Koch & Stoeckel,

Cutting Veneers,

No. 27,991. Patented Apr. 24, 1860.

Fig: 1.

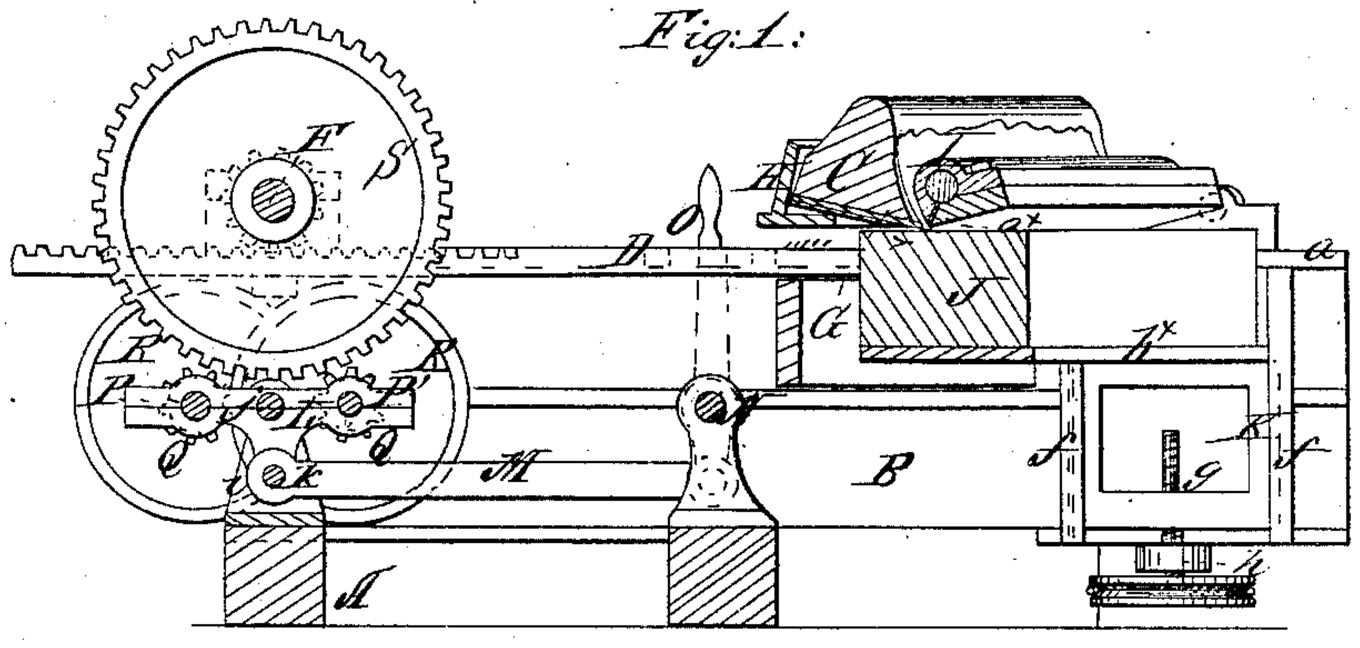
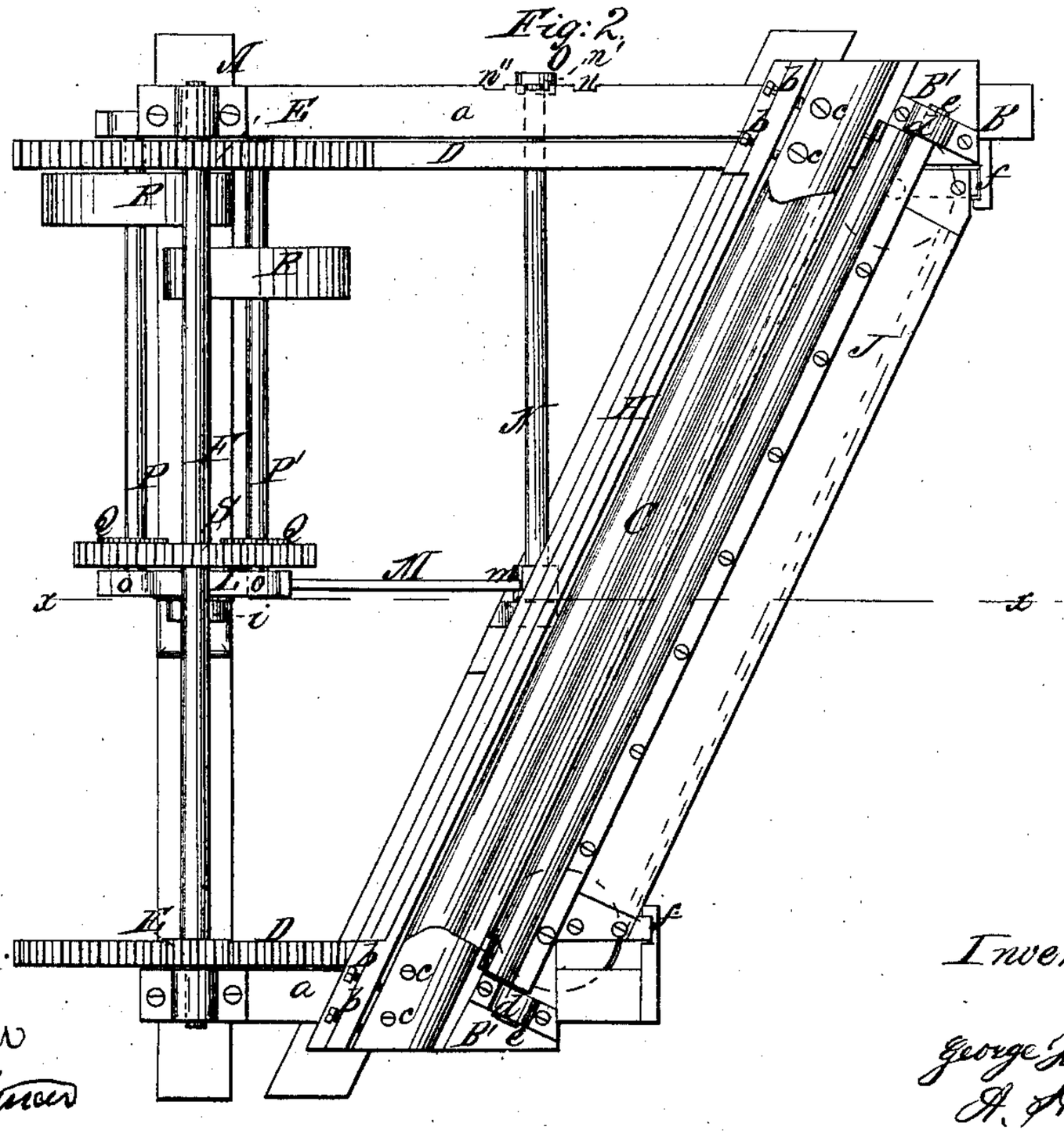


