Aug. 11, 1925. 1,549,574

J. E. ECKERSLEY

VENEER CUTTING MACHINE

Filed May 8, 1925 4 Sheets-Sheet 1

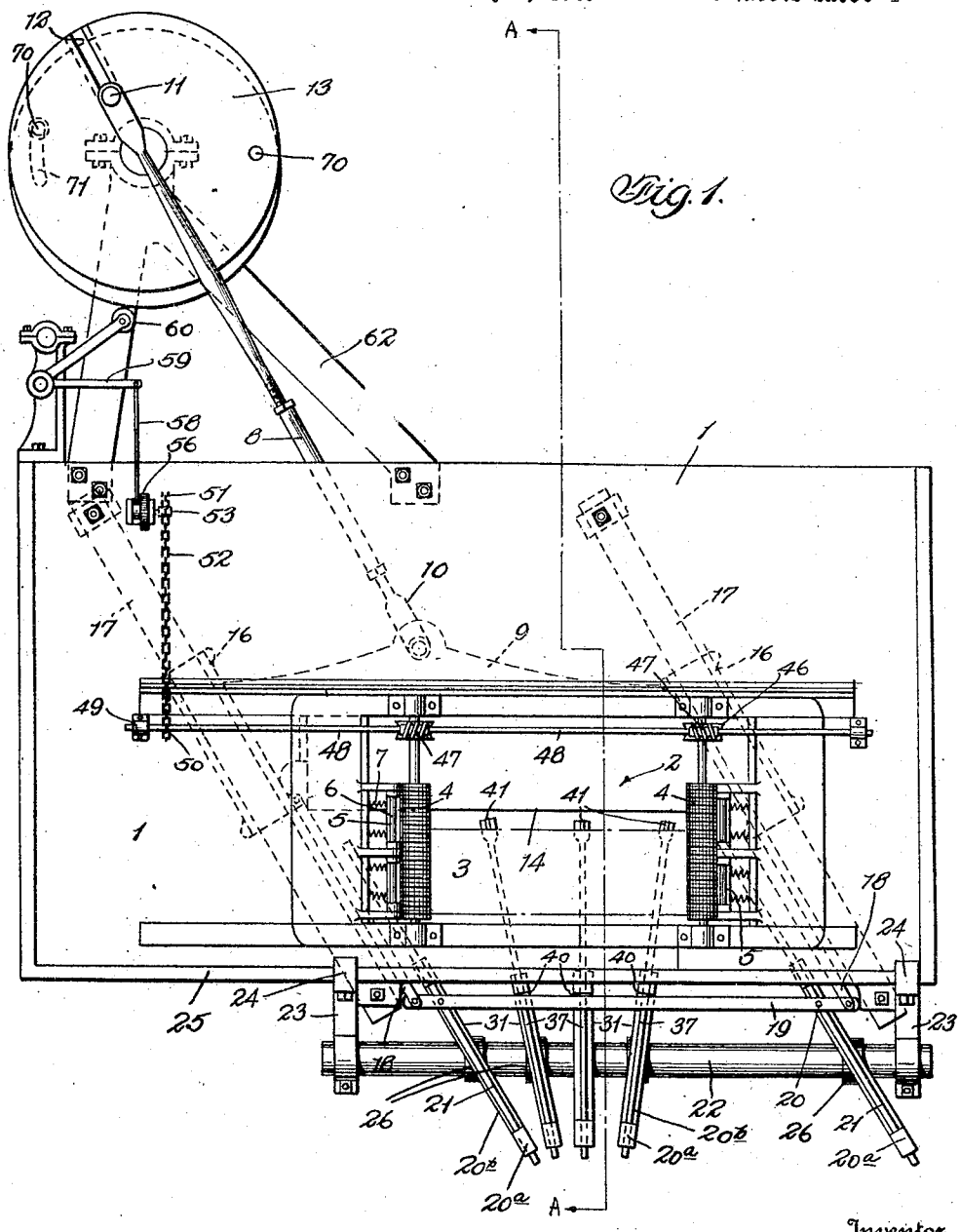


Fig. 1.

