2. Sheets. Sheet. 1.

C. Nordell,

Shingle Machine.

No. 107,092. Patented Sep. 6. 1870.

Fig: 1.

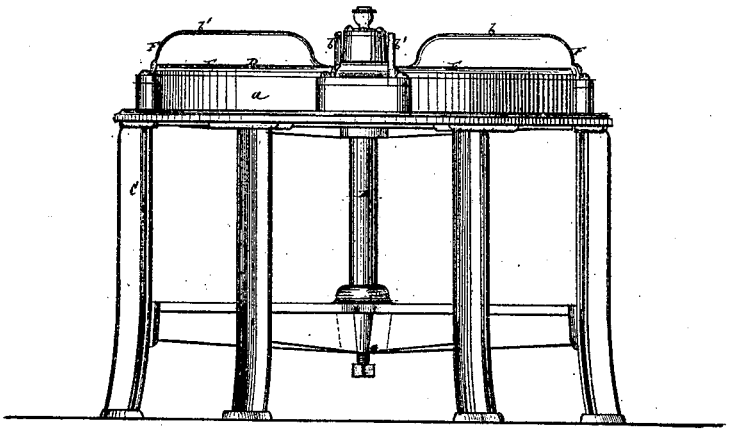


Fig. 6.

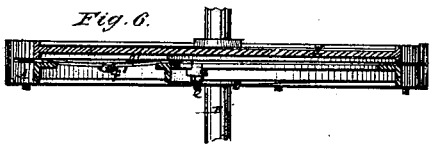
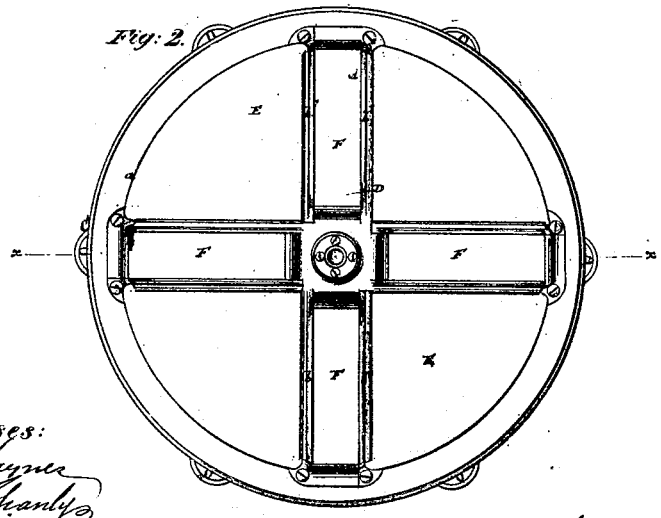


Fig: 2.



Witnesses:
Fred. Haynes
M. J. Shanly

Carl Nordell

C. Nordell,

2 Sheets, Sheet 2.

Shingle Machine.

No. 107,092. Patented Sept. 6. 1870.

Fig. 3.

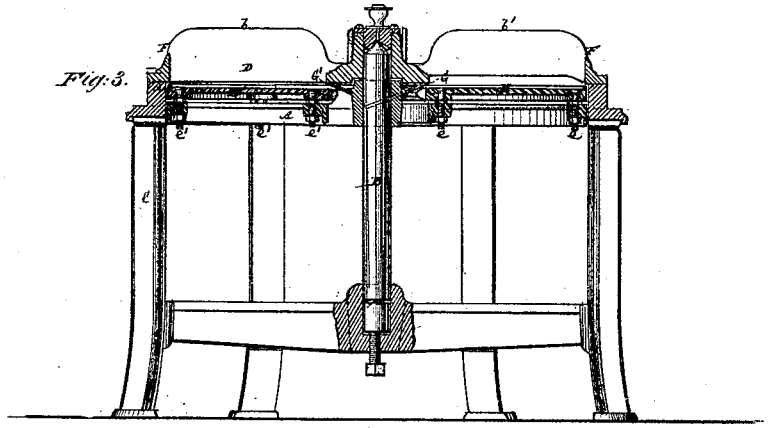


Fig. 4.