Fig: 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEO. KOCH AND A. STOECKEL, OF NEW YORK, N. Y.

VENEER-CUTTING MACHINE.

Specification of Letters Patent No. 27,991, dated April 24, 1860.

To all whom it may concern:

Be it known that we, G. KOCH and A. STOECKEL, of the city, county, and State of New York, have invented a new and Improved Machine for Cutting Veneers; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of our invention taken in the line *x*, *x*, Fig. 2. Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

In the cutting of veneers by means of a knife it is essential that the bolts from which the veneers are cut be steamed in order to soften the wood and allow its fiber to be readily parted by the knife, thereby not only facilitating the cutting operation, but also rendering the veneers less liable to break as they are cut. There is however one difficulty attending the operation, and that is, that the bolts although when first placed in the machine after being steamed are in a perfect condition to be operated upon, become cool and hard before they are fully cut up into veneers, some time being required to cut up a bolt as the veneers are quite thin, and the bolts generally of considerable thickness.

The invention has for its object the introducing of the hot water to the bolt in such a way that the means employed for the purpose may also serve as a weight for the bolt to keep the same in proper position during the cutting operation.

To enable those skilled in the art to fully understand and construct our invention we will proceed to describe it.

A represents a suitable base or framing on which two parallel bars B, B, are placed at a suitable distance apart. On the upper parts of the bars B, B, guides *a*, *a*, are placed on which the slides B′, of a knife stock C, are placed as will be presently shown. The slides B′ of the knife stock are allowed to move freely back and forth on the guides *a*, *a*, and they have two racks D, D, attached to them, one to each, into which racks pinions E, E, on a shaft F gear, as shown clearly in Fig. 2.

