

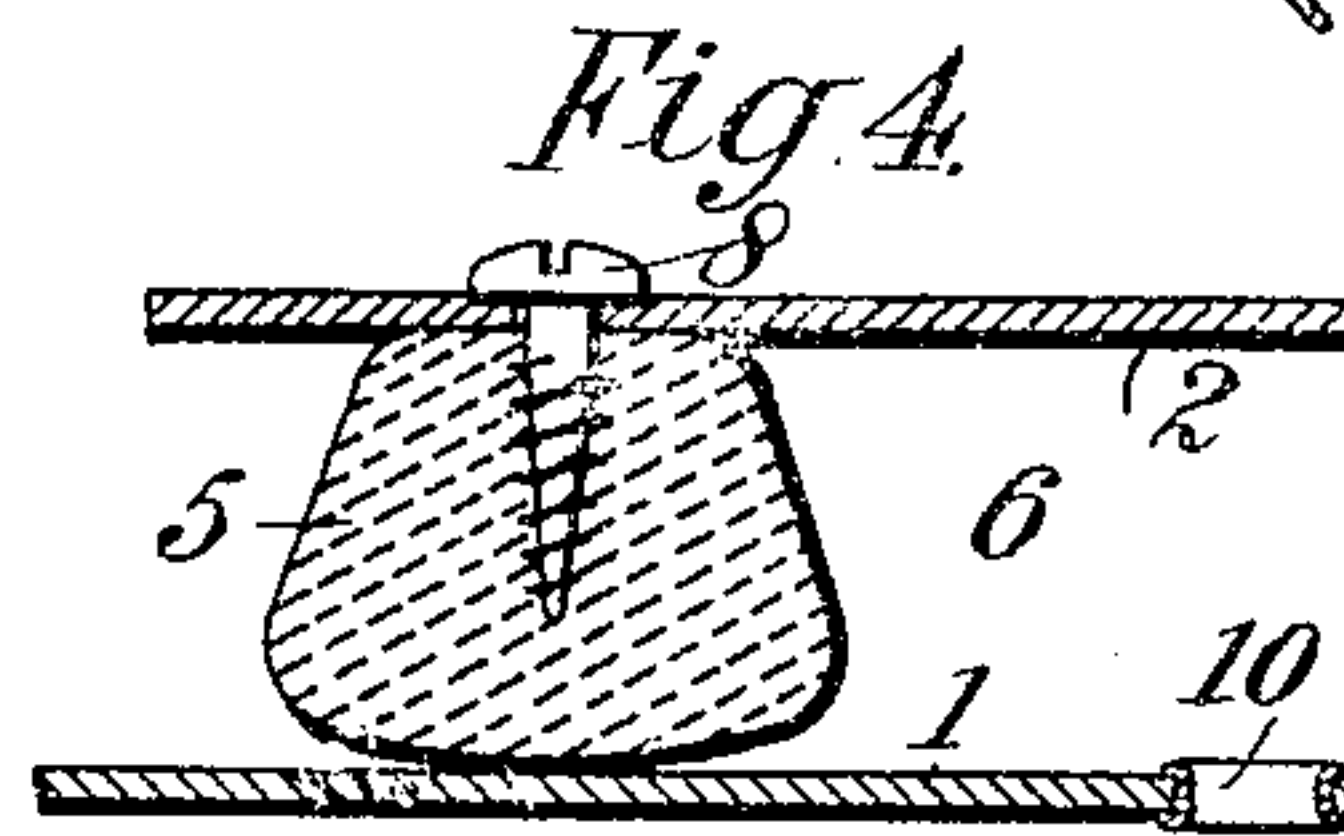
