C. EHMAN.

VENEER TRIMMING MACHINE.

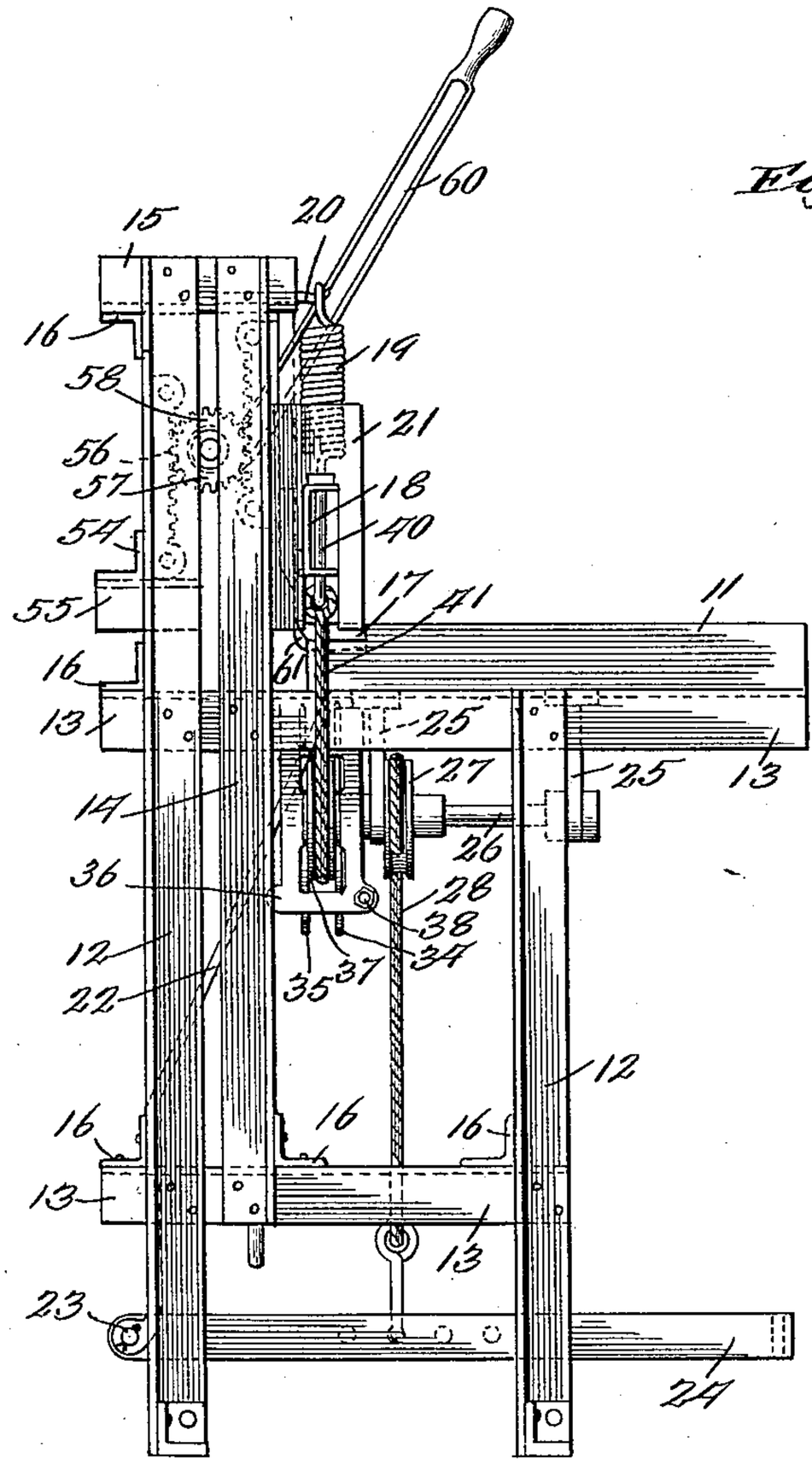
APPLICATION FILED MAY 7, 1910.

1,086,355.

Patented Feb. 10, 1914.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

Ira D. Terry

W. H. DeBusk

Inventor:

Charles Ehman

Bond, Adams Pickard & Jackson

Attys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

C. EHMAN.

VENEER TRIMMING MACHINE.

APPLICATION FILED MAY 7, 1910.

