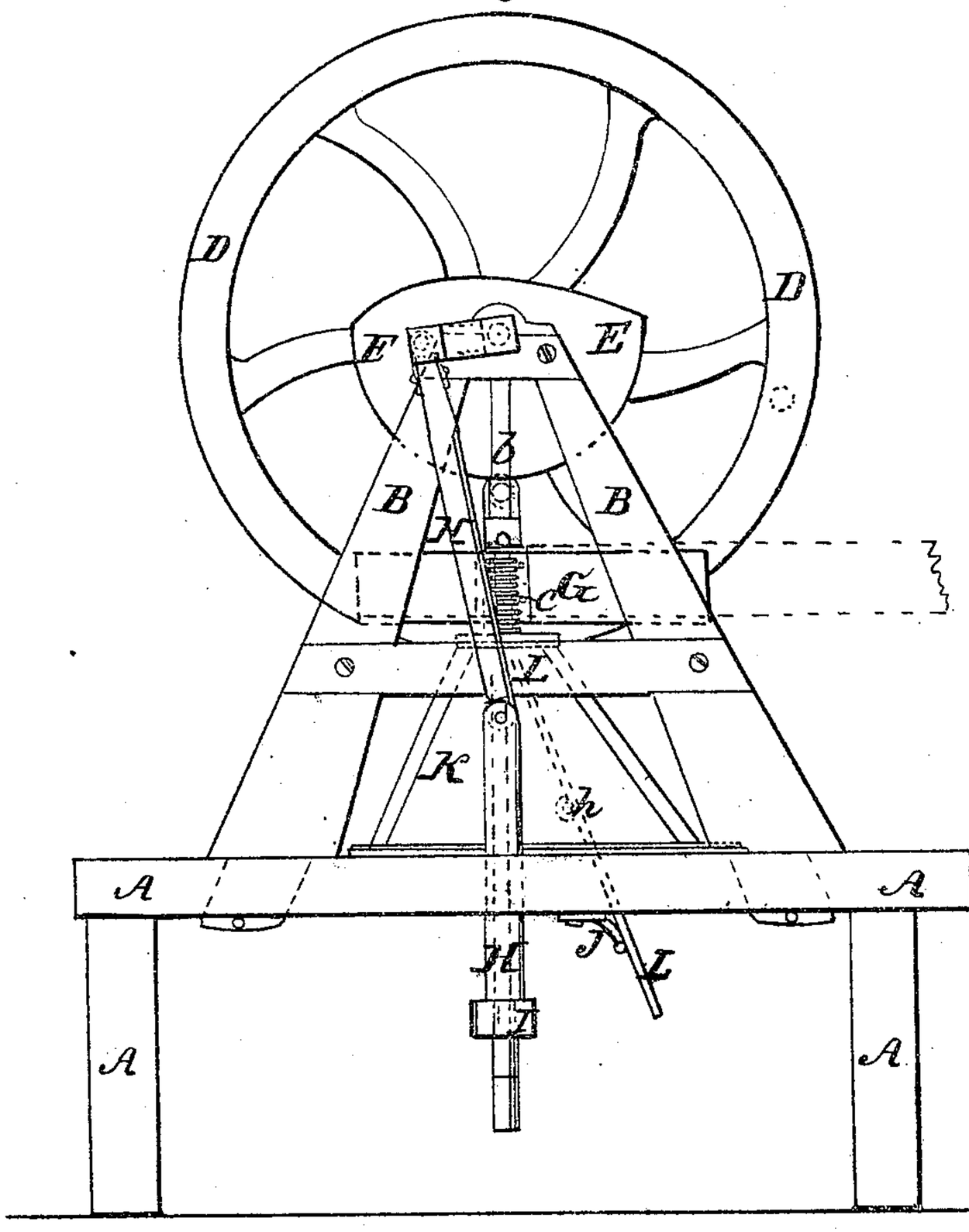
N. W. Brewer

2 Sheets.
Sheet 1

Wooden Pin Mach.

No. 53402. Patented Mar. 27. 1866

Fig: 1.



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2 Sheets.
Sheet 2.