The knife G is attached to the underside of the stock C, and the stock is fitted in a rest plate H to the ends of which the slides B′, B′, are attached, the slides being fitted on the guide *a*, *a*. Adjusting screws *b*, pass through the back part of the rest plate H, and similar screws *c* pass vertically through the back part of the stock near each end. By adjusting these screws the position of the knife G relatively with the bolt may be regulated as desired. The rest plate H an oblique position relatively with the bars B, B, as shown clearly in Fig. 2, it being so attached to its slides B′ and the stock C and knife G of course have a similar position.

To the outer part of each slide B′, a bearing *d* is attached. These bearings receive the journals *e* of a tubular or hollow bar I, the inner side of which is directly in front of the cutting edge of the knife G. The bar I is slotted longitudinally its whole length, the orifice of the slot being the bottom of the inner side of the bar and directly in front of the knife G as shown clearly at $a^{\times}$ in Fig. 1. The journals *e* of the bar I are placed near the outer edge of the ends of the bar so that the inner side of the bar will bear down, and rest upon the bolt J, with a pressure due to its weight.

The bars B, B, guides *a*, *a*, slides B′, and plate H, as well as the stock C, and tubular bar I are all of cast iron.

The bolt J, from which the veneers are cut is secured on a bar $b^{\times}$ the ends of which are attached to slides K K which work between vertical guides *f*, at the inner sides of the bars B, B. These guides and consequently the bolt J, are raised and lowered by screws *g*, which are fitted in proper bearings *h* and pass through nuts or holes in the slides provided with screw threads. The bolt J has a position parallel with the knife G.

On the base or frame A at its back part there is a standard *i* to which a T shaped bar L is secured by a pivot *j*, the bar L being allowed to work freely on said pivot. To the lower end of this bar, one end of a rod M is attached by a pivot *k*, the opposite end of said rod being attached by a pivot *l*, to an arm *m* on a shaft N, which passes through one of the bars B, and has a lever O attached to its outer end, said lever extending upward so that it may be fitted in either of three notches *n*, *n*, *n*, in the guide *a* above it. To the bar L at each end of its upper part, a bearing *o* is secured, said bearings receiving the ends of shafts P, P′, on which pinions Q are placed one on each shaft. On each shaft a driving pulley R is placed. Di-

rectly over the pinions Q, Q, there is a spur wheel S said wheel being on the shaft F. The shafts P, P′, are rotated in reverse directions one having a straight belt around its pulley and the other a cross-belt.

The operation is as follows. The bolt J, is steamed in the usual way and secured to the bar $b^{\times}$ of the slides K K. The interior of the bar I is made to communicate with a boiler by any suitable connecting pipe. The slides B′, B′, and consequently the knife G have a reciprocating motion given them through the medium of the gearings S, Q, Q, and the pulleys R, R, the pinions Q, Q being thrown alternately in gear with the wheel S, and as said pinions rotate in reverse direction the motion of the knife is reversed at each change of position of the pinions Q, Q. The pinions Q, Q, are shifted by adjusting the lever O, and the lever retained in either position by fitting its upper end in the proper notch *n*. When the lever is fitted in the central notch *n* the pinions Q, Q, are both out of gear with wheel S, and the knife rendered inoperative.

During the forward movement of the knife G as indicated by arrow 1 Fig. 1, a veneer is cut from the bolt and a stream of hot water is admitted on the bolt J just in front of the knife, the water passing from the interior of the bar I through the slot $a^{\times}$. This hot water keeps the bolt in a moist warm state and the bolt is supplied with the hot water during the whole of the cutting operation, that is to say, until it is wholly cut up into veneers, and the latter will consequently be cut, with a very moderate expenditure of power and the veneers prevented from splitting or breaking as they are cut from the bolt, a contingency which frequently occurs in consequence of the cooling and hardening of the bolt before it is fully cut up.

The bar I performs a double function serving as a means to conduct the hot water on the bolt directly in front of the knife and also serving as a weight to counteract the tendency of the knife, to elevate the bolt during the cut. The bar I acts in the capacity of a weight in consequence of having its journals *e* placed at the outer edges of the ends of the bar as shown clearly in Fig. 2, the bar I being sufficiently heavy to effect this result. The bolt J is fed up to the knife at each backward movement of the same by any suitable mechanism connected with the screws *g*.

We are aware that oblique reciprocating knives have been used for the same or for purposes analogous to that herein shown and described and we do not claim such device.

But what we do claim as new and desire to secure by Letters Patent is—

The employment or use of the tubular, slotted bar I, being directly in front of the knife in the way substantially as shown, so as to perform the double function of a weight for the bolt and a hot water conductor.

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Witnesses:
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