E. CATHER.

Machine for Compressing the Ends of Blind-Slats.

No. 167,824. Patented Sept. 21, 1875.

Fig. 1.

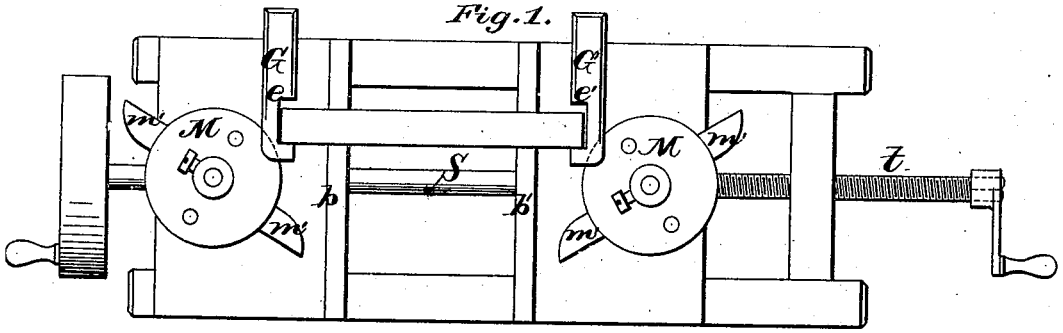


Fig. 2.

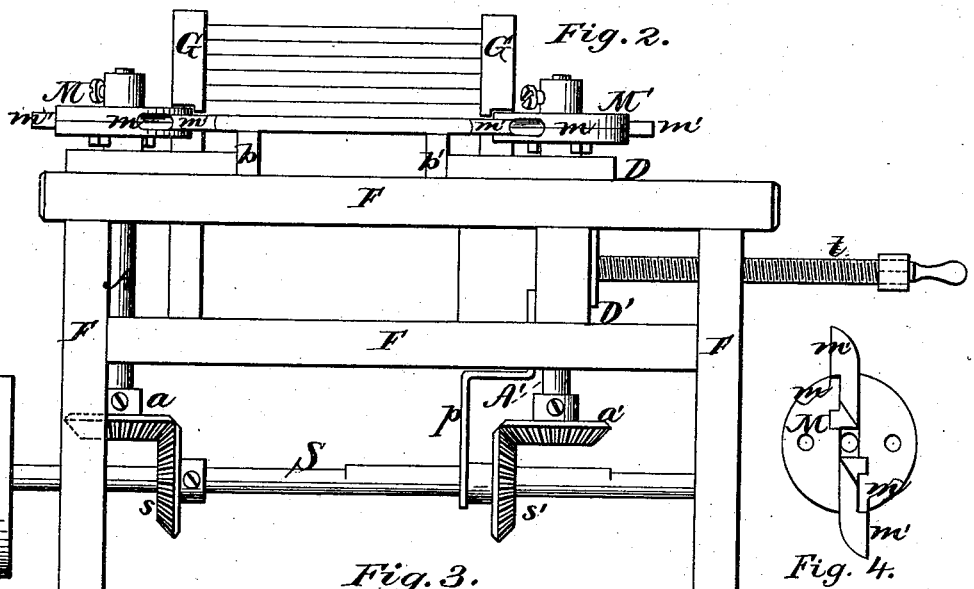


Fig. 3.

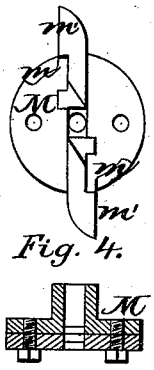
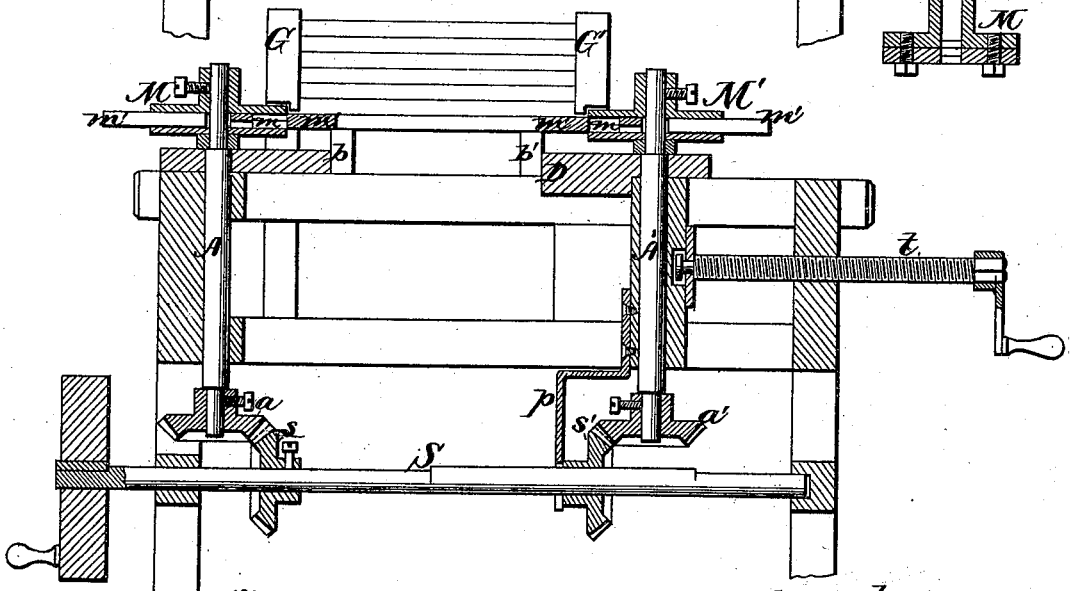


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

EDWIN CATHER, OF PORT DEPOSIT, MARYLAND.

