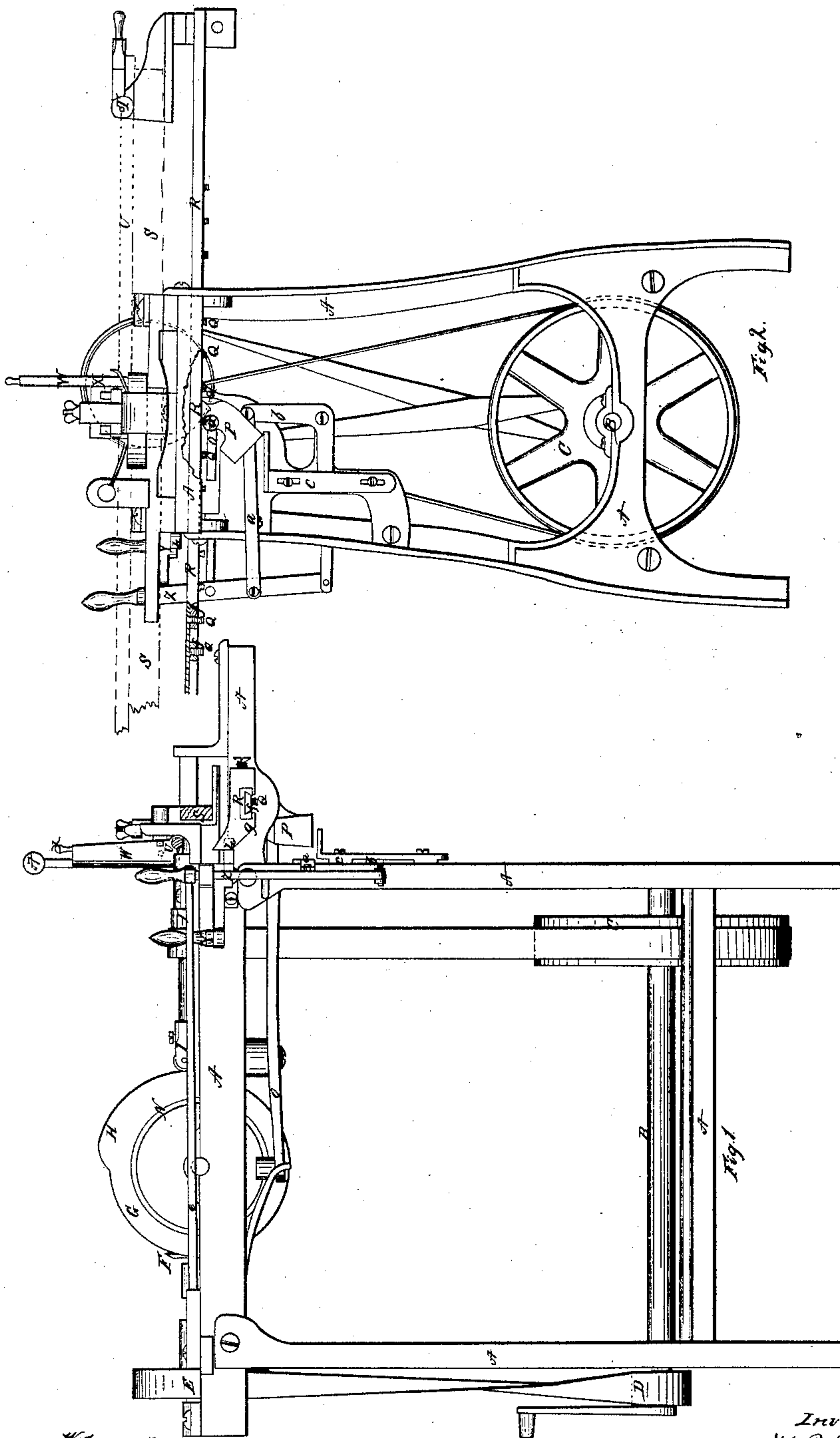


H. B. Smith,

Making Blinds.

N^o 30,429.

Patented Oct. 16, 1860.



