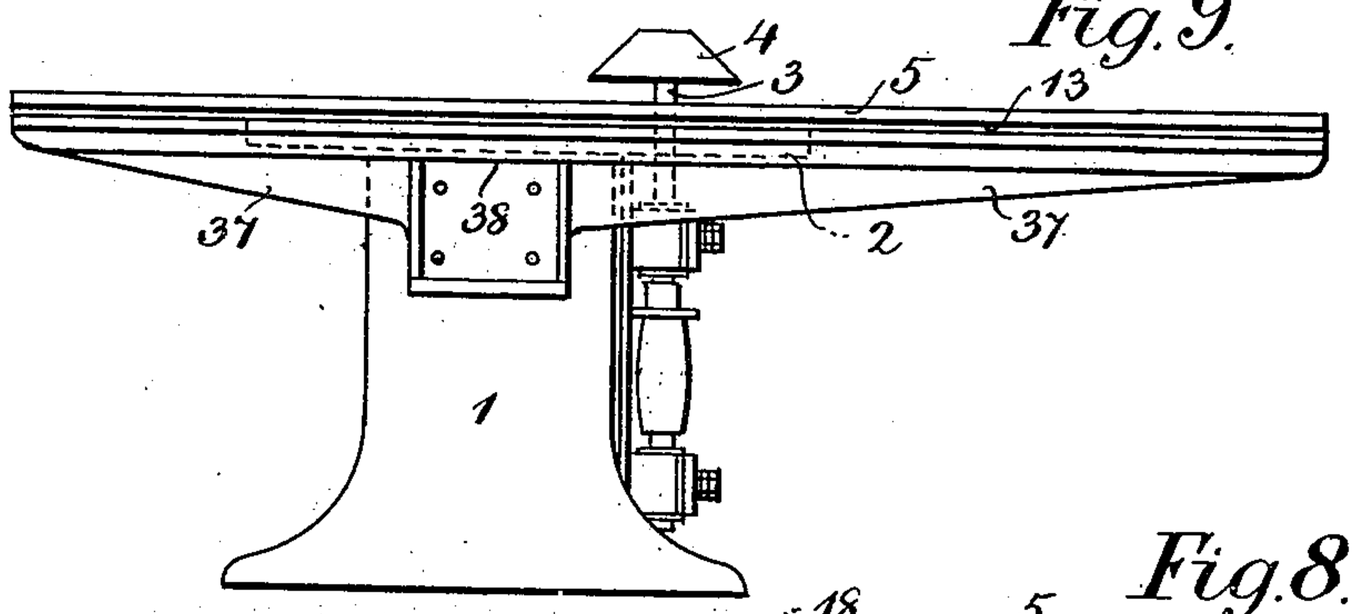
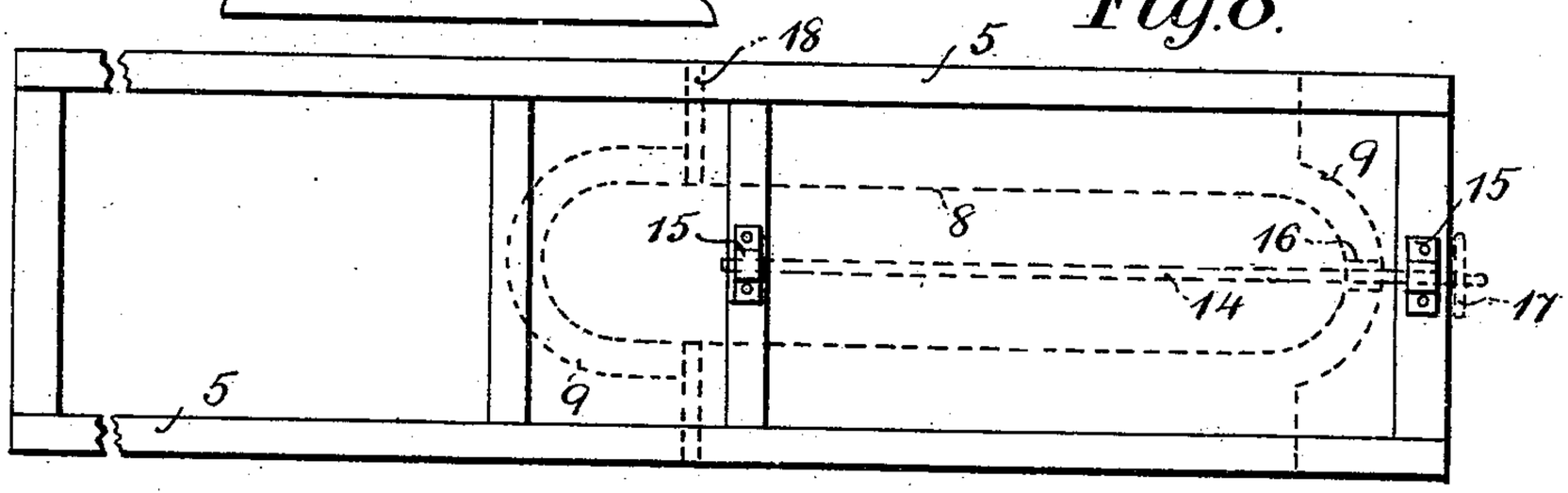