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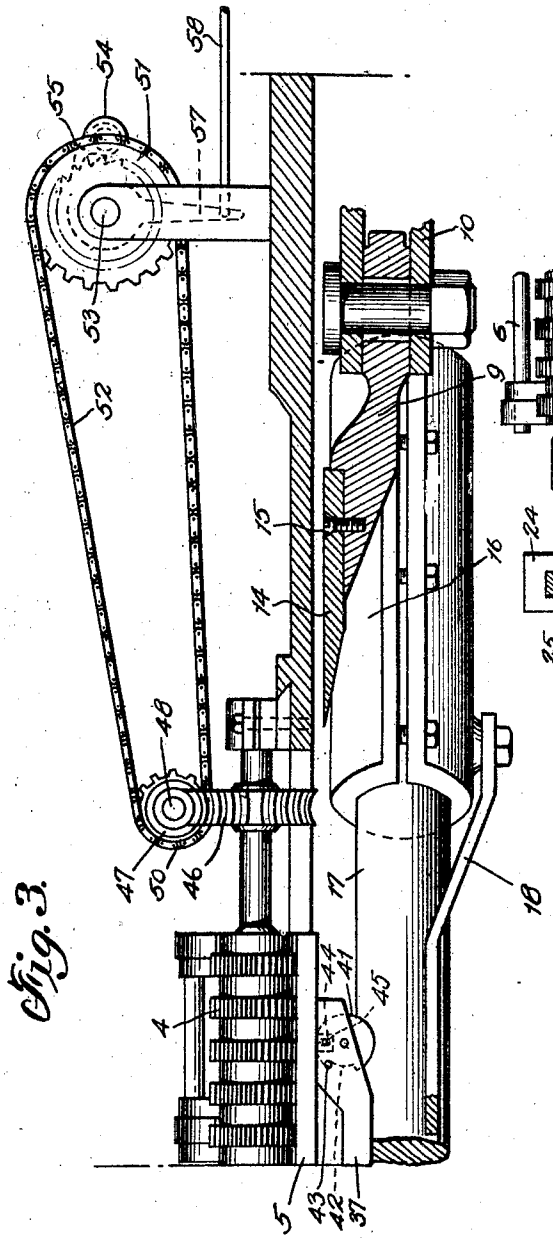


Fig. 3.

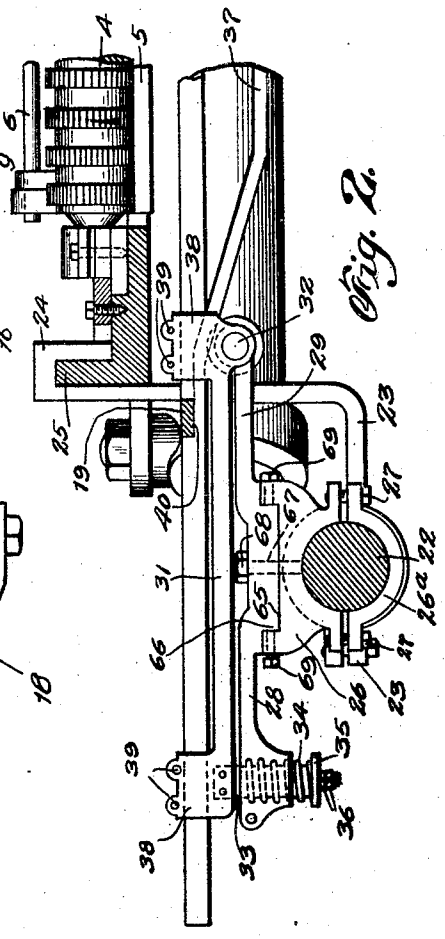


Fig. 2.