Witnesses
L. M. Smith
E. W. Smith

Inventor
H. B. Smith

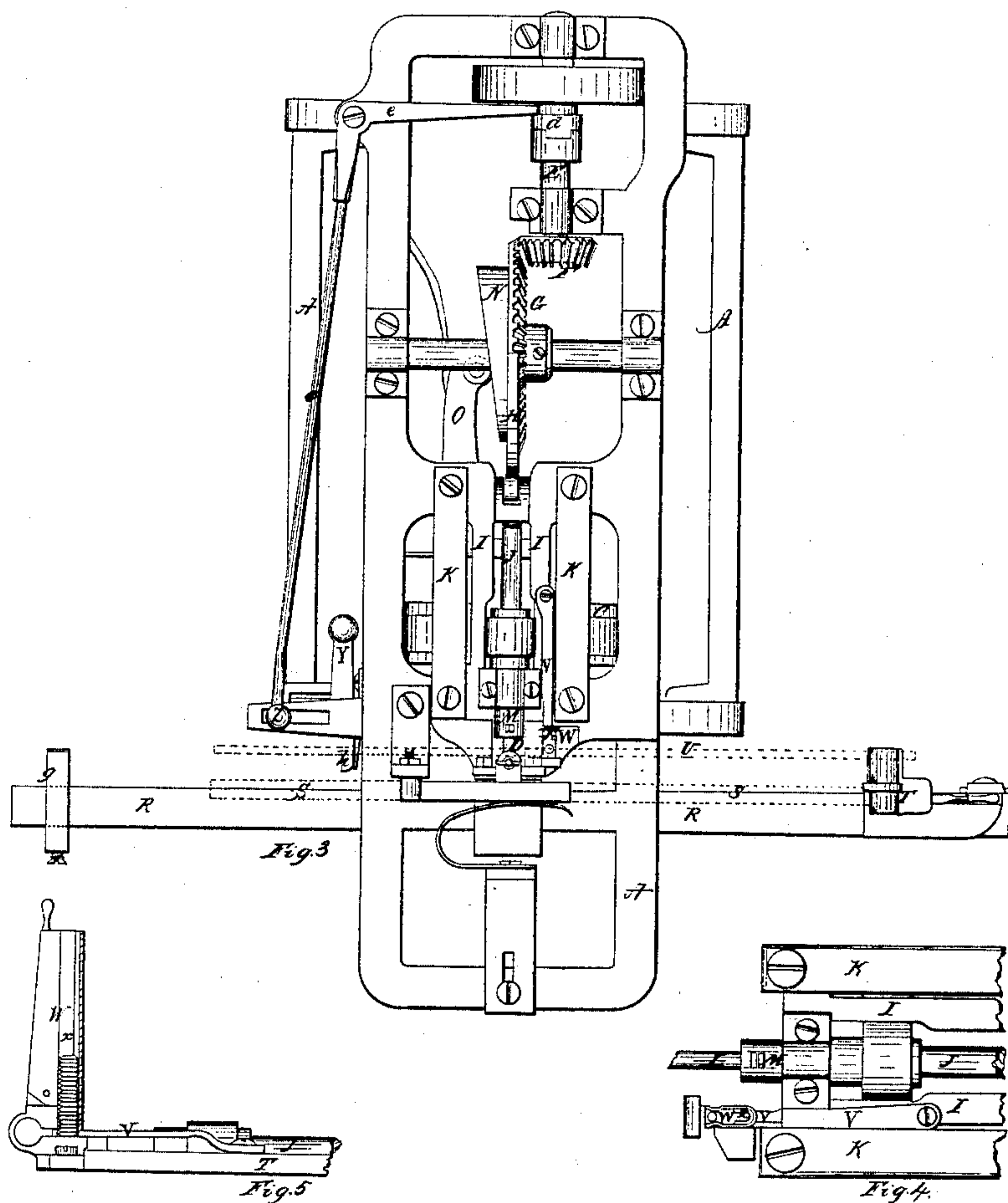
H. B. Smith,

2 Sheets. Sheet 2.

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UNITED STATES PATENT OFFICE.

H. B. SMITH, OF LOWELL, MASSACHUSETTS.

BLIND-SLAT MACHINE.

Specification of Letters Patent No. 30,429, dated October 16, 1860.

To all whom it may concern:

Be it known that I, HEZEKIAH B. SMITH, of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Blind-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Figure 1, Sheet 1, is a side elevation of my machine. Fig. 2, Sheet 1, is an end elevation of it. Fig. 3, Sheet 2, is a plan or top view of it. Fig. 4, Sheet 2, is an enlarged plan of the staple driving apparatus. Fig. 5, Sheet 2, is a side view of same with outer case cut off.

Similar letters of reference in each of the several figures refer to like parts.