Fig. 8.



Witnesses:
C. H. Lohik
A. W. Barrand.

Inventor:
Arthur James Norris
By Whitelaw Woodington
Attorneys

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A. J. NORRIS.

WOODWORKING MACHINE.

(Application filed June 30, 1902.)

(No Model.) 3 Sheets—Sheet 3.

Fig. 10.

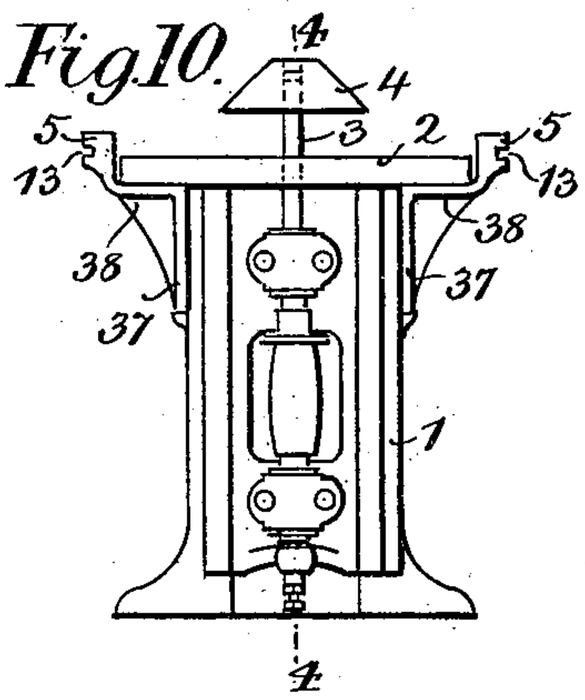


Fig. 11.