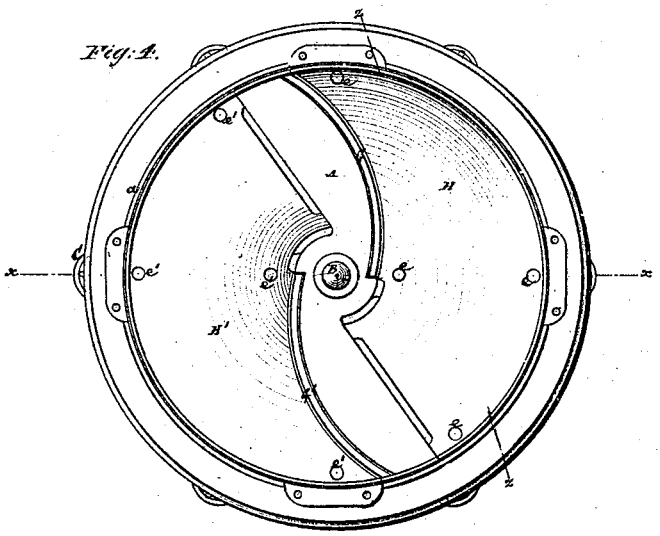
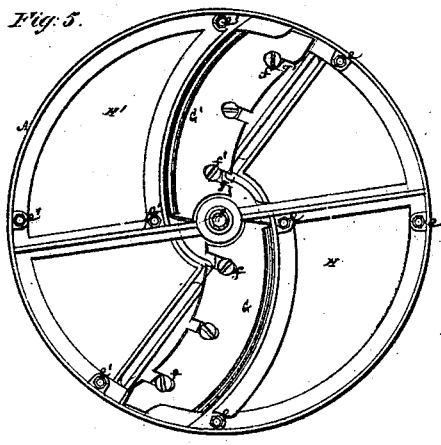


Fig. 5.



Witnesses:

Fred. Haynes

M. J. Shanley

Carl Nordell

United States Patent Office.

CARL NORDELL, OF NEW YORK, N. Y.

Letters Patent No. 107,092, *dated September* 6, 1870.

IMPROVEMENT IN SHINGLE-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CARL NORDELL, of the city, county, and State of New York, have invented a new and useful Improvement in Shingle-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 is an elevation of a shingle-machine constructed in accordance with my improvement, and

Figure 2, a plan of the same.

Figure 3 is a sectional elevation thereof, taken as indicated by the line *x x* in figs. 2 and 4, which latter figure is a plan with the feed-boxes and upper covers removed;

Figure 5 is an inverted plan of the revolving bed, which carries the knives; and

Figure 6, a section through the revolving bed, taken as indicated by the line *z z* in fig. 4.

Similar letters of reference indicate corresponding parts.

My invention consists in a rotary shingle-machine, in which the knives are carried by a bed arranged to travel around a vertical axis, and includes various peculiarities of construction and combinations of parts, to provide for varying the angles of cut, and otherwise perfect the operation of the machine.

Referring to the accompanying drawing—

A represents a revolving horizontal bed, mounted on a vertical driving-shaft, B, and arranged to rotate within an annular curb, *a*, carried by the frame C of the machine.

D is a cross-tie, secured at its ends to the main frame, and serving to support the upper end of the shaft B, also formed with vertical sides or wings *b*, that, in conjunction with wings *b'*, on fast intermediate covers E, form opposite sides to feed-boxes F, in which the bolts required to be worked up into shingles are placed, and through which, onto the revolving bed A below, they are fed or drop.

This bed A, the upper surface of which lies the thickness of a shingle, or more, below the bottom edges of the boxes F, or lower surfaces of the cross-tie D and covers E, carries, on opposite sides of its axis, knives G G', arranged to project obliquely up through it, and preferably shaped to form reverse sweeps on their cutting-edges, and arched or curved throughout, resembling in their construction the section of a cone.

These knives are so set, or the upper surface of the bed A so formed, that in their action upon the bolts, they alternately cut at reverse inclinations through the bolts relatively to the length of the latter, which are here, by the arrangement of the boxes F, shown to occupy a radial position to the driving-shaft.

To effect this, the upper surface of the bed A may be made shelving in reverse directions in front of the knives, that is, made to dip from the hub toward the periphery in front of the one knife, and from the periphery toward the hub in advance of the other, which gives a reverse inclination to the projection of the cutting-edges of the knives above the bed surface, so that the one knife makes its deepest cut in an outwardly direction, and whereby the bolts are worked up as regards the taper of the shingles from opposite ends alternately, without any special feed-motion to alternate their angular position, but simply as they drop or are forced through the boxes F.

Clearance openings *d d'* for chips are made through the bed in rear of the knives.

The shingles as cut pass out from under the knives.

As it may be desirable to increase or diminish the inclination of the cut, for the purpose of making shingles of different tapers, the revolving bed A is made up of adjustable sections H H', each section being adjustable relatively to the knife it operates in concert with, by screws *e e* and *e' e'*, to vary the depth or dip of their reverse inclinations on the upper surface of the bed.

The knives G G' are also made capable, by means of screws *f f'* and slots *g g'*, of being set in or out from the lower surfaces of the bed.

I do not limit myself to one pair of knives, G G', or any particular number of feed-boxes F.

If desired, the bed A may be arranged on a horizontal shaft, and the bolts be fed or pressed up against the vertical bed in horizontal directions, by any suitable means.

What is here claimed, and desired to be secured by Letters Patent, is—

The revolving bed A, constructed of adjustable sections H H', substantially as shown and described.

CARL NORDELL.

Witnesses:

FRED. HAYNES,

HENRY PALMER.