(No Model.) 4 Sheets—Sheet 1.

H. J. MARK.

VENEER CUTTING MACHINE.

No. 288,585. Patented Nov. 13, 1883.

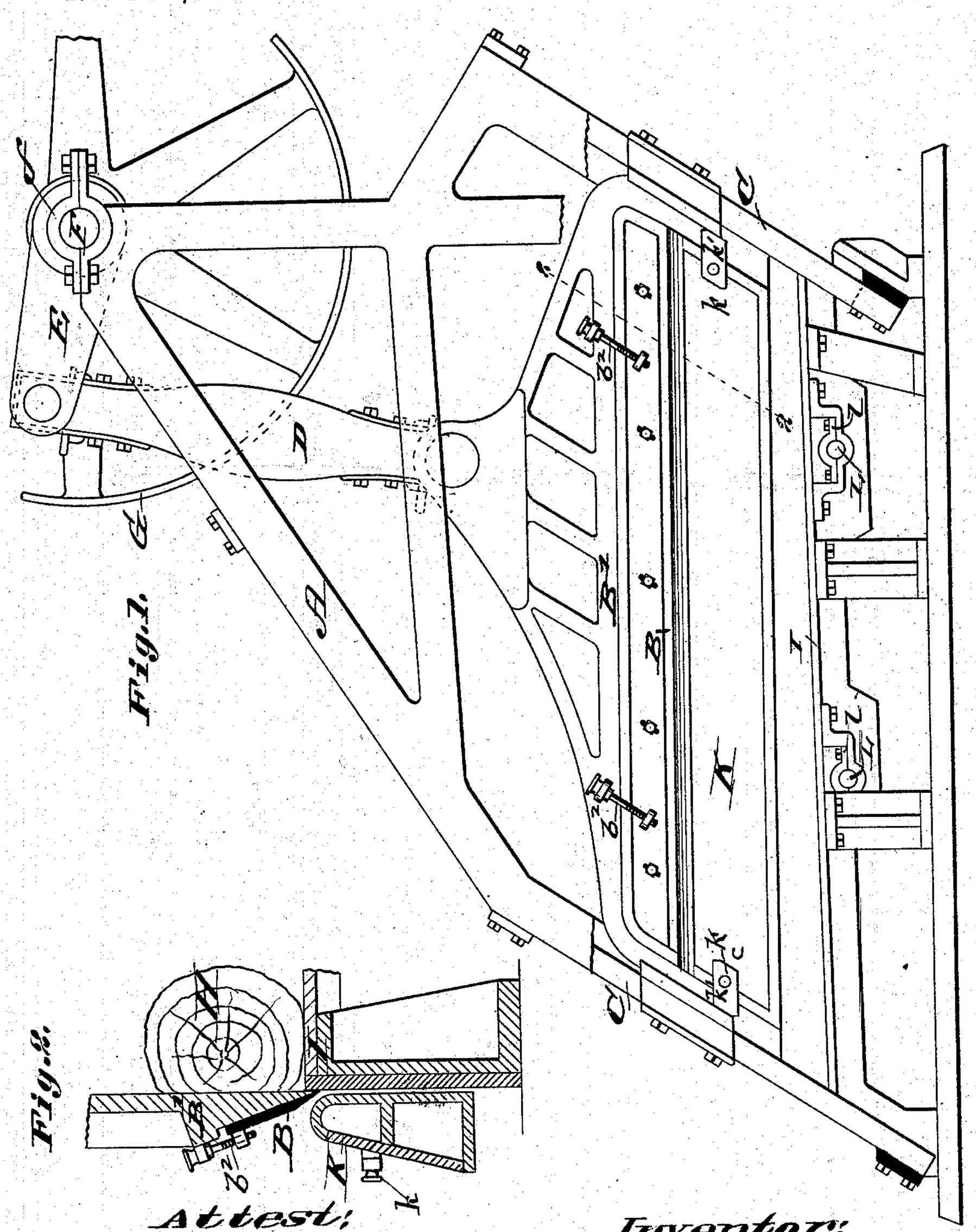

Fig. 1.