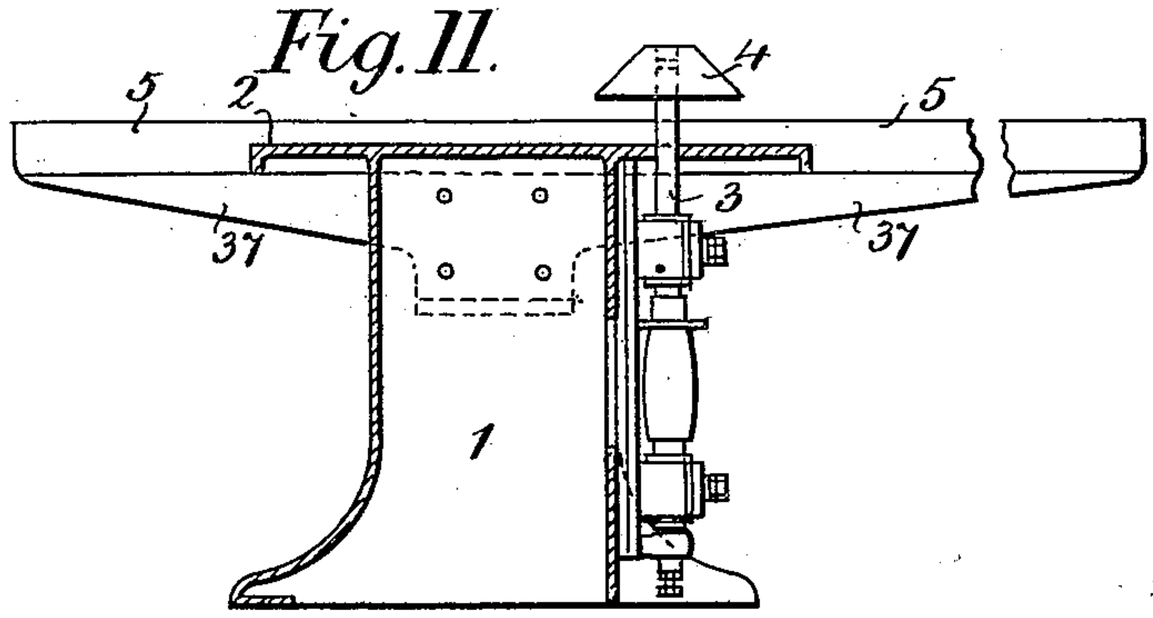


Fig. 12.

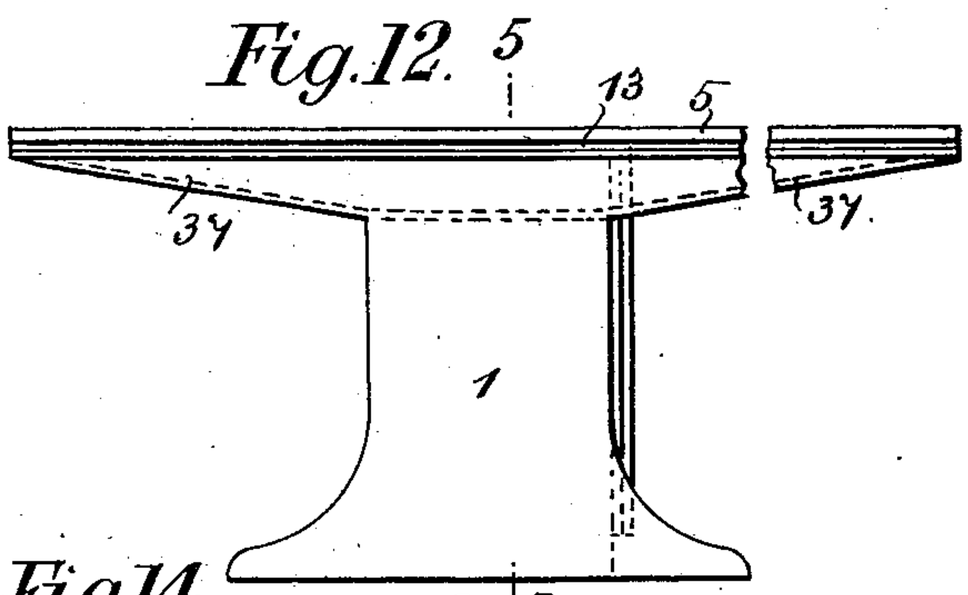


Fig. 13.

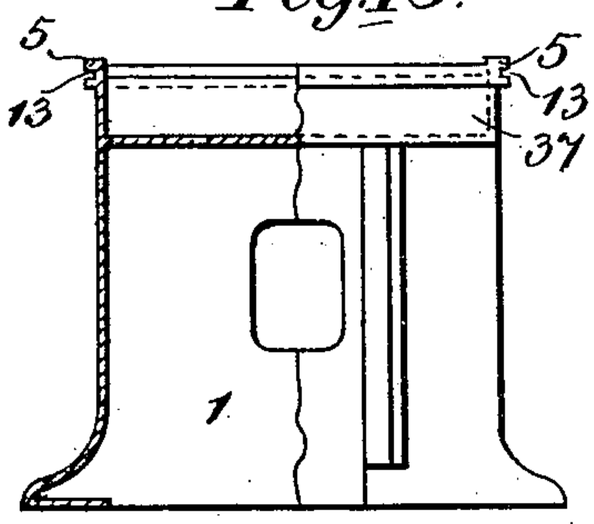


Fig. 14.