1,086,355.

Patented Feb. 10, 1914.

4 SHEETS—SHEET 2.

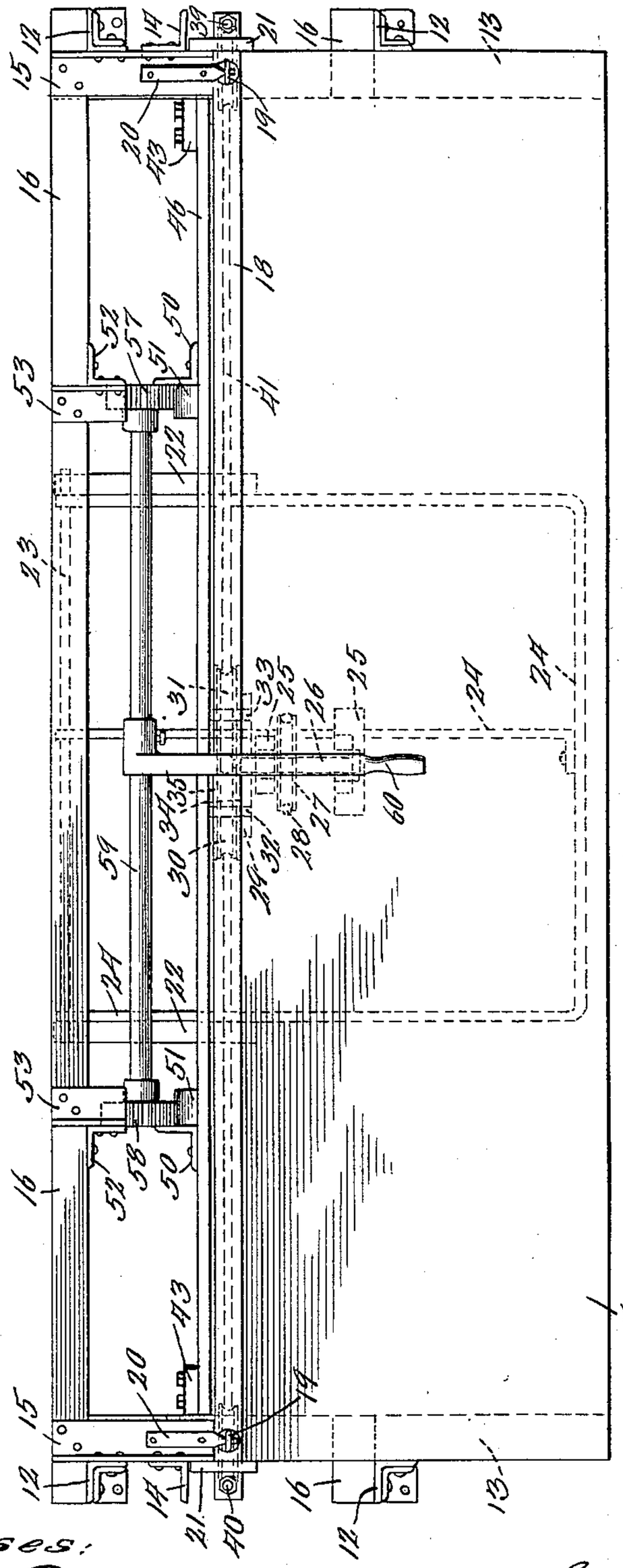


Fig. 2.

Witnesses:

Jas. D. Levy

W. H. DeBusk

Inventor

Charles Ehman

by Bond Adams Pickard & Jaeger

Attys.

C. EHMAN.

VENEER TRIMMING MACHINE.

