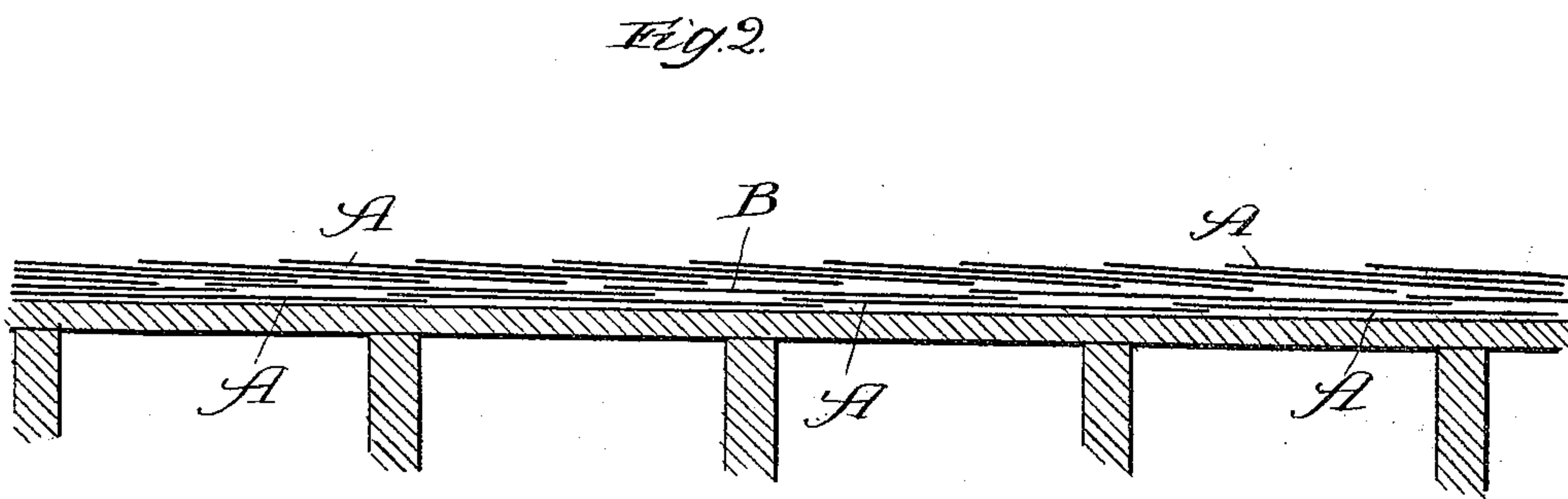
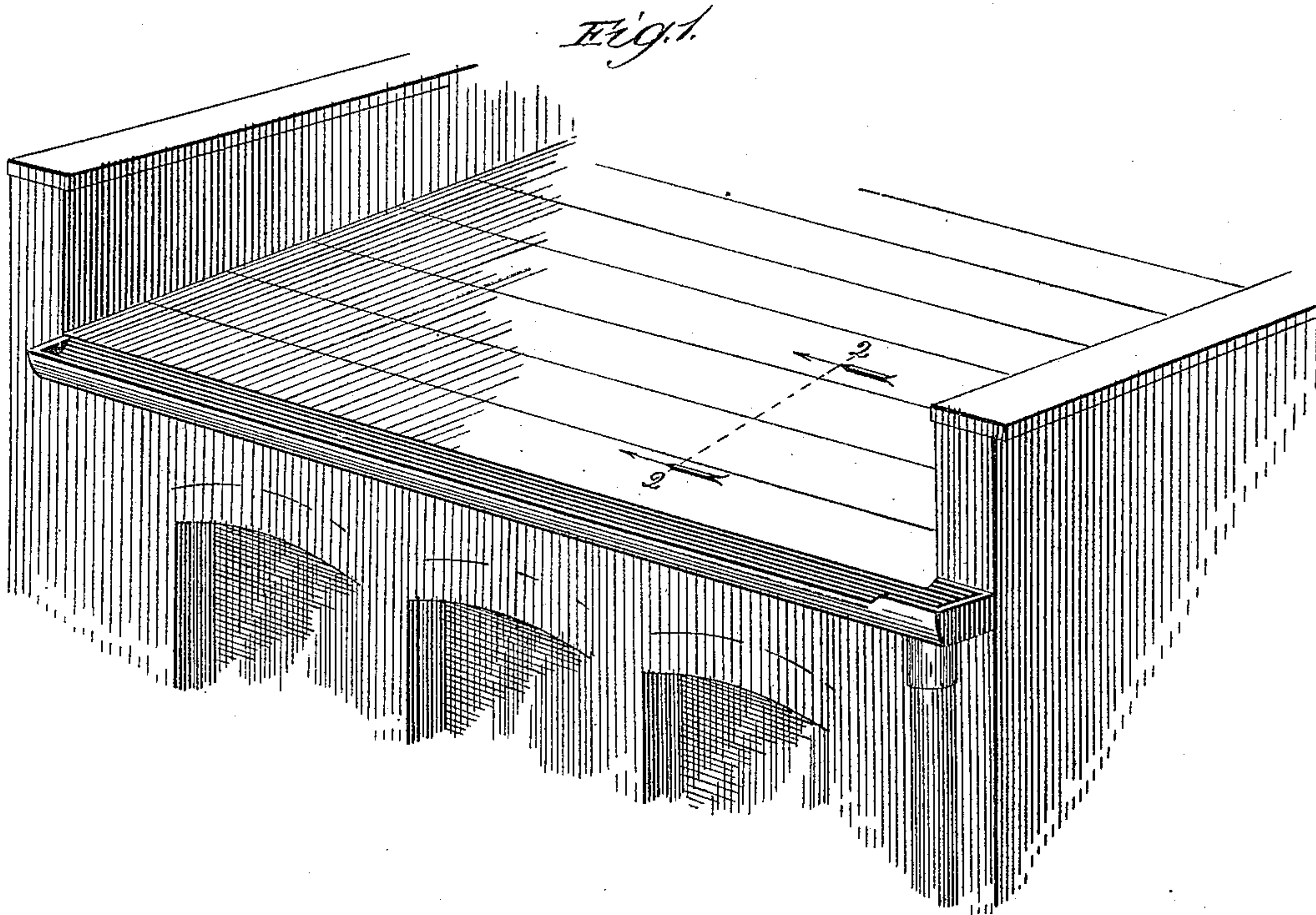


