S. E. Crocker,

Dressing Slate.

No. 7,320. Patented Apr. 30, 1850.

Fig. 1.

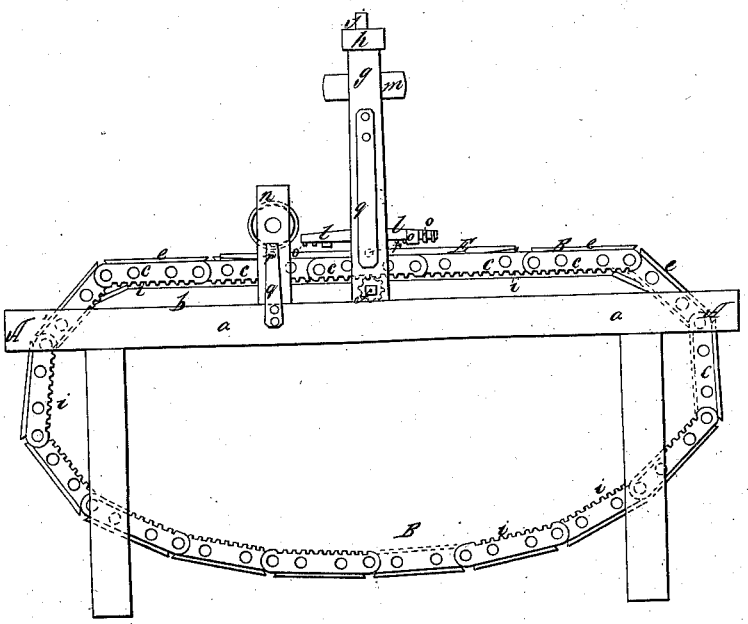

Fig. 2.

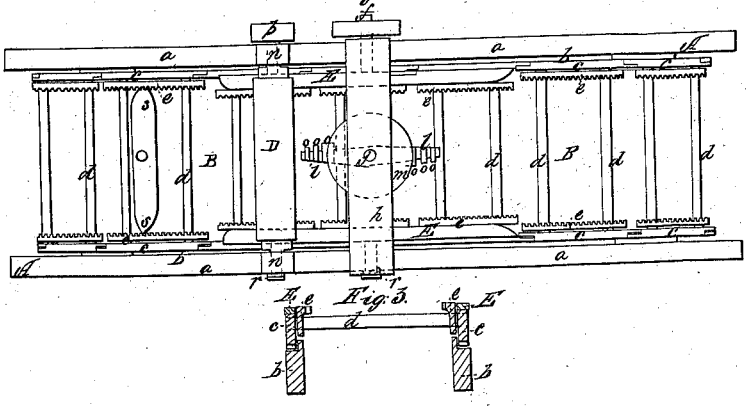

Fig. 3.

UNITED STATES PATENT OFFICE.

SAMUEL E. CROCKER, OF BOSTON, MASSACHUSETTS.

MACHINE FOR HOLDING AND DRESSING SLATES.

Specification of Letters Patent No. 7,320, dated April 30, 1850.

To all whom it may concern:

Be it known that I, SAMUEL E. CROCKER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Machine for Dressing Slates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1, represents an elevation of my machine. Fig. 2 is a plan of the same, and Fig. 3 is a transverse section of one of the carriages.

In my machine the rough slates are placed upon an endless series of carriages provided with clamps, which seize them, hold them firmly, and convey them beneath a series of revolving cutters which dress their surface; after passing the cutters the carriages still holding the slates, carry them beneath a revolving buff cylinder, by which the surface is finished; the slates are then released from the carriages and removed from the machine.

In the drawing A, A′, is a strong frame on which the other portions of the machine are mounted; to the upper rails *a*, *a*, of this frame two ways *b*, are secured these are parallel with each other and support the endless series of carriages B; the latter consists of a number of rectangular frames, each composed of two side pieces *c c* connected by two or more cross bars *d*, *d*, and hinged together at the adjoining extremities of their side pieces; two clamps *e*, *e*, are constructed to slide upon the cross-bars of each frame, and their inner faces are ragged to grip the edges of the slates laying between them. The lower edges of the side pieces of the endless series of carriages are furnished with cog-teeth *i*, *i*, which gear into the teeth of a pinion secured to a horizontal shaft *f* by turning which the whole series is caused to pass in endless succession over the parallel ways *b* descending at one end (A′) of the frame, and rising at the other (A).

A cutter frame is erected upon the main frame, this consists of two standards *g* connected together by two cross-bars *h* which contain the brasses of the upright shaft *j* of the cutter bar *l;* the latter is horizontal and is fitted with a series of cuters *o*, *o*, which project further from the lower face of the cutter bar as they approach the axis of the upright-shaft so as to act progressively in reducing and dressing the surface of the slate. The cutter-bar is revolved by means of a belt encircling a belt pulley *m* secured to the upright shaft.

Immediately behind the cutter frame a second frame is erected also composed of two standards *n*. This second frame supports the brasses of the shaft of the horizontal buff cylinder D to one of whose extremities a belt pulley E is secured to which the motion of the prime mover is communicated by a belt.

Two parallel pressure bars E, E, are supported at each side of the machine within the standards of the two frames and above the upper edges of the side pieces of the carriages; these bars are each secured to the inner extremities of two stems *r r* (in dotted lines in the drawing) which pass through and slide in the standards *n g* of the cutter and cylinder frames; the outer extremities of these stems are acted upon by springs *q*, *q*, which thus tend to force the two bars to approach each other. The carriage clamps *e*, *e*, project above the side pieces *c* and the extremities of the pressure bars E are sloped off to admit the moving clamps more readily between them.

The operation of the machine is as follows: The cutter bar, the finishing cylinder, and the endless series of carriages are put in motion by belts, the rough slates are then laid upon the cross-bars between the clamps; as then the carriages are carried forward, the clamps enter between the pressure bars which acting upon them by the pressure of the springs *q*, *q*, force the ragged faces of the clamps to bite into the edges of the slate laying between them, thus holding them firmly as they pass beneath the revolving cutters secured to the cutter bar, which quickly reduce the rough to an even surface; after leaving the cutters, the carriages still holding the slates carry them beneath the finishing cylinder, which polishes the surface dressed by the cutters. As the slates leave the finishing cylinder the clamps pass the hinder extremities of the pressure bars and are separated to release the slate by a pair of adjustable inclined blocks *s*, *s*, secured to the main frame, the slates are then removed from the carriage. It will be perceived that by the operation thus described the upper surfaces alone of the slates are

dressed; to dress the opposite surfaces, the slates are turned over and again passed through the machine the cutters being set nearer to the cross bars of the carriages. In manufacturing on a large scale it will be better to have two machines, the one of which continually dresses the one face while the other dresses the opposite face, thus dispensing with the loss of time incurred in changing the set of the cutters.

Having thus described the construction and operation of my machine for dressing slates, what I claim therein as new and desire to secure by Letters Patent is—

The endless series of clamp carriages operating substantially as herein set forth to hold and carry the slates beneath the cutters.

In testimony that the foregoing is a correct specification I have hereto subscribed my name this 20th day of February 1850.

SAMUEL E. CROCKER.

Witnesses:

E. S. REMWICK,

P. A. WATSON.