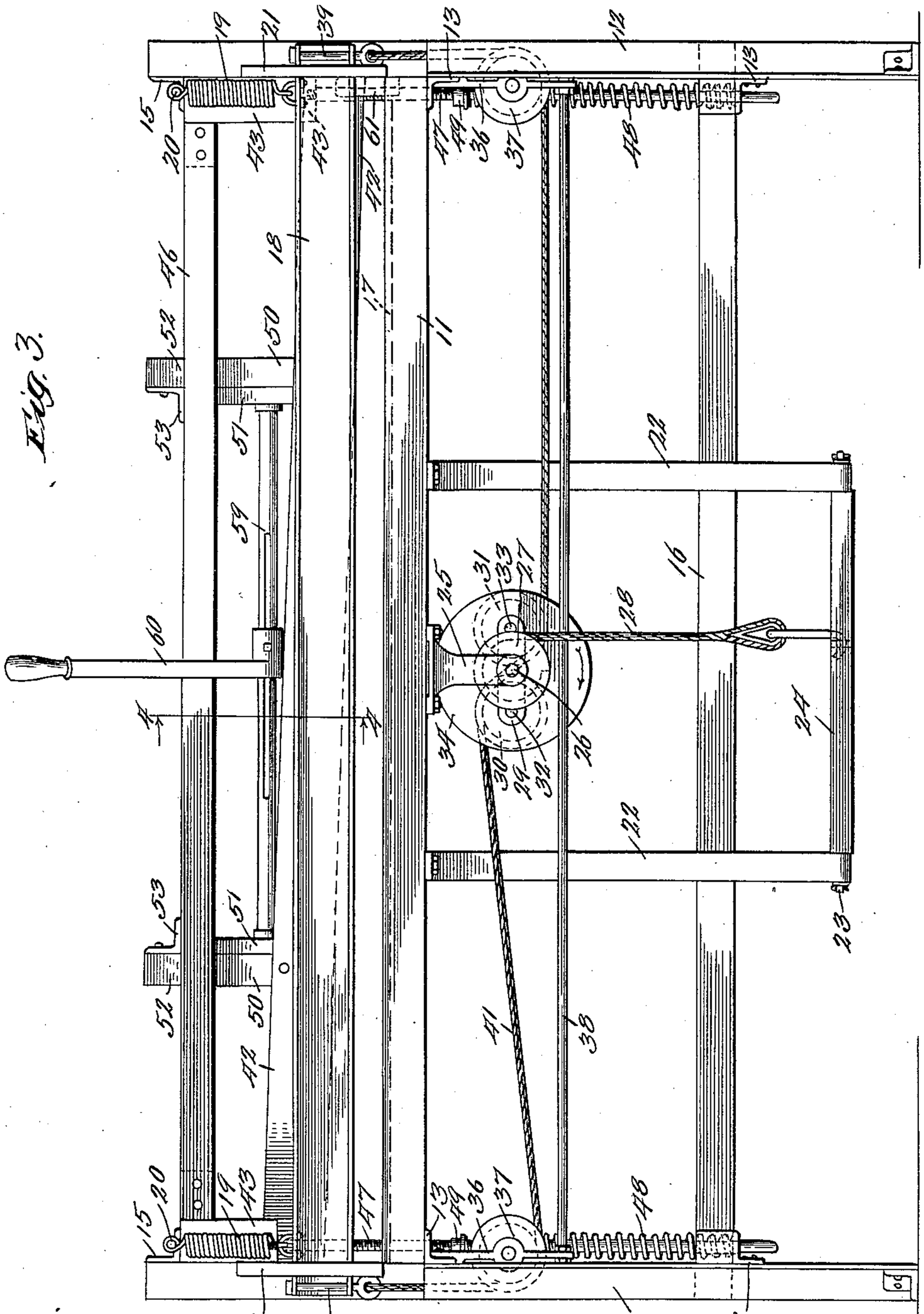
APPLICATION FILED MAY 7, 1910.

1,086,355.

Patented Feb. 10, 1914.

4 SHEETS—SHEET 3.

Fig. 3.



Witnesses

Ira D. Remy

W. H. DeBusk

Inventor:

Charles Ehman

by Bond, Adams, Pickard & Lawrence

Attys.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

C. EHMAN.

VENEER TRIMMING MACHINE.

APPLICATION FILED MAY 7, 1910.

1,086,355.

Patented Feb. 10, 1914.

4 SHEETS—SHEET 4.

Fig. 4.

