

J. R. ENGLAND,
PLANING AND JOINTING MACHINE ATTACHMENT.
APPLICATION FILED NOV. 2, 1911.

1,032,278.

Patented July 9, 1912.

2 SHEETS-SHEET 1.

Fig. 1.

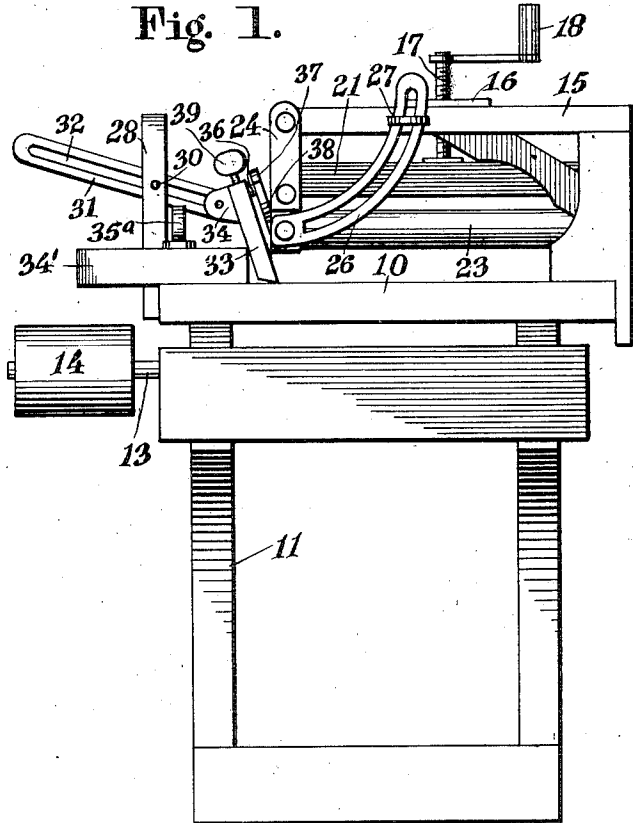


Fig. 4.

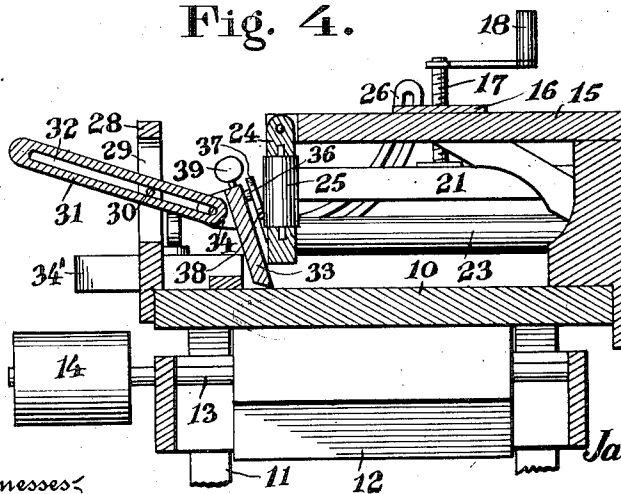
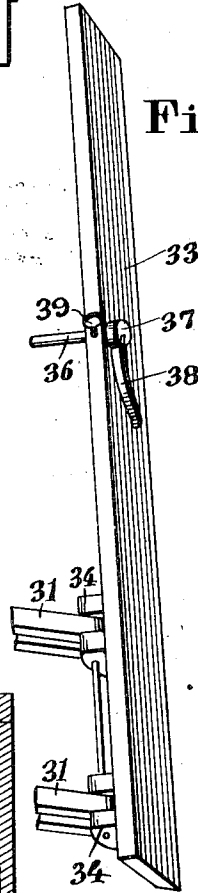


Fig. 6.



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2 SHEETS-SHEET 2.



Fig. 3.

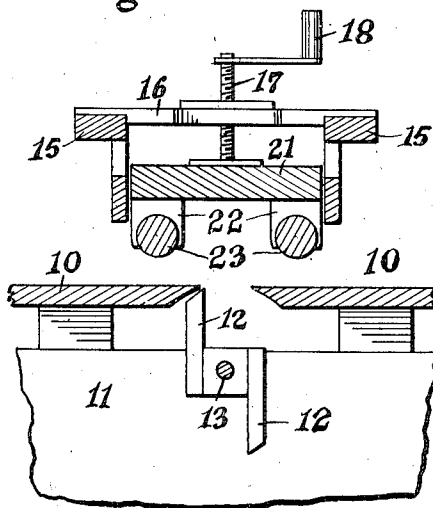
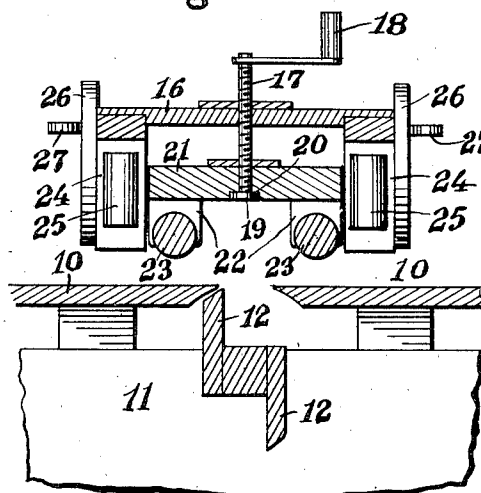


