W. E. AYCOCK.

MACHINE FOR GROOVING WEATHER BOARDING.

APPLICATION FILED DEC. 4, 1914.

1,182,733.

Patented May 9, 1916.

3 SHEETS—SHEET 1.

Fig. 1.

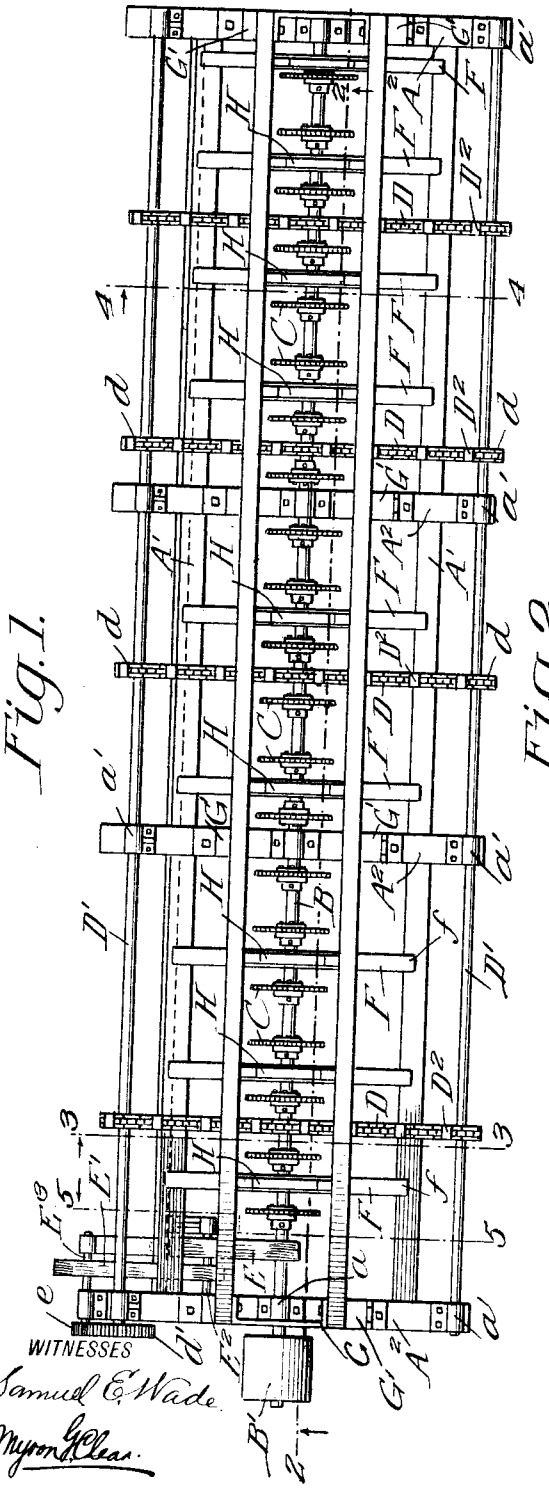
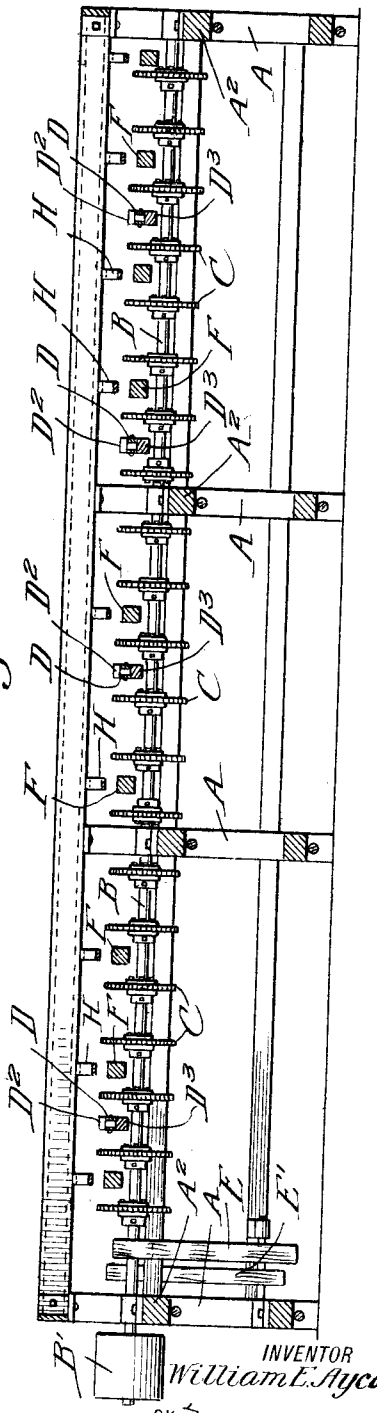