IMPROVEMENT IN MACHINES FOR COMPRESSING THE ENDS OF BLIND-SLATS.

Specification forming part of Letters Patent No. **167,824**, dated September 21, 1875; application filed January 23, 1875.

To all whom it may concern:

Be it known that I, EDWIN CATHER, of Port Deposit, in the county of Cecil and State of Maryland, have invented a certain new and Improved Machine for Compressing the ends of Blind-Slats; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view; Fig. 2, a side elevation; Fig. 3, a longitudinal vertical section; and Fig. 4, detail views of one of the disks M.

Similar letters of reference in the accompanying drawings denote the same parts.

The object of this invention is to provide for public use an improved machine for compressing and beveling the ends of blind-slats, which shall accomplish the work effectually and rapidly, and with a great saving of labor and expense. To this end the invention consists, first, in an improved mode or principle of operation of the parts employed for compressing and beveling the ends of the slats; secondly, in the devices for carrying such principle into practice; thirdly, in the adjustability of such devices to operate upon slats of different lengths; and, fourthly, in an improved feed, all substantially as I will now proceed to set forth.

In the drawings, F is the frame of the machine, which may be of any suitable construction for supporting and accommodating the working parts, and which should be made of metal or strengthened with metal tie-rods, or otherwise adapted to stand the vibration and strain when running at great speed; and G G′ are upright guides, adjustable toward and from each other, and having their proximate faces vertically grooved, to receive and hold the ends of the slats when the latter are piled up on the blocks or cross-beams *b b′*. That part of the guides G in which the grooves *e e* are cut does not extend quite down to the level of the top of the blocks *b b′*, and the lower slat drops out of the grooves when it falls upon said blocks, all the slats above it having their ends, meanwhile, retained in the grooves. The lower slat can, therefore, when on the supporting-blocks, be pushed laterally off of said blocks, so as to fall from the front side of the machine, and the next slat will descend from the grooves and take its place on the blocks. S is the main shaft, which, by means of bevel-gears *s s′ a a′*, drives two vertical shafts, A A′, one of which, A, is fixed, while the other, A′, is capable of being adjusted longitudinally of the machine by means of sliding bearings D D′, operated by a screw, *t*. The gear *s′* is secured to the shaft S by a spline, and is held against the gear *a′* by a bent plate, *p*, so as to change position on its shaft according to the adjustment of the parts D D′. The guide G′ and supporting-block *b′* are attached to the movable parts D D′, and are adjusted with them by turning the screw-rod *t*. A line passing through the centers of both shafts A A′ would extend a short distance in front of the column of slats held in the notches *e e′*. M M′ are two disks or wheels, supported on the upper ends of the shafts A A′, and rotating therewith. Each is provided with one, two, or more peripheral grooves or recesses, *m*, exactly fitted to give the required compression and bevel to the ends of the slats when the latter are forced into them. At the rear edge of each recess a spur, *m′*, preferably grooved along its front edge, projects from the periphery of the wheel, as shown in Fig. 1, the spurs on one wheel corresponding in position and movement to those on the other. The wheels M M′, grooves *e e′*, and blocks *b b′* are so arranged and adjusted with relation to each other and to the dimensions of the slats, that, as the wheels revolve, two corresponding spurs—one on wheel M and the other on wheel M′—seize the lower slat by the ends and force it forward with them until its ends pass into the recesses *m m*, which are situated immediately forward of the two operating-spurs. The wheels continuing to revolve, and the slat not having yet come in line with their centers of rotation, its ends are driven with great force into the recesses, and are compressed and beveled thereby to the required dimensions and shape. At almost the same instant the slat passes said central line, the recesses in which its ends were held are opened apart by the further revolution of the wheels, and it

is discharged over the front edge of the frame, or upon a suitable table or other receptacle, finished and ready for use.

The machine operates with the utmost uniformity and certainty, and with great rapidity. With two recesses and spurs to each wheel, the wheels can be driven at a speed of one hundred revolutions per minute, compressing and beveling two hundred slats. It requires no skilled attendants, but can be operated perfectly well by boys with a few minutes' instruction, the only thing that the workman has to do being to keep it supplied with material, and to remove the finished slats before they accumulate in too great quantities. As compared with hand labor, heretofore generally employed for the purpose, the machine with two attendants does the same work in one day that will require three persons twenty-four days to do by hand.

There are modifications of the operative parts that will be obvious to any skillful mechanic after he is instructed as to the general principle of the machine, and which, therefore, I consider as included within the limits of my invention. For example, the wheels M M′ may be made eccentric, so as to increase the pressure on the ends of the slats, and the spurs may be varied in form almost indefinitely. So, too, any approved mode of driving the two wheels above referred to, or of adjusting them toward and from each other, may be employed, and the construction of the feeding devices may be varied.

I claim as my invention—

1. The wheels M M′, provided with the recesses *m* and projections *m′*, adapted to the purposes referred to, substantially in the manner herein described.

2. The combination of the two compressing and beveling wheels M M′, constructed to rotate simultaneously with equal speed in opposite directions, so as to seize and act upon both ends of a slat simultaneously.

3. The combination of the two wheels M M′ with the slat-supports and feed-grooves, substantially as and for the purposes specified.

4. The stationary compressing and beveling wheel M, combined with the adjustable wheel M′, substantially as and for the purposes set forth.

In witness that the above is my invention I hereto subscribe my name this 15th day of January, A. D. 1875.

EDWIN CATHER.

Witnesses:

L. HILL,

M. CHURCH.