Fig. 5.



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PLANING AND JOINTING MACHINE ATTACHMENT.

1,032,278.

Specification of Letters Patent.

Patented July 9, 1912.

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To all whom it may concern:

Be it known that I, JAMES R. ENGLAND, a citizen of the United States, residing at Columbus, in the county of Muscogee and State of Georgia, have invented new and useful Improvements in Planing and Jointing Machine Attachments, of which the following is a specification.

An object of the invention is to provide a planer attachment for planing and dressing material, such as wood or the like without endangering the body of the operator.

Among other features, my invention embodies a device for planing and dressing wood or the like to present beveled surfaces, thus constituting a jointer attachment, my device being also operable to plane strips of wood and the like in the usual manner.

In the use of planers and jointers, the operator oftentimes exposes himself to the cutting action of the swiftly operating blades in that when small strips of wood are planed and dressed, it is necessary for the operator to feed the strip into the machine by holding the same firmly upon the bed plates of the machine with the hands, thus bringing the hands in close proximity with the cutting blades as the strip is fed through the machine.

In my device I provide a means whereby when the wood is fed into the machine, toward the cutting blades, the wood is held firmly against the bed plates of the machine and, should the cutting blades strike a knotty portion of the wood, the wood will be prevented from springing upwardly and away from the cutting blades, while at the same time the operator need not bring his hands in close proximity with the cutting blades, inasmuch as the above-mentioned means, holding the wood firmly against the bed plate and in cutting engagement with the cutting blades only necessitate the use of the operator's hands in initially feeding the wood toward the machine, the rotating action of the cutting blades, when the wood is firmly held against the same, being of sufficient force to feed the wood across the bed plates of the machine when an edge of the strip has been brought into engagement with the cutting blades.

A further disclosure of my invention embodies the use of a plurality of bed plates mounted on a frame and spaced a distance apart with cutting blades revolubly mount-

ed therebetween and projecting upwardly through the space between the bed plates, a frame mounted upon the bed plates and projecting over and above the cutting blades with a vertically operable roller plate mounted on the frame and adjustable to aid in retaining the wood or strip, which is to be planed, in engagement with the cutting blades, a jointer plate adjustably mounted on the said bed plates and movable to accommodate strips of wood or the like for the purpose of facilitating the feeding of the strips toward the cutting blades so that the same will cut a beveled surface thereon, spring-actuated means being provided on the said jointer plate for holding the strip against the jointer plate and pressing downwardly on the same to retain the strip in cutting engagement with the cutting blades.

Reference is to be had to the accompanying drawings constituting a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is an end view of my device. Fig. 2 is a plan view. Fig. 3 is a vertical sectional view taken on the line 3—3 in Fig. 2, looking in the direction of the arrow. Fig. 4 is a vertical sectional view taken on the line 4—4 in Fig. 2, looking in the direction of the arrow. Fig. 5 is a fragmentary vertical sectional view taken on the line 5—5 in Fig. 2, showing the manner of mounting the roller frame. Fig. 6 is a fragmentary perspective view of the jointer plate showing the spring actuated means for retaining the strip of material on the bed plates of my device, when it is desired to produce a beveled surface on the strip.

Referring more particularly to the views, I provide a plurality of bed plates mounted on a frame 11 and having their inner ends spaced apart, a series of cutting blades 12 being rigidly secured to a shaft 13 journaled on the frame 11 with the cutting edges of the blades adapted to extend upwardly a slight distance beyond the surfaces of the bed plates, and in the space between the inner ends of the bed plates, the shaft 13 being provided with a suitable pulley 14 adapted to receive a belt for connecting the shaft with suitable driving mechanism for rotating the shaft to operate the blades 12.

