

(No Model.)

C. H. DANA.
COMBINATION ROOFING.

No. 526,994.

Patented Oct. 2, 1894.

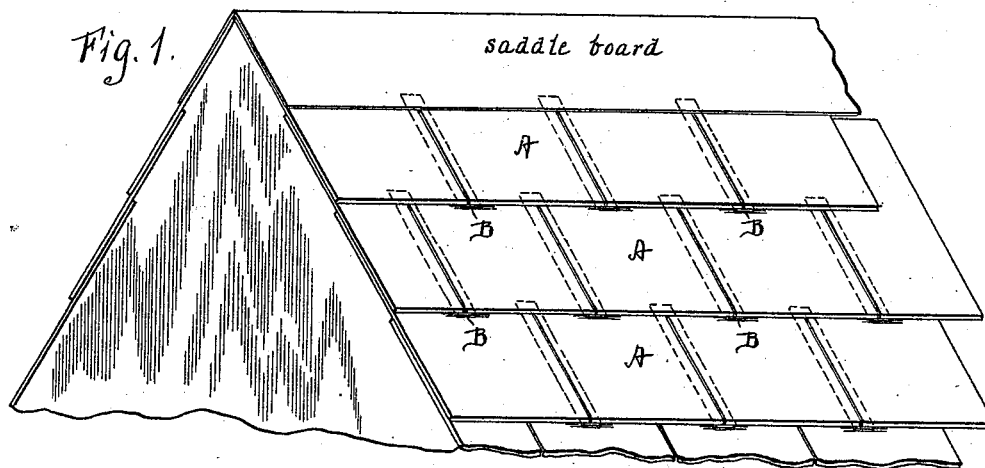


Fig. 2.

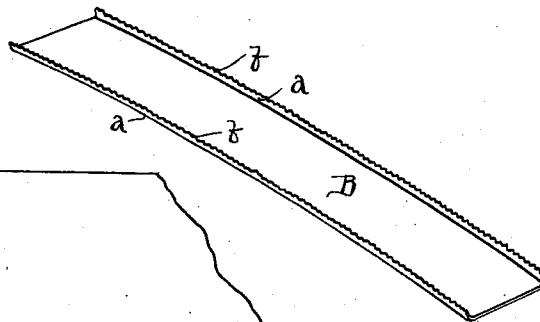
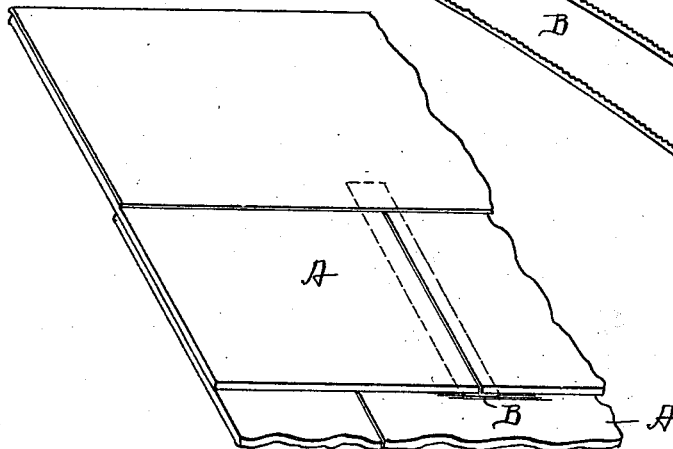


Fig. 3.



WITNESSES

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COMBINATION-ROOFING.

SPECIFICATION forming part of Letters Patent No. 526,994, dated October 2, 1894.

Application filed May 29, 1894. Serial No. 512,884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. DANA, a citizen of the United States, and a resident of West Lebanon, in the county of Grafton and State of New Hampshire, have invented certain new and useful Improvements in Combination-Roofings; 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 representation of a perspective view of a section of a roof showing the invention applied. Fig. 2 is a detail of the shingle strip. Fig. 3 is an enlarged view of a portion of a roof.

This invention has relation to certain new and useful improvements in combination shingle roofings and shingle strips, the object of the invention being to provide a roofing of a highly durable and water proof character, and requiring for its construction much less than the ordinary number of shingles, thereby not only reducing the first cost and simplifying the labor of construction, but also avoiding the subsequent leakage and frequent repair to which roofs formed of wooden shingles are commonly subjected.

