

A. Kendall, Cutting Shingles.

N^o 14,101.

Patented Jan 15, 1856.

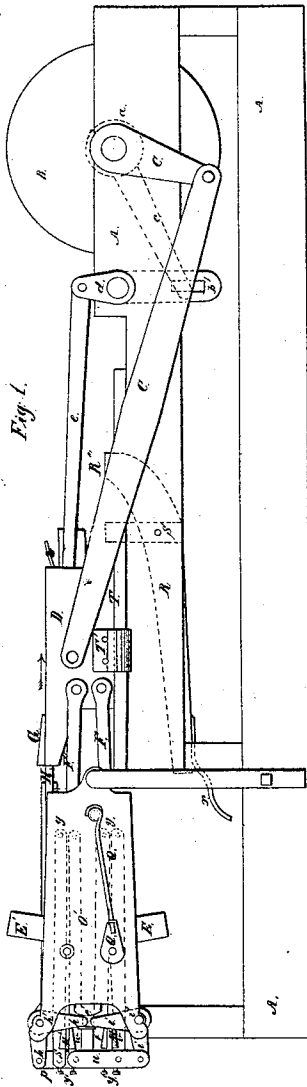


Fig. 1.

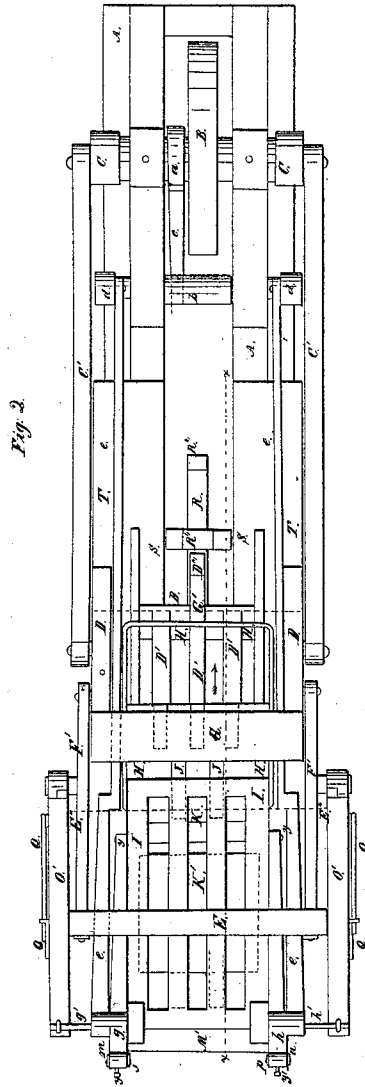


Fig. 2.

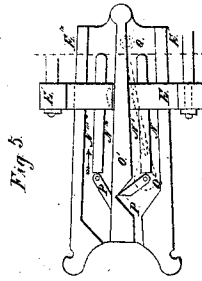


Fig. 5.

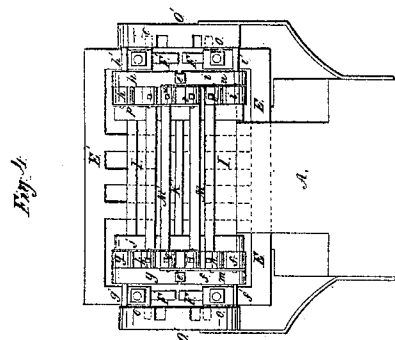


Fig. 6.

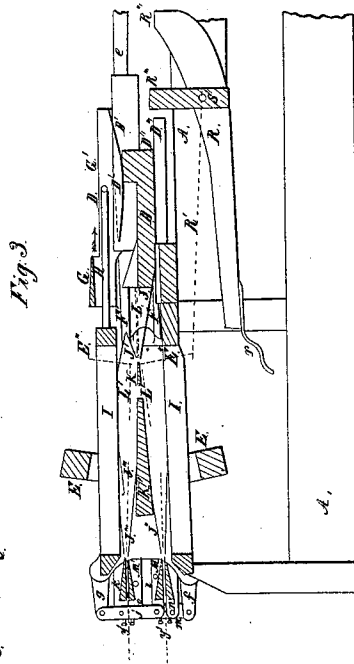


Fig. 3.

UNITED STATES PATENT OFFICE.

A. KENDALL, OF CLEVELAND, OHIO.

SHINGLE-MACHINE.

Specification of Letters Patent No. 14,101, dated January 15, 1856.

To all whom it may concern:

Be it known that I, A. KENDALL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Machines for Making Shingles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Figure 1 represents a side elevation of my machine; Fig. 2, a plan view; Fig. 3, a longitudinal section in the direction of the lines *x x* in Fig. 2; Fig. 4, an end view, and Fig. 5 a detached section.

Like letters designate like parts in the several views.

My machine is so constructed that in its operation, one piece, which is enough for two shingles, is cut off from the bolt, divided, and shaved into two shingles, at every revolution of the crank.

The frame A, is made of wood or iron, and to it is secured the devices for making shingles.

The driving wheel B, is attached to the same shaft as the cranks C, C; these cranks are connected to the carriage D, by the rods C', C'; there being a wrist and strap joint at the connection on each end of the rod.

The drivers E, E', are connected to the carriage by the rods F, F, F', F'; by this means the drivers and carriage have a reciprocating and simultaneous motion.

To the top of the carriage is secured the knife G, Figs. 1, and 2.

H, is a square brace secured to the grate plate I. This brace is placed between the knife G, and the carriage D, as seen in Fig. 3.

