2 Sheets--Sheet 1.

W. S. GRAY.

Machine for Wiring Blind-Slats and Rods.

No. 163,065. Patented May 11, 1875.

Fig. 1.

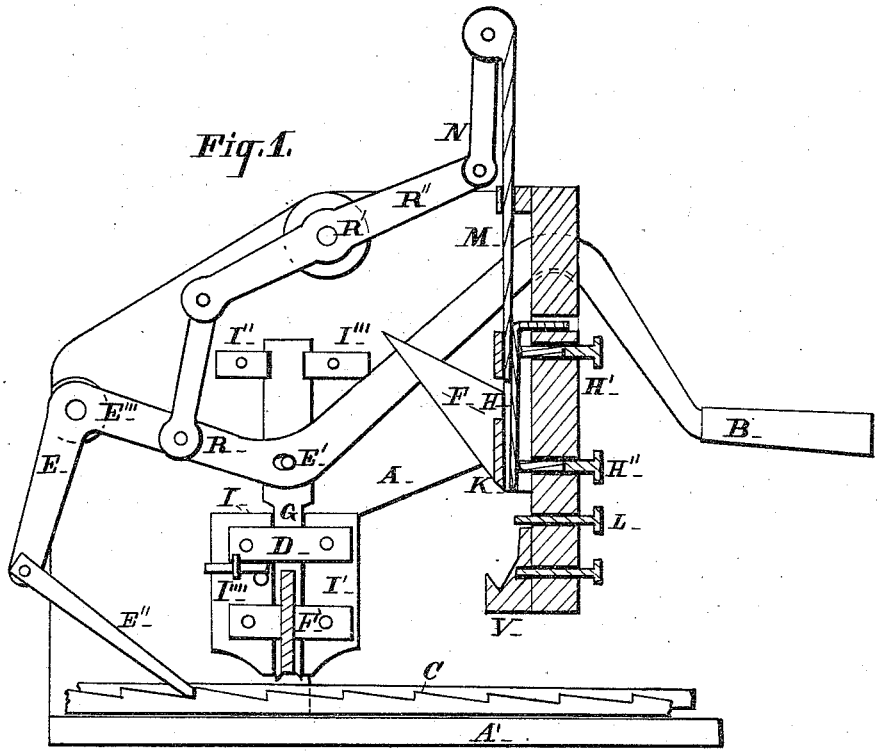

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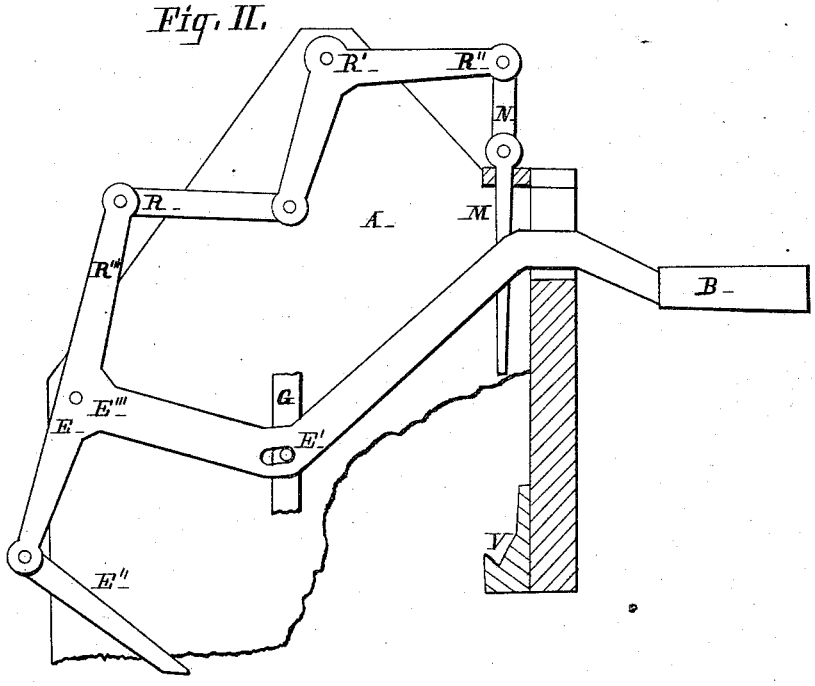
Fig. II.



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UNITED STATES PATENT OFFICE.

WALTER S. GRAY, OF KEOKUK, IOWA.

IMPROVEMENT IN MACHINES FOR WIRING BLIND SLATS AND RODS.

Specification forming part of Letters Patent No. **163,065**, dated May 11, 1875; application filed February 9, 1874.