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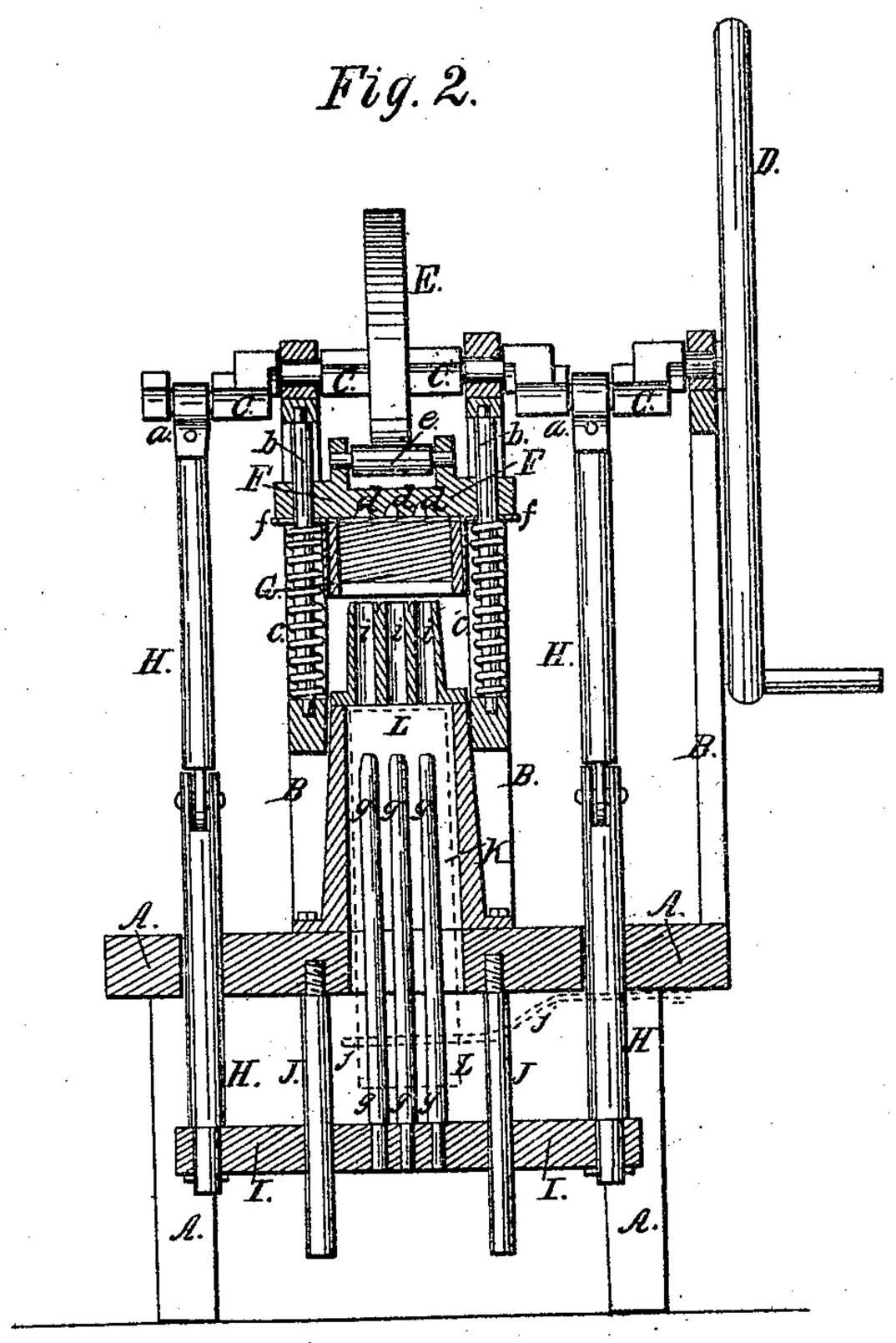
Fig. 2.



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UNITED STATES PATENT OFFICE.

NELSON W. BREWER, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN WOODEN-PIN MACHINES.

Specification forming part of Letters Patent No. **53,402,** dated March 27, 1866.

To all whom it may concern:

Be it known that I, NELSON W. BREWER, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Cutting and Pointing Wooden Pins for Window-Sash, Doors, Blinds, Shutters, and other purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a view in elevation from one of the sides of the machine, and Fig. 2 represents a vertical transverse section through the same.

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

My invention consists, first, in the combination of a vertically-reciprocating feeding-box and pointing-tool with the stationary cutters which separate the pins from the block or piece of wood that is carried and fed through the feeding-box.

