

C. E. Warner,
Cutting Veneers,

No 3,359,

Patented Dec. 4, 1843.

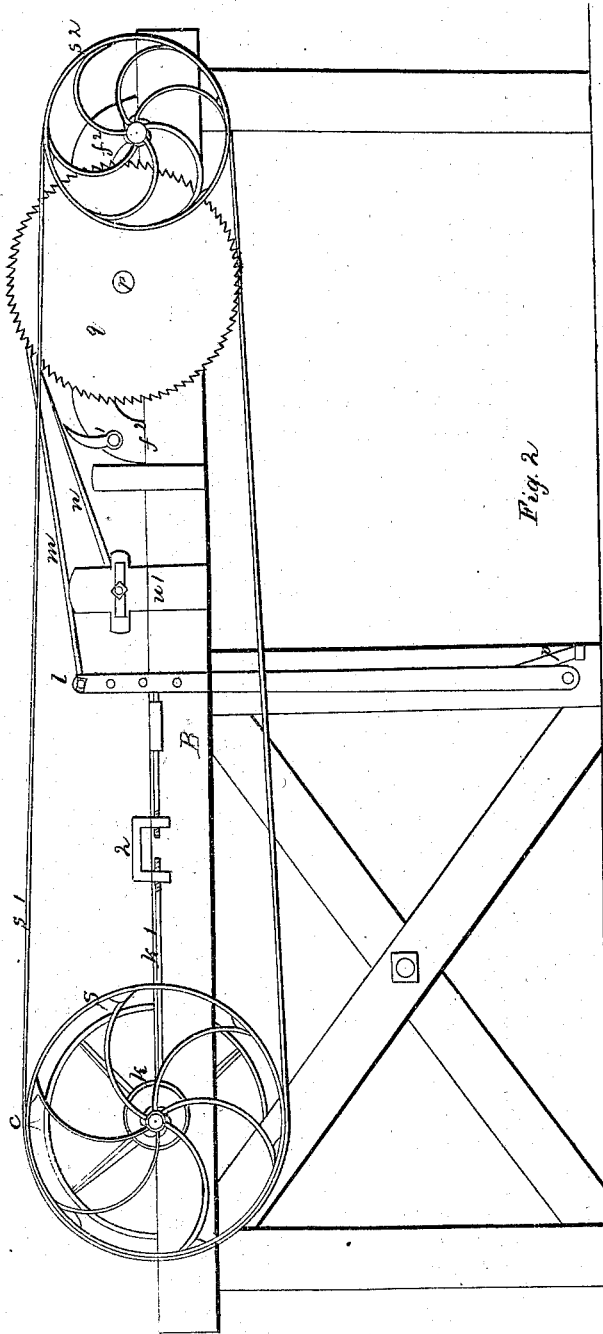


Fig. 2

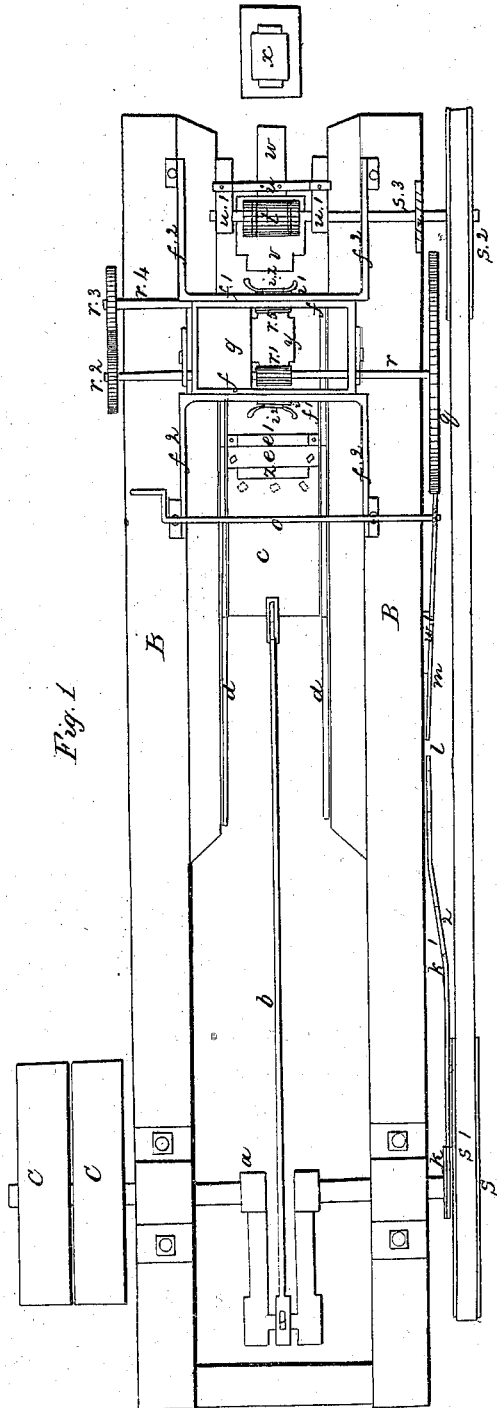
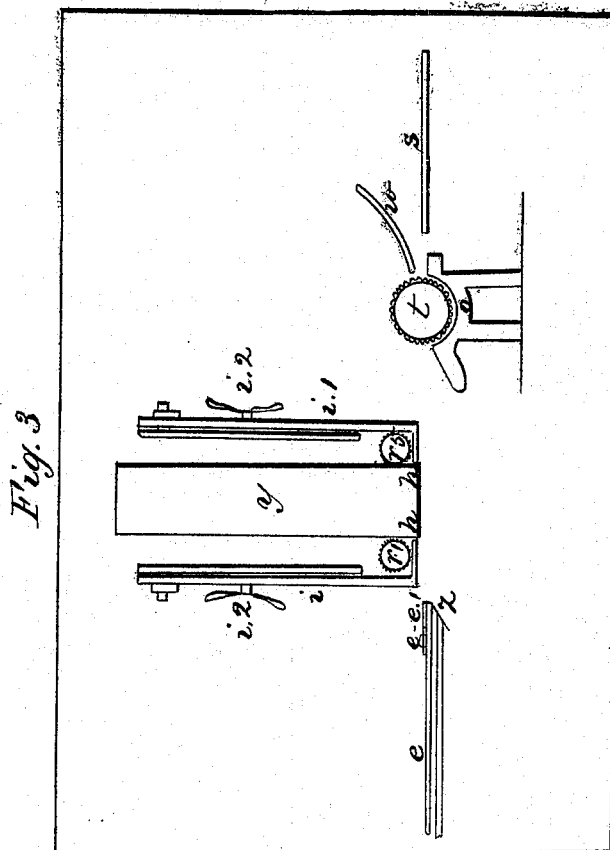


Fig. 1

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UNITED STATES PATENT OFFICE.

CHAUNCEY E. WARNER, OF NEW YORK, N. Y.

MACHINE FOR CUTTING AND STRAIGHTENING VENEERS AND OTHER THIN PIECES OF WOOD.

Specification of Letters Patent No. 3,359, dated December 4, 1843.

To all whom it may concern:

Be it known that I, CHAUNCEY E. WARNER, of the city, county, and State of New York, machinist, have invented and made
5 and applied to use certain new and useful improvements in the arrangement, combination, and application of well-known mechanical means for the purpose of cutting and straightening veneers or thin cards of
10 wood to form the carcasses and tops or covers of small boxes suitable to various uses, for which improvements I seek Letters Patent of the United States, and that the said improvements and the means of constructing
15 and using the same are fully and substantially set forth and shown in the following description and in the drawings annexed to and making part of this specification, wherein—
20 Figure 1 is a plan of the arrangement of said improvement; Fig. 2 is a side elevation of the same, seen on the side A of Fig. 1; Fig. 3, is a longitudinal skeleton section, of the operating parts, through the middle of the
25 machine, and the same letters and numbers, as marks of reference, apply to the same parts in all the figures.