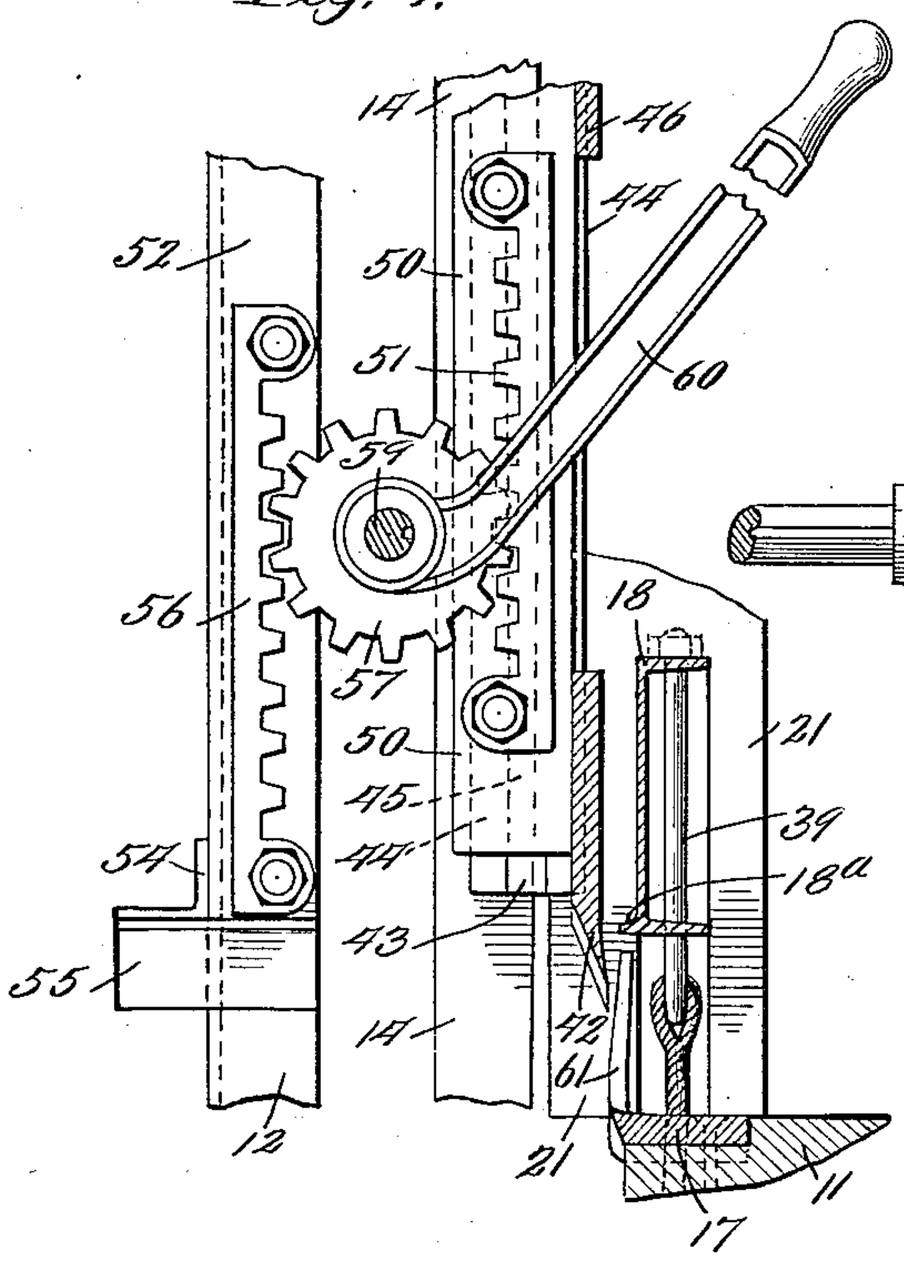


Fig. 5.