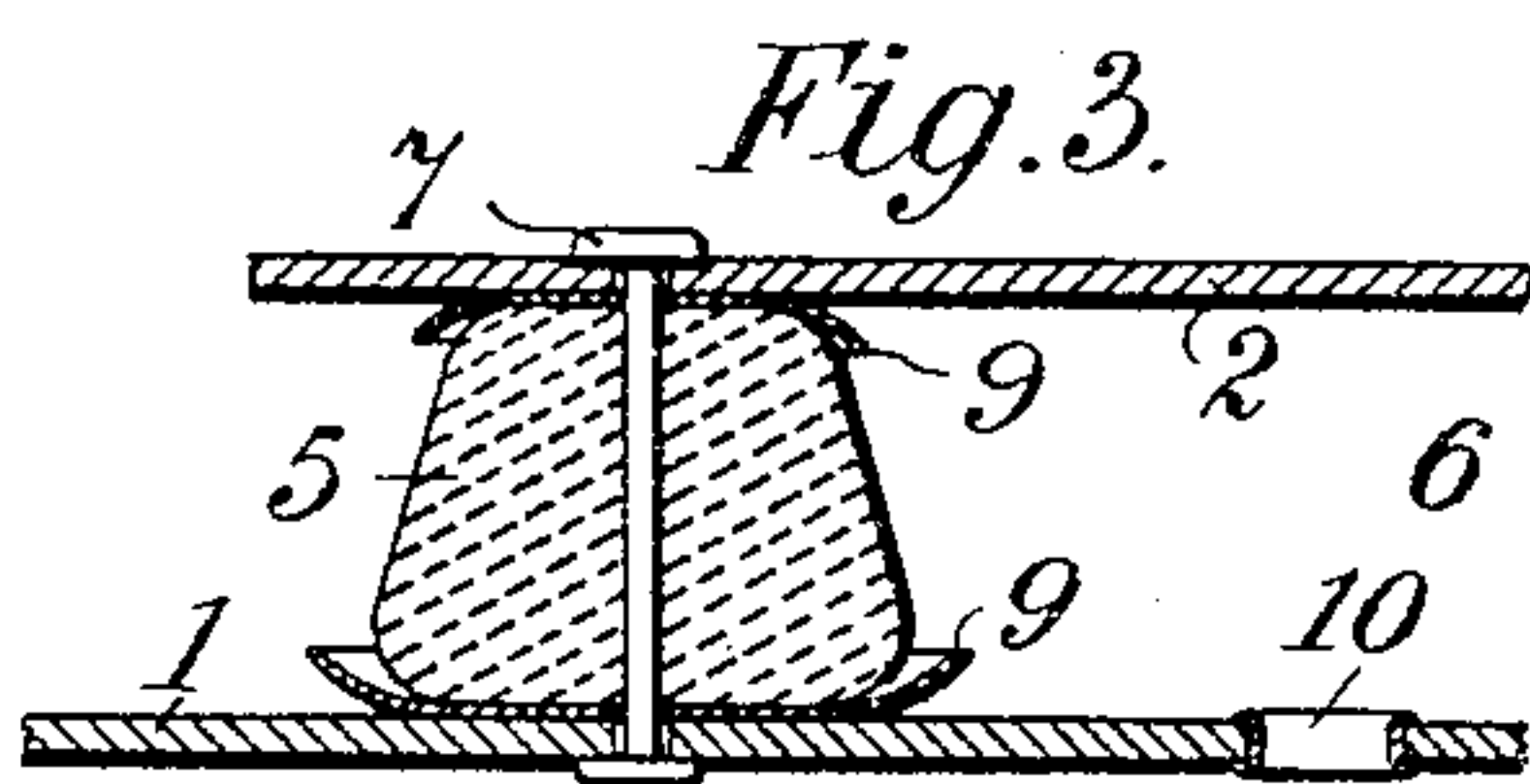