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

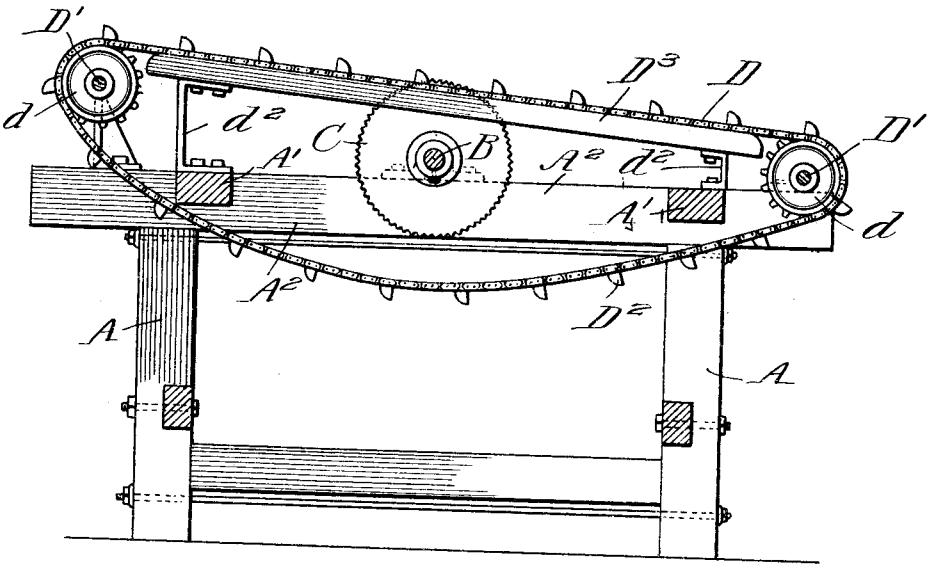
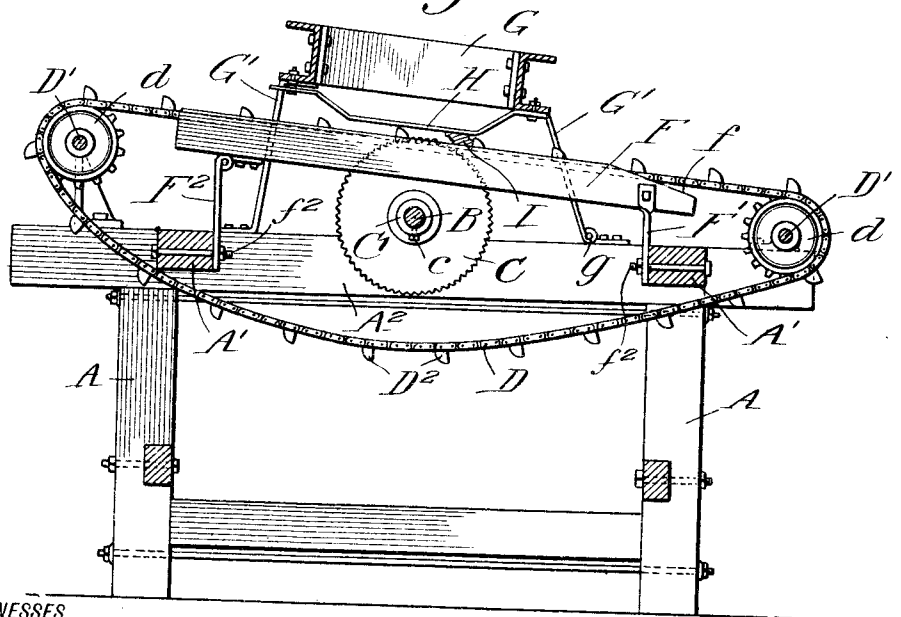


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5.