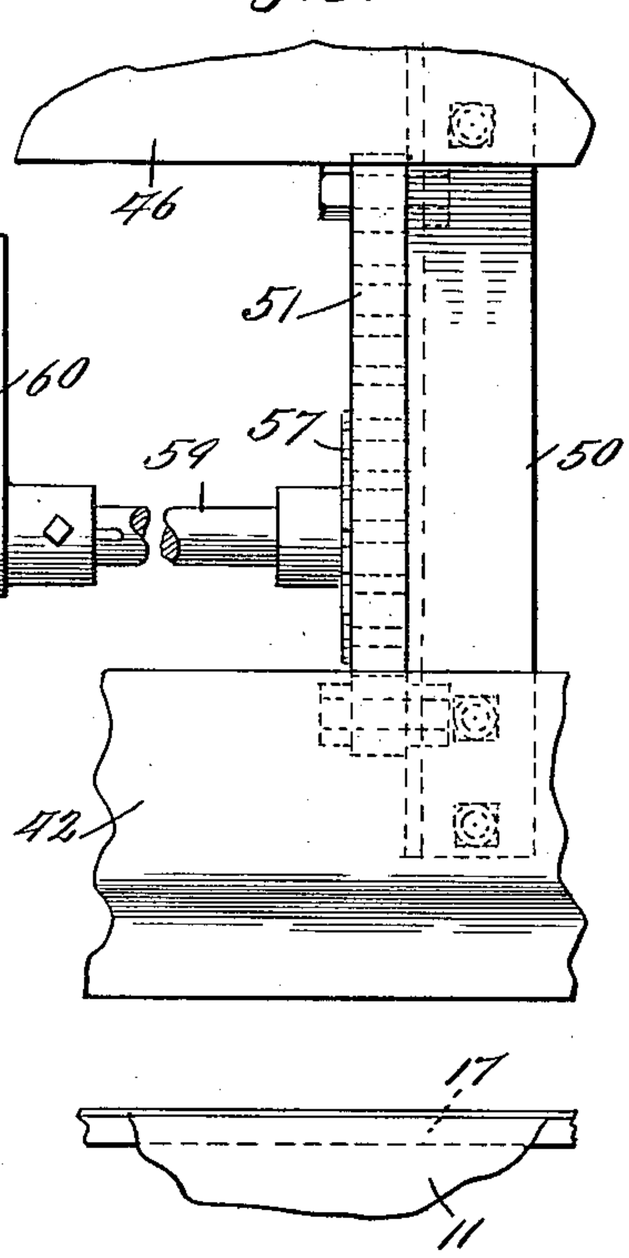


Fig. 6.

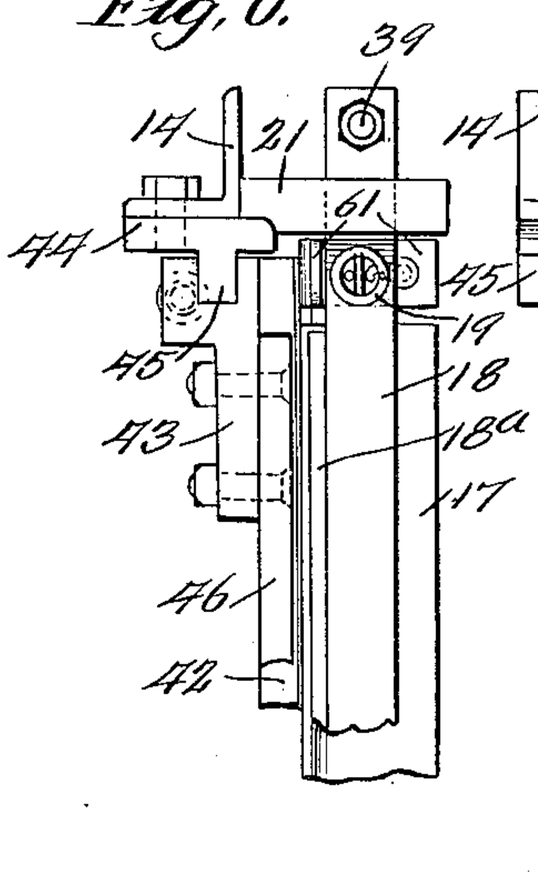
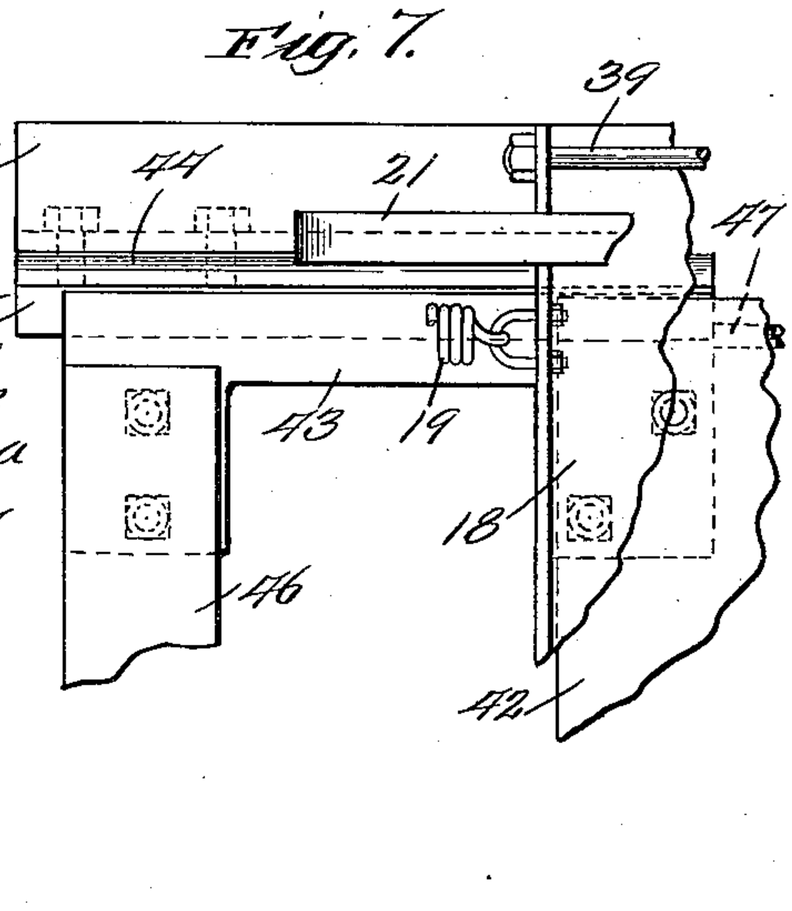