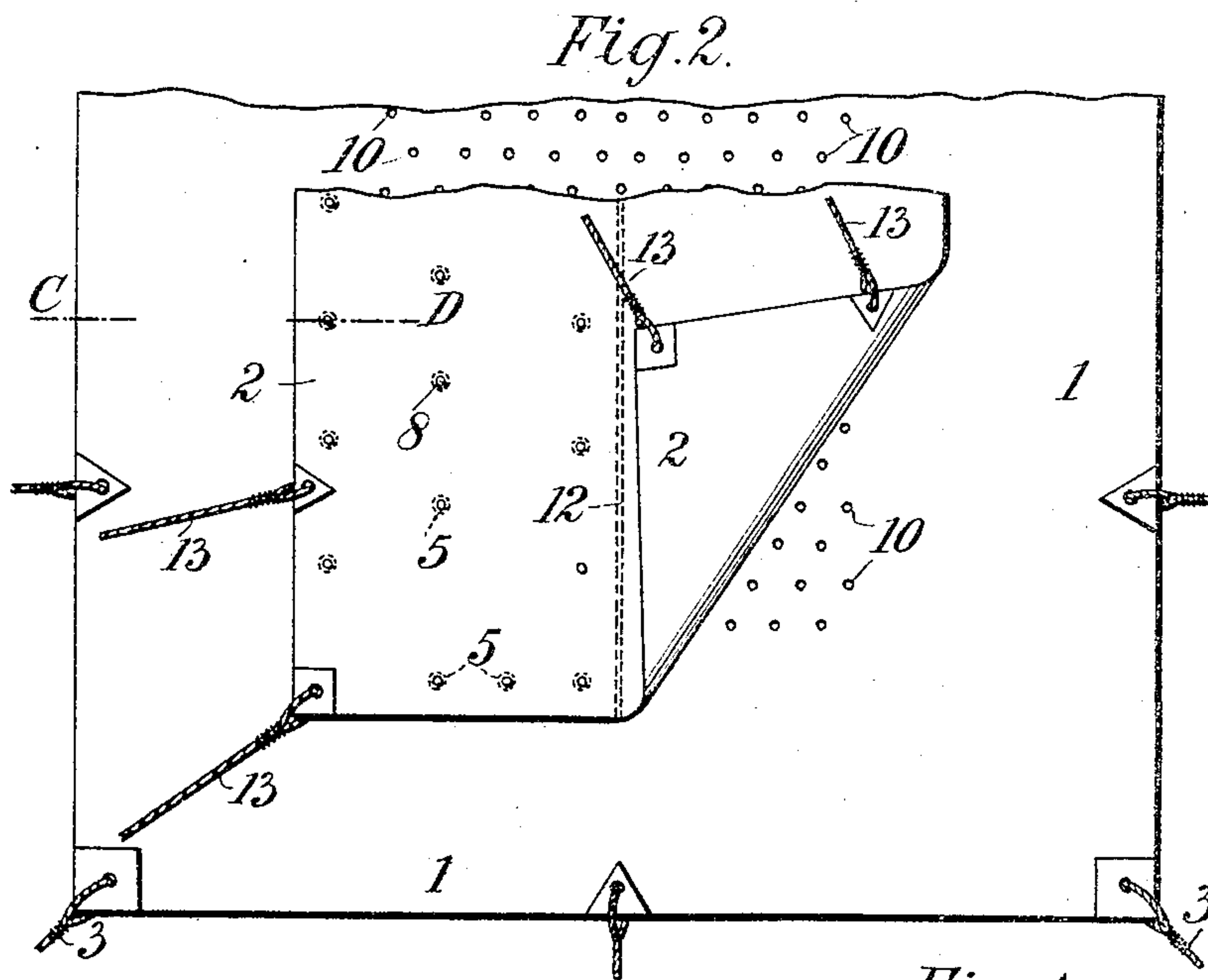
