

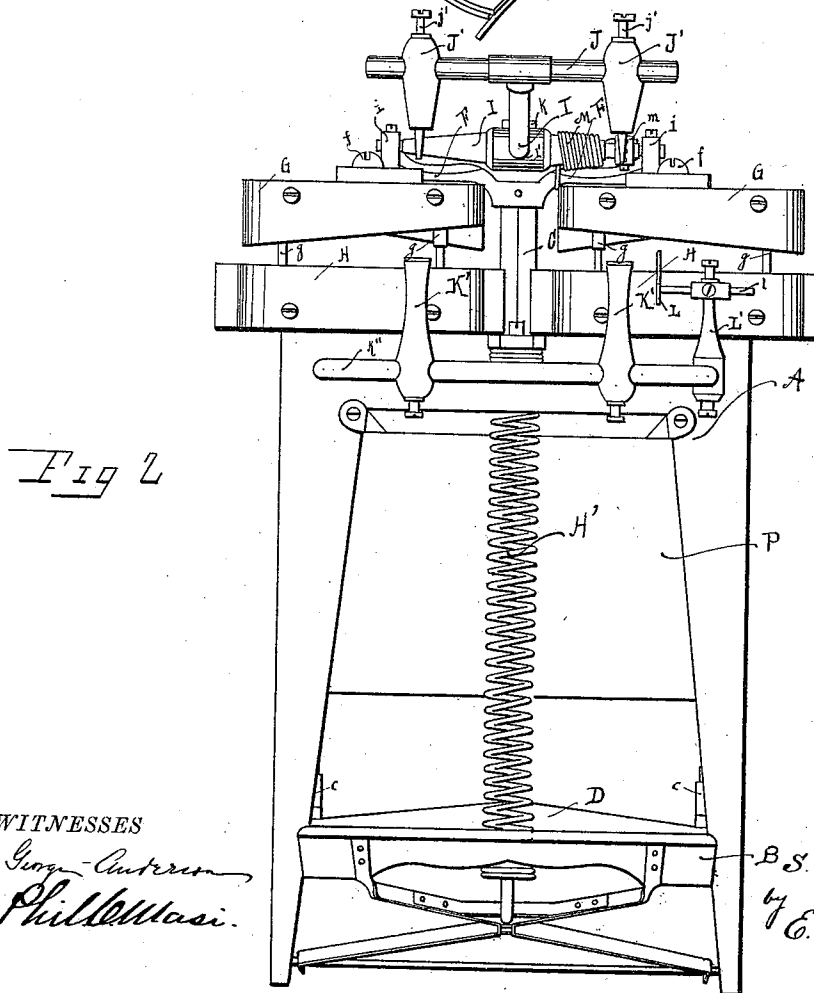
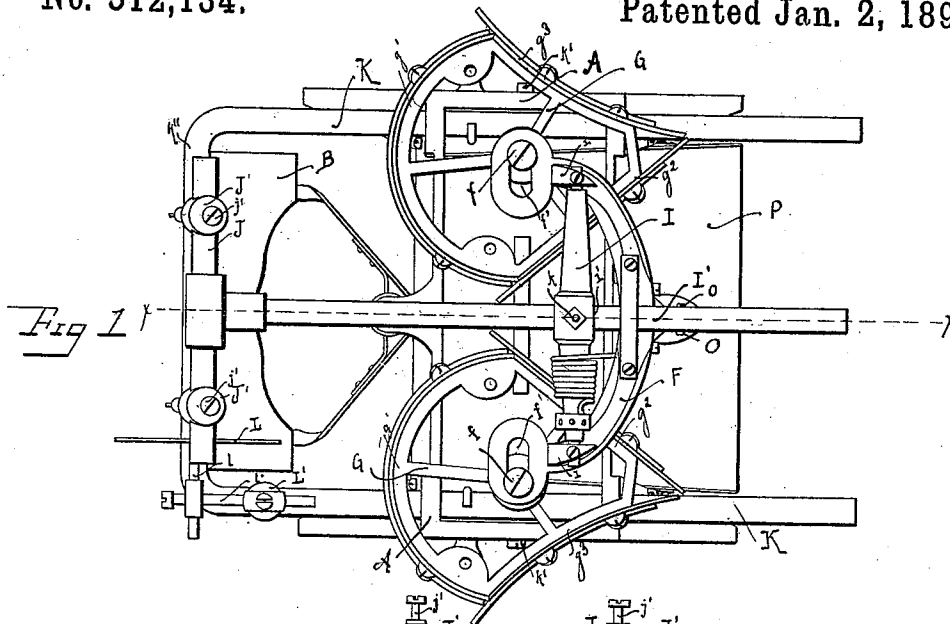
(No Model.)

