Darby & Young,

Planing Shingles.

No. 19,136. Patented Jan. 19, 1858.

Fig. 1.

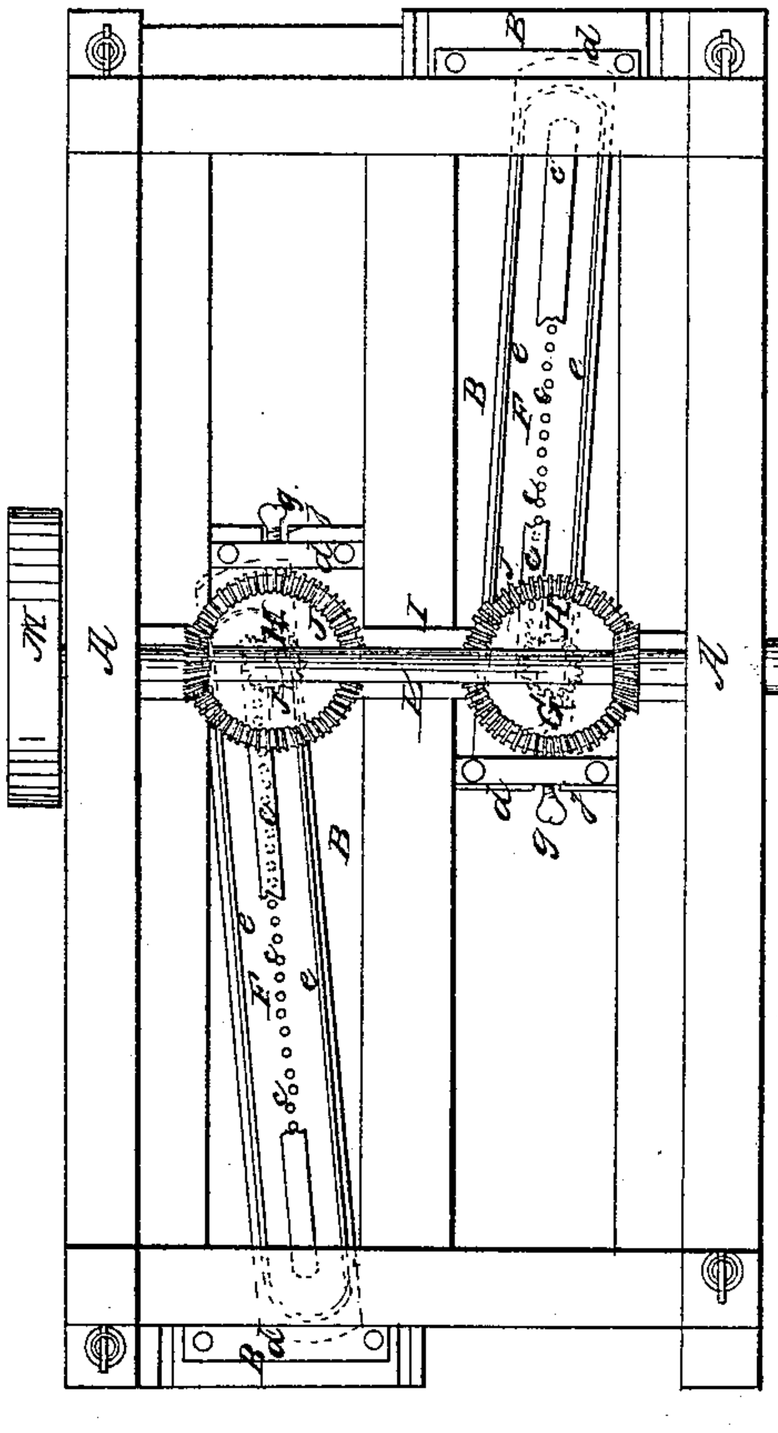


Fig. 2.