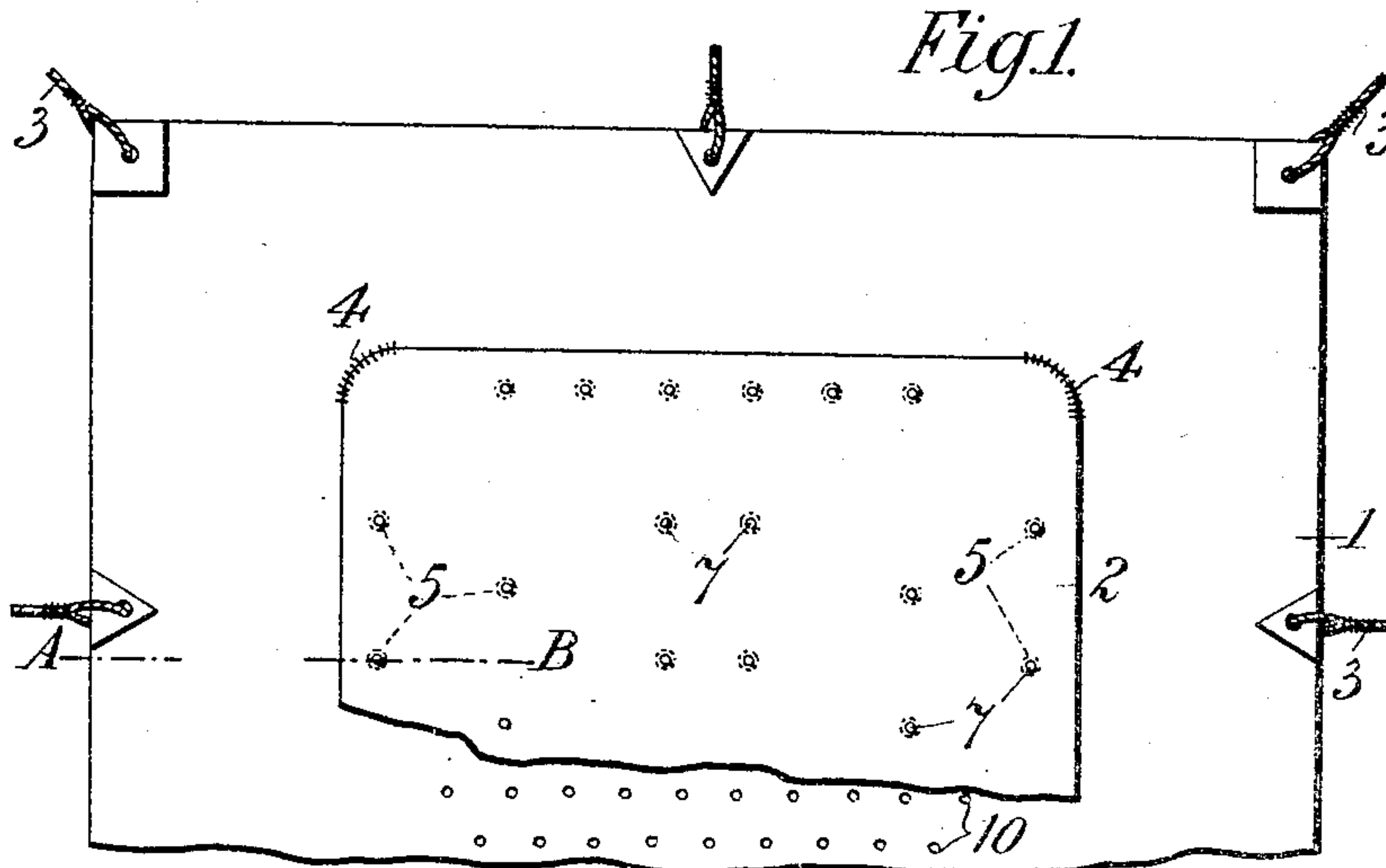
No. 778,620.