Fig. 2.

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Albert G. Fish

Inventor:
Henry J. Mark

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Fig. 6.

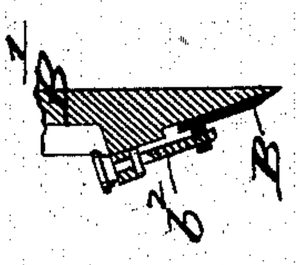


Fig. 7.

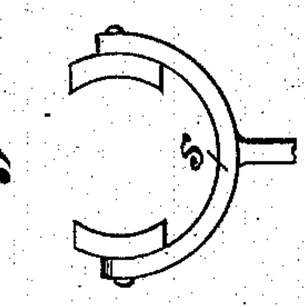


Fig. 8.

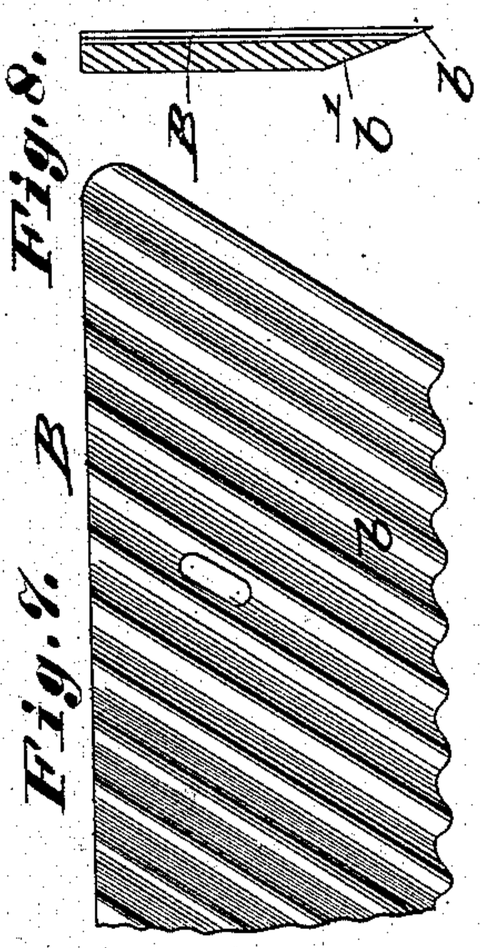


Fig. 9.

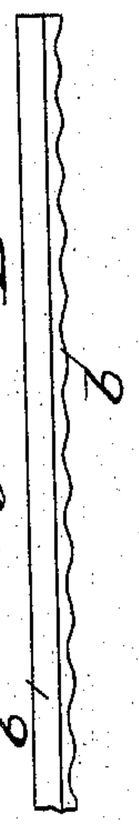


Fig. 4.