Fig. 7.



Witnesses:

W. H. DeBusk

Inventor:

Charles Ehman

by

Bond, Adams Pickard & Jackson

Attys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES EHMAN, OF DECATUR, ILLINOIS.

VENEER-TRIMMING MACHINE.

1,086,355. Specification of Letters Patent. Patented Feb. 10, 1914.

Application filed May 7, 1910. Serial No. 559,926.

To all whom it may concern:

Be it known that I, CHARLES EHMAN, a citizen of the United States, residing at Decatur, in the county of Macon, State of Illinois, have invented certain new and useful Improvements in Veneer-Trimming Machines, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to veneer trimming machines. So far as I am aware, no machine has been provided for this purpose heretofore which makes an absolutely clean straight cut, and it has always been necessary to plane off the edges of the wood by hand with a great deal of care and precision before two pieces could be joined and glued properly.

It is the object of my invention to provide a machine by the use of which a strip of veneer can be given a perfectly straight even edge ready for use without further preparation. I have found that by the use of my machine a number of strips of veneer can be accurately trimmed at one operation.

It is a further object of my invention to improve machines of this class in various details hereinafter pointed out.

The means by which I have accomplished these objects are illustrated in the accompanying drawings and hereinafter specifically described. That which I believe to be new is set forth in the claims.

In the drawings:—Figure 1 is an end view of my machine. Fig. 2 is a top or plan view of the same. Fig. 3 is a front view of the machine. Fig. 4 is a partial cross section on line 4—4 of Fig. 3. Fig. 5 is a front view of some of the parts shown in Fig. 4. Fig. 6 is a top or plan view or a part of the right-hand end portion of the machine as shown in Fig. 2, with certain of the parts omitted. Fig. 7 is an elevation view of the same parts as are shown in Fig. 6, the view being taken from the right in that figure.

Referring to the several figures of the drawings in which corresponding parts are indicated by the same reference characters,—11 indicates a table supported by a framework comprising at each end of the machine two legs 12, three crossbars 13, and upright 14 and a short crossbar 15 at the upper ends of the upright 14 and the rear leg 12, and five longitudinally-extending bars 16, all of the frame parts in the construction shown being of angle-iron.

17 indicates a blade secured in any suitable manner to the rear edge of the table 11 and extending very slightly beyond the edge of the table, as best shown in Fig. 4. Also as shown in that figure, the rear edge of the blade turns up so that it is slightly higher than the upper face of the blade as a whole, which is flush with the upper surface of the table.

18 indicates a longitudinally-extending channel-iron yieldingly supported at its ends by springs 19 the upper ends of which are connected to fingers 20 extending forward from the crossbars 15. As best shown in Fig. 4, in the construction shown the channel-iron 18 is provided with an additional rearwardly-extending flange 18ª.