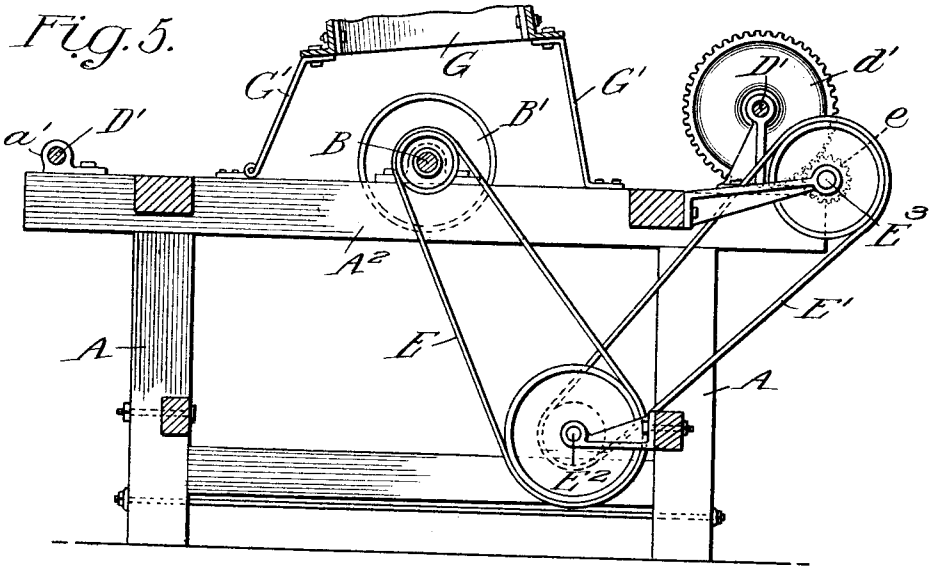


Fig. 6.

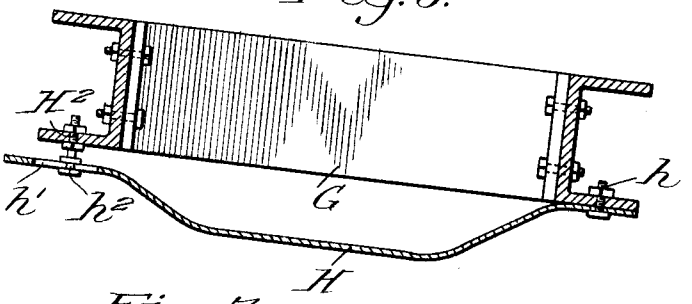
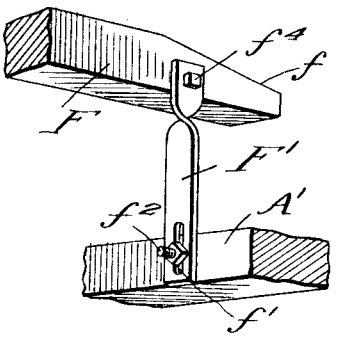


Fig. 7.



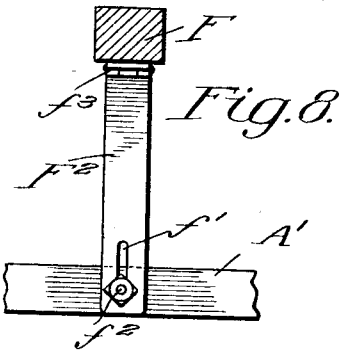


Fig. 8.

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UNITED STATES PATENT OFFICE.

WILLIAM E. AYCOCK, OF MOULTRIE, GEORGIA, ASSIGNOR TO THOMAS J. AYCOCK, OF AYCOCK, FLORIDA.

MACHINE FOR GROOVING WEATHER-BOARDING.

