

(No Model.)

M. G. FARMER.

METALLIC SHINGLE.

No. 326,108.

Patented Sept. 15, 1885.

Fig. 1.

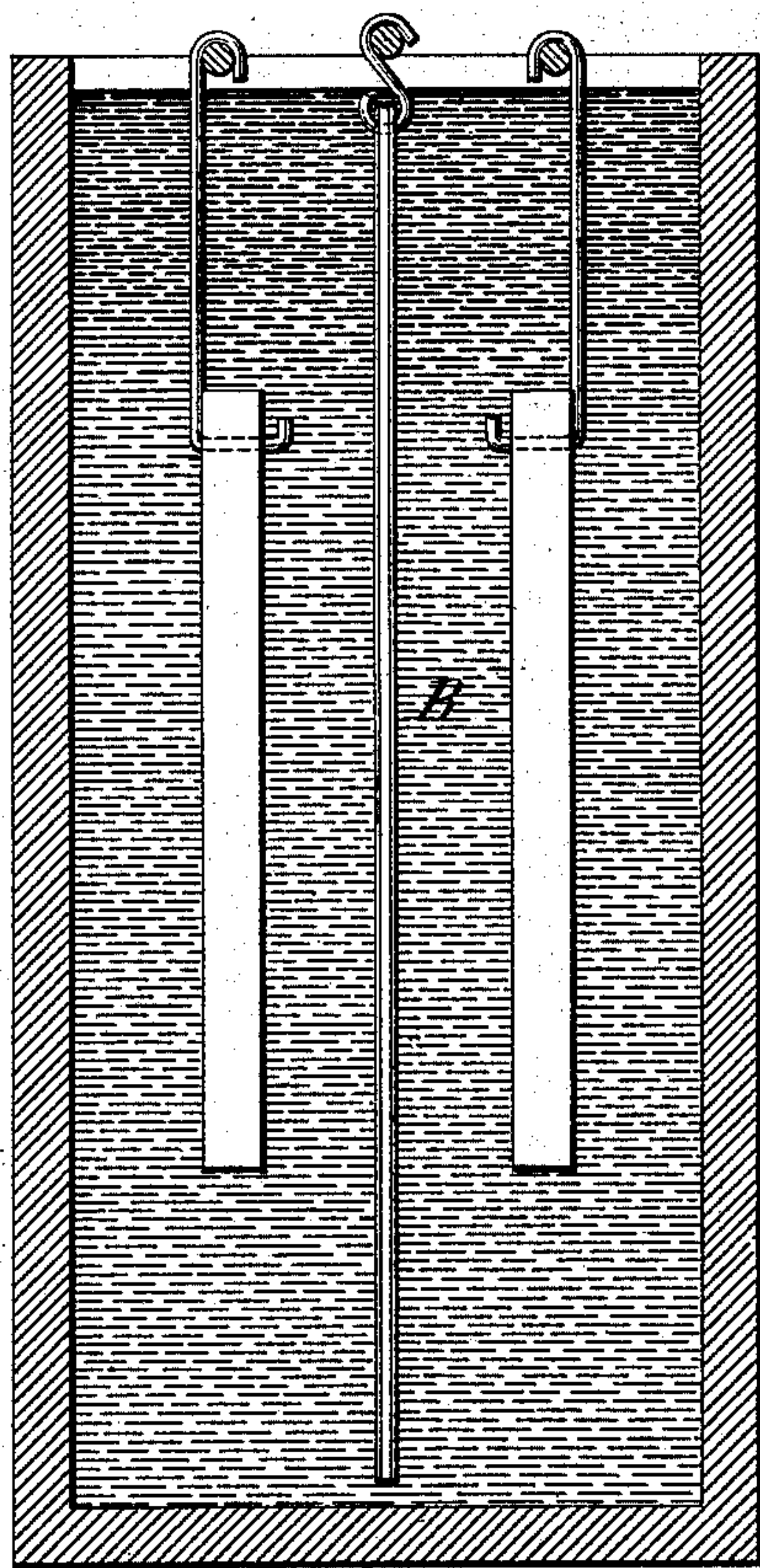
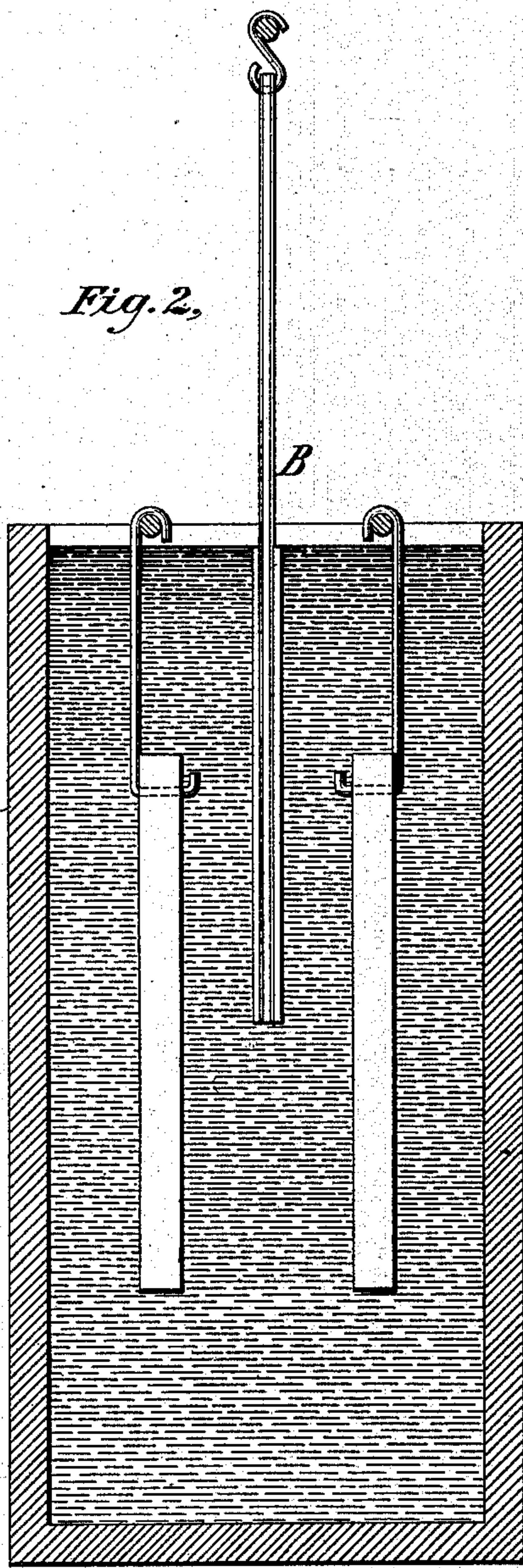