21 indicates slotted guides secured in any suitable manner to the uprights 14, in the slots in which the channel-iron 18 is adapted to be forced downward against the action of the springs 19 so as to hold one or more strips of veneer firmly against the blade 17 above which the channel-iron is located, the rear edge of the flange 18ª coming almost flush with the rear edge of the blade, being only very slightly in front so as to clear the upturned portion of such blade.

The means by which the presser-bar 18 may be forced down, in the construction shown, is as follows:—22 indicates two heavy strips secured to and depending from the under face of the table 11, provided at their lower ends with eyes through which passes a pin 23 upon which is journaled a treadle frame 24. 25 indicates brackets secured to the under face of the table 11, in the lower ends of which is journaled a shaft 26. 27 indicates a pulley keyed or otherwise fixedly secured upon the shaft 26. 28 indicates a rope extending over and partly around the pulley 27 and secured to said pulley at its end, the lower end of the rope being secured in any suitable manner to the treadle frame 24, so that a downward movement of the treadle on its pivot pin 23 will serve to rotate the shaft 26 and pulley 27 in the direction indicated by the arrow in Fig. 3. As is best shown in dotted lines in Fig. 2, 29 indicates a plate keyed on the rear end of the shaft 26. 30—31 indicate pulleys journaled on the plate 29 at its opposite sides by pivot pins 32—33, respectively, said pivot pins passing also through plates 34—35 placed at both sides of the pulleys 30—31 in order to strengthen the construction. 36 in-

dicates two brackets one of which is secured to and depends from the upper crossbar 13 at each side of the machine. 37 indicates a pulley journaled in each of the brackets 36. 38 indicates a rod extending longitudinally of the machine from one bracket 36 to the other and secured firmly to each, serving thus to hold the brackets 36 and pulleys 37 braced firmly apart preventing any material variation in the distance between them when pressure is applied to such brackets. 39—40 indicate pins secured to the ends of the presser-bar 18, to eyes in the lower ends of which pins are secured the ends of a rope 41 which passes under the pulleys 37 and under the pulley 31 and over the pulley 30. Thus when the treadle frame 24 is depressed and the shaft 26 is rotated in the direction indicated in Fig. 3, the plate 29 will of course be rotated likewise, carrying the pulley 30 upward and the pulley 31 downward, forcing the presser-bar 18 down against the force of the springs 19 into contact with the blade 17 or with the strips of veneer in position upon such blade. It will be readily understood that, in case the pile of strips should be thicker at one end than at the other, the presser-bar will readily adjust itself to these conditions and will be held as firmly at one end as at the other.

Coming now to the manner of mounting the knife 42 in the machine and the means for reciprocating it up and down past and in contact with the cutting edge of the blade 17, 43 indicates two plates one secured to and rising from each end of the knife 42, each of said plates being grooved on its outer edge to embrace a tongue 45 extending inward from a plate 44 secured to the upper end of the upright 14 at that side of the machine. 46 indicates a longitudinally-extending bar secured at its ends to the upper ends of the plates 43. By this construction the knife 42 is adapted to be reciprocated up and down, the grooved plates 43 sliding freely upon the tongues 45 of the plates 44. 47 indicates two rods, one at each side of the machine, screw-threaded at their upper ends into the lower ends of the plates 43 and extending at their lower ends through suitable openings in one of the lower crossbars 13. 48 indicates coiled springs mounted on the rods 47, bearing at their lower ends against said crossbars 13 and at their upper ends against collars 49 screw-threaded on the upper ends of said rods. These springs 48 tend to hold the plates 43 and therefore the knife 42 in their uppermost position, and when the knife 42 is forced downward by the means hereinafter described the springs 48 serve to raise the knife for the next succeeding stroke. 50 indicates two angle-irons secured in vertical position to the longitudinally-extending bar 46 and the knife 42 (see Figs. 2 and 4). 51 indicates two short rack-bars, one being secured to each of the angle-irons 50 with the teeth on the rear side. 52 indicates two angle-irons secured in vertical position opposite the angle-irons 50, being secured at their upper ends to the upper one of the longitudinally-extending bars 16. 53 indicates two short angle-irons secured to the angle-iron 16 and to the angle-irons 52 for the purpose of strengthening the construction. 54 indicates an angle-iron connecting the lower ends of the angle-irons 52, and 55 indicates two short angle-irons secured to the angle-iron 54 and to the angle-irons 52 for purposes of strengthening the construction. 56 indicates two short rack-bars, one secured to each of the angle-irons 52 directly opposite the rack-bars 51. 57—58 indicate pinions keyed upon the ends of a shaft 59 and each meshing with two of the oppositely-disposed rack-bars 51—56. 60 indicates a lever keyed upon said shaft 59 and extending forward therefrom. It will be readily understood that by this construction the rack-bar 51, together with the knife 42, is adapted to be raised and lowered by the manipulation of the lever 60, a downward stroke of said lever forcing the knife 42 downward against the action of the springs 48, and said springs being adapted automatically to raise the knife upon the lever's being released.