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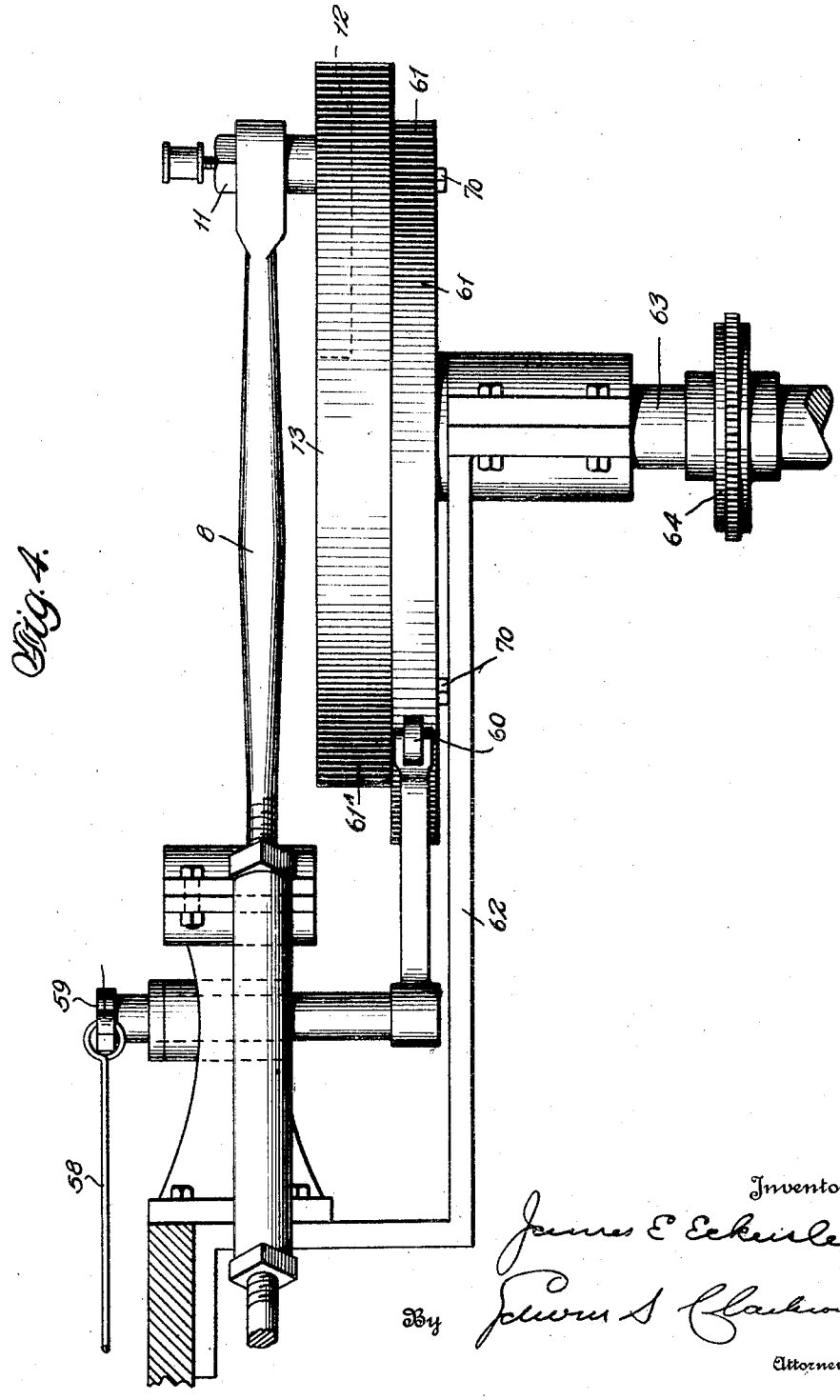


Fig. 4.

