J. J. & T. Clark,

Tenoning Blind Slats.

No. 66,678. Patented July 16, 1867.

Fig 2

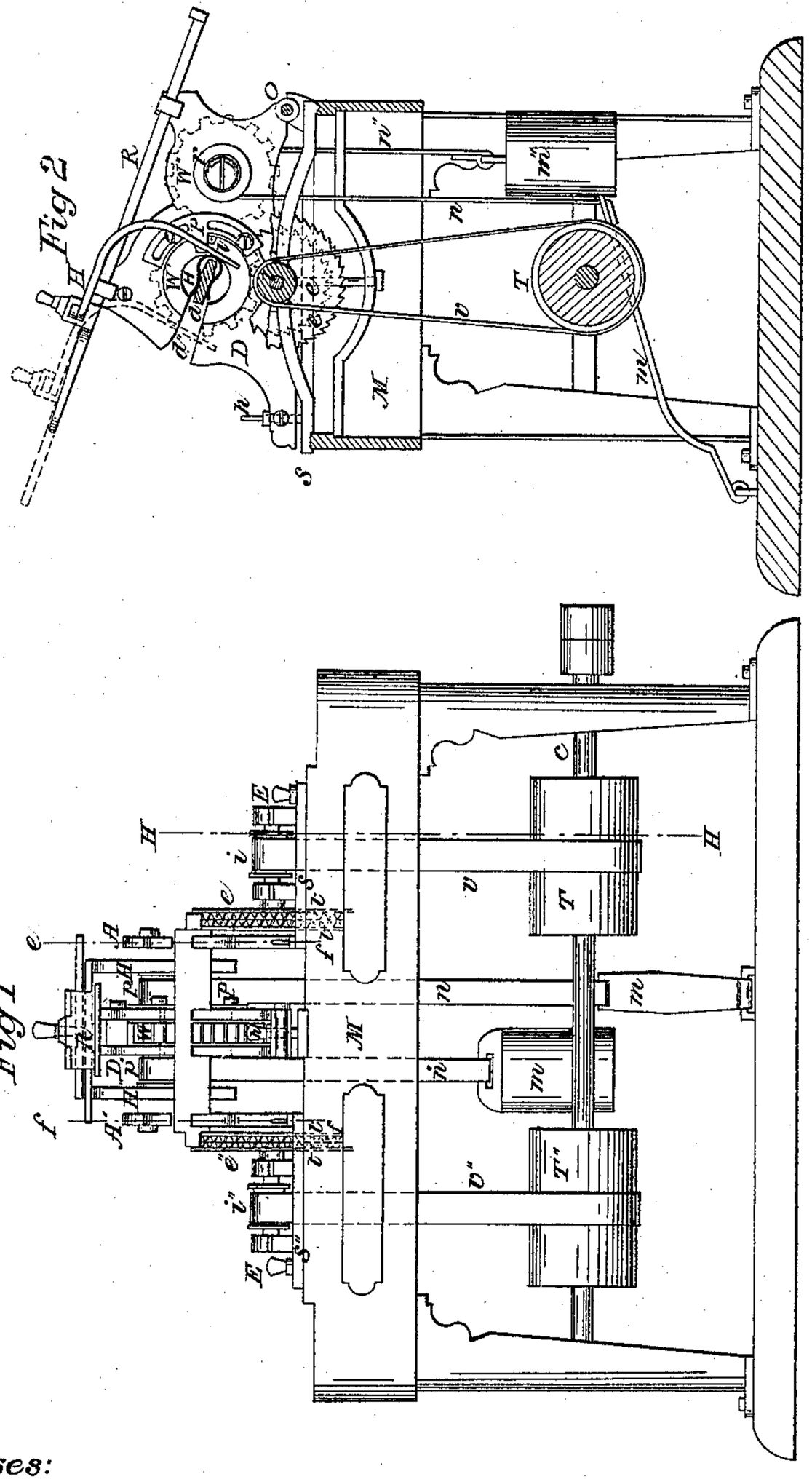
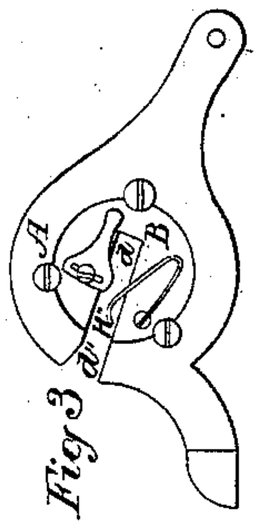


Fig 1

Fig 3



Witnesses:

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JOHN J. CLARK AND THOMAS CLARK, OF ELGIN, ILLINOIS.

Letters Patent No. 66,678, *dated July* 16, 1867.

IMPROVEMENT IN MACHINE FOR TENONING BLIND-SLATS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JOHN J. CLARK and THOMAS CLARK, of Elgin, in the county of Kane, and State of Illinois, have invented a new and useful Improvement in Machinery for Tenoning Slats for Window-Blinds; and we do hereby declare the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon making a part of this specification, in which—

Figure 1 is a side elevation of the machine.