PATENTED DEC. 27, 1904.

T. N. WYLIE & A. J. HENDERSON.
TARPAULIN, SHEET, COVER, AND ROOF.

APPLICATION FILED JUNE 3, 1904.

2 SHEETS—SHEET 1.



Witnesses:
Stephen Finster
W. Max. Durrell.

Inventors,
Thomas N. Wylie and
Arthur J. Henderson
by William J. Finster
Their Attorneys.

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2 SHEETS—SHEET 2.

Fig. 5.

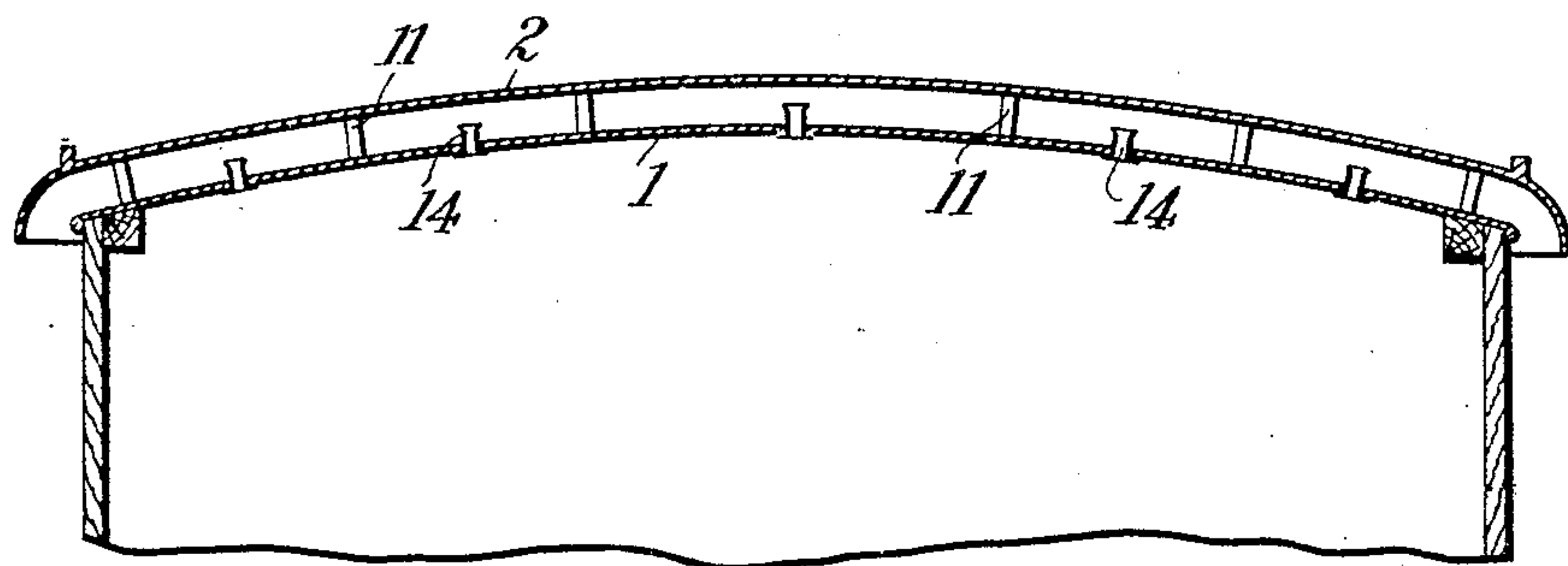
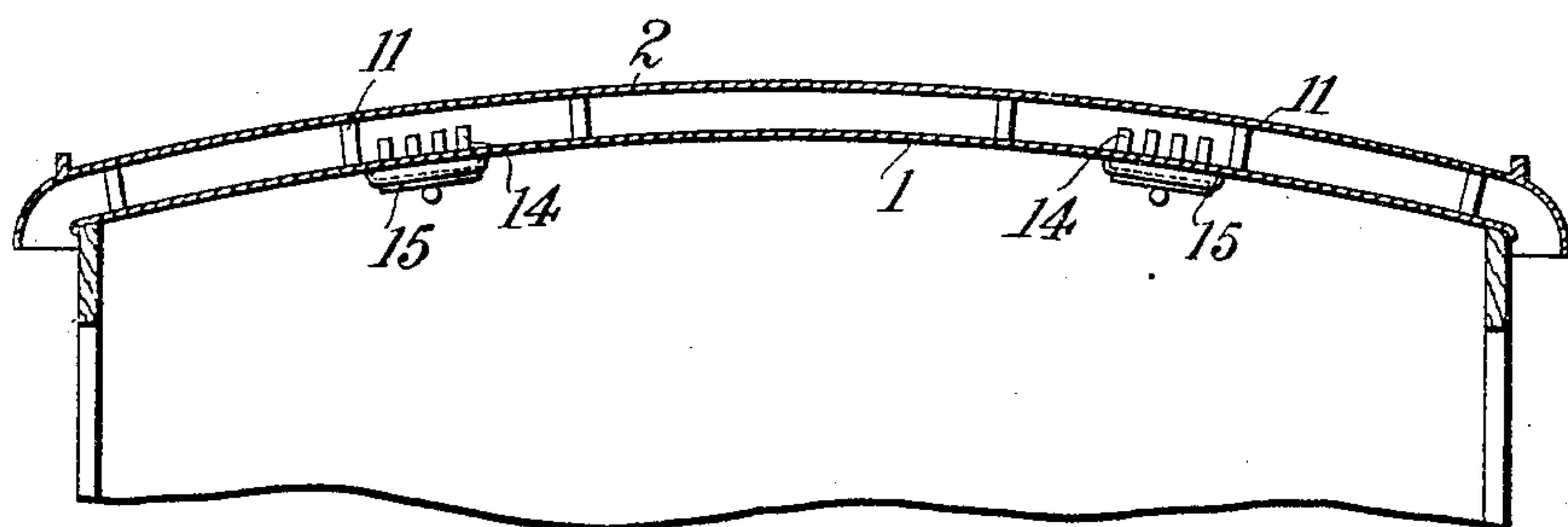