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4 Sheets-Sheet 4

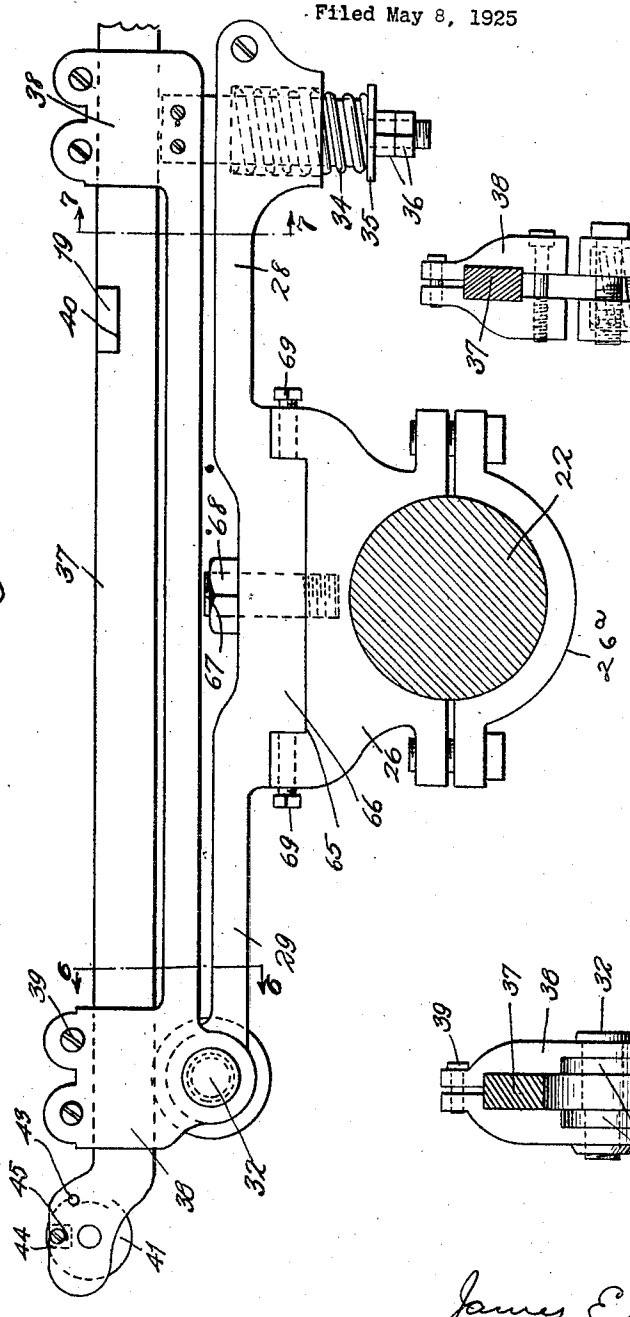


Fig. 5.

Fig. 7.

Fig. 6.

Inventor

James E Eckersley

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Patented Aug. 11, 1925. 1,549,574

UNITED STATES PATENT OFFICE.

JAMES E. ECKERSLEY, OF SEATTLE, WASHINGTON.

VENEER-CUTTING MACHINE.

Application filed May 8, 1925. Serial No. 28,930.

To all whom it may concern:

Be it known that I, JAMES E. ECKERSLEY, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Veneer-Cutting Machines, of which the following is a specification.

My invention relates to machines for cutting veneer.

One of the objects of my invention is to provide a veneer cutting machine that can be readily assembled in any place convenient to the supply of blocks, and which does not require a high degree of skilled labor to operate it.

A further object of my invention is to provide a feeding mechanism for the blocks of such character that the block can be fed any fraction of an inch whereby veneers of the desired thickness may be cut.

Another object of my invention is to provide a scoring mechanism which is so timed with the knife that the block is scored on the rearward movement of the knife thereby eliminating the objectionable double scoring so frequently experienced in machines of this general character.

My invention consists in a veneer cutting machine in which the movement of the knife, the block feeding mechanism, and the scoring mechanism are timed from a common source.

My invention consists further in providing a veneer cutting machine with a scoring tool that is operative only in one direction of movement.

My invention consists further of the parts and combination of the parts as will be hereinafter more fully set forth.

In the drawings:

Figure 1 is a top plan view of a veneer cutting machine embodying my invention.

Figures 2, 3 and 4, when read together, are a sectional view on the line A—A, Figure 1.

Figure 5 is an enlarged detail view of the scoring tool and some of its associated parts.

Figure 6 is a section on line 6—6, Figure 5.

Figure 7 is a section on line 7—7, Figure 5.

The reference numeral 1 designates a bed plate of my improved veneer cutting machine which may be suitably supported, said plate having formed therethrough the block opening 2 through which the block 3 is fed by means of the feeding rolls 4, said rolls being suitably journalled. These rolls have associated with them presser bars 5 which are journalled on the rod 6 and held in operative position by coil springs 7 so that when the block 3 has been fed downwardly after each veneer is cut from it until it becomes what is known as a spalt then these presser bars hold the spalt in proper position to permit the knife cutting the veneers therefrom, the spalt being fed downwardly into the path of the knife by means of successive blocks placed between the feed rolls 4. The specific mechanism for this feeding is described in another application for patent filed by me for improvements in shingle machines.