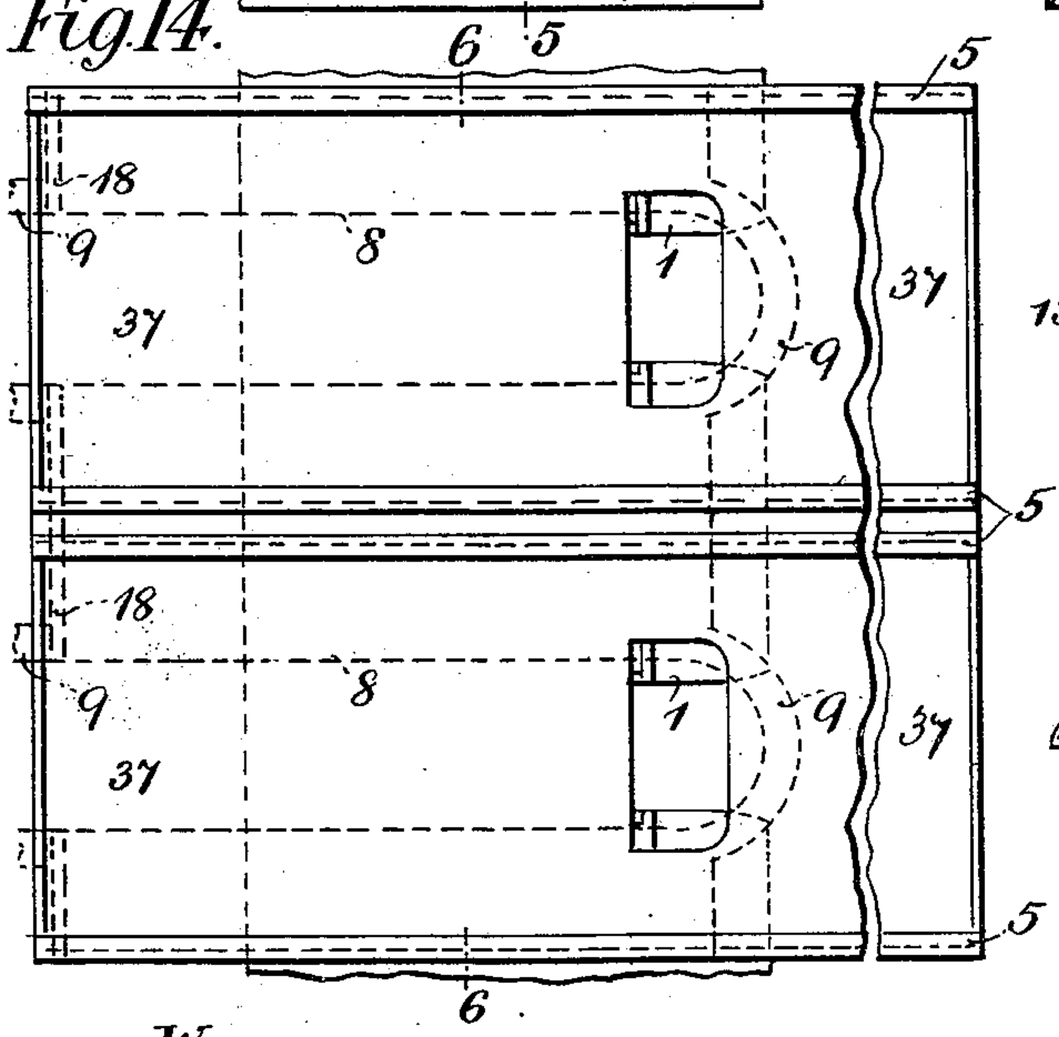
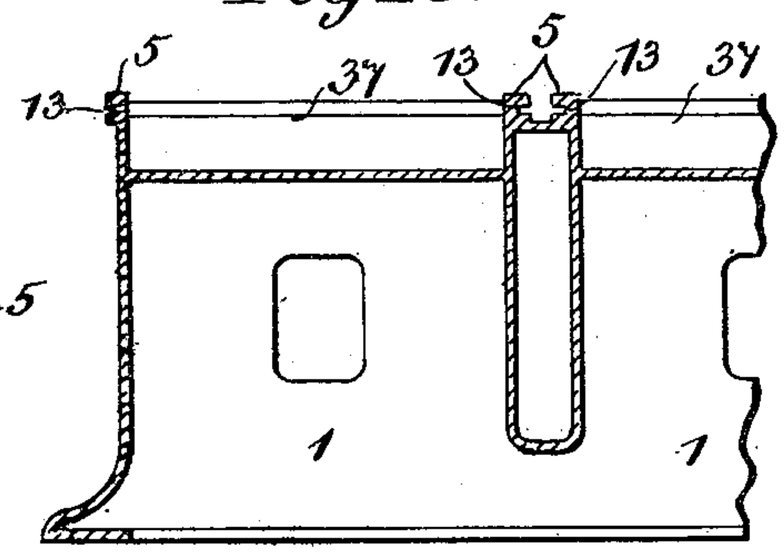


