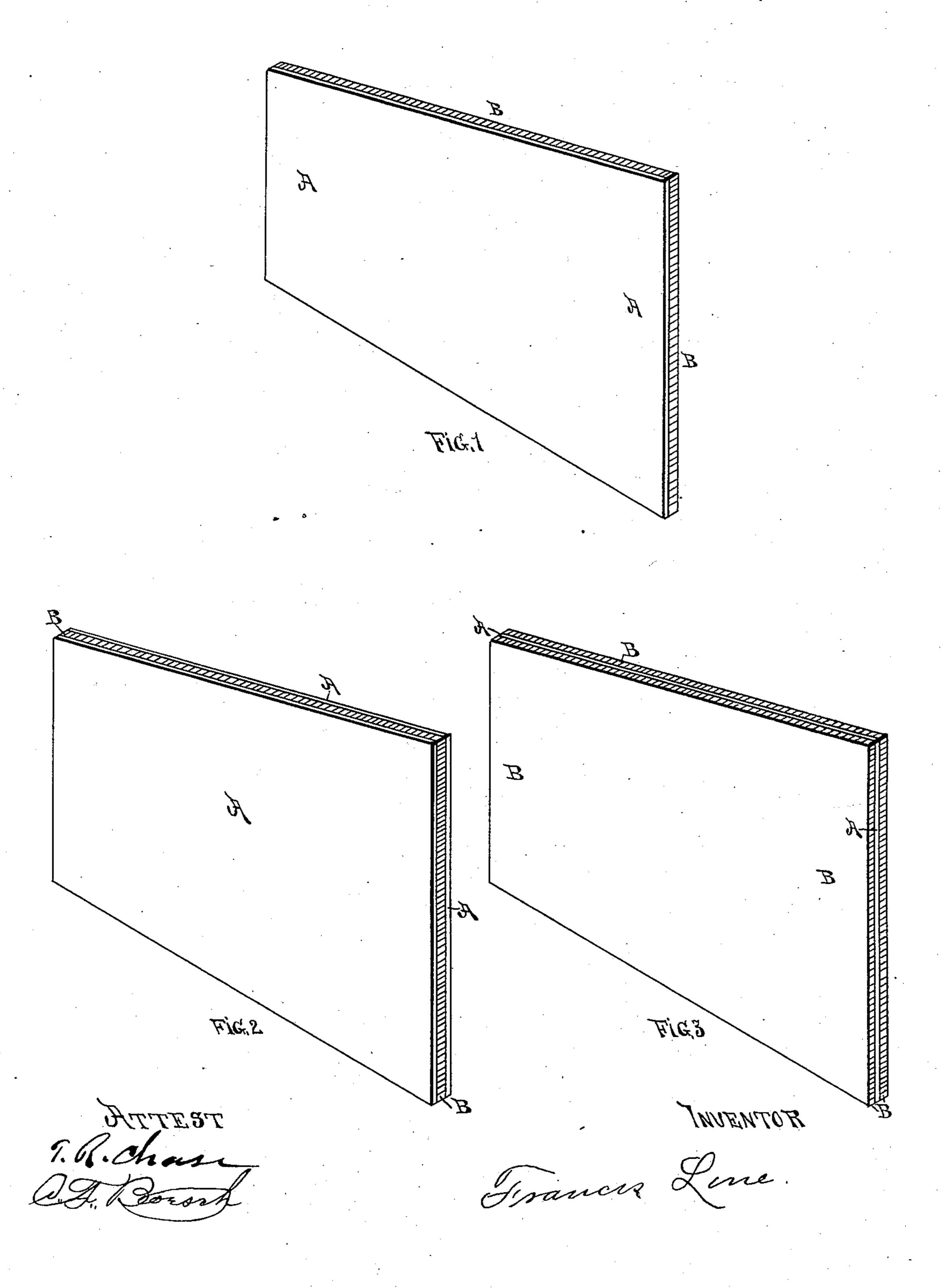
F. LINE.

COMBINATION OF ASBESTUS BOARD, ASBESTUS FELT, OR ASBESTUS PAPER WITH OTHER FLEXIBLE MATERIAL.

No. 333,138.

Patented Dec. 29, 1885.



United States Patent Office.

FRANCIS LINE, OF DETROIT, MICHIGAN.

COMBINATION OF ASBESTUS BOARD, ASBESTUS FELT, OR ASBESTUS PAPER WITH OTHER FLEXIBLE MATERIAL.

SPECIFICATION forming part of Letters Patent No. 333,138, dated December 29, 1885.

Application filed June 30, 1884. Serial No. 136,492. (Specimens.)

To all whom it may concern:

Be it known that I, Francis Line, a citizen of the United States, residing in the city of Detroit, in the county of Wayne and State 5 of Michigan, have invented a new and useful combination of asbestus board, asbestus felt, or asbestus paper, so called, with tarred felt, tarred paper, or other flexible materials in sheets, so constructed as to produce a comto bined roofing material in a commercial form, of which the following is a specification.

The object of my invention is to produce by my new combination and its mode of manufacture an improved material for fire and 15 water proof roofs, constructed in such a form that it may become a convenient article of

commerce in its completed state.

To carry my invention into effect, I cement together sheets of asbestus board or asbestus 20 paper and similar-sized sheets of tarred felt, tarred paper, or other suitable flexible materials in two or three ply. These sheets are to be of such width and length that they may be easily rolled up and handled after construc-25 tion. I thereby form from materials now common articles of commerce in their uncombined state a roofing material of great value, both from its inherent qualities for resisting heat and water and its convenient form for trans-30 portation and use.

The manner of combining said sheets of asbestus board or asbestus paper with the sheets of tarred board, tarred felt, or other flexible sheets is shown in the accompanying draw-35 ings, in which the several letters refer to the

same parts.

Figure 1 shows the simplest form of my combination—to wit, a single sheet of asbestus board or asbestus paper, A A, cemented 40 throughout one of its surfaces to a similarsized sheet of tarred felt or similar flexible material, B B. Fig. 2 represents a second l

form of my combination—to wit, a sheet of tarred felt or similar flexible material, B, cemented by both its surfaces between similar- 45 sized sheets of asbestus board or asbestus papaper, AA. Fig. 3 represents a third form in which my combination may be made—to wit, by cementing a sheet of asbestus board or asbestus paper, A A, between similar-sized 50 sheets of tarred felt or other similar flexible material, BB.

In all forms of construction I use asbestus board or asbestus paper as one of the parts, and for cement I use silicate of soda or any 55 other gelatinous substance which will be sufficiently adhesive to hold the sheets firmly together and at the same time, when dry, be flexible enough to roll up without fracture.

I am well aware that asbestus in various 60 forms has been used as a roofing material, as well as the tarred felt and other flexible materials for the same purpose; but they have not heretofore been prepared as an article of manufacture in the form above described. 65 They are not so found in commerce.

Having fully described my invention, what I claim to be new, and wish to secure by Let-

ters Patent, is—

1. As a new article of manufacture, a flexible 70 sheet of roofing material composed of a sheet or sheets of asbestus board or asbestus paper and a sheet or sheets of tarred felt, tarred board, or of similar flexible materials cemented together, all substantially as described.

2. The combination of flexible sheets of fireproof and water-proof roofing materials, of the elements and in the manner and form sub-

stantially as described.

FRANCIS LINE.

Attest:

THEODORE R. CHASE, J. S. Dorcaski.