Fig. 6.



Witnesses:
Stephen Kinsten,
W. May. Donall.

Inventors
Thomas N. Wylie and
Arthur J. Henderson
by Wilkinson & Fisher
their Attorneys.

UNITED STATES PATENT OFFICE.

THOMAS NIGEL WYLIE, OF LONDON, AND ARTHUR JAMES HENDERSON,
OF SEAFORD, ENGLAND.

TARPAULIN, SHEET, COVER, AND ROOF.

SPECIFICATION forming part of Letters Patent No. 778,620, dated December 27, 1904.

Application filed June 3, 1904. Serial No. 211,035.

To all whom it may concern:

Be it known that we, THOMAS NIGEL WYLIE, residing at North Kensington, London, and ARTHUR JAMES HENDERSON, residing at Seaford, county of Sussex, England, subjects of His Majesty the King of Great Britain, have invented a certain new and useful Improvement in Tarpaulins, Sheets, Covers, and Roofs, of which the following is a specification.

10 This invention relates to an improvement in the construction of tarpaulins, sheets, covers, and roofs of railway and tramway trucks, vans, vehicles, ricks, and other covers; and it consists in employing in the tarpaulin and the
15 like two sheets of preferably waterproofed fabric or material superposed and secured the one to the other in such manner as to leave a space between the two, the under sheet being perforated in certain parts, while the upper
20 sheet is unperforated, the space between the two being maintained by distance-pieces in the form of battens, balls, buttons, or pieces of suitable material interposed and fastened in the space at convenient intervals apart,
25 whereby a covering is formed which permits the free circulation of air between the upper and under surfaces thereof and through the perforations in the latter, while water is effectually excluded.

30 In the accompanying drawings, Figure 1 is a plan of a portion of the improved ventilated tarpaulin or like cover, part of the upper sheet being broken away to show the perforations in the under sheet. Fig. 2 is also a
35 plan of a portion of a like tarpaulin or cover to show a modification. Fig. 3 is a cross-section on an enlarged scale, on line A B of Fig. 1, showing the distance-pieces and perforations. Fig. 4 is a similar cross-section on line
40 C D of Fig. 2. Figs. 5 and 6 are transverse sections through vehicle-roofs constructed in accordance with the invention, Fig. 6 being a modified form of Fig. 5.