(Specimens.)

M. W. POWELL  
ROOF.

No. 438,324.

Patented Oct. 14, 1890.



Witnesses:

*Edw. C. Payson.*  
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Inventor:

*Moses W. Powell.*  
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# UNITED STATES PATENT OFFICE.

MOSES W. POWELL, OF CHICAGO, ILLINOIS.

## ROOF.

SPECIFICATION forming part of Letters Patent No. 438,324, dated October 14, 1890.

Application filed February 27, 1890. Serial No. 341,974. (Specimens.)

*To all whom it may concern:*

Be it known that I, MOSES W. POWELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Roofs, of which the following is a specification.

The object of my invention is to make a fire or water proof roof; and the invention consists in the features and combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a portion of my improved roof as seen from the rear, and Fig. 2 a horizontal section taken in line 2 2 of Fig. 1.

A is the wool felt, and B the flax felt, each laid in strips.

In constructing my improved roof I use two different kinds of material, which I now call "wool felt," by which I also mean to include what is commonly known as "cloth," "canvas," or "sheathing - paper," and "flax felt," by which I mean what is commonly known as "Irish" or "English" felt. The flax felt which I thus intend to use is made from flax, hemp, &c., in a crude state and with long fibers, in substantially the same way that wool felt is made from its material, so that my flax felt is very different from burlap, which is woven, and from linen paper, which is not made from flax or hemp in a crude state and which has its fibers ground fine. These two kinds of felt or material, which I here call "wool felt" and "flax felt," using these terms in the general sense above suggested, are preferably put on in alternate layers.

The felt is laid in the usual way, preferably a layer of wool felt at the bottom, a layer of flax felt on top of the wool felt, and a layer or layers of wool felt on top of the flax felt. It is not essential, however, that the felt be laid in this way, inasmuch as the order may be reversed or changed, as found expedient, and more than one layer of each kind of felt may also be put on, when desired.

Cement may be used between the respective layers of felt in the ordinary way; but this is not in all cases necessary.

In completing the roof, tile, gravel, sand, or other fire-proof material may be used.

It will of course be understood from my definition of the term "wool felt" as here used, that mere cloth, canvas, or sheathing-paper may be used in combination with the flax felt, and in such case, as well as when wool felt technically is used, the alternate layers may be put on in any way desired.

If only wool felt is used, the roof is not durable, being liable to crack or give way, while if only flax felt is used the cement will go through it and cause it to stick to the roof-boards, and this sticking will quickly cause it to crack or give way; but by using the two kinds of felt or material together a strong, durable roof is formed, and all the objections above suggested overcome.

It will be understood that as to flax felt I limit myself to a felt formed from raw or crude flax, hemp, or similar material, as distinguished from cloth, paper, or burlap not so formed and not properly covered by the term "felt."

As the essential feature of my invention consists in making a roof of alternate layers of wool felt and flax felt, it will of course be understood that I do not limit myself to details or to any particular number of layers or kind of material used for uniting the same. On the contrary, I intend to cover a roof containing one layer of wool felt and one layer of flax felt, or any number of layers of either or both kinds of felt, whether an equal number of layers of each kind be used or not, as circumstances may suggest or render expedient.

I claim—

1. In a roof, the combination of a layer of wool felt and a layer of flax felt and means for uniting the same, substantially as described.

2. In a roof, the combination of a layer of wool felt, a layer of flax felt on top of the wool felt, a layer of wool felt on top of the flax felt, and cement between the respective layers of felt, substantially as described.

MOSES W. POWELL.

Witnesses:

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