Fig. 15.



Witnesses:

C. H. Hohick

A. W. Barrand.

Inventor:

Arthur James Norris

By White Woodington

attorneys

UNITED STATES PATENT OFFICE.

ARTHUR JAMES NORRIS, OF MILDMAY GROVE, LONDON, ENGLAND.

WOODWORKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 712,710, dated November 4, 1902.

Application filed June 30, 1902. Serial No. 113,838. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR JAMES NORRIS, cabinet-maker, a subject of the King of Great Britain, residing at 63 Mildmay Grove, in the county of London, England, have invented certain new and useful Improvements in or Connected with Woodworking Machinery, of which the following is a specification, reference being had to the drawings hereunto annexed and to the reference-numerals marked thereon.

The invention relates to improvements in or connected with woodworking machinery, and has for its object to obtain a table or frame adapted to hold the wood to be worked and capable of the traversing movements and adjustments necessary when working wood primarily by the means forming the subject-matter of Letters Patent of the United States of America granted to me, dated the 11th day of March, 1902, No. 695,113.

In the accompanying drawings, Figure 1 is a side elevation of a woodworking-machine having the present invention applied thereto. Fig. 2 is a side elevation of part thereof. Fig. 3 is a plan thereof. Fig. 4 is an end view thereof. Fig. 5 is a transverse section taken on the line 1 1 of Fig. 3. Fig. 6 is a transverse section, taken on the line 2 2 of Fig. 7, of part of the traveling frame. Fig. 7 is a longitudinal section taken on the line 3 3 of Fig. 6. Fig. 8 is a plan of the under or base frame separately. Fig. 9 is a side elevation of part of a woodworking-machine, illustrating a method of extending the table or top of the pedestal to form the underframe. Fig. 10 is a front elevation thereof. Fig. 11 is a longitudinal section taken on the line 4 4 of Fig. 10. Fig. 12 is a side elevation of part of a woodworking-machine, showing the base or underframe formed integral therewith. Fig. 13 is a transverse half-section taken on the line 5 5 of Fig. 12. Fig. 14 is a plan of a double frame and pedestal, and Fig. 15 is a transverse section taken on the line 6 6 of Fig. 14.

In the several figures like parts are indicated by similar reference-numerals, and Figs. 2 to 7 are drawn to an increased scale with respect to the other figures of the drawings.