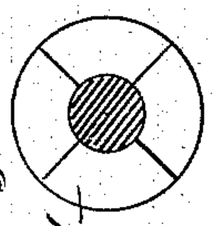
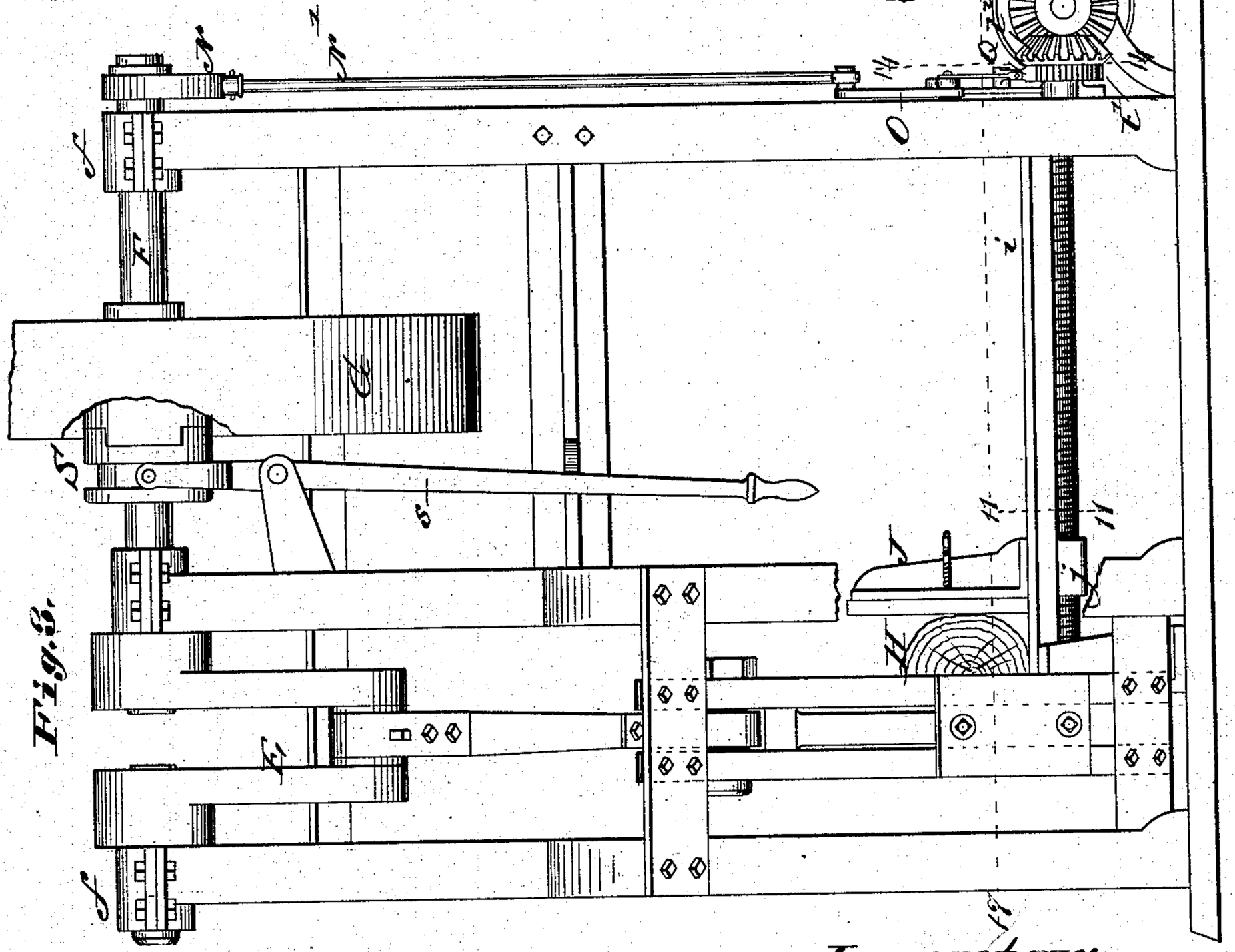


Fig. 5.

Fig. 3.



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H. J. MARK.

VENEER CUTTING MACHINE.

No. 288,585. Patented Nov. 13, 1883.

Fig. 14.

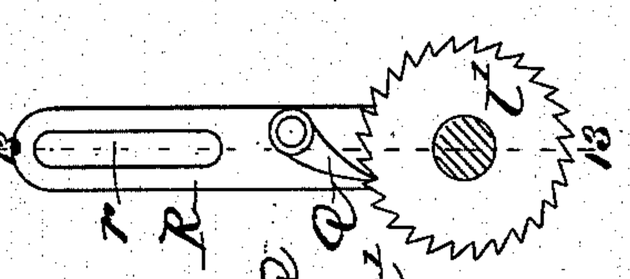


Fig. 13.