Figure 2 is a vertical transverse section of the same on line *x x*, with fig. 3 detached.

Figure 3 is a detached section on lines *e* and *f*.

Similar letters of reference where they occur in the separate figures denote like parts in each of the drawings.

Our invention relates to an improvement in that class of machines wherein two series of circular saws are employed, of which there are four saws in each series, and so arranged that two of said saws cut the slat to a proper length, as two cut the shoulder at opposite ends, and the remaining four form the tenon, by revolving or turning the slat while in contact with the saws.

The nature of our improvement consists first, in a device for holding and rotating the slat; and, second, in the device for removing the slat from the machine when complete.

To enable others skilled in the art to construct and use our invention we will proceed to describe the same with reference to the drawings.

M represents the frame of the machine, and C the line or driving-shaft, which is provided with wheels T T″ that receive belts *l l″* which pass upward and around pulleys *i i″* on horizontal shafts, E E″, which is held in braces or frames S S″ that are attached to the main frame, and so arranged as to be capable of being moved in the direction of the length to any graduated distance one from the other. At the inner ends of said shafts E E″ are attached saws, four in number, saws *e e″* being greater in diameter than saws *f f″*, and the centre saws *t t″* between said saws; and attached to the centre of the main frame is a second frame, D, which is capable of being adjusted vertically by means of screw *h* and hinge *o*, said frame D being provided at its centre with a gear-wheel, W, which gears with a second wheel, W″, which is also held within said frame. Said wheel W has its sides turned or cut away to form a bearing upon which it revolves, and its centre having a hollow space therein extending through the same longitudinally, and sufficient in size transversely to receive the slat, which is held therein by means of a spring, H, that is attached to inner side of said wheel W, which has a slot, *d*, cut from the centre or space therein, outward through the rim, which when revolved to the proper angle agrees with a corresponding slot, *d″*, in the side of frame D through which the blind-slat passes. There is also attached to the side of frame D a circular or arch-shaped piece of metal, *p*, which is provided with circular slots or grooves through which pass screws or bolts upon which said arch moves, the same having a part protruding from its centre towards the centre of wheel W, which comes in contact with or against a pin, *i*, extending outward from the end of the bearing of said wheel, which admits of said arch moving on the screws or bolts to a distance sufficient to bring the slot in the wheel to agree with the slot in the frame as the motion of the wheel is reciprocated. Upon the shaft of wheel W″ are attached pulleys *r r″* which receive straps *n n″*, the same passing or extending downward through the centre of the main frame; strap *n* being attached to treadle *m*, and strap *n″* being provided with or attached to a weight, *m″*. To the main frame, between the saws and frame D, are circular pieces of metal, A A″, extending upward beyond the centre of frame D, and are provided at their centre with a revolving cylinder, B, which has also a slot, *d*, cut therein, which, when said cylinder is revolved, agrees with a like slot, *d″*, in the sides of the circular pieces A A″; the object of this arrangement being to hold the end of the slat firm against the saw. There is also attached to the upper part of frame D an adjustable slide, R, which is provided with adjustable arms *x x″* which extend backward and downward below the centre of wheel W, as shown in fig. 2.

The operation of our machine is as follows: The slat to be tenoned is placed within slots *dd″* of wheel W and cylinders A A, which bring the end of the slat in contact with the saws, and as wheels T T″ of shaft C are rotated which communicate with pulleys *i i* of shaft E E″ by means of belts *l l″*, the saws are subjected to a high rotary motion. Treadle *m* is then forced downward, which communicates with pulley *r* of wheel W″ by

means of strap *n*, said wheel W″ gearing with wheel W, causing the same to revolve once around. Thus saws *e e″* cut the slat to a proper length, saws *f f* cut the shoulders, and saws *t t″* form the tenon. Treadle *m* is allowed to rise by means of weight *m″* which communicates with pulley *r″* of wheel W″. Thus said wheel is rotated back, which gears with wheel W, turning the same back until slot *d* of said wheel agrees with slot *d″* of frame D″. Slide R is then drawn forward, which comes in contact with the slat, forcing the same out through the slots in the wheel and frame by means of arms *x x″*. We have said that wheels W W″ are attached to or within frame D; or they may be attached to one or both of the cylinders B of the circular pieces A A″, which will produce substantially the same result.

Having thus described the nature and object of our invention, we disclaim the combination of wheels T T″, shafts C, belts *l l″*, pulleys *i i″*, shafts E E″, saws *e e″*, *f f″*, *t t″*, and cylinder B of circular pieces A A″, or any part thereof broadly considered.

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

1. Wheels W and W″, when used in combination with arch-piece P, constructed and operating substantially as and for the purpose described.

2. Springs H H″, when used for holding slat in slot *d*, subtantially as described.

3. The combination of slide R and adjustable arms *x x″*, for the purpose substantially as set forth.

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Witnesses:
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