Referring to Figs. 1 to 8, 1 represents the base or pedestal of an ordinary woodworking or molding machine. 2 represents the extended top or table thereof. 3 represents the spindle, and 4 represents a miter-shaped tool of the character referred to in the specification of the hereinbefore-recited Letters Patent and which is removably fixed thereto. Upon the work-table 2 is fixed by bolts 6 an oblong underframe 5, which may be of wood or metal, and this frame is arranged with a clear space between the sides thereof in the direction of travel of the work 7, hereinafter more fully described, to and past the revolving tool 4. Upon this fixed underframe 5 is mounted with capability of longitudinally sliding an oblong frame or carriage formed, preferably, of metal and consisting of trough-shaped side bars 8 at the ends, united by semicircular bars 9. The side bars 8 of the carriage are provided with flanged supporting-wheels 10, which run upon the underframe 5, or said wheels might be dispensed with, and said side bars have fixed to the sides thereof with capability of vertical adjustment downwardly-extending lugs 11, formed with horizontal inturned ends 12, and the sides of the underframe 5 are provided with coacting longitudinal grooves 13 therein, with which the inturned ends of the lugs 11 engage and act as guards to prevent the carriage 8 lifting and also in conjunction with the ends of the grooves 13 serve as stops to limit the traverse thereof.

The sliding frame or carriage 8, which is open from end to end thereof and surrounds the tool 4, may be traversed by hand, or it may, as shown, be operated by a feed-screw 14, turning in bearings 15, carried by the fixed underframe 5 and engaging a nut 16, fixed with one of the ends 9 of the carriage 8, said feed-screw being furnished with a hand-wheel 17, by which it may be turned, or the carriage 8 may be traversed by other suitable means.

At one end of the frame or carriage 8 and formed integral with the sides thereof are provided two fixed fences 18, and at the opposite end of said carriage are provided two corresponding but adjustable fences or clamping devices 19, between which the several thicknesses of wood 7 to be acted upon by the tool 4 are securely clamped. Each of the adjustable fences 19 is formed with an extended base or slide 20, which rests and slides

upon the top edges of the trough-shaped side bars 8 of the carriage and is provided with depending guide flanges or ledges 21, which fit between the side walls of the trough, and the slide 20 is held against lifting by means of a sliding plate 22, which abuts against the under side of the trough and is secured to the slide 20 by bolts 23.

Beneath the base or slide 20 of each side bar 8 is arranged a traversing-rod 24, which is coextensive or thereabout with the carriage and passes through an apertured boss or bearing 25, provided with a screw 26, which extends through the base or slide 20 and is fitted with a nut 27, adapted to be turned by a spanner 28, and upon the under side of the slide 20 is formed a longitudinal rib 29, grooved to form a bearing for the rod 24, so that by slacking the nut 27 the fence 19 may be roughly set up to the work 7 and then fixed with the rod 24 by screwing up the nut 27. In order to finally adjust the fences 19 and securely clamp the work 7 against the fixed fences 18, the opposite end of each of the rods 24 is threaded and passed through an aperture in the fixed fence 18, and upon said threaded end is screwed a hand-nut 30, and upon the face of the fence 18 is fixed an undercut or flanged fitting 31, and the nut 30 is grooved to receive the flanges of the fitting and to fit the latter with capability of turning, so that by turning the nuts 30 in one direction the work 7 may be clamped in position, while by turning them in the opposite direction it may be released.

The work 7 is securely held against vertical movement by means of bars 32, of angle-iron or the like, which extend across the several thicknesses of wood and are perforated to fit onto threaded studs 33, carried by the fences 18 and 19, and are forced down into the required position by means of nuts 34.

If desired, the underframe 5 may be fitted with supporting-legs, such as 35.

The oblong metal frame or carriage 8 is formed of such length that a space is left beyond the work 7 at the extremities of said frame, so that at the end of the traverse of the carriage with the work in either direction the tool 4 may idly revolve in said space while the work is changed or adjusted without the necessity for stopping the machine.

It is found in practice that the cuttings from the tool 4 are liable to lodge upon the frame 5 and cause the carriage 8 to jump, and in order to obviate this defect brushes 36 are fitted to the carriage 8 at suitable points, so as to sweep the track of the wheels 10.

In the example given at Figs. 9, 10, and 11 is illustrated a means of enlarging the top of a pedestal 1 to form the underframe 5, and which consists of two brackets 37, cranked at 38 and bolted to the sides of the pedestal 1.