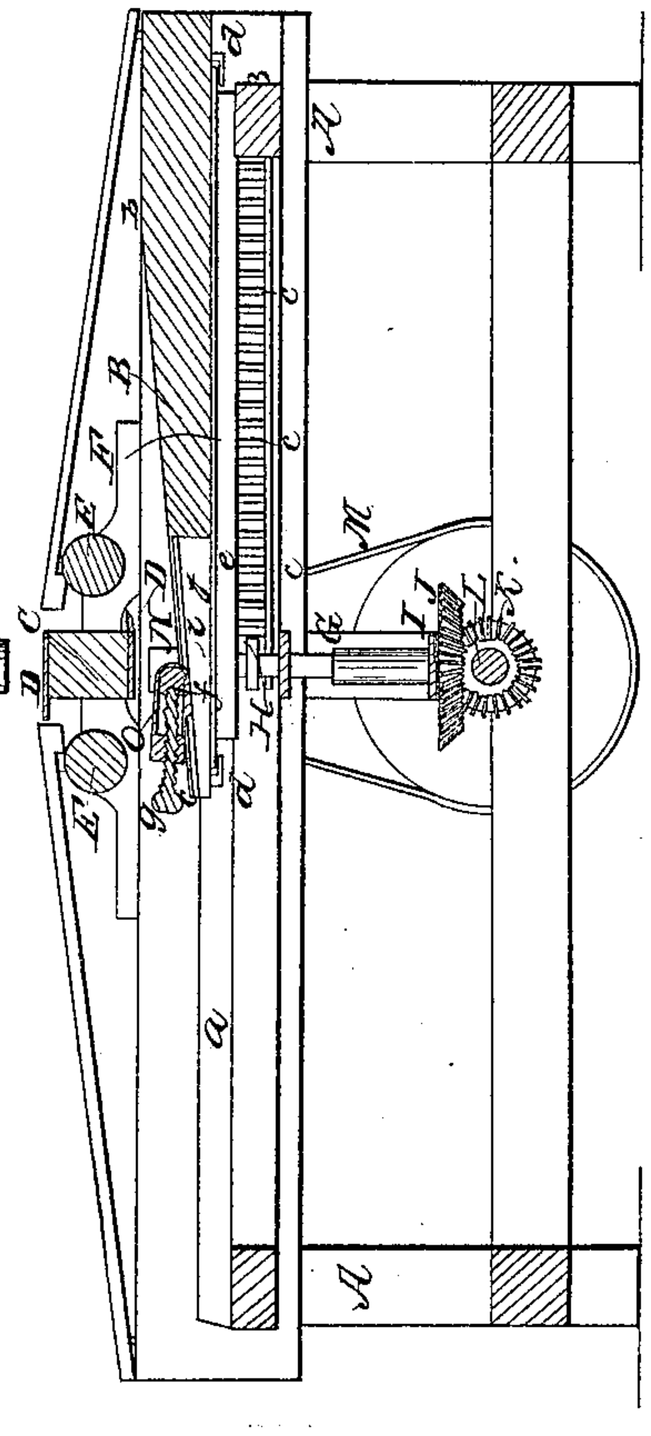


Fig. 3

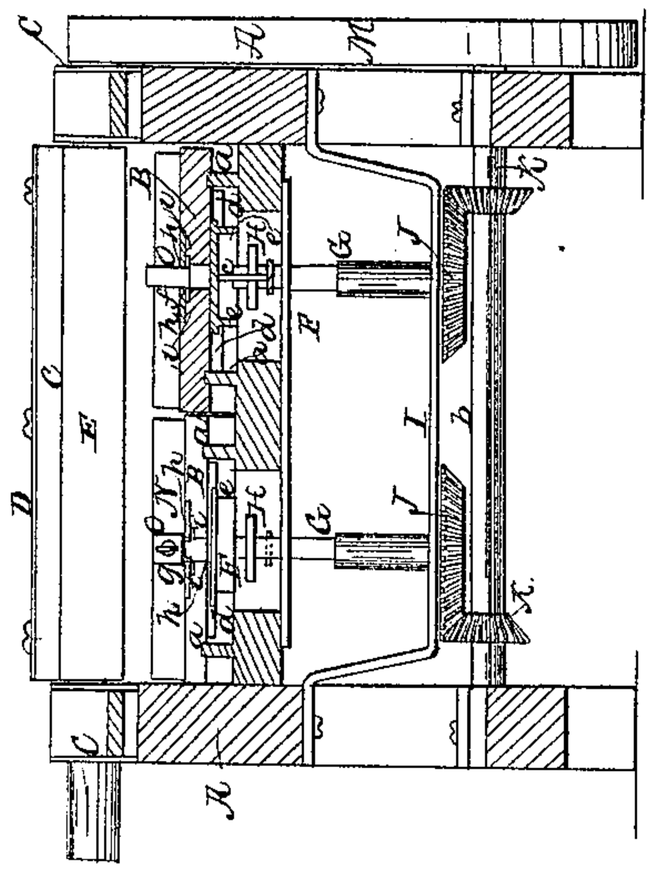


Fig. 4.

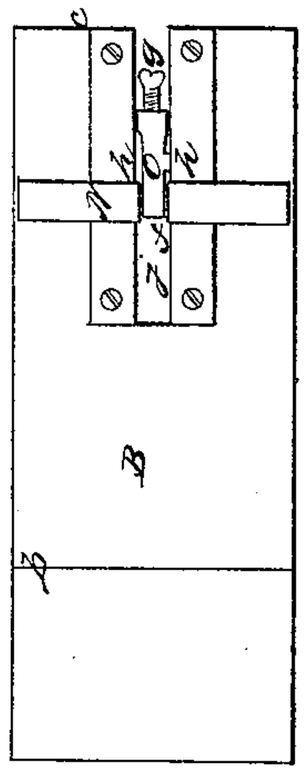
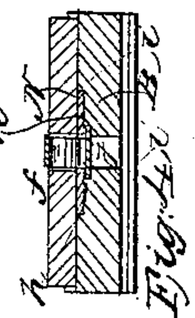


Fig. 5.



UNITED STATES PATENT OFFICE.

GEORGE DARBY AND J. E. YOUNG, OF AUGUSTA, MAINE.

SHINGLE-MACHINE.

Specification of Letters Patent No. 19,136, dated January 19, 1858.

To all whom it may concern:

Be it known that we, GEORGE DARBY and J. E. YOUNG, of Augusta, in the county of Kennebec and State of Maine, have invented a new and useful Improvement in Shingle-Planing Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is an inverted plan of a shingle planing machine constructed after our invention. Fig. 2, a vertical longitudinal section of the same. Fig. 3, a vertical transverse section of ditto. Figs. 4 and 5, are views of the head block against which the butt of the shingle rests while being planed.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of our invention consists in effecting the reciprocation of the shingle carriage by means of a pinion wheel, and a toothed bar which has only a single line of teeth, and is arranged loosely on the underside of the carriage so as to be compelled to move with it longitudinally, and yet to be capable of moving laterally to the right and left independently of it, and at the completion of each stroke of the carriage of alternately assuming positions which are opposed to one another, and which are oblique or diagonal to the path in which the carriage is moving, and which will allow the pinion to take hold of the opposite side of the teeth; as will be presently described.

Our invention consists in a simple and cheap method of fastening the head block to the shingle carriage, whereby expense is saved, and increased facility afforded for readily adjusting it to shingles of different lengths.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A, represents an oblong frame with longitudinal ways *a*, *a*, *a*, *a*, for shingle carriages B, B. These carriages are beveled off from *b*, to *c*, on top, so as to give the proper taper to the shingle.

C, is the shaft which carries the planes D, D. This shaft is situated at the center of the length of the frame, just above the carriages B, B. The planes D, D, are of sufficient width to extend from the outer edge of one carriage to the outer edge of another, and thus plane the shingles of both carriages, as they pass by them.