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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METALLIC SHINGLE.

SPECIFICATION forming part of Letters Patent No. 326,108, dated September 15, 1885.

Application filed July 9, 1885. (No model.)

To all whom it may concern:

Be it known that I, MOSES G. FARMER, a citizen of the United States, and a resident of Newport, in the county of Newport and State of Rhode Island, have invented certain new and useful Improvements in Metallic Shingles, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

In a patent granted to me April 21, 1885, No. 316,134, I have shown and described a shingle for roofing purposes made or formed of sheet-iron and coated with a non-corrosive metal—such as copper—the latter metal being applied by electro-deposition in a film of even thickness over the entire surface of the sheet-iron.

My present invention is an improvement on this device; and it consists in a sheet iron shingle coated or plated with a copper film which is thicker on that portion of the shingle which in use is exposed directly to the weather than on that which is covered, and in a measure protected by the overlapping tiers or rows of shingles above it. A more durable, and in the end a more economical, shingle is thus produced for the following reasons: The copper coating, being practically non-corrosive, is not affected by moisture or other destructive agents where it is covered by the overlapping shingles. The exposed portions of the shingles are, however, subject to the attrition of rain, hail, snow, and other bodies and more likely to be worn off in use. As soon as any portion, however small, of the copper sheathing is destroyed or worn off the destruction of the shingle goes on with considerable rapidity on account of galvanic action; but by making the film of copper thicker on the exposed portion than on the other the life of the shingle is greatly prolonged and a saving of expensive material effected.

The copper coating may be applied in any well-known and convenient manner. For example, the sheet-iron plates may be immersed in an electroplating bath and a film of copper of the thickness requisite for the protected portions applied to the entire surface. The plates may then be raised or the level of the liquid lowered until only such portions of the plates as project from the overlapping tier

where the shingles are laid, or a little more, remain below the surface of the solution of the bath. The electro-deposition is then continued until the said parts are covered with a film of the desired thickness. The shingles thus made are used or laid in the same manner as wooden or slate shingles.

The drawings represent a convenient form of apparatus for applying the copper coat or film to the shingles.

Figure 1 is a sectional view of an electroplating bath, showing a shingle in position for receiving its first or thin coating. Fig. 2 is a similar view of a bath with the shingle partially raised therefrom.

My method of manufacture is as follows: In a suitable deposition tank or bath, A, I immerse a sheet of ordinary rolled iron of the desired shape and size, as B, and I allow it to remain in the bath until it is perfectly coated with a thin film of the deposited metal. I then raise the sheet out of the solution until only one-half or less remains below the surface, and I then continue the process of electro-deposition until the lower portion is re-enforced by a coating twice or three times as thick as that applied to the upper portion.

The absolute and relative thicknesses of these coatings may vary considerably. If the thinner coating be of such thickness that it completely envelopes the iron sheet, it is sufficient, and the thicker portion may be as much thicker than this as the quality of the iron, the proposed use of the shingles, or other causes may determine.

Many plans may be adopted for applying the two coatings or two parts of the coatings to the shingles, and the proportional parts of the entire shingles which each portion covers may vary considerably, according to circumstances; but my invention depends neither upon the special method of manufacture nor upon the precise form of shingle which I have herein shown and described.

In my patent referred to I have shown shingles of various ornamental shapes, and have shown as the means for laying them two or more perforations properly placed, and to all these forms this my invention equally applies.

What I claim is—

1. As a new article of manufacture, a copper-

plated sheet-iron shingle the coating or plating of which is thicker on the lower or exposed portion of the shingle than on the remaining portion, as set forth.

- 5 2. The combination, with a sheet-iron shingle, of a protective coating of electro-deposited copper, the coating being re-enforced or

deposited to a greater thickness over one-half, or thereabout, of the shingle than on the remainder, as set forth.

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Witnesses:

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