In the example given at Figs. 12 and 13 is illustrated a means of forming a pedestal 1 with an enlarged table 2 and also the underframe 5 integral therewith and which consists in casting longitudinal extensions 37 thereon.

In the example given at Figs. 14 and 15 is illustrated a double set of frames 5 and 8 and a pedestal to carry the same. The underframe is assumed to be identical with that hereinbefore shown and described with respect to Figs. 12 and 13, and the pedestal is also similar in construction thereto, while the carriage, which is shown in dotted lines, is similar to that hereinbefore shown and described with respect to Figs. 1 to 8 except that it is formed of double width, and the object of this duplex arrangement is to adapt the invention to machines employing two or more spindles 3 and tools 4 and in which machines the spindles are sometimes laterally adjustable.

By the means hereinbefore described a number of lengths of wood may be operated upon by the tool at one time and the work advanced to the tool with absolute precision, thus insuring rapidity and economy in the performance of the work.

Having how particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a woodworking-machine a pedestal or standard having a revoluble tool above the top thereof, a horizontal underframe fixed with the top of the pedestal or standard, a frame or carriage running upon the underframe said frames being open from end to end thereof, means upon the top of the carriage at each side thereof for clamping therewith the wood to be worked and extended ends to the carriage beyond the clamping means enabling the wood to be traversed beyond the revolving tool in either direction substantially as herein shown and described and for the purpose stated.

2. In a woodworking-machine a pedestal or standard having a revoluble tool above the top thereof, a horizontal underframe fixed with the top of the pedestal or standard, a frame or carriage mounted upon wheels running upon the underframe said frames being open from end to end thereof, longitudinal grooves in the sides of the underframe, downward projections from the carriage having inturned ends engaging said grooves, means upon the top of the carriage at each side thereof for clamping the wood to be worked therewith, bars extending longitudinally across the top of the wood at each side of the carriage, means for depressing the bars onto the wood and extended ends to the carriage beyond the clamping means enabling the wood to be traversed beyond the revolving tool in either direction substantially as herein shown and described and for the purpose stated.

3. In a woodworking-machine a pedestal or standard having a revoluble tool above the top thereof, a horizontal underframe fixed with the top of the pedestal or standard, a frame or carriage mounted upon wheels run-

ning upon the underframe said frames being open from end to end thereof, means for preventing the carriage rising, fixed fences upon the top of the carriage at one end thereof, sliding fences adapted to coact with the fixed fences, screw-actuated rods for traversing the movable fences and extended ends to the carriage beyond the fences enabling the wood to be traversed beyond the revolving tool in either direction substantially as herein shown and described and for the purpose stated.

4. In a woodworking-machine a pedestal or standard having a revoluble tool above the top thereof, a horizontal underframe fixed with the top of the pedestal or standard, a frame or carriage running upon the underframe said frames being open from end to end thereof, means for preventing the carriage rising, fixed fences upon the top of the carriage at one end thereof, sliding fences adapted to coact with the fixed fences, rods passing through apertures in the fixed and sliding fences, means for clamping the rods with the sliding fences, threaded ends to the rods, hand-nuts engaging said threads and fitting into bearings carried by the fixed fences so that the rods may be traversed in either direction and extended ends to the carriage beyond the fences enabling the wood to be traversed beyond the revolving tool in either direction substantially as herein shown and described and for the purpose stated.

5. In a woodworking-machine a pedestal or standard having a revoluble tool above the top thereof, a horizontal underframe formed integral with the top of the pedestal or standard, a frame or carriage running upon the underframe said frames being open from end to end thereof, means upon the top of the carriage at each side thereof for clamping therewith the wood to be worked, means for preventing the carriage rising and extended ends to the carriage beyond the clamping means enabling the wood to be traversed beyond the revolving tool in either direction substantially as herein shown and described and for the purpose stated.

ARTHUR JAMES NORRIS.

Witnesses:
C. H. WHITE,
EUSTACE H. BARKER.