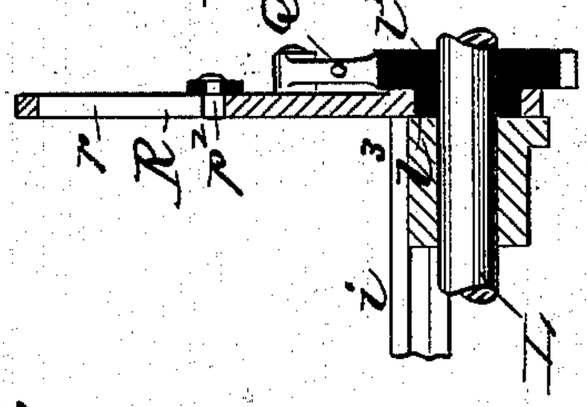


Fig. 15.

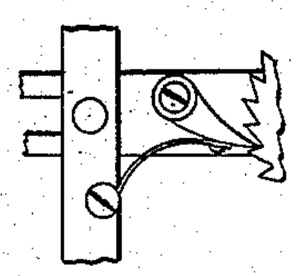


Fig. 16.

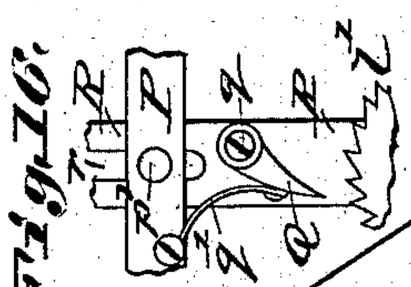


Fig. 12.

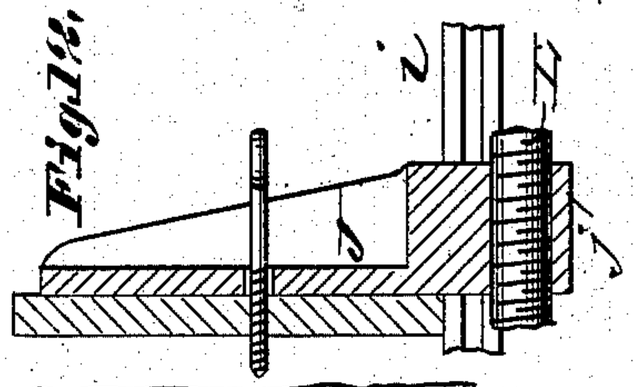
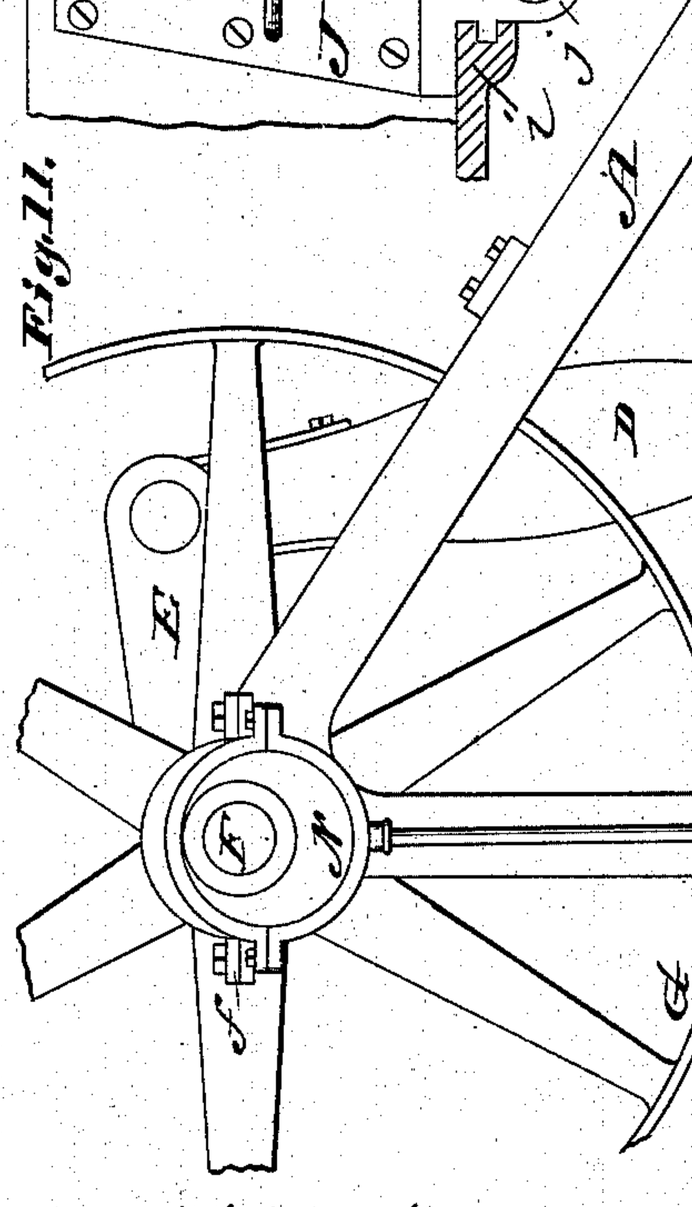


