

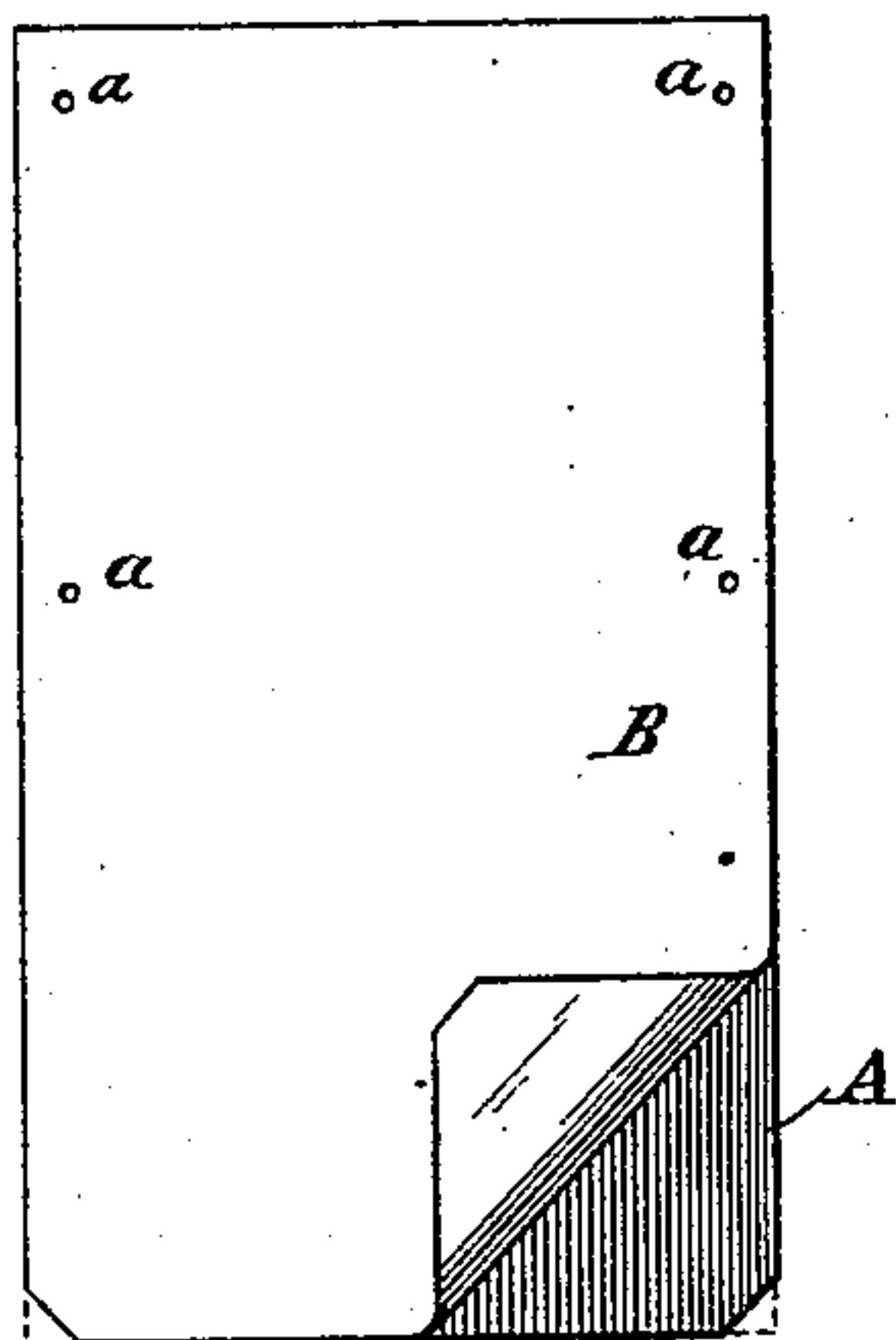
(No Model.)