Rigidly mounted on the bed plates 10 is 1

a frame 15, the said frame being mounted to extend over and above the cutting blades 12 and provided with a horizontally extending cross piece 16. Mounted to threadedly extend through the cross piece 16 is a screw 17 provided at its upper end with a handle 18 and at its lower end with a circular head 19 loosely mounted in a journal 20 secured to the under side of a roller frame 21, mounted within the frame 15 and movable vertically relatively to the bed plates 10. Hangers 22 are dependently mounted on the roller frame 21 and journaled on the said hangers are rollers 23, the said rollers being mounted to extend transversely to the bed plates 10 and arranged horizontally so that when a piece of material is mounted on the surfaces of the bed plates and fed toward the cutting blades 12, the roller frame 21 can be moved downwardly by operating a handle 18, thus engaging the rollers 23 with the upper side of the piece of material, to press downwardly on the same and retain the lower side of the piece of material in contact with the cutting blades 12, which revolving at a high rate of speed, dress the under surface of the piece of material, as will be readily understood.

Mounted to swing on the free ends of the frame 15 are bearing members 24 having bearing rollers 25 journaled thereon and pivotally connected to the lower ends of the bearing members 24 are segmentally shaped slotted adjusting members 26, suitable thumb screws 27 being mounted to extend through slots in the said adjusting members and having connection with the frame 15 so that the rollers 25 can be adjusted at angles to the horizontal and secured in rigid position by means of the thumb screws, suitable graduations being provided on the adjusting members 26 to permit of adjusting each of the rollers to the same degree of angularity with respect to the horizontal.

Rigidly secured to one of the bed plates 10 are uprights 28, provided with slots 29 having thumb screws 30 extending there-through and mounted in the slots of the uprights are guides 31, having thumb screws 30 passed through slots 32 therein, thus permitting of an adjustment of the guides relatively to the uprights 28, suitable graduations being provided on the said guides for relatively adjusting the same for a purpose that will be hereinafter more fully disclosed.

A jointer plate 33 is provided with bearings 34 having pivotally connected thereto, the inner ends of the guides 31 and mounted on one of the bed plates 10, adjacent the uprights 28, are adjustable stop members 34, the said stop members being provided with slots 35 through which thumb screws 35* are extended, the rear side of the said jointer plate 33 being adapted to abut

against the stop members 34 to limit the outward movement of the jointer plate. Slidably extended through a transverse opening in the jointer plate 33 is a circular bar 36 provided with a head 37 having a leaf spring member 38 secured thereto, the free end of the member 38 being inclined downwardly and the said bar 36 being adapted to be retained in rigid position by a thumb screw 39 mounted on the jointer plate 33 and adapted to engage the bar 36, thus also rigidly positioning the member 38.

In the use of my device when it is desired to plane or dress a strip of wood in the usual manner, the mentioned strip of wood is mounted on one of the bed plates 10 and is fed inwardly to within a short distance of the cutting blades 12, which are rotating at a high rate of speed through the medium of a suitable driving mechanism as mentioned heretofore. The handle 18 is now operated to move the roller frame 21 downwardly so that the rollers 23 will engage the upper surface of the strip of wood and the mentioned strip of wood is then moved into position over the cutting blades so that the under side of the wood will be engaged by the cutting blades, which revolving at a high rate of speed will dress the under surface of the wood, the rotating action of the cutting blades being of sufficient force to feed the strip of material along the bed plates 10 so that the entire under side of the wood will be properly planed and dressed as will be readily understood. When it is desired to provide a piece of material with a beveled surface, the rollers 25 are adjusted to the desired angle by means of the adjusting members 26 and the jointer plate 33 is then moved so that the inner plane surface thereof will abut against the said rollers, the said jointer plate being then inclined at the same angle as the rollers, after which the thumb screws extending through the slots of the guides 31 are moved to rigidly secure the guides relatively to the uprights 28 and the stop members 34 are then slid inwardly so that their inner ends abut against the outer face of the jointer plate, the said stop members being then secured in rigid position to limit the outward movement of the jointer plate. A strip of wood to be provided with a beveled surface, is now placed against the inner face of the jointer plate and moved inwardly into cutting engagement with the blades 12. As an end of the strip of wood passes beneath the head 37 of the bar 36, the free end of the leaf spring member 38 will engage the upper edge of the wood and press downwardly on the strip of wood to retain the same in cutting engagement with the blades thus preventing the strip of wood from springing entirely away from the cutting blades when the same

strike a knot or cross grain in the wood, while at the same time the flexibility of the member 38 will permit of a slight upward movement of the strip of wood when the cutting blades strike a hardened portion thereof, thus preventing the strip of wood from splitting or breaking. It will be readily seen that a strip of wood having a plane face thereof lying against the inner side of the jointer plate, which has previously been adjusted to a desired angle will cause the cutting blades to engage an edge of the strip of wood to cut away the same and present a beveled surface. In this manner strips of wood and other materials can be easily and quickly provided with beveled surfaces, the jointer plate 33 being adjustable to any convenient angle and the provision of the member 38, engaging the strips of material to retain the same in cutting engagement with the cutting blades, will not necessitate the operator placing his hands on the strips of material, to hold the same in cutting engagement with the cutting blades, thus preventing the mutilation of the hands of the operator by the cutting blades, inasmuch as the operator's hands will at no time come sufficiently close to the cutting blades to endanger the same.