Fig. 10.

Fig. 11.



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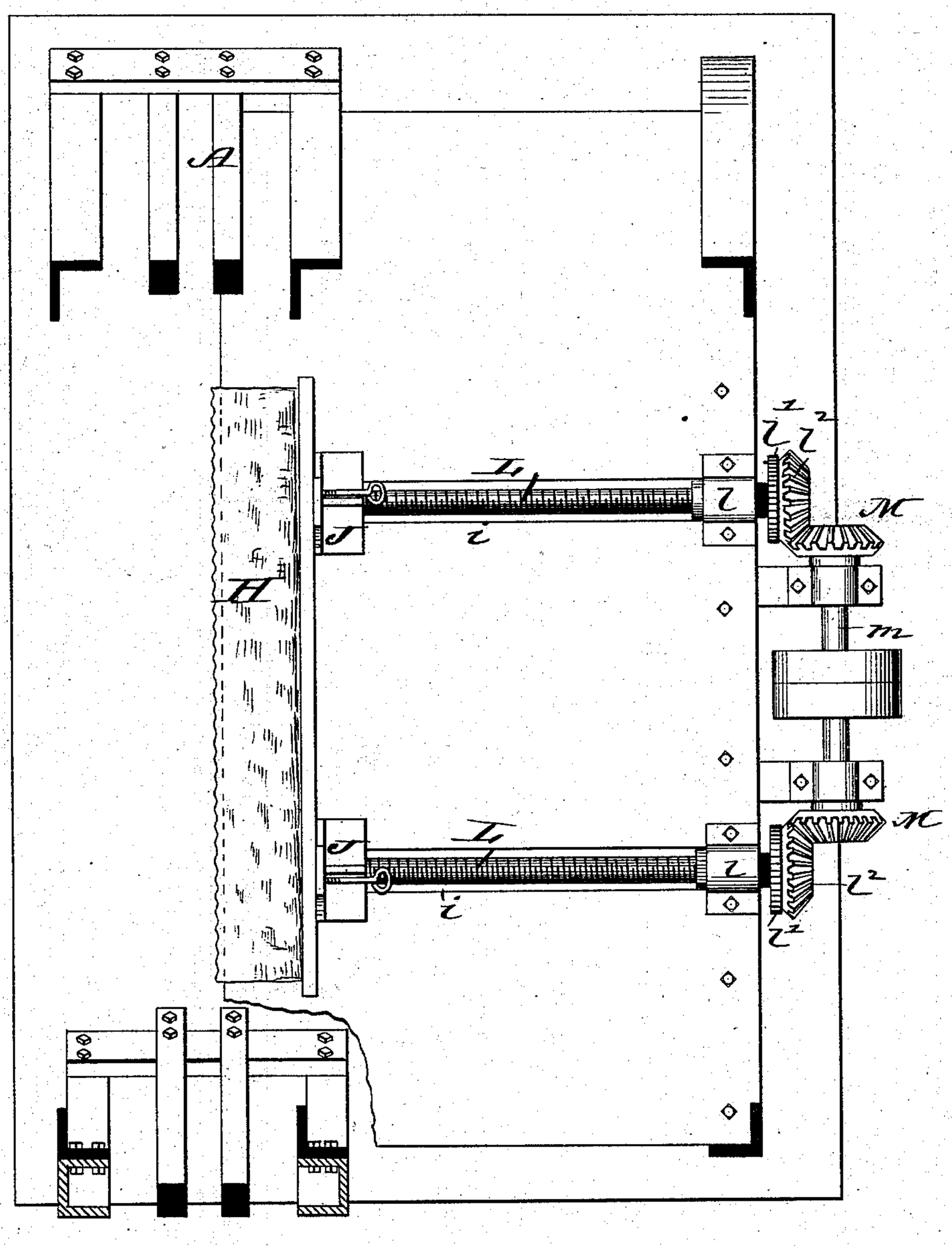
H. J. MARK.