M. G. FARMER.  
METALLIC SHINGLE.

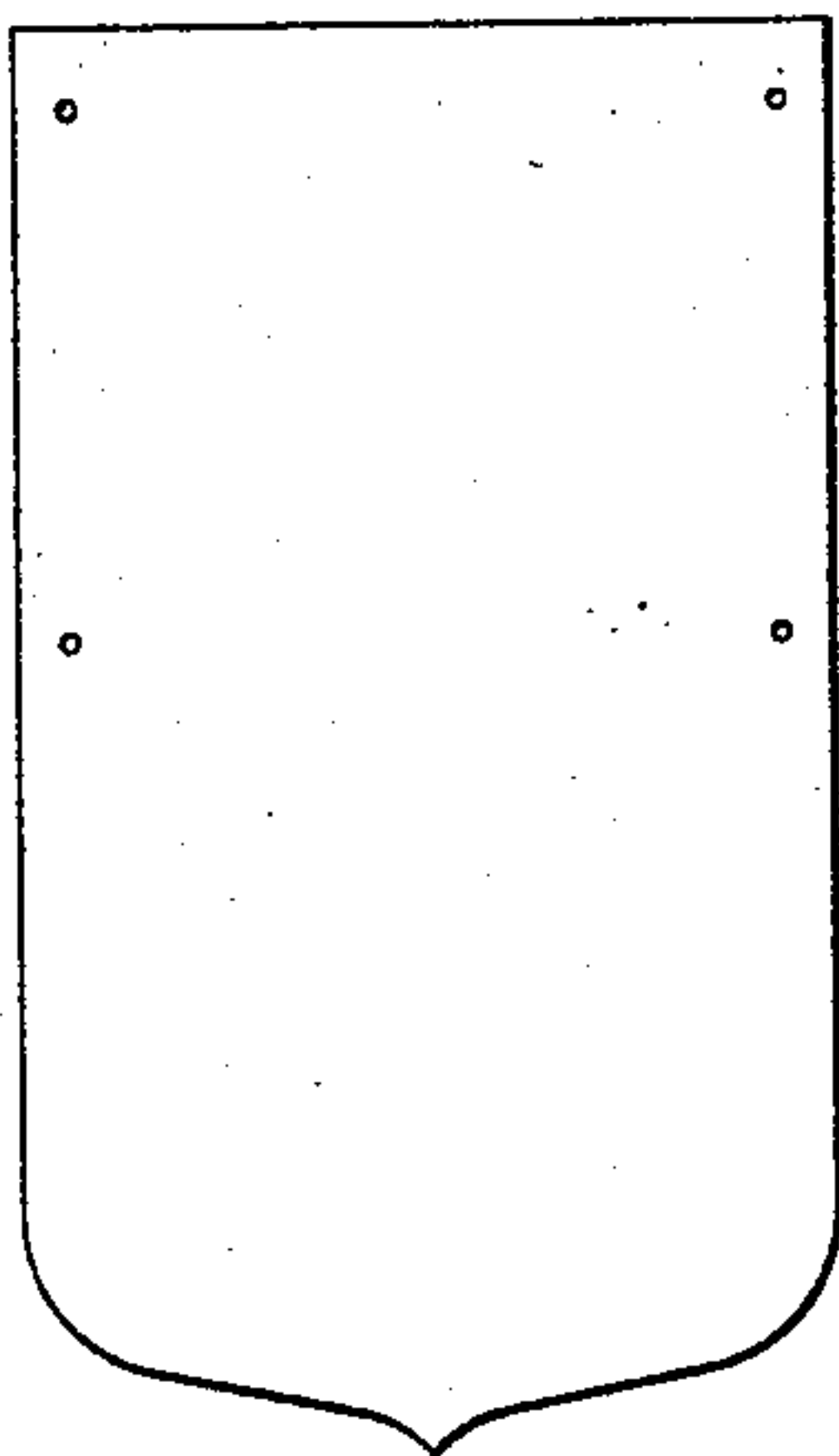
No. 316,134.

Patented Apr. 21, 1885.