From the foregoing description it will be seen that a device is provided for planing and dressing pieces of material having plane surfaces and for providing pieces of material with beveled surfaces, the rollers 23 being adapted to retain the pieces of material in engagement with the cutting blades when the same are dressed and planed and the said leaf spring member being adapted to retain the strips of material in engagement with the cutting blades when beveled surfaces are provided on the said pieces of material, the said rollers 23 and the said leaf spring member 38 being coöperative to retain large pieces of material in cutting engagement with the cutting blades when it is desired to plane or dress the same or provide the large pieces of material with beveled surfaces or edges.

I claim:—

1. A device of the class described comprising a frame, bed plates mounted on the said frame and having their inner ends spaced apart, cutting blades revolubly mounted on the said frames and extending upwardly in the space between the ends of the said bed plates, a second frame secured to the said bed plates and extending over and above the said cutting blades, a cross piece secured to said second frame, a roller frame adjustably mounted on the said second frame, rollers mounted on the said frame, the said roller frame being movable vertically relatively to the said second frame, guide rollers adjustably mounted on the free ends of the said frame and a jointer

plate adjustably mounted on the said bed plate and movable thereon to engage the said guide rollers.

2. A device of the class described comprising a frame, bed plates mounted on the said frame and having their inner ends spaced apart, cutting blades revolubly mounted on the said frames and extending upwardly in the space between the ends of the said bed plates, a second frame secured to the said bed plates and extending over and above the said cutting blades, a cross piece secured to the said second frame, a roller frame adjustably mounted on the said second frame, rollers mounted on the said frame, said roller frame being movable vertically relatively to the said second frame, guide rollers adjustably mounted on the free ends of the said second frame, a jointer plate adjustably mounted on the said bed plate and movable thereon to engage the said guide rollers, means for adjusting the said jointer plate and adjustable stop members for limiting the outward movement of the said jointer plate.

3. A device of the class described comprising a frame, bed plates mounted on the said frame and having their inner ends spaced apart, cutting blades revolubly mounted on the said frames and extending upwardly in the space between the ends of the said bed plates, a second frame secured to the said bed plates and extending over and above the said cutting blades, a cross piece secured to said second frame, a roller frame adjustably mounted on the said second frame, rollers mounted on the said frame, the said roller frame being movable vertically relatively to the said second frame, guide rollers adjustably mounted on the free ends of the said second frame, a jointer plate adjustably mounted on the said bed plate and movable thereon to engage the said guide rollers and means mounted on the said jointer plate for retaining a strip of material in cutting engagement with the said cutting blades.

4. A device of the class described comprising a frame, bed plates mounted on the said frame and having their inner ends spaced apart, cutting blades revolubly mounted on the said frames and extending upwardly in the space between the ends of the said bed plates, a second frame secured to the said bed plates and extending over and above the said cutting blades, a cross piece secured to said second frame, a roller frame adjustably mounted on the said second frame, rollers mounted on the said frame, the said roller frame being movable vertically relatively to the said second frame, guide rollers adjustably mounted on the free ends of the said second frame, a jointer plate adjustably mounted on the said bed plate and movable thereon to engage the

said guide rollers and a leaf spring member mounted on the said jointer plate for retaining a strip of material in cutting engagement with the said cutting blades.

- 5 5. A device of the class described comprising a frame, bed plates mounted on the said frame and having their inner ends spaced apart, cutting blades revolubly mounted on the said frames and extending
10 upwardly in the space between the ends of the said bed plates, a second frame secured to the said bed plates and extending over and above the said cutting blades, a cross piece secured to said second frame, a roller
15 mounted on the said frame, the said roller frame being movable vertically relatively to the said second frame, guide rollers ad-

justably mounted on the free ends of the said second frame, a jointer plate adjustably mounted on the said bed plate and 20 movable thereon to engage the said guide rollers, a leaf spring member mounted on the said jointer plate for retaining a strip of material in cutting engagement with the said cutting blades and means for adjusting 25 the said member relatively to the said strip of material.

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

JAMES R. ENGLAND.

Witnesses:

JNO. K. HARRIS,

JNO. R. HOLLIS.