A further object of the invention is to provide a supplementary metallic shingle strip having means whereby it is more effectually retained in place in a roof without the aid of auxiliary or independent fastening devices.

With these objects in view, the invention consists in courses of ordinary wooden shingles, the joints of which are underlaid with narrow metallic shingle strips of peculiar construction, the provision of the latter rendering it possible to reduce the overlapping of the courses of the former to the extent of about one-third, two courses serving the purpose commonly requiring three.

The invention further consists in the provision of the said metallic strips having the novel construction and combination of parts, all as hereinafter described and pointed out in the appended claims.

Referring to the accompanying drawings

the letters A, A indicate courses of ordinary wooden shingles laid upon a roof in the usual manner, except that the lap is reduced by about one-third. Placed underneath each joint of the shingles is a metallic supplementary shingle strip B, which consists of a narrow elongated piece of sheet metal, usually of thin spring character. At each lateral edge said strip is formed with an upturned longitudinal flange *a*, whose upper edge carries a series of fine spurs or teeth *b*, which project substantially in the plane of the flanges. I prefer in most cases to form said strips somewhat longitudinally convex for the reason that when applied underneath the shingles the spring character of the strips causes them to expand against the under surfaces of the shingles, giving the spurs or teeth a positive engagement therewith which securely retains the strips in place without the aid of auxiliary fastening devices. Should the shingles warp, as they commonly do, this feature will protect the strips from coming loose. The said flanges *a* give the strips a trough form whereby they readily carry off the water which they receive and prevent its flowing off the lateral edges underneath the shingles. Said flanges also serve to hold the shingles away from the body of the strips, permitting the circulation and drying effects of the air, and thereby aiding in the preservation of the roof. The strips may be made quite narrow, from three-fourths of an inch to an inch and one-half being usually sufficiently wide. Their length is preferably to about one inch greater than the exposed portion of the shingles so that the upper ends will project a short distance above the laps of the courses, their lower ends being about flush with the lower line of the course. These strips may be cut by a suitable machine, having means for simultaneously forming the edge flanges and spurs or teeth, with great rapidity, and being of thin metal, their cost is but slight. Such machine is described and claimed in my application, Serial No. 515,841, filed June 27, 1894, this machine being so arranged that the cutter as it forms the edge flanges of the strip, draws or stretches the metal, somewhat thinning the flanges and hardening and strengthening them. The teeth formed by

this machine are more in the nature of lancet points than saw teeth, and are very effective in retaining the shingle in place.

5 The work required to place the strips is much less than is required to lay the additional courses of shingles commonly employed.

I am aware that it is not broadly new to place a metallic strip underneath the joints of roofing, and I do not seek to claim such arrangement in a broad sense.

10 The metallic strips above described will also be found of great utility in repairing roofs which have become defective, for which purpose the strips are pushed or stripped underneath the shingles of the courses at the proper points to close the defects or cracks therein, their shape and form holding them readily in place without the aid of auxiliary fastening devices.

20 What I claim is—

1. The herein described combination roofing, consisting of a series of courses of wooden shingles, and a series of supplementary narrow, metallic strips, of trough-form, one of said strips being placed underneath each joint in the courses, and upward spurs or teeth on the lateral edges of said strips, substantially as specified.

2. The herein described combination roofing, consisting of a series of single lapped

wooden shingles, and a series of supplementary, narrow, trough-shaped metallic strips of spring character, and longitudinally convex, one of said strips being placed underneath each joint of the courses, and extending above the laps thereof, and teeth or spurs on said strips for retaining them in place, substantially as specified. 35

3. The herein described repair strip or shingle consisting of a thin metallic strip or plate, having at each lateral edge a longitudinal ridge or flange formed at its upper edge with teeth or spurs, substantially as specified. 40

4. The herein described repair strip or shingle consisting of a thin metallic strip or plate of spring character, and having at each edge a longitudinal rib or flange having its upper edge formed with teeth or spurs for retaining said strip in place, substantially as specified. 45

5. The herein described repair strip or shingle, comprising a metallic spring metal, trough shaped strip, longitudinally convex, and provided with upward spurs or teeth on its edge flanges, substantially as specified. 50

In testimony whereof I affix my signature in presence of two witnesses. 55

CHARLES H. DANA.

Witnesses:

PHILIP C. MASI,

GEORGE H. PARMELEE.