2 Sheets—Sheet 1.

S. D. VAN PELT.
SLATE DRESSING MACHINE.

No. 512,134.

Patented Jan. 2, 1894.



WITNESSES

George Anderson
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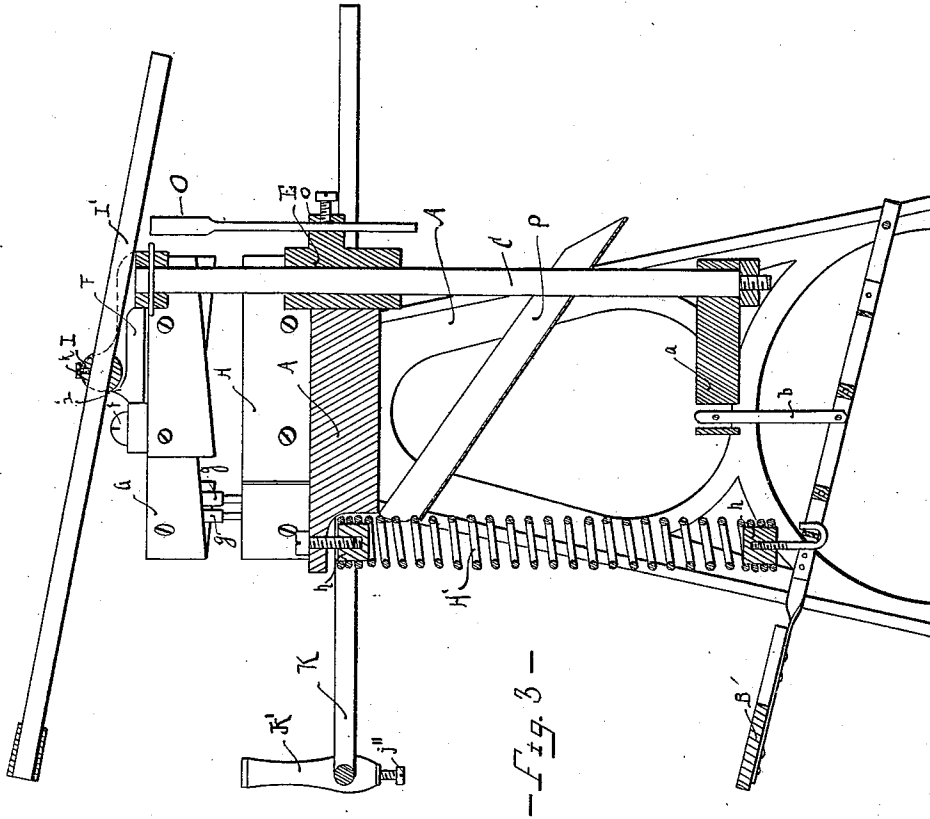
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—Fig. 3—

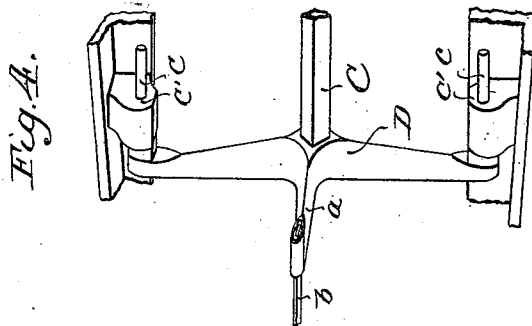


Fig. 4.

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UNITED STATES PATENT OFFICE.

SAMUEL D. VAN PELT, OF ANDERSON, INDIANA.

SLATE-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 512,134, dated January 2, 1894.

Application filed March 23, 1893. Serial No. 467,372. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. VAN PELT, a citizen of the United States, and a resident of Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Slate-Dressing Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a top plan view of the machine. Fig. 2 is a front elevation of same. Fig. 3 is a vertical section of same taken on line *xx* and Fig. 4 is a perspective view in detail of the guides with vertical shaft and transverse bar.