To all whom it may concern:

Be it known that I, WALTER SCOTT GRAY, of Keokuk, Lee county, Iowa, have invented an Improvement in Machines for Wiring Blind Slats and Rods, of which the following is a specification:

The object of this invention is to make an improved machine for wiring the rods and slats of window-blinds together; and it consists in the combination and arrangement of two wiring-heads, to be operated by one hand-lever, with several features of detail, made substantially as hereinafter set forth, referring to the accompanying drawings, in which—

Figure 1 is a side view of the machine, partly in section, with one style of lever-connections for use when the same are preferred; and Fig. 2, Sheet 2, shows portions of same, with another style of lever-connections, which I prefer.

The operating parts are mounted on an upright and partly overhanging frame, A, having base A′, and are arranged to be operated by hand-lever B, by a workman, while with one hand he supplies the slats to the machine to be attached to the blind-rods. The slats and rods are attached together by small staples, of usual size and form, supplied to the machine, and driven one into the edge of the slat, and another through its loop and into the rod. The rod is placed in a grooved bed in holder C, arranged to be moved along by pawl E″ from lever B. The space the slats are to be apart on the rod is determined by each up-and-down motion of the handle, the pawl acting in notches in bed C, suitably spaced. The wiring-head D is placed over the rod in bed C, so as to drive staples into it vertically, with their legs in the center line of rod, and is arranged so the slat, with a staple in its edge, can be laid across on top of the rod, with the loop of the staple under head D, and the staple from that will pass with one leg through it into the rod, attaching rod and slat together; the rod is then moved forward the space for another. The slat is set on edge, under a similar wiring-head, K, and has a staple driven down into its edge, with legs in line. The slat-wiring head K is set at right angles to the rod-wiring head D, and overhangs the passage-way of the rod and slats from head D, so when wired the slat has only to be turned over on its side to bring the staple clearly into view, so it may be seen to be perfect before being attached to the rod; and to place it across the rod and in place under head D, to be attached while another slat is put under head K. This enables separate attention and control to be given to each operation, and enables the staples to be set directly downward into rod and slat both, and gives the most convenient way of handling the slats. The groove V is made for the edge of slat, to automatically center and hold it securely under the descending staple. This is made in a bracket adjustable up and down to suit different widths of slats. This has combined with it an adjustable bearing, L, for the edge of the slat, to complete its self-holding. The slat rests slightly inclined, with its top edge against this, so as to be secure, and to incline the staple to one side to meet the rod. This bearing is formed of a screw, which is turned in or out to suit different thicknesses of slats, &c. The staples are placed in quantity on the inclined guides F F′, so as to hang vertically and feed down into wiring-heads D K. They slide down and rest against a plate, H, one of them below each of the staple-drivers M G, so as to be driven down the vertical passage along plate H into the slat or rod. The plate H is held forward by springs H′ H″ above and below, to keep the staples from falling through, and to hold them firmly as they are driven down and into the slat or rod. The springs may be spiral wire or rubber, and fit into holes in frame A. Their ends rest against screws in these holes, by which their pressure may be regulated. The upper end of plate H is bent and held in a bearing in frame A, and it reaches to a point above the end of the staple-punch M at the top of the stroke of said punch, and rests against it, so that one staple enters the passage just enough to be caught and carried down by each of the punches. This avoids the necessity for an extra feeding device.

A sliding stop, I‴, separate from all the driving parts, is combined and arranged with the wiring-head and the inclined guide F′, so

as to remain out of use in ordinary work, and so as to slide in its bearings to strike the inclined guide F′, and stop entirely the descent of staples when it is desired to shut them out of the machine for safety. The handle-lever B, Fig. 2, is pivoted at E‴ to the frame A, has a hand-hold at its free end, and drives the staple-punch G by a pin-and-slot bearing at E′; and the punch moves in a vertical way with adjustable side bearings. The lever B has a downward arm, E, bearing the rod-feeding pawl E″, and has an upper arm, R‴, Fig. 2, which drives, through connecting-bar R, a second lever, R″, pivoted at R′ to the frame A. This lever R″ at its other end drives, through a connecting-bar, N, the staple-punch M. This arrangement is such that when the handle is pressed down the punch G drives a staple into the rod, and when it is raised the punch M drives one into the slat as the rod is fed forward for it.

The arrangement in Fig. 1 may be used when preferred; it has a similar and evident operation.

I disclaim the feeding cut-off shown in the patent of Seymour & Whitlock, June 2, 1869.

I claim—

1. The combination of frame A, holder C, hand-lever B, feeding-pawl E″, lever R″, bracket-groove V, rod-wiring head D, and slat-wiring head K, punches G M, inclined guides F F′, back plates H, separately-adjustable springs H′ H″, and stop I⁗, all substantially as set forth.

2. The combination of the upright wiring-heads D K, placed at right angles to each other, with the frame A, and arranged to operate in the manner and for the purpose as shown and described.

3. The combination of the plate H, held by spring, punch M, and inclined guide F, when so arranged that the plate will rest against the side of the punch at the top of its stroke, substantially as set forth.

4. The staple-stop I⁗, arranged to prevent feeding staples by operating the machine, for safety, substantially as set forth.

WALTER SCOTT GRAY.

Witnesses:
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