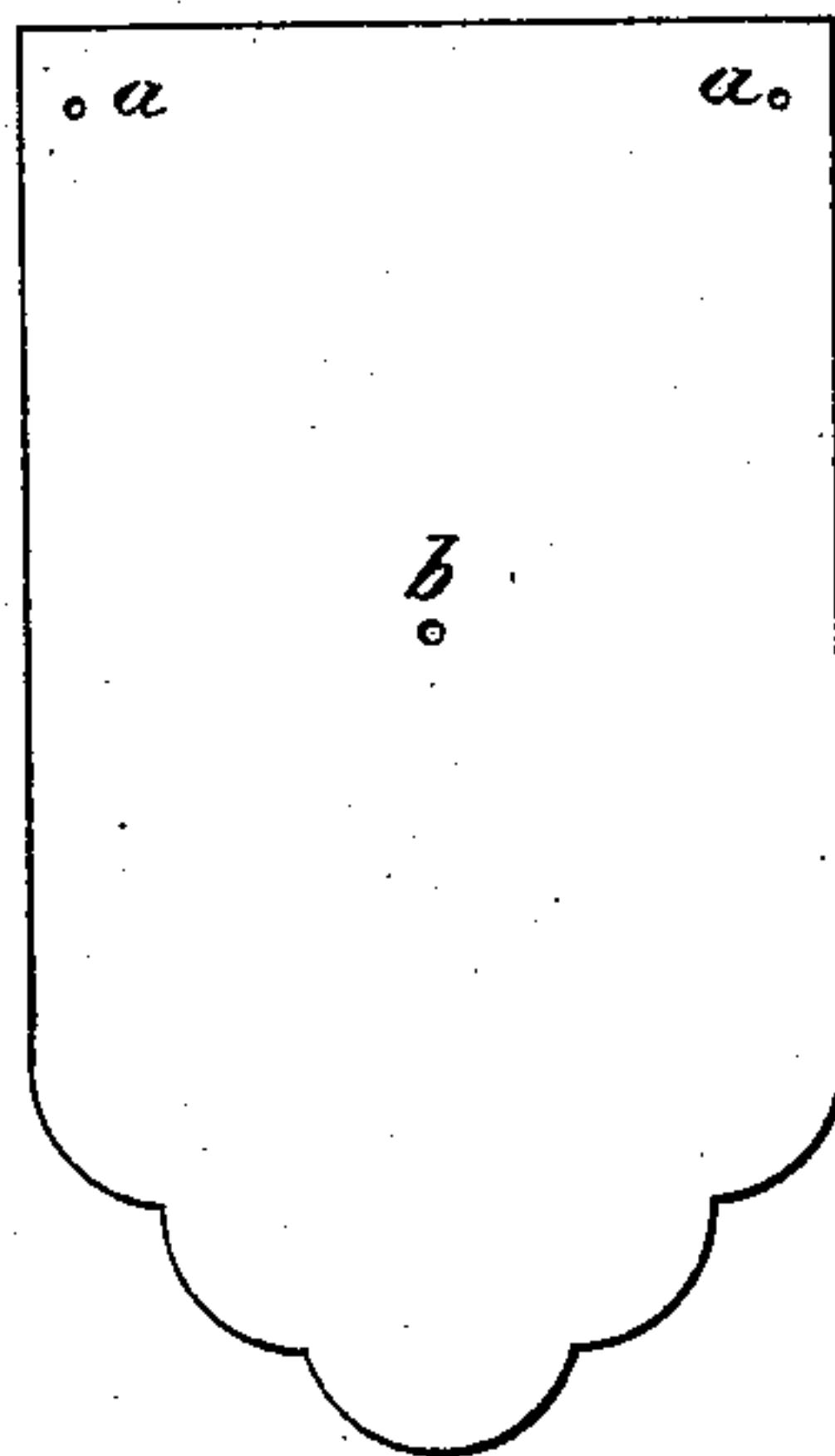
*Fig. 1,*



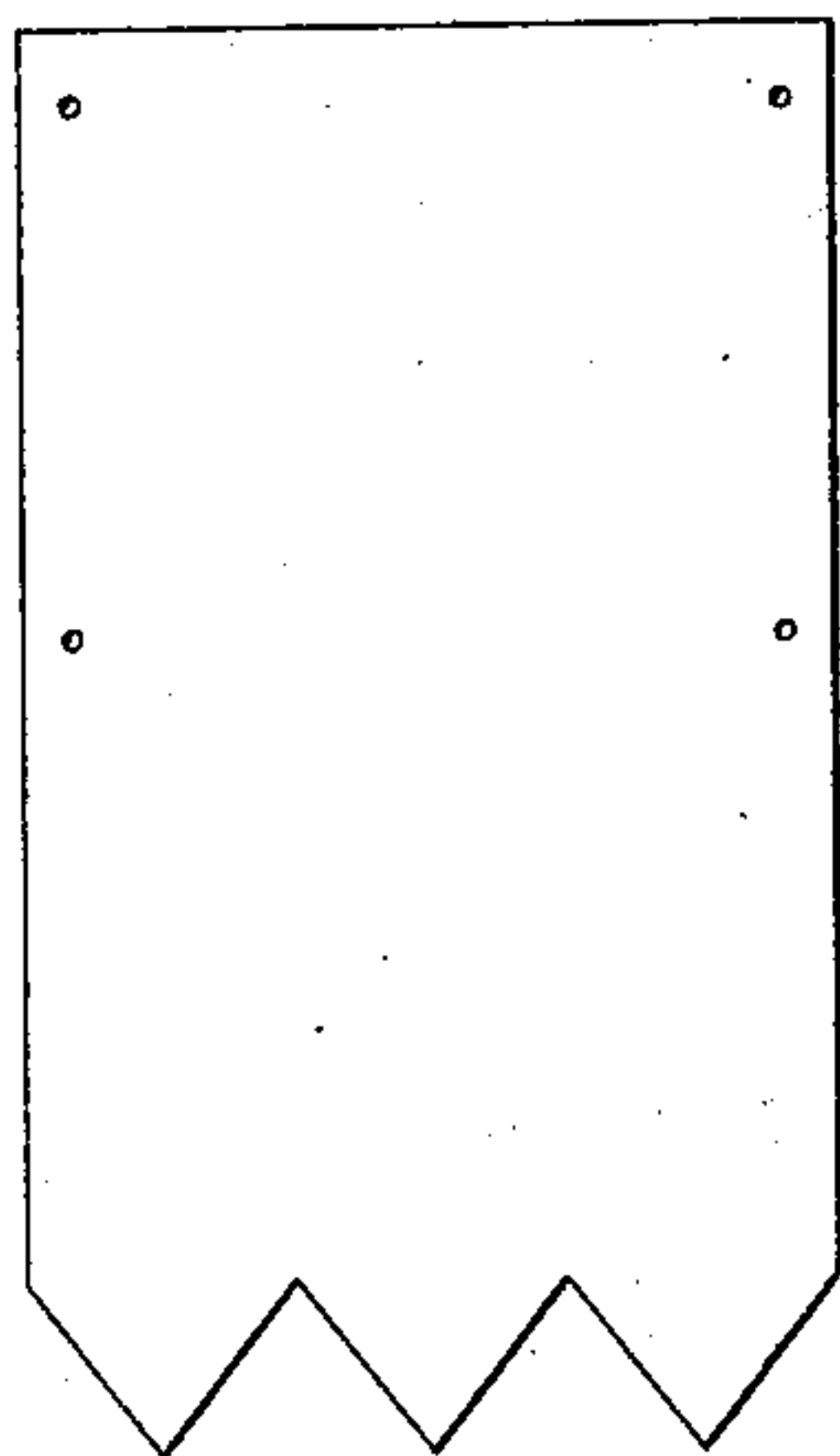
*Fig. 2,*



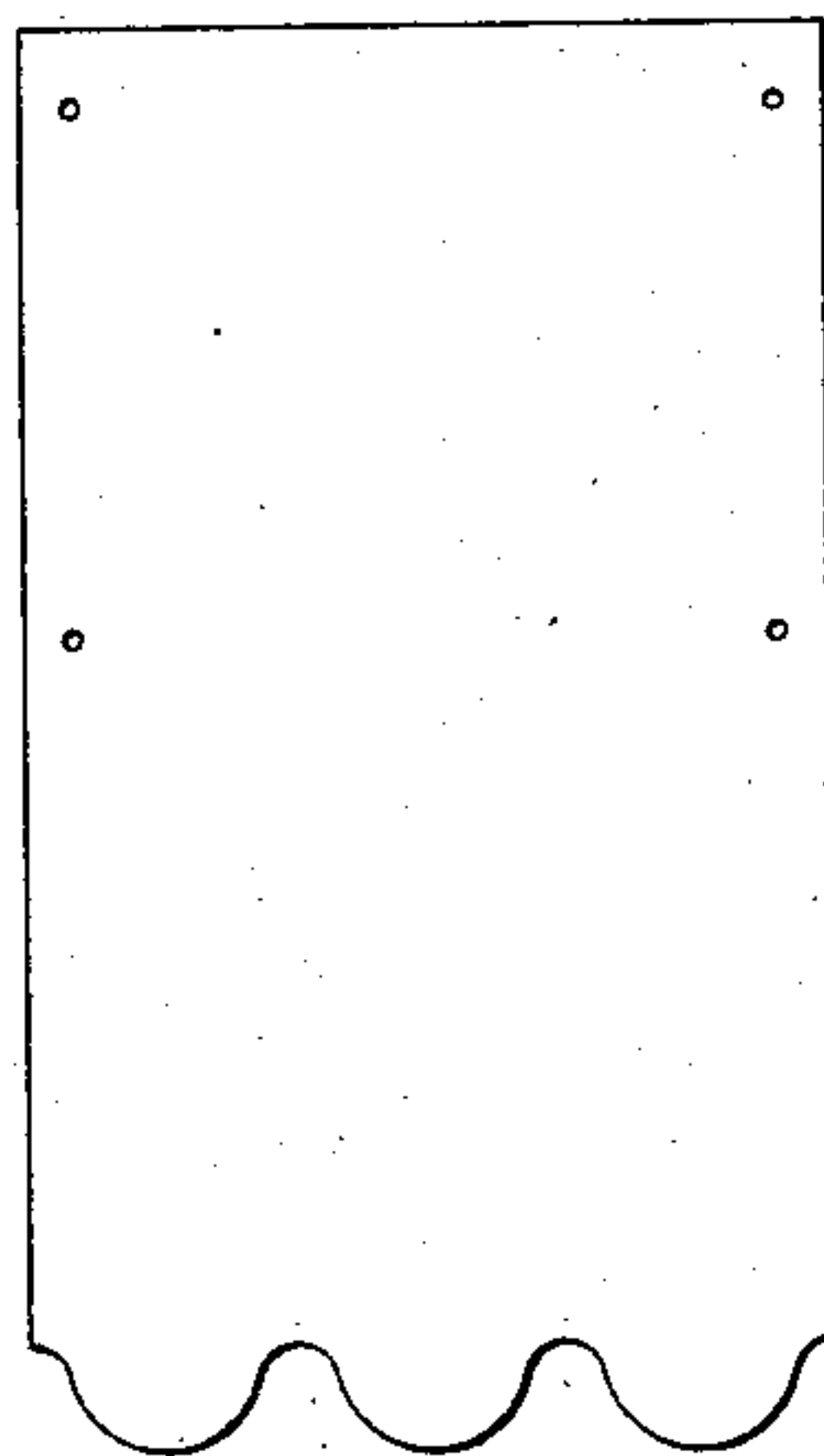
*Fig. 3,*



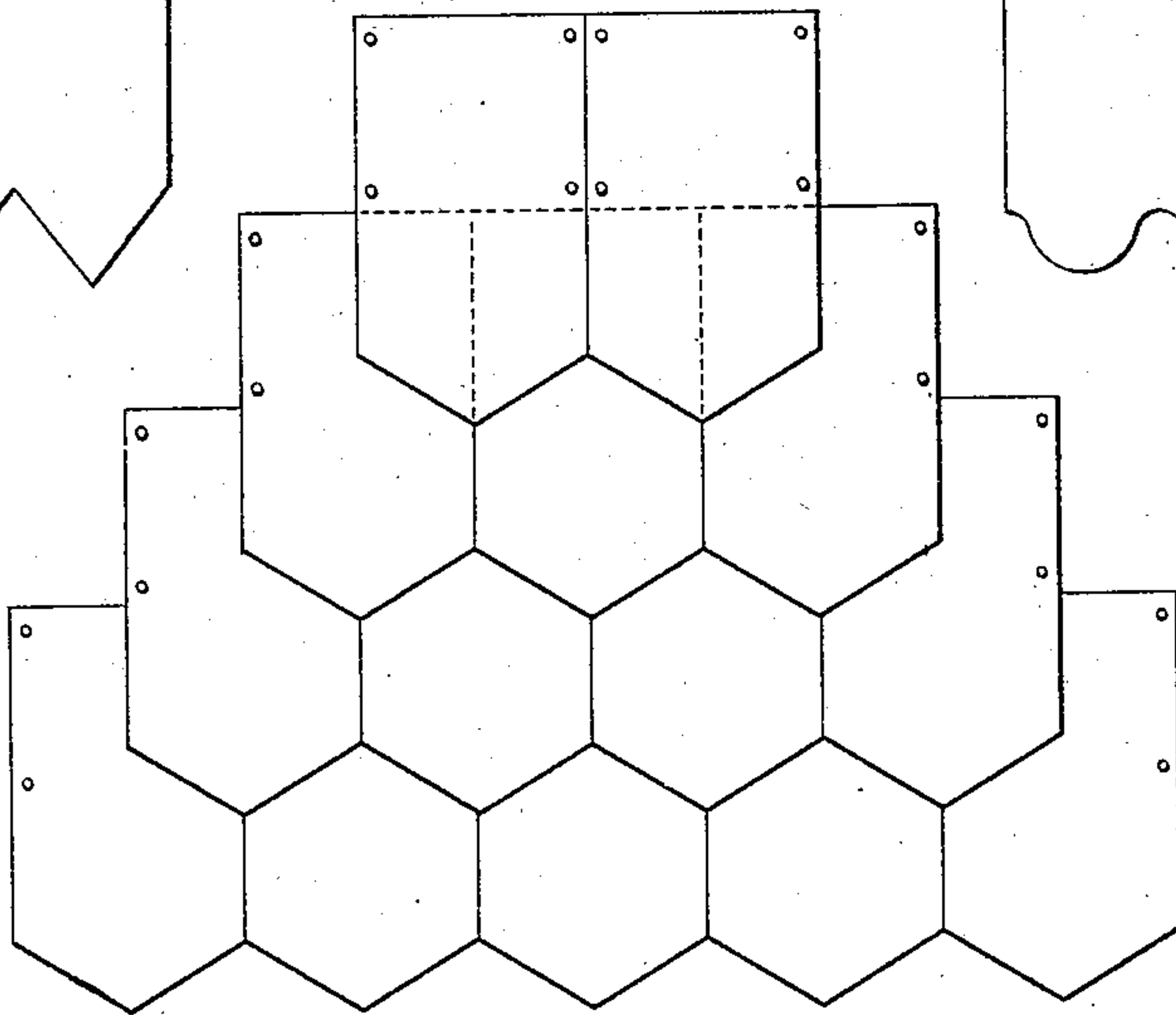
*Fig. 4,*



*Fig. 5,*



*Fig. 6*



Witnesses

*Geo. W. Bruck*  
*W. W. Cook*

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*Moses G. Farmer.*

By his Attorney

*Paul W. Page.*

# UNITED STATES PATENT OFFICE.

MOSES G. FARMER, OF NEWPORT, RHODE ISLAND.

## METALLIC SHINGLE.

SPECIFICATION forming part of Letters Patent No. 316,134, dated April 21, 1885.

Application filed January 8, 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.

10 The object of my invention is to produce a cheap, durable, and ornamental shingle for roofing purposes. This I accomplish by forming the shingles of thin sheet-iron, and then electroplating them with copper. I thus produce a new