1,182,733. Specification of Letters Patent. Patented May 9, 1916.

Application filed December 4, 1914. Serial No. 875,429.

To all whom it may concern:

Be it known that I, WILLIAM E. AYCOCK, a citizen of the United States, and a resident of Moultrie, in the county of Colquitt and State of Georgia, have invented an Improvement in Machines for Grooving Weather-Boarding, of which the following is a specification.

My present invention relates to grooving machines and is primarily designed for forming transverse grooves in elongated strips of weather-boarding in such manner that the depths and relative spacing of the grooves may be accurately controlled.

In the construction of a machine of this character I preferably employ a plurality of relatively adjustable saws or dado cutters which are constantly rotated through any suitable connections and from any suitable source of power, together with means for effectively guiding strips of weather-boarding against the saws or cutters, adjustable guides on which the weather-boarding strips are carried across the saws to regulate the depths of the transverse grooves to be cut by the saws, and yielding presser members engaging the strips during the grooving operations whereby to secure the full depth of the cut for which the guides are set.

The various objects of my invention include the provision of a simple and inexpensive machine of this character and one in which the parts are so disposed and related that ready access may be had to the saws or cutters for purposes of adjustment, substitution and repair.

In the accompanying drawings which illustrate my invention Figure 1 is a top plan view of the entire machine. Fig. 2 is a vertical longitudinal section taken therethrough substantially on line 2—2 of Fig. 1. Fig. 3 is a transverse vertical section taken therethrough substantially on line 3—3 of Fig. 1, with the presser frame removed. Fig. 4 is a similar view taken substantially on line 4—4 of Fig. 1. Fig. 5 is another similar view taken substantially on line 5—5 of Fig. 1. Fig. 6 is a detail cross section through the presser frame, taken on an enlarged scale. Fig. 7 is a detail perspective view on an enlarged scale illustrating the adjustable connections of the forward end of one of the guide bars, and Fig. 8 is a sectional elevation illustrating the adjustable connections of the rear end of one of the guide bars shown in Fig. 7.

Referring now to these figures, the frame A of my improved machine is generally rectangular in form as will be seen by a comparison of Figs. 1 and 3, for instance, the upper table portion of said frame including longitudinal beams A′ and transverse beams A^2, the latter being arranged at the ends of the longitudinal beams and also at intermediate points therealong. The transverse table beams A^2 have intermediate bearings *a* for the cutter shaft B, one end of which is extended beyond the adjacent end of the frame A and provided with a pulley B′ by which to receive power from any suitable source. On this cutter shaft B are arranged a plurality of spaced circular saws or dado cutters C, each saw or cutter being secured to a collar C′ adjustably secured upon the shaft B by means of a set screw *c*. The forward and rear ends of the transverse beams A^2 support bearings *a′* for the shafts D′ of conveyer chains D, sprocket wheels *d* being secured on these shafts for the accommodation of the chains. The speed of movement of the cutter shaft B is considerably reduced through belt connections E and E′ between the same and a pair of countershafts E^2 and E^3, these countershafts extending but a short distance at one end of the frame and at the rear thereof, and the latter shaft E^3 being connected by gears *e* and *d′* to the rearmost shaft D′.

By reference to Figs. 3 and 4 in particular it will be noted that the conveyer chains D are provided with spaced flights D^2 and that the upper runs of these chains, passing over the frame, travel upon supporting bars D^3 rigidly held above the frame and upon brackets d^2 upstanding from the longitudinal table beams A′.

