

(No Model.)