B, B, are the frames, on which the operating parts are mounted; C, C, are a fast
30 and loose drum, by which the machinery is connected to any competent motive power; these drums are mounted on the shaft of the metal crank *a*; with pitman *b*, connects the crank, by joints, with the metal knife carriage *c*, which is mounted, and works back-
35 ward and forward, in metal guide slides *d*, *d*, the knife *e* being fixed on the forked part of the carriage *c*, with the edge of the knife toward the crank, and a backing piece *e*.
40 At the back of the knife, and immediately beneath, is a metal keeper spring *z*. The fore end fastened under the carriage and the lip in contact with the underside of the backing piece *e*. The knife carriage, knife,
45 and spring, work beneath the metal feeding box *f*, *f*, which is mounted in a pair of metal cross standards, *f*¹, each having two arms *f*², by which it is secured to the bed frame B, by bolts, in any convenient man-
50 ner. Within the feed box *f*, is a stationary wood or metal guide piece, or gage *g*, set tightly into the feed box. By the side of this the wood material *y* is placed, and steadied on that side, the lower end of the material
55 being steadied between the return points *h*,

h, Fig. 3, of the tie clamps *i*, *i*¹, secured on the box *f*. The wood material, when within the feeding box, is impelled downward by unintermittent feeding motion, communicated from the crankshaft *a*, by the eccentric
60 *k*, which in its rotations, forces the outer end of the eccentric rod *k*¹, against the pawl carriage *l*, so as to carry that and the driving pawl *m*, on toward the ratchet wheel *q* and give that an intermittent mo-
65 tion, any return of the ratchet wheel being prevented, by the fixed pawl *n*, set on a bolt that is secured by a nut through a slot in the carriage *n*¹, on the side frame, and by which bolt and slot the operation of the
70 fixed pawl can be accurately adjusted. The operation of the driving pawl *m*, is to be adjusted by a slotted and screwed joint 2, in the eccentric rod *k*, and a strong spring *p*, or any similar means, forces the pawl carriage *l*, and pawl *m*, toward the shaft *a* as
75 the eccentric *k*, draws back the rod *k*¹ after having given each intermittent feed motion onward. The small cross shaft *o*, carries a lever arm *o*¹, which, when set up, disengages
80 both pawls from the ratchet wheel, and puts the feeding apparatus out of gear. The ratchet wheel *q*, is mounted on the first feeder shaft *r*. This carries the first feeder roller *r*¹, and also, at the opposite end, the
85 small gear wheel *r*², which takes into a similar wheel *r*³, on the second feed shaft, *r*⁴, and this carries the second feed roller *r*⁵. both these shafts *r*, and *r*⁴, are mounted in bearings, on the standards *f*¹, of the feed-
90 ing box, and the bearings of the shaft *r*, may be made to slide, and thereby be adjustable, to suit boxes of different sizes, the wheels *r*² and *r*³ being also changeable.

Outside the eccentric *k*, on the crankshaft
95 *a* is a drum *s*, connected by a belt *s*¹, to a pulley *s*² at the other end of the machine, mounted on a shaft *s*³, that runs in bearings, *u*¹, *u*¹, *u*¹, and carries on it, between the bearings the straightening roller *t*,
100 which overlies the concave fixed guide *v*. A crosspiece *u* on the bearings *u*¹, carries a guide lip *w*, overlying the exit point, between the roller *t* and concave guide *v*, see the skeleton section in Fig. 3. The feeding
105 rollers *r*¹, and *r*⁵, and the straightening roller *t*, are slightly serrated, or grooved, parallel with their axes, and are so adjusted in their positions, and distances, that the feeding rollers draw the material down- 110

ward, and the straightening roller *t* draws each successive wooden card, or veneer, forward, at each successive motion of the knife in that direction, the card being cut from the material at the opposite motion and held between the spring *z*, and backing piece *e*¹, until, at the return motion of the knife, the straightening roller *t* takes the card, and passes it out, under the lip *w*, without crushing or breaking the grain of the material.