It further consists in a hinged and vibrating guiding-board, in combination with the followers that force the pins from the circular cutters to the pointing-tools, so that the guiding-board may move to one side to allow the followers to enter the cutters, and when they are withdrawn to swing under the cutters to receive and carry away the finished pins when forced out; and my invention further consists in the combination of the stationary cutters, the vibrating feeding-box, pointing-tools, followers, and guiding-board, arranged to operate in connection with each other, as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

On a suitable base, table, or support, A, are arranged pillar-blocks B, on the tops of which are suitable boxes for making a bearing for a cam and crank-shaft, C, that may be turned by a crank or fly-wheel, D, or by a belt from any first moving power. Upon this shaft C are arranged two cranks, *a a*, and a cam, E, for a purpose to be hereinafter explained.

Guiding-rods *b b* are arranged vertically on the pillar-blocks B, around which are coiled or other springs *c c*, and extending across from guide-rod to guide-rod, and resting upon said spring, there is a cross-head, F, on the under side of which are pointing-tools *d d d* for pointing the pins after they are cut. On the upper side of this cross-head F there is a friction-roller, *e*, against which the cam E acts to force down the cross-head and pointing-tools, and in so doing compress the springs *c c*. After the cam in its revolution ceases to act upon the cross-head the recoil of the springs restores it again to its normal position.

Underneath the cross-head F there is a box or trough, G, into and through which the block or piece of wood from which the pins are to be cut is fed. This box has lugs *f f* upon it, which embrace the guide-rods *b b* and rest also upon the springs *c*, so that as the cross-head F descends the box G descends, and when the cam ceases to act they are both returned by the recoil of the springs *c*.

Underneath the box or trough G are permanently arranged the cutters *i i i*—one, two, three, or more—and an opening is made in the bottom of the box or trough, so that it may carry its block or piece of wood past these cutters to take from it the portions which, when pointed, constitutes the pins.

To the two cranks *a a* on the shaft C are fastened, respectively, the jointed connecting-rods or pitmen H H, which at their lower ends are fastened to a cross-head, I, that moves up and down on guide-rods J J, and which cross-head carries a series of followers, *g g g*, corresponding in number to the number of cutters, and arranged so that a follower shall enter every cutter to force the pin or piece of wood in it up against the pointing-tools *d* for the purpose of pointing it; and the cross-head I may be made to receive longer or shorter followers, or be exchanged for another having longer or shorter followers on it, so that pins of varied lengths may be made in the same machine.

In an inclosed space, K, under the cutters *i i i* there is a guide-board, L, hinged at *h* and controlled by a spring, *j*. The followers, in moving upward, come in contact with the upper portion of this guide-board and push it to one side against the action of its spring *j*, and when the followers descend the guide-board by the recoil of its spring returns again directly under the cutters, so as to receive and carry off the finished pins after they have been

pushed out of the cutters by the entrance therein of the next succeeding set of pins that are to be similarly treated.

The cam E is so formed that after it has forced down the trough and the block past the cutters it will hold them firmly there until the followers pass up through the hollow cutters and carry the pins up against the pointing-dies or cutters to finish them. Then it releases the trough and pointing-tool, and they rise up by the reaction of the springs under them, the finished pins remaining in the cutters. When the trough and block goes down again the pins cut from it in passing enter the cutters and drive out the finished pins, and are themselves driven out by the next succeeding operation, and so on.

The rods H and J may be long enough to admit of moving the cross-head I, with its followers, up or down to adapt the machine to the making of pins of different lengths; and for this purpose screw-threads are cut on the lower ends of the rods H, so that by nuts below and above the cross-head it may be adjusted and held at the point suitable for the length of pins that are to be made for the time being. By this construction the machine will contain in itself constantly the elements that will adapt it to the making of pins of any length desired.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. In combination with the stationary cutters, the vertically-reciprocating block-carrier for cutting off the pins from the wood and holding them ready for being pointed, substantially as herein described.

2. In combination with the stationary cutters and reciprocating pointing-tools, the traveling followers for forcing the pins against the pointing-tools, substantially as and for the purpose described.

3. In combination with the stationary cutters and reciprocating block-carrier and followers, the vibrating guide-board, which is moved aside by the followers as they are approaching the cutters, and returns after the followers are withdrawn to receive the finished pins and carry them out of the machine, substantially as described.

NELSON W. BREWER.

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