

G. W. SOULE.

SHINGLES.

No. 172,190.

Patented Jan. 11, 1876.

Fig. 1.



Fig. 2.

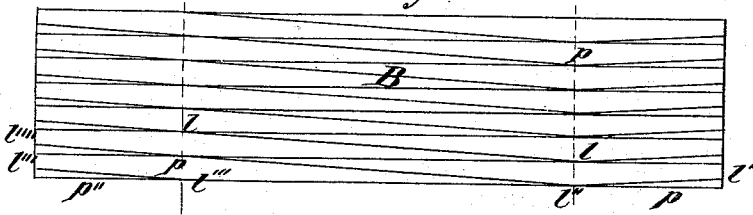
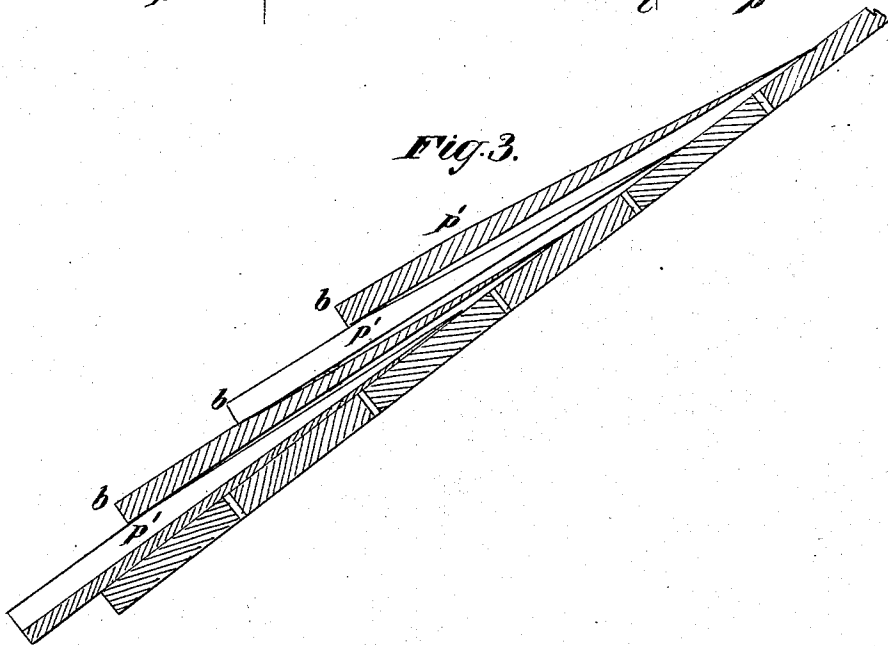


Fig. 3.



Witnesses.

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GEORGE W. SOULE, OF DE SOTO, MISSISSIPPI.

IMPROVEMENT IN SHINGLES.

Specification forming part of Letters Patent No. **172,190**, dated January 11, 1876; application filed July 1, 1875.

To all whom it may concern:

Be it known that I, GEORGE W. SOULE, of De Soto, in the county of Clark and State of Mississippi, have invented a new and useful Improvement in Shingles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to a shingle of improved form, manufactured by sawing or by any kind of cutting process now in use, by which improved form the shingle is made more durable when laid into the roof, and also by which a considerable percentage of the timber is saved, certain portions of the shingle not necessary to its endurance being made thinner than heretofore. The place where a shingle first wears out is just at the lower termination of the next upper course of shingles, the water running down the shingles, as ordinarily laid, forming a series of little water-falls as the water runs off from one course onto the other next below it. The action of this water upon the shingles, like the natural water-falls in streams, is to wear a deep gulley in the shingle, and this wear is greater according to the height from which the water falls, the force with which bodies fall being proportioned to the squares of the velocities with which they fall. To decrease the rapidity of the wear thus produced, I lessen the thickness of the shingle at the lower end of the butt, as it is called, while I retain the thickness usually given to the shingles at the point where the butts lap onto the next lower course in a roof. One or both sides of shingles thus cut will consist of plane, or approximately plane, surfaces, forming an angle where the butt of one course of shingles lies upon the next course below it.

In the accompanying drawing, Figure 1 represents a block or bolt of wood, designed to be cut into shingles, the lines $l l' l'' l'''$, &c., indicating the cuts of the saw or knife necessary to form it into shingles, or the edges of the plane surfaces which form the sides of the shingles. Fig. 2 represents a bolt or block, which is to be cut into shingles, the lines $l l' l'' l'''$, &c., indicating the cuts necessary to form it into shingles, or the edges of the plane surfaces forming the sides of shingles hav-

ing a somewhat different form, to be hereinafter described. Fig. 3 represents the position in which the shingles are laid in a roof.

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

The bolt or block B, Figs. 1 and 2, is considerably longer than the shingles, which are cut out of it. For instance, to make shingles of eighteen inches in length, a bolt of twenty-four inches in length would be employed, the points of the shingles running out at the sides of the bolt, as shown in the Figs. 1 and 2, before they reach the end of the block. To cut the block B into shingles of the form shown in Fig. 1, the cut indicated by the line $l' l''$ might first be made. Next, the cut indicated by $l' l'$ would separate from the bolt shingle number one. Then the cut indicated by the line $l l$ would separate shingle number two. Then shingle number three would be separated by cutting on the next in order of the parallel lines $l'' l'''$, and so on until the entire block is cut into shingles, the only waste being the kerf caused by the cut, and the pieces lettered p .

This method of cutting up the bolt leaves the shingle the same thickness at the butt b as at p' , whereas, according to the old method of cutting the shingle, the thickness at the butt would be considerably greater than at the point p' , as indicated by the dotted outline $p' p''$, Fig. 1. This reduction of the thickness of the butt b without reducing the thickness at the point p' , lessens the fall of the water, and its consequent wearing action upon the shingles at the point p' . Moreover, the cutting of the shingles in the manner specified enables a saving of about ten per cent. of the lumber required to manufacture them.

In Fig. 2 is represented a method of cutting the shingles so that they will be thinner at the butts than at the point p' . To do this, first cut off a piece from the block, the line of cutting being indicated by the line $l' l''$, the piece thus cut off being lettered p , then cut off the piece p'' , the cut being indicated by the line $l'' l'''$; then cut in on the line $p l$ past the point p . Reversing the block, make another cut on the line $l''' l''''$, beginning at the point l'' . By continuing this process shingles are successively formed which have butts thinner

than the butts shown in Fig. 1, by the thickness of the thickest end of either of the pieces p or p'' , shown in Fig. 2, while the thickness at the point p remains the same.

I do not, however, limit myself to the method of cutting as herein described, my intention being merely to indicate a way in which the shingles may be cut in either of the forms shown.

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

A shingle, cut substantially as herein de-

scribed, so that either of its sides shall consist of two plane, or approximately plane, surfaces, forming with each other an angle at the point p , whereby the shingle is rendered as thick at the point p as at any other portion, or as much thicker at the point p than at any other portion as may be desired.

GEORGE W. SOULE.

Witnesses:

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