This invention relates to certain new and useful improvements in slate dressing machines, the object being to provide a simple, practical, and efficient machine of this character of improved construction and operation; and the invention consists in the novel construction and combination of parts, all as hereinafter described and pointed out in the claims.

Referring to the accompanying drawings, the letter A designates the frame of the machine, and B a treadle hung in the base of said frame.

C is a vertical bar or shaft at the rear portion of the machine, and which is carried at its lower end portion by a transverse arm or bar D. Said arm or bar D has a forwardly extending arm *a*, and this arm is connected to the lever of the treadle by a short vertical link *b*. At each end portion of said arm or bar D are vertical guide pins *c*, *c*, which loosely engage bearings in lugs *c'*, *c'* of the frame. The vertical shaft or bar C has a guide or bearing at E through which it has a free vertical movement, and at its upper end it carries a bow-shaped arm F, to which the cutters are connected.

G, G, designate the upper cutters, and H, H, the lower ones, said cutters being arranged in two pairs. Said cutters are carried by sector-shaped frames, the lower frames rest-

ing upon the top portion of the main frame A, but not connected thereto, and the upper ones being connected to the respective end portions of the arm F by screws *f*, which engage elongated slots *f'* in said arm. The cutters of each pair are connected one with the other by guide pins *g*, *g*, carried by the one and loosely engaging bearings in the other. The frame of the lower cutter is just enough larger than that of the upper cutter to permit the latter when depressed to partially enter the former. The sector-shaped frames which carry the cutters have an arcuate-convex side *g'*, a straight side *g''*, and a concave side *g'''*, each of which carries a cutter of corresponding form, and said frames may be swung on the screws *f* so as to bring any one of the sides into cutting position. The cutters are secured in their different positions by means of the screws *f*, above described, the guide pins *g*, *g*, holding the lower cutters stationary with relation to the upper ones, and making their adjustment common.

H' is a coil spring affixed at one end to the lever B' of the treadle, and at the other end to the main frame, said spring serving to lift the treadle and cutters. Inserted in each end of this coil is a threaded plug *h* by means of which the connection is made with the treadle lever and frame, and by means of these plugs, the tension of the coil may be adjusted within certain limits. Further increase of tension may be secured by cutting off one or more coils of the spring.

Journalled in lugs *i*, *i*, on the bow-shaped arm F is a transverse rock arm or shaft I, in a central bearing *i'* of which is held a rod or bar I' at right angles to said rock-arm or shaft, said rod or bar being adjustable in said bearings, and secured therein by a set-screw *k*. On the forward end of said rod or bar is a transverse arm J, and carried by this arm are two punches J', J', which are made laterally adjustable on said arm, and are secured thereto by the set-screws *j'*.

K is an angular frame, the side arms of which are adjustably held in the upper side portions of the main frame A by set screws *k'*. The horizontal arm *k''* of said frame in front of the machine carries two anvils or dies K', immediately underneath the punches

J', J', and said anvils or dies are also made laterally adjustable on the arm *k''* in order that they may be placed to correspond with the lateral adjustment of said punches.

5 L is a gage which is carried by an arm *l*, adjustably carried by an arm *l'* at right angles thereto, and the arm *l'* is adjustably carried by a standard *L'*, which is itself adjustably held upon one of the side arms of the
10 frame K. The various adjustments of these arms and standards are secured by set screws.

Coiled around the rock arm or shaft *I* is a spring *M*, one end of which is attached to the arm *F*, and the other to a collar *m* on said
15 rock arm or shaft, said collar being adjustable on said shaft in order that the tension of the spring may be adjusted. Said spring acts to raise the punches.

P is an apron or chute which carries the
20 cuttings from the machine.

When the treadle is operated, the bar or shaft *C* is drawn downwardly forcing the cutters together, this movement also bringing downwardly the rod or bar *I'* which is
25 supported by the bow arm *F*, as above described until its rear portion comes into engagement with a standard *O*, which has a vertical adjustment in a lug *o* of the frame. As soon as the rod *I'* comes in contact with the
30 standard, it takes a bearing thereon, and the continued downward movement of the cutters and their operating mechanism causes the arm or shaft *I* to rock, throwing the forward portion of the rod *I'* with the punches
35 downward with a sharp blow, sufficient to pierce the slate with the usual holes, by means of which the slate is secured in place when used. The downward movement of the rod or bar *I'* is limited by a strap or plate guard
40 arched thereover and secured to the arm or bar *F*. The cutters form the proper point, and by adjusting said cutters into different positions, which may be easily effected by loosening the screws *f* and turning the cutters thereon, and by adjusting said screws in
45 the slots *f'*, different designs or shapes of the slate can be made. This is considered an important feature of the invention.