8 is a pitman connected to the knife bar 9, through a clevis 10. The other end of the pitman is connected to the wrist pin 11 which is adjustably secured in a slot 12 in the disc wheel 13. The pin is adjustable in the slot 12 so as to compensate for the different lengths of throw of the knife and the wear on the knife. The knife 14 is secured to the knife bar by means of a suitable device such as the screws 15. This knife bar 9 is mounted on the sliding carriage 16 which in turn is slidably mounted on the rods 17, said rods being suitably secured to the frame of the machine. Bars 18 pivotally connected to the carriages 16 extend forward and are connected at their outer ends by means of the rod 19, said rods 19 being connected to 18 by means of pins 20 which are carried by the rods 21; said rods being slidably mounted in frames 20^b which are provided with housing 20^a at their ends.

22 is a shaft which is mounted on the bracket 23, which bracket has a hook like upper end 24 which engages over the flange 25 at the front of the machine. A saddle 26 is mounted on the shaft 22 and held there by means of the cap 26^a which is secured to the yoke 26 by means of the bolts 27, said saddle having arms 28 and 29 (see Figure 2) which may be integral with the saddle or formed as a separate member.

By reason of the mounting of the scoring tools as disclosed in this application, I am enabled to position these tools so that they will form parallel scores in the veneer to facilitate the folding of the veneer for one form of box, and I may adjust the scoring tools so that the scores will be formed at an angle to each other in the veneer whereby

I am enabled to readily fold a different type or form of box.

To facilitate this manipulating or adjusting of the score tools I form a seat 65 in the saddle in which the lug 66, integral with the bar 28—29 is revolubly seated and is held in recess or seat 65 by means of the bolt 67 and clamping nut 68. The revoluble adjustment of the lug 66 in the seat 65 is accomplished by loosening the set screws 69 whereupon the lug 66 and its arm is free to be adjusted in the seat 65, and as soon as the desired adjustment is accomplished then the set screws 69 are screwed home in tight engagement with a locking lug 66 against rotation, and in its adjusted position. Then the nut 68 is screwed down on the bolt 67 to firmly hold the parts in the adjusted position.

A frame 31 is pivotally secured at 32 to the arm 29 while its other end is secured to the arm 28 by means of the bar 33 which extends through an opening in the arm 28, said opening having seated therein a coil spring 34 which surrounds the bar 33. 35 is a washer against which one end of the spring 34 is seated, and 36 are tension nuts mounted on the bar 33 whereby tension is placed upon the spring 34 thus controlling the movement of the frame 31 relative to the arms 28 and 29. The frame 31 has an upward extension 38 at each end, which extension is slotted. The shank 37 of the scoring tool is slidably mounted in the slots of the extensions 38 of the frame 31 and firmly secured therein by means of the bolts 39. The shanks 37 of the scoring tools are recessed as at 40 in which recesses the bar 19 is located slidably, the pivot connection 32 between the arm 29 and the frame 31 functions as the fulcrum for the scoring bar. On the end of the shank 37 I pivotally mount a disc 41 which is provided with a recess 42 in which the stationary pin 43 is positioned, said pin 43 being also secured to the shank bar 37. An adjustable scoring tool or element 44 is mounted on the disc 41 and its adjustment is controlled by the pin and slot connection 45.

As the knife and its bar are drawn to its rearward position the bar 19, through the arms 18, forces the scoring tool and shanks inwardly causing the scoring element 44 to make a scoring in the bottom face of the block 3 preparatory to the next veneer cut. As the knife is advanced to cut the next veneer the scoring tools through their shanks, the bar 19 and the arms 18 are drawn toward the front of the machine, and at the first period of this movement the scoring element 44 in contact with the block causes the disc 41 to revolve until the pin 43 is at the other end of the recess 42 whereby no scoring surface of the disc 41 is in contact with the block on the return movement of the scoring tools, thereby eliminating the double scoring which is so commonly found and which is objectionable in veneer cutting machines.