E, E, are yielding feed rollers arranged at the front and back of the cutter shaft.

F, F, are the toothed bars or plates, arranged loosely on the underside of the carriages; these bars have each a single row of teeth *c*, *c*, in the center of their width, and are supported at their ends by grooved bars *d*, *d*, as shown in Fig. 2. By supporting the bars thus, they have a freedom to shift their position from a line parallel to the ways of the carriage to a position oblique or diagonal thereto, as in the manner illustrated in Fig. 1.

G, G, represent vertical shafts carrying pinions H, which gear into the teeth *c*, *c*, of the bars F, F. These shafts have their bearing in the transverse sill I, and their upper ends are confined and prevented from having lateral movement by a flange or rim *e*, projecting down from the toothed plates so as to come all along and around the teeth *c*, *c*, thereof. By thus confining the upper end of these shafts the pinions are always kept in gear with the teeth *c*, *c*, of the plates F, F. By referring to the drawing it may be seen that by having the pinions gear into the teeth of the bars F, F, a longitudinal movement of the carriages in one direction is produced, and that by confining the ends of the shafts and holding the pinions in gear with the bars that at the completion of the stroke of the carriages the toothed bars change their parallel position for an oblique one and thereby allow the pinions to take hold of the opposite sides of the teeth and reverse the movement of the carriages. Similar change occurs when the carriages complete their return movement, and thus a continuous reciprocating motion is produced by the most positive and simple means.

J, J, are large bevel wheels on the lawer ends of the shafts G, G; these wheels gear into smaller bevel wheels K, K, which are on a horizontal driving shaft L. The planer shaft and the shaft are connected by a band M, which passes from a small pulley of the planer shaft to a larger pulley of the driving shaft. It may be evident from this

method of gearing that the speed of the planer is far greater than that of the carriages. It may also be evident that the carriages should be arranged so that the planer shall commence to plane the shingle on one carriage at its butt end while it commences to plane the shingle on the other carriage at its tip end. By this arrangement, two shingles can be finished at the same time notwithstanding the carriages move in opposite directions, and the carriages materially assist in preventing lateral play of the shingles.

N, N, represent the head blocks of the carriages. Each of these head blocks is confined to the carriage by means of clamp O, which is made in the form of a yoke, said yoke being placed around a reduced part or neck *f*, of the head block and confined by a set screw *g*, as shown in Figs. 2, 4 and 5. On each side of the upper side of the yoke two ears *h*, *h*, are formed. These ears, when the head block is applied to the carriage, pass through horizontal grooves *i*, *i*, while the yoke fits in an oblong vertical groove *j*, of the carriage. The head block is confined in any desired position or so as to suit any length of shingle by simply turning the screw *g*, and thereby drawing the yoke out straight and causing the ears to bind against the top sides of the grooves *i*, *i*, as illustrated in Fig. 5.

What we claim as our invention and desire to secure by Letters Patent, is—

1. Effecting a continuous reciprocation of the shingle carriage by means of a pinion wheel H, and the toothed bar F, which has only a single line of teeth *c*, *c*, and is ararranged loosely in grooves on the underside of the carriage, so as to be compelled to move with it longitudinally and yet to be capable of moving laterally to the right and left, independently of it, and at the completion of each stroke of the carriage, of alternately assuming positions which are opposed to one another, and which are oblique or diagonal to the path in which the carriage is moving, and which will allow the pinion to take hold of the opposite side of the teeth, substantially as, and for the purposes set forth.

2. The head block N, when furnished with a yoke O, which has ears *h*, *h*, and a set screw *g*, in combination with the grooved shingle carriage B, substantially as and for the purposes set forth.

The above sepecification signed and witnessed this 4th day of Dec. 1857.

GEORGE DARBY.
J. E. YOUNG.

Witnesses:
E. HERMANS,
HARVEY STETSON.