The mode of operating, and the product of this machine, is as follows: A piece of material, of the proper form and size to furnish the bottom, sides, and ends of a box, or the top, sides, and ends of a cover for such box, is to be sawed from a larger piece, so as to have the straight and clean grain of the wood, in the line of the intended length of the box; then, by any convenient means, so much of the angles are taken square out, as will allow for turning up the sides and ends of the box, or cover, and leave the endwise section of the material, in the form shown at *x*, between Figs. 1 and 3. This wood material *y*, Fig. 3, is then put with the grain lengthwise of the machine, and pushed down, by the side of the gage *g*, into the feed box *f*, until it passes between the return points *h h*, (Fig. 3) of the tie clamps *i i*², which are so adjusted by the screws *i*² (not named before) that they take any strain, caused by the cut of the knife *e*, on the material, and hold the material firmly, without any shock to cause distress, or pressure, on the rollers *r'*, or *r*⁵ and, at the same time, the rollers are so adjusted in position, that they take hold of, and lead the material downward as the ratchet wheel *q* impels them around, at each intermittent motion given by the eccentric *k*, rod *k'*, and pawl *m*, at each rotation of the crank shaft *a*, which, at the same instant, forces the knife *e*, beneath the material, and by proper adjustment, makes it cut off a thin veneer, or card, like a slice, from the lower surface of the material, and at each return of the knife, the feed rollers bring downward a like thickness, to be cut off. The card or veneer, as each is cut, passes and is held, between the backing piece *e'* and holding spring lip *z*, and is generally somewhat crooked lengthwise; but is returned forward until it enters the aperture, between the straightening roller *t*, and concave guide *v*, beneath, (see Fig. 3) where the roller *t* will take hold and lead it through, and the pressure between these, being the reverse of the crook given by the knife in the act of cutting, the card is forced to bend slightly, in the opposite direction, as it passes through, and on quitting the roller, the card strikes against the underside of the lip *w*, which may be so adjusted on the cross piece *u*, to the motion of the cards, as to cause each

successive piece, either to drop into the hand of an attendant boy, or on to a table before him, whence they may be removed for completion elsewhere.

I do not intend to confine myself to the sizes and proportions of parts, shown in the drawings, but to vary the same, as may be required, to cut veneers, or wooden cards, for any specific size of box or cover; and, as I am aware, that knives, and other tools and appliances have been used, in cutting veneers for general purposes, I therefore do not claim, as my own invention, any of the parts herein before described, either taken separately, or as applied to cutting any other description of veneers, than those for boxes, and their covers, as herein described; but

I do claim as new, and of my own invention, and as not having been before so used, for such purposes—

1. The mode, by which the operation of the tie clamps *i, i, i*, and their guide points *h, h*, is combined with the feeding rollers *r'*, and *r*⁵, for the purpose of steadying the material, and feeding at the same time without distress to the feeding rollers, when such combination is applied for feeding the material, to cut veneers, or wooden cards, for boxes or covers, substantially as such mode or combination is herein described.

2. I claim the cutting of successive veneers, or wooden cards, for boxes or covers, and carrying them forward to the straightening roller, by the combination of the knife *e*, and keeper spring *z* with each other, and with the feeding apparatus, referred to in the preceding claim, when such entire combination is applied to the purposes above specified, including any merely mechanical variations, that may be substantially the same, in the means employed, and the effects produced.

3. I claim the use of the straightening roller *t* and concave guide *v* beneath, for the purpose of drawing the veneers, or cards, out from the knife *e*, and lip *z*, and straightening the material, in its passage, when such use is applied in the manufacture of veneers, or wooden cards, meant to form boxes or covers; and I claim the combination therewith, of the lip *w*, adjusted to direct the successive veneers, or cards, in their exit from the roller and guide, and place the cards collectively together, substantially as herein described and set forth.

In witness whereof, I have hereunto set my hand and seal, in the city of New York, this fifth day of November, in the year one thousand eight hundred and forty two.

CHAUNCEY E. WARNER. [L. s.]

Witnesses:

JAMES PERRY,
H. R. SERRELL.