The bolt is first placed upon the springs D', Figs. 2 and 3, of the carriage, between the knife G, and the brace H; the brace prevents the bolt from moving while the carriage and knife pass in the direction of the arrow, from G, to G', thereby cutting or sawing off from the bolt, one piece, which is enough for two shingles, and which drops down onto the springs J; as the carriage D, returns, the piece L, Fig. 3, from the bolt, is forced by the end of the carriage to the knife K, by which it is divided into two, L', L'; the drivers E, E', then push them along to the shaving knives M, M', and in passing through between which knives, the desired

taper is given to the shingles. The springs J, J', serve as guides, to give the proper direction of the piece to be divided, to the knife K; and J'', J''', are springs which act as guides in directing the two pieces L', L', to the shaving knives M, M'.

K' is a division plate, to which two of the springs are attached, and which aid in directing the upper piece to the springs J'', J''', and which also aid in strengthening the machine and keeping the side plates under the grate plates I, in place. As the carriage passes from G, to G', the drivers pass from E, E', to E'', E''', in time to convey the pieces, as soon as divided by the knife K, to the shaving knives. These drivers have straight projecting fingers, which extend through the spaces between the bars of the upper and lower grate plates I, as shown in Fig. 4, and on each end of the drivers, is a wrist, O, which slides in the grooves or slides N, N', N'', N''', Fig. 5, in the side plates O'. The driver E', in conveying the piece to the shaving knives, passes along the slide N'', and under the tumbler P, which falls back in place, as soon as the driver has passed; the driver in returning in the direction of the arrow, passes over the tumbler P, and through the slide N''', to the end, at E'''; then it falls, so as to return in the slide N''. The upper and lower drivers, move simultaneously, and while the upper driver is in the slide N'', the lower driver is in the slide N', and passes along to the tumbler P', which the driver turns down and slides over, but as soon as the driver has passed over, it moves back in place, by the action of the spring Q, turning the arm Q', on the shaft connected to the tumbler, as the tumbler is moved back in place. The driver E, returns in the slide N at the same time the driver E' is returning in the slide N'''. While the drivers are conveying the pieces L', L', to the shaving knives, the carriage is forcing the next piece L, cut from the bolt, against the knife K, by which it is divided into the next pieces L', L', at the same time that the two preceding pieces are forced through the shaving knives, by the drivers.

If the drivers should return in the slides N' N'' they would interfere with the pieces L', L', divided by the knife K, which is avoided by causing the upper driver to pass over, and the lower driver under the pieces,

by means of the slides N, N''', thereby the drivers are brought in behind the pieces L', L'', as indicated at E'', E''', Fig. 3.

When the driver E, returns to E'', the lever R, is raised to R' by the action of the end D'', of the carriage on the arm R''; by this means, the driver is raised up to the slide N'', at the same time the lever is raised the arm D''', which extends from the carriage, passes over the end R''', of the lever by which means the lever is retained in the position indicated at R', after it is first raised there, long enough to allow the driver to enter the upper slide N'. The lever will then drop back, the arm D''', having passed back from off the end of the lever. The driver rests upon the arm r, while being lifted, and passing into the slide.

The shaft or fulcrum of the lever R, is at S, Figs. 1, 2, and 3. The carriage slides upon the ways T, T, and is retained in place by a jaw or clamp on each side, corresponding to T'. The plates O', on each side of the machine, are the same as described in Fig. 5, the ends of each of the drivers operating in the slides of the plates, the same as shown in Fig. 5. To the driving shaft is attached an eccentric at (a), Figs. 1 and 2, and from the rock shaft (b,) extends the arm (b'); the arm and eccentric are connected by the rod (c), in the ordinary manner. On each end of the shaft (b), is a crank (d), (d); to each of these cranks is attached the rods (e), (e), which connect with the two right angled levers (f) (g), and (h) and (i), at (e') Figs. 1, 2, and 4. The levers move upon the shafts (f') and (g') and (h') and (i'). The bar (j) is attached by a pin joint to the lever (g) and the knife levers (k) and (l), and the bar (m) is connected by a pin joint, to the lever (f), and knife levers (n) and (o), Figs. 3

and 4, on the other the bar (p) is connected in like manner to the shaft (h), knife levers (s), and (t), and the bar (u), is connected in the same manner to the lever (i), and knife levers (v), and (w).

By the action of the eccentric, and rock shaft, and the arrangement of the knife levers, the knives are caused to approximate, so as to shave the shingles at the desired taper, according to its length, which may be governed by altering the sweep of the arm (b'), there being a slot in the lower end for that purpose. The upper knife of the set M', and the upper knife of the set M, are connected by the bars (j), and (p), and the lower knife of the set M, and the lower knife of the set M' are connected by the bars (m) and (u); by this means, all the knives approximate simultaneously.

The knife levers move upon a pin or wrist as indicated at (y) Figs. 1 and 2, (y') are set screws to adjust the shaving knives.

What I claim as my improvement and desire to secure by Letters Patent, is—

1. The herein described arrangement of devices, for operating the approximating knives, whereby the shingles are shaved to the desired taper, according to the length of the shingle.

2. The manner of raising the driver E, from the slide N, to the slide N', by means of the carriage acting on the arm R, in combination with the lever R' and arm (r), and the action of the arm D''', on the end R''', of the lever R, as herein before described.

3. The tumbler P', as combined with the springs Q, Q, and arms Q', Q', operating in the manner and for the purpose set forth.

ADONIRUM KENDALL.

Witnesses:

W. H. BURRIDGE,
JEHU BRAINES,