VENEER CUTTING MACHINE.

No. 288,585. Patented Nov. 13, 1883.

Fig 1.



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Albert G. Fish

Inventor;
Henry J. Mark

UNITED STATES PATENT OFFICE.

HENRY J. MARK, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO HENRY B. GAUS, JR., OF SAME PLACE.

VENEER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 288,585, dated November 13, 1883.

Application filed April 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. MARK, a resident of St. Louis, Missouri, have made a new and useful Improvement in Veneer-Cutting-Machines, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a front elevation of the improved machine; Fig. 2, a section on the line 2 2 of Fig. 1; Fig. 3, a side elevation; Figs. 4 and 5, details relating to the clutch on the main shaft; Fig. 6, a section of the knife and knife-head; Figs. 7, 8, 9, respectively, a side elevation, a section, and a top view, of the knife; Fig. 10, a rear elevation of the machine; Fig. 11, a section on the line 11 11 of Fig. 3; Fig. 12, a section on the line 12 12 of Fig. 11; Fig. 13, a section on the line 13 13 of Figs. 10 and 14; Fig. 14, a section on the line 14 14 of Fig. 3; Figs. 15, 16, details relating to the feed mechanism, and Fig. 17 a horizontal section on the line 17 17 of Fig. 3.

The same letters of reference denote the same parts.

In the present machine the knife for cutting the veneers has a reciprocating movement upward and downward at the front of the machine. The log from which the veneers are made is fed sidewise to the knife, and during the cutting the log rests upon a bed or support which is inclined to the knife-edge. The knife-guides are also inclined, to impart a shearing cut to the knife. The improvement relates also to details connected with the feed mechanism.

A represents the frame of the machine.

B represents the knife. It may be straight and flat, or it may be corrugated, as shown in Figs. 7, 9. The knife is preferably made with a steel edge, *b*, upon an iron back, *b'*, Figs. 8, 9. The knife is attached to a head, B', having, by means of the screws b^2, an adjustable connection therewith. The knife-head is adapted to be moved upward and downward upon the inclined ways or guides C C, Figs. 1, 10, 17.

D represents a pitman leading from the knife-head to the crank E upon the main shaft F, which is journaled in the bearings *f f*. Motion is imparted to the shaft by means of the pulley G thereon, causing the knife to move upward and downward. The log H, Figs. 2, 3, 17, during the cutting, rests upon the bed I, Figs. 1, 2. This bed, as seen in Fig. 1, is inclined. The log is held in position by means of the blocks J J, Figs. 3, 10, 17.

K, Figs. 1, 2, represents the adjustable gage, which moves upward and downward with the knife. Its function is to determine the thickness of the veneer. The gage K is connected to offsets *k'* of the end slides of the knife-frame by means of set-screws *k*, which allow the gage to be moved up to or from the plane of the knife, according to the thickness desired for slabbing the veneer. The downward stroke of the knife cuts the veneer from the log, and as the knife is elevated for another stroke the log is fed forward in position for a second cut as follows: The blocks J J are adapted to be moved upon the ways *i i*, Figs. 3, 11, 12, 17, and they are, by means of the extensions *j j*, in engagement with the screws L L, respectively. The screws turn in the bearings *l l l l*, Figs. 1, 17, and they are provided with the ratchets *l' l'* and the bevel-gears l^2 l^2. The gears l^2 l^2 engage, respectively, with the bevel-gears M M upon the shaft *m*.