The feed rolls 4 are provided at one end with the worm gear 46 which is in gear with the worm 47 keyed to the shaft 48. The shaft 48 is journalled in the suitable bearings 49 and is provided at one end with the chain gear wheel 50 which is connected to a chain gear wheel 51 by means of the chain 52, the wheel 51 being journalled on a suitable stub shaft 53. The bell crank lever 54 is journalled on the shaft 53 adjacent the chain gear wheel 51 and has secured thereto a series of pawls 55 which engage the ratchet wheel 56 keyed to the shaft 53 so that as the bell crank lever 54 is operated the pawls drive the ratchet wheel 56 which in turn drives the shaft 53, the chain gear shaft 48 and the worms 47 thereby operating the feed rolls. To the arm 57 of the bell crank lever I secure the rod 58, the other end of which rod is in turn connected with the bell crank lever 59, one arm of which lever has a roller 60 journalled at its end, which roller is in contact with the cam wheel 61 whereby the bell crank lever is operated.

The disc 13 operates the knife bar by means of the pitman 8. The disc 13 carrying the cam 61 is mounted in a frame 62 connected with the frame of the machine, said disc and cam being driven by means of a variable speed friction drive.

As described in another application filed by me for improvements in shingle and veneer machine, the cam 61 is secured to the disc 13 by means of the bolts 70 and is adjustable relative to the disc 13 by means of the slot connection 71.

What I claim is:

1. In a veneer machine, the combination with the slicing knife, of scoring tools connected with the knife and operable in the direction of line of movement of the knife in scoring on the return movement of the knife.

2. In a veneer machine, the combination with the slicing knife, of scoring tools connected with the knife and operable in the direction of line of movement of the knife in scoring on the return movement of the knife, and means yieldingly holding said tools in position.

3. In a veneer machine, the combination with a knife moving in a path across the block, of scoring tools, means connecting said tools with the knife and moving the said tools in the direction of the line of movement of the knife and a slip joint between said means and the tools.

4. In a veneer machine, a scoring tool including an arm, a disc pivotally mounted on said arm, a scoring element on said disc, and means to limit the rotation of said disc.

5. In a veneer machine, a scoring tool including an arm, a disc pivotally mounted

on said arm, a scoring element on said disc, a stop connection between the arm and disc to limit the rotation of said disc.

6. In a veneer machine, a scoring tool including an arm, a disc pivotally mounted on said arm, a scoring element on said disc, and means permitting a limited rotation of the disc to move the scoring element into and out of operative scoring position.

7. In a veneer machine, a scoring tool including a pivotally mounted arm, a disc pivotally mounted on said arm, a scoring element on said disc, and means permitting a limited rotation of the disc to move the scoring element into and out of operative scoring position.

8. In a veneer machine, a scoring tool including an arm pivotally mounted near one end, and resiliently controlled at its other end, a revoluble scoring disc carried by the pivoted end, a scoring element on said disc, and means permitting a limited rotation of the disc to move the scoring element into and out of operative scoring position.

9. In a veneer machine, a scoring attachment, comprising a yoke adapted to be secured to a machine, a lever pivotally mounted at one end to said yoke, a yieldable connection between the other end of said lever and yoke and a scoring tool carried at the pivoted end of the lever.

10. In a veneer machine, a scoring attachment, comprising a yoke for attachment to the machine, a lever pivotally secured at one end to said yoke, a yieldable connection between the other end of the lever and yoke, a bar connected with both ends of said lever, a disc revolubly mounted on one end of said bar, a scoring element carried by said disc, and means permitting said disc to revolve to move the scoring element into and out of scoring position.

11. In a veneer machine, the combination with a bed plate, having a block opening therethrough, a knife slidably mounted under said opening, a carriage for said knife, arms extending forwardly from said carriage, a rod connecting the outer ends of said arms, scoring tools slidably mounted on said rod and projecting toward said knife, block feeding rolls, worm gear for operating said rolls, a cam wheel, a bell crank lever operated by said wheel, gearing connecting said lever with said worm gear, and means operatively connecting said knife with power wheel.

12. In a veneer machine, a scoring attachment comprising a saddle, a frame revolubly mounted on said saddle, means to hold the frame in an adjusted position, a lever pivotally secured at one end to said saddle, and a yieldable connection between the other end of the lever and saddle, a bar connected with both ends of said lever, a disc revolubly mounted on the end of said bar, and an adjustable scoring element carried by the disc.

13. In a veneer machine, a scoring attachment including a revoluble saddle or yoke, a seat on said saddle, a bar revolubly mounted in said seat, means to hold said bar in an adjustable position in said seat, and a scoring tool connected with said bar.

In testimony whereof I affix my signature.

JAMES E. ECKERSLEY.