The object of my machine is to bore the holes in the stile of the blind, to receive the rolling slats, and at the same time, with a combined apparatus, to drive the staples in the hand rod, so that they will correspond exactly in distance apart, with the holes in the stile, and thus insure the perfect and uniform closing of every slat in the blind.

A description of it and its operation is as follows:

A, represents the frame.

B, is the driving shaft.

C, is the pulley driving the auger shaft or boring tool.

D, is the pulley driving the shaft E, that operates the cam.

F, is a bevel gear on shaft E, that drives the bevel cam gear G. The cam H, on gear G, moves forward the carriage I, in which the auger shaft J, runs.

K, K, are ways on which the carriage I, slides forth and back.

L is the auger which is fastened into the end of the auger shaft or spindle J, by means of the set screw M, and which bores the holes in the blind stile S.

N, is a cam on the side of the gear G, which operates the lever O, having upon the end of it a weighted pawl P, and this striking the pins Q, Q, Q, &c., in the sliding bar R, moves it along just the distance that it is intended to have the blind slats apart.

S, is a blind stile fastened to the sliding bar R, by means of the eccentric binder T. There is also fastened to the bar by the same binder, the shifting hand rod U, and at the same time that the holes are bored in the

blind stile a staple is driven into the shifting rod U, by means of the punch V, which is fastened to the carriage I.

Every time that the punch moves forward it removes one from the bottom of the pile in the feeder W, and when it moves back, the whole pile of staples in the feeder are forced down evenly and regularly, by weight A², Fig. 1, and its plunger reaching down into feeder W, and upon the staples. Instead of this weight a spring or other equivalent device may be used so as to present a new one for the next action of the punch. The staple feeder and punch are represented on a larger scale in Figs. 4, and 5, Sheet 2. The saddle X, of the feeder is jointed so as to turn down to a horizontal position, and receive with greater facility the staples which are to be placed upon it. When filled with staples, it shuts into the case of the feeder, and thus secures the staples in a perpendicular pile, free to drop down as occasion may require.

In order to have all the slats of a blind shut perfectly, it is necessary to have the same distance between all adjacent staples that there is between the corresponding slats; then when the slats are connected with the shifting rod, they all maintain the same relative position, in whatever position they are, and consequently all shut perfectly together at the same time. This perfect correspondence in division, my machine accomplishes, as at each and every time a hole is bored in the stile, a staple is also driven in the shifting rod. With this machine also, it is not requisite that the divisions should be absolutely alike; for, a little variation of the holes in the stile is followed by a corresponding variation in the staples, which makes the slats shut the same as though both divisions were perfect.

When we wish to change the pieces, which are bored and stapled, for new ones, it is necessary to stop the feed motion (but the auger may be allowed to revolve). This is done by springing the handle Y, which unlatches the lever Z, and allows a spring to draw it toward the auger—this moves the connecting rod (a) and the bent lever (b) and lifts the sliding rest (c) which raises the weighted end of the pawl P, so as to throw it out of gear with the pins Q, Q, Q, &c., in the sliding bar R. Thus the bar will cease to move, and we are at liberty to run it back by hand, and put in fresh pieces to

be operated upon. The lever Z, is also connected with the sliding coupling (d) by means of the bent lever (e), which stops the motion of the cam H, and consequently, the forward and back movement of the auger.

f, f, f, &c., are dovetailed nuts, provided with set screws Q, Q, Q, &c. These nuts are made to fit and slide in the groove in the under side of the bar R, and are intended to fix the distances of the holes in the blind stiles from each other. The set screws Q, Q, Q, &c., are long enough to project below the surface of the bar, and thus form a ratchet which is operated by the pawl P, as
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15
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aforescribed. The machine is also made to stop itself as follows:—(g) is a dog fastened to the sliding bar R, when the bar has moved along far enough, strikes against the end (h) of the handle Y, and unlatches the lever Z, and stops the machine in the manner as aforescribed.

I do not claim a machine for boring holes

in blind stiles, automatically, for this has been done before; but

What I do claim, is—

1. The combination of the apparatus for boring the stiles, with the apparatus for driving and setting the staples in the rods, in manner substantially as described, and for the purpose of producing the effect set forth in the specification. 25

2. A sliding rack, having adjustable teeth, when used for the purpose of giving the spaces between the holes in the stiles, or the staples in the rods for rolling slat window blinds substantially as specified. 35

3. The hopper or feeder having a space inside fitted to the staples and made so as to open substantially as specified.

H. B. SMITH.

Witnesses:

L. W. JENNESS,
E. W. SCOTT.