45 In Fig. 1 the under sheet 1 has superposed on it a sheet 2, which is smaller in area than the sheet 1, but is sufficient to cover the top of the wagon, rick, or the like, while the under sheet 1 is preferably of sufficient size to wholly or partially afford protection to the

sides thereof and is provided at intervals along its edges with cords 3, whereby the covering can be secured in position on the truck, rick, or the like.

The upper sheet 2 is preferably partially attached to the under sheet 1 at its corners by means of stitching 4. To separate, and in this case further connect the two sheets, blocks having rounded corners or balls or pieces of wood, cork, or other suitable material 5 are interposed at intervals between said upper and
60 lower sheets, so as to act as distance-pieces to maintain the ventilating-space 6. The blocks or pieces 5 are secured to both upper and lower sheets 1 and 2, as shown in Fig. 3, by means of a rivet 7; but any other suitable fastening
65 may be employed.

If blocks 5 are employed in place of balls, their corners are rounded, so that the sheet may be folded up or lie over uneven surfaces without being damaged, and to assist this and
70 prevent wear from friction canvas or like washers 9 may be interposed between the blocks and the two sheets.

10 represents perforations in the lower cover, preferably eyeleted, as shown, to obviate fraying of the edges, and through which
75 perforations the air circulating in the space 6 has free ingress to the goods beneath to ventilate and keep them cool.

In Fig. 2 the upper sheet 2 is only secured to the lower sheet 1 by a line of stitching 12 down the center, (or a line of rivets might be employed,) and the blocks 5 are attached only by a screw 8 to the upper sheet 2, so that
80 said sheet may be thrown back from the sides, as shown, to expose its under side and the upper surface of the lower sheet, the arrangement affording a means of inspecting the two sheets and repairing them when worn. To
85 hold the upper sheet down when in position, it is provided with cords 13, which are tied down with the cords 3.

90 In Figs. 5 and 6 the ventilated covering is shown adapted to the roofs of railway-vans, box-trucks, passenger-carriages, or the like, Fig. 5 showing a box-truck and Fig. 6 a passenger-carriage. It this case the battens 11 form the distance-pieces and take the place of

the blocks or balls 5 in securing the two surfaces together and maintaining the space, and ventilating-openings 14 are formed in the under surface or roof 1, such openings in the case of passenger-coaches being preferably arranged in clusters, so that they may be opened or closed in any well-known manner, such as by the slide 15. (Indicated in Fig. 6.)

In this case the upper surface or roof 2 is preferably larger than the surface or roof 1, so as to overlap same and form a protection from the weather.

A covering constructed in the above-described manner possesses considerable advantages over the ordinary single covering, inasmuch as the air-space prevents the radiation of heat penetrating to the goods to be covered and induces a current of fresh cool air between the upper and under surfaces, which reduces the heat under the covering to a minimum, the fresh air having ingress through the perforations in the under surface and the hot and vitiated air escaping by the same means, and these advantages are amply demonstrated in such an instance as the preservation of fruit and like perishable goods during transit on railways in hot weather.

What we claim is—

1. A covering of the character described, comprising two superposed sheets of material having an air-space between, the under sheet having perforations therein, means for securing the two sheets together, blocks interposed in said space between the upper and under sheets, washers forming seatings for said blocks, and rivets for securing said blocks and washers to the upper and under sheets to maintain said air-space.

2. A covering of the character described, comprising two superposed sheets of material having an air-space between, the under sheet having perforations therein, means for securing said sheets together, rounded-surface blocks interposed in the space between said sheets, and screws securing said blocks to one of the sheets to maintain the air-space.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

THOMAS NIGEL WYLIE,
ARTHUR JAMES HENDERSON.

Witnesses:

RICHARD WESTACOTT,
ALFRED NUTTING.