N represents an eccentric upon the main shaft F.

N' represents the eccentric-strap. It leads from the eccentric to the bell-crank lever O, Figs. 3, 10, which is pivoted at *o*, is slotted at *o'*, to receive the eccentric-strap, and is provided with a pin, o^2.

P represents a lever, that at *p* is pivoted to a bearing, upon which the lever can be turned, and at *p'* is adapted to engage with the pin o^2 of the lever O.

Q Q represent pawls pivoted at *q q*, and by means of the springs *q' q'* connected with the lever P. When the lever P is down, and in the position shown in Fig. 10, the springs *q' q'* act to put the pawls in engagement with the ratchets *l' l'*, and when the pawls are thus engaged (as shown in Figs. 13, 14, 15) the screws L L are rotated and the log fed forward, for the rotation of the main shaft and eccentric causes the levers O P to reciprocate, the lever O turning upon the bearing *o* and the lever P

sliding upon the bearing p, and as the lever P is drawn to the left, as shown in Fig. 10, the pawls act to rotate the screws.

R R represent arms, which, at their lower ends, encircle the hubs l^3 l^3, Fig. 13, of the ratchets l' l', and at r r are slotted to receive the studs p^2 p^2, with which the lever P is provided. The pawls Q Q are pivoted to the arms R R, respectively, and as the lever P is reciprocated the arms R R, carrying the pawls, rock upon the hubs l^3 l^3, and meanwhile the springs q' q' act to keep the pawls in engagement. When it is desired to arrest the feed-motion, the lever P is lifted from the pin o^2 and supported, say, upon the pin p^4. The lever P in such case draws the points of the pawls with it, disengaging them from the ratchets, as shown in Fig. 16.

S represents a clutch adapted to slide upon but rotating with the main shaft F. By means of the lever s the clutch is thrown into and out of engagement with the pulley G, and when in engagement the knife is in motion as well as the lever O.

The pulleys T, Figs. 3, 10, are for withdrawing the head-blocks J J rapidly from the vicinity of the knife. The shaft m and gears M M serve to transmit the movement to the screws F F.

It will be observed that the slotted arms R R are pivoted on the hubs l^3 l^3 of shafts L, and that these arms are loosely attached by sliding studs p^2 to said arms, thus allowing the free ends of the pawls Q Q, which are attached by springs to the lever P, to be raised free from the ratchets l' l' when the lever P is raised, which latter has allowed it an endwise as well as a vertical movement.

I claim—

1. In a veneer-cutting machine having a knife which receives a shearing motion, an inclined bed, and an adjustable gage, the combination of the blocks J, the feed-screws L thereof, ratchets on these feed-screws, the pawls pivoted to vibrating slotted arms, the endwise and vertically-movable lever P, connected to said arms, and the spring-connections of the pawls with said lever, all constructed and adapted to operate substantially as described.

2. The combination, in a veneer-cutting machine, of the adjustable knife B, the inclined bed, and a gage, which is vertically movable with the knife and adjustably connected to the frame thereof by means of the offsets k' and set-screws k, substantially as described.

3. In a veneer-cutting machine of the character described, the combination of the shaft F, the eccentric N, and crank-arm E on this shaft, the vertically-movable frame bearing the veneer-cutter guided and connected to said crank, as described, an adjustable gage, an inclined bed, the blocks J J, their adjusting-screws, the ratchets l' l' and rocking arms, the pawls q, lever P, the spring-connections of the pawls with this lever, the lever O, and its pitman-rod connection with the eccentric on the main shaft F, substantially as described.

4. The combination of the holding-block J, extension j, the horizontal screws L, the gears l^2 l^2 on the outer ends of said screws, the gears M on the ends of shaft m, which mesh with gears l^2 l^2, pulley T on shaft m, and holding-blocks J on the shaft, whereby said screws L can be made to operate the said holding-blocks, substantially as described.

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Witnesses:
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H. GAUS, Jr.