The capability of adjustment of the punches, with their anvils, both laterally and forwardly, permits the holes to be punched at any desired points. The punching and cutting, it will be observed, are both performed by the same operation.

55 Other power than foot-power may be applied to operate the machine, as may be desired.

Having described this invention, what I claim as new, and desire to secure by Letters
60 Patent, is—

1. In a slate dressing machine, the combination of a frame, a vertically reciprocating bar or shaft, its operating mechanism, a transverse arm carried by the upper portion of
65 said bar or shaft, a cutter head or frame carried by each end portion of said arm, and a pair of similar but larger heads or frames sup-

ported on the frame, and loosely connected to the first named heads or frames by guide pins, substantially as specified.

2. In a slate dressing machine, the combination with an upper sector-shaped head or frame carrying at each of its sides a cutter of different form, and means for moving said frame on its support to bring any one of said cutters
75 into cutting position, of a lower frame or head also of sector-shape but larger than the upper frame or head, and supported loosely on the main frame, and guide pins forming a loose connection between said upper and lower
80 frames or heads, and providing for their common adjustment, substantially as specified.

3. The combination in a slate dressing machine of a vertically reciprocating bar or shaft, its operating mechanism, a transverse
85 arm at the upper portion of said bar or shaft, a pair of cutters adjustably connected to said arm, and a pair of stationary cutters also adjustable, said stationary cutters being loosely supported on the frame, and guide pins carried
90 thereby and loosely engaging bearings in the movable cutters, substantially as specified.

4. In a slate dressing machine, the combination with a vertically reciprocating bar or shaft, its operating mechanism, and an arm
95 carried thereby, of a pair of sector-shaped cutting devices adjustably carried by said arm, a pair of corresponding stationary cutters, also adjustable, and guide pins forming a loose connection between the stationary and
100 movable cutters, substantially as specified.

5. In a slate dressing machine, the combination with the frame, a reciprocating shaft and arm, a pair of sector-shaped cutting devices
105 carried by said arm, and means for securing the adjustment of said devices, of a pair of stationary cutters supported on said frame but not connected thereto, said stationary cutters being similar in form to the movable cutters but larger, and guide pins on one cutter
110 of each pair loosely engaging bearings in the other cutter of the pair, substantially as specified.

6. In a slate dressing machine, the combination of the vertically reciprocating shaft *C*, the bow-shaped arm *F*, the cutting devices, the rock shaft or arm journaled in lugs on said
115 bow-shaped arm, the punch carrying rod or bar *I'* held in said rock shaft or arm, the transverse arm *J*, the two punches *J' J'* carried by said arm *J* and laterally adjustable thereon, the anvil frame, and anvils, and the bearing *O* for the rod or bar *I'*, substantially as specified.

7. In a slate dressing machine, the combination of the main frame, the vertically reciprocating bar or shaft *C*, its operating mechanism, the bow-shaped arm *F* carried by said bar or shaft, the adjustable sector-shaped cutters
125 *G G*, and *H H*, one pair at each end portion of said arm *F*, and all acting to form the point of the slate, the rock shaft or arm *I*, journaled in lugs on said arm *F*, the punch rod or bar *I'* held in a central bearing in said rock shaft
130

or arm I, the arm J of said rod or bar I', the punches J' J' carried by said arm J, and laterally adjustable thereon, the anvils K' K', also adjustable, and the stop O for said rod
5 or bar I', substantially as specified.

8. In a slate dressing machine, the combination of the frame A, the treadle B hung in the base of said frame, the vertical bar or shaft C at the rear portion of the frame, the trans-
10 verse arm D carrying said bar or shaft C, its forwardly extending arm a, a link b connecting said arm a with the lever of the treadle,

a vertical guide pin c at each end portion of the arm D, and loosely engaging bearings on the frame, the lifting spring H connected to
15 the frame and to the treadle, and the cutting and punching devices operated by said bar or shaft C, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL D. VAN PELT.

Witnesses:

BYRON McMAHAN,
MATTIE LONGFELLOW.