By reference to Figs. 1 and 2 it will be noted that the several conveyer chains and their supporting bars are arranged at spaced

points between certain of the cutters C, and that between other pairs of these cutters are arranged transverse guide beams F, the forward ends of which are beveled as indicated at *f* in Fig. 4 to permit the weather-boarding strips to readily ride up upon the surfaces of the guide beams in operation, such weather-boarding strips being placed in engagement with the flights D^2 of the chains D and carried from the front to the rear. It will be particularly noted that the guide beams F are elevated above the supporting bars D^3 of the chains and are adjustable in a vertical direction by virtue of supporting uprights F′ and F^2 at their forward and rear ends, respectively, each of which uprights is provided with a vertical slot *f′* adjacent its lower end and connected by a bolt f^2 extending through the slot and through the adjacent longitudinal beam A′ of the table top. It will also be seen by reference to Fig. 4 and Figs. 7 and 8 in particular that the rear ends of the guide beams F are hinged at f^3 to the upper ends of the supporting uprights F^2 and that pins f^4 serve to connect their forward ends to the uprights F′, thus permitting the guide beams to be detached from the forward uprights F′ and swung upwardly and rearwardly on their hinged connections f^3 in order that ready access may be had to the cutters C for purposes of adjustment, substitution and repair. An elongated rectangular presser frame G extends above and parallel with the cutter shaft B, and is supported at its opposite ends upon upstanding brackets G′ connected to the end transverse beams A^2 of the table.

By reference to Figs. 4 and 5 it will be seen that the forward pair of uprights G′ are hinged at *g* to the table beams A^2 and the upper ends of the rear pair of uprights G′ are bolted or otherwise detachably connected at their upper ends to the presser frame G whereby the latter, upon detachment from the rear uprights G′, may be swung upwardly and forwardly on the hinged connections *g* whereby to permit the guide beams F to be raised and swung rearwardly for the purpose before mentioned. Carried by the under-side of the presser frame G, above each of the guide beams F and parallel therewith, is a presser spring H, the forward end of which is bent upwardly and rigidly secured to the front side of said frame by a bolt *h* and the rear upwardly bent end of which has a longitudinal slot *h′* loosely engaged by the lower headed and annually grooved end h^2 of a bolt H^2 adjustably connected to the rear side of the frame G whereby the spring H may be adjusted vertically toward and away from its respective guide beam F. Thus the springs H in addition to being adjustable bodily, are elastically supported in order to firmly and evenly press the weather-boarding strips downwardly upon the adjusted guide beams F in order to secure uniform depth of cut to which these guide beams are set, one of these weather-boarding strips being indicated at I in Fig. 4 and in position approaching the saws or cutters between the guide beams and the presser springs.

From the foregoing it will be understood that the several weather-boarding strips to be operated upon are disposed upon the chains D longitudinally of the machine and upon engagement of the flights of the chains therewith, the strips are steadily moved toward the saws or cutters and are forced upon the surfaces of the several guide beams F and elastically held thereagainst by the springs H during the cutting operation thereon as before described.

It is apparent that while I have shown the plurality of saws or cutters mounted upon the same shaft and in longitudinal alinement, I may utilize shafts in staggered relation, each having driving connections, and each carrying, for instance, a pair of saws or cutters. I may also vary both the construction of the frame A and the particular construction of the presser frame G and still obtain the desired result as with these parts now shown. I may also employ either saws, dado cutters or in fact other particular forms of cutting members the result of which is to form grooves, and may make various other changes without departing from the spirit of the invention which I have now fully described. It is to be understood, therefore, that all such changes and modifications, falling within the spirit of the invention and the terms of the appended claims, are reserved.

I claim:—

1. In a machine for grooving weather-boarding, the combination of a plurality of cutters adjustably supported in spaced relation, means for rotating the cutters, means for conveying the work past the cutters, vertically adjustable guide beams extending transversely between certain of the cutters for supporting the work in its passage by the cutters and regulating the depth of the grooves cut therein, a presser frame mounted above the cutters and having adjustable presser springs for pressing the work firmly and evenly onto the guide beams during the cutting operation, said guide beams and the said presser frame being hingedly supported for movement away from the cutters whereby access may be had to the latter for purposes of adjustment, repair and substitution.

2. In a machine for grooving weather-boarding, a presser frame having forward and rear supporting legs for holding the same in elevated relation above the frame

of the machine, a plurality of presser springs extending beneath said presser frame, each of said springs being secured at one end to one side of the frame, and having its opposite end longitudinally slotted, and a vertically adjustable supporting bolt carried by the opposite side of the frame and having an annularly grooved lower head loosely engaging the said slotted end of the spring.

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