article of manufacture which possesses many advantages over the wood and slate shingles and tiles heretofore used. They are much cheaper and far more durable, and are more easily formed in various ornamental shapes and designs. They are made in the following manner: Large sheets of ordinary rolled or sheet iron are cut or punched in the desired shapes, and holes punched for the nails. These sheets are then immersed in an electrolytic bath and coated with copper, the entire surface being in this way covered and protected by an adherent non-corrosive film of metal.

The thickness of the sheets may vary somewhat, according to the conditions under which they are to be used. The film of copper should be only of such thickness as to provide a perfect protection against the corrosive action of moisture.

In applying the copper coating the ordinary precautions should be taken to insure perfect adherence to the iron, either by first carefully cleansing the iron plates or by reversing for a time through the bath the electric current before or shortly after the deposition has begun.

40 The nail-holes should be formed before the

shingle is coated with copper, so that all the exposed surfaces of the iron shall be covered. The nails used should be either of copper or copper-coated, so that there may be no galvanic action between them and the copper when exposed to moisture.

In the drawings, Figure 1 shows a simple rectangular copper-plated shingle, A being the sheet-iron, B the coating of copper, shown in illustration separated from the iron at one corner. Figs. 2, 3, 4, 5 represent various ornamental forms of shingle, and Fig. 6 the manner in which the same are applied.

When the shingles are approximately rectangular, as in Fig. 1, there should be four nail-holes, *a a*. When, however, the shape of the shingle renders it advisable, three holes, *a a b*, as in Fig. 3, should be punched.

While I am well aware that a great variety of metallic articles have been copper-plated, and lay no claim to the idea of protecting a readily-oxidizable metal by an electroplated coating of copper, I do claim to have produced an article of manufacture which on the score of cheapness, durability, and easy applicability possesses many unforeseen advantages.

What I therefore desire to secure by Letters Patent is—

1. As a new article of manufacture, a copper-plated sheet-iron shingle, as described.
2. As a new article of manufacture, a sheet-iron shingle provided with nail-holes and copper-plated, as described.

In testimony whereof I have hereunto set my hand this 7th day of January, 1885.

MOSES G. FARMER.

Witnesses:

WILLIAM B. HEATHERTON,  
W. FRISBY.