As shown in Fig. 3, the knife 42 is set at an angle from the horizontal and at a slight angle from the position of the blade 17, in the construction shown the left-hand end being slightly higher than the other end. I have found by extended study and experiment that the angle at which the knife may be set for the best work in order to secure the best finished edge for the trimmed veneer strips may vary slightly,—say from one and a half degrees to two and a third degrees from the position of the blade 17,—and that with the knife set at any angle within these limits very satisfactory work can be done.

In operation, with the presser-bar 18 raised, a number of strips of veneer to be trimmed are placed upon the table with their edges extending over the rear slightly-raised edge of the plate 17. The treadle 24 is then depressed, pulling the presser-bar 18 down tightly upon such strips, as has been explained above, the rear edge of the presser-bar being brought down a very short distance in front of the rear turned-up edge of the blade, thus holding the strips of veneer a very short distance from the line along which the cutting is to be done firmly in place and insuring against the strips slipping. The lever 60 is then moved downward, lowering the knife 42. A guide 61 at the right-hand end of the machine directs the knife in its downward movement so that it will pass alongside the blade 17 in contact with the

rear edge thereof. It will be understood that when the advance corner of the knife is in engagement with the blade, the subsequent movement of the knife can be accomplished without the provision of additional guides, the knife 42 remaining throughout its stroke in proper relation to the blade 17. I have found that with the knife set at the angle above suggested, and with the rear edge of the blade slightly upturned, the several strips of veneer will be cut square and true.

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

1. The combination of a table, a presser-bar adapted to be reciprocated toward and away from said table, and means for forcing said presser-bar toward said table, said means comprising pulleys fixed below the ends of said presser-bar, a flexible band connected at its ends to the ends of said presser-bar and extending thence downward under said pulleys, and means adapted to act on said flexible band between said pulleys to deflect said flexible band from a direct line from one pulley to the other.

2. The combination of a table, a presser-bar adapted to be reciprocated toward and away from said table, and means for forcing said presser-bar toward said table, said means comprising a flexible band connected at its ends to the ends of said presser-bar and depending therefrom, and a rocking device adapted to engage said band and by its rocking to shorten the effective length thereof.

3. The combination of a table, a presser-bar adapted to be reciprocated toward and away from said table, and means for forcing said presser-bar toward said table, said means comprising pulleys fixed below the ends of said presser-bar, a flexible band connected at its ends to the ends of said presser-bar and extending thence downward under said pulleys, a rocking device intermediate said pulleys adapted to engage said band on both sides thereof, and means for rocking said rocking device.

4. The combination of a table, a presser-bar adapted to be reciprocated toward and away from said table, and means for forcing said presser-bar toward said table, said means comprising pulleys fixed below the ends of said presser-bar, a flexible band connected at its ends to the ends of said presser-bar and extending thence downward under said pulleys, a pair of other pulleys journaled on a block, over one and under the other of which said flexible band passes, and means for turning said block to pull down the ends of said presser-bar.

5. The combination of a table, a presser-bar adapted to be reciprocated toward and away from said table, springs tending to hold said presser-bar up, and means for forcing said presser-bar downward toward said table against the force of said springs, said means comprising pulleys fixed below the ends of said presser-bar, a flexible band connected at its ends to the ends of said presser-bar and extending thence downward under said pulleys, a rotatable shaft, a block secured thereon, a pair of pulleys journaled on said block over one and under the other of which pulleys said flexible band passes, a treadle, and means connecting said treadle with said shaft whereby a downward stroke of said treadle serves to rotate said shaft and to turn said block thus pulling down the ends of said flexible band.

CHARLES EHMAN.

Witnesses:

CHARLES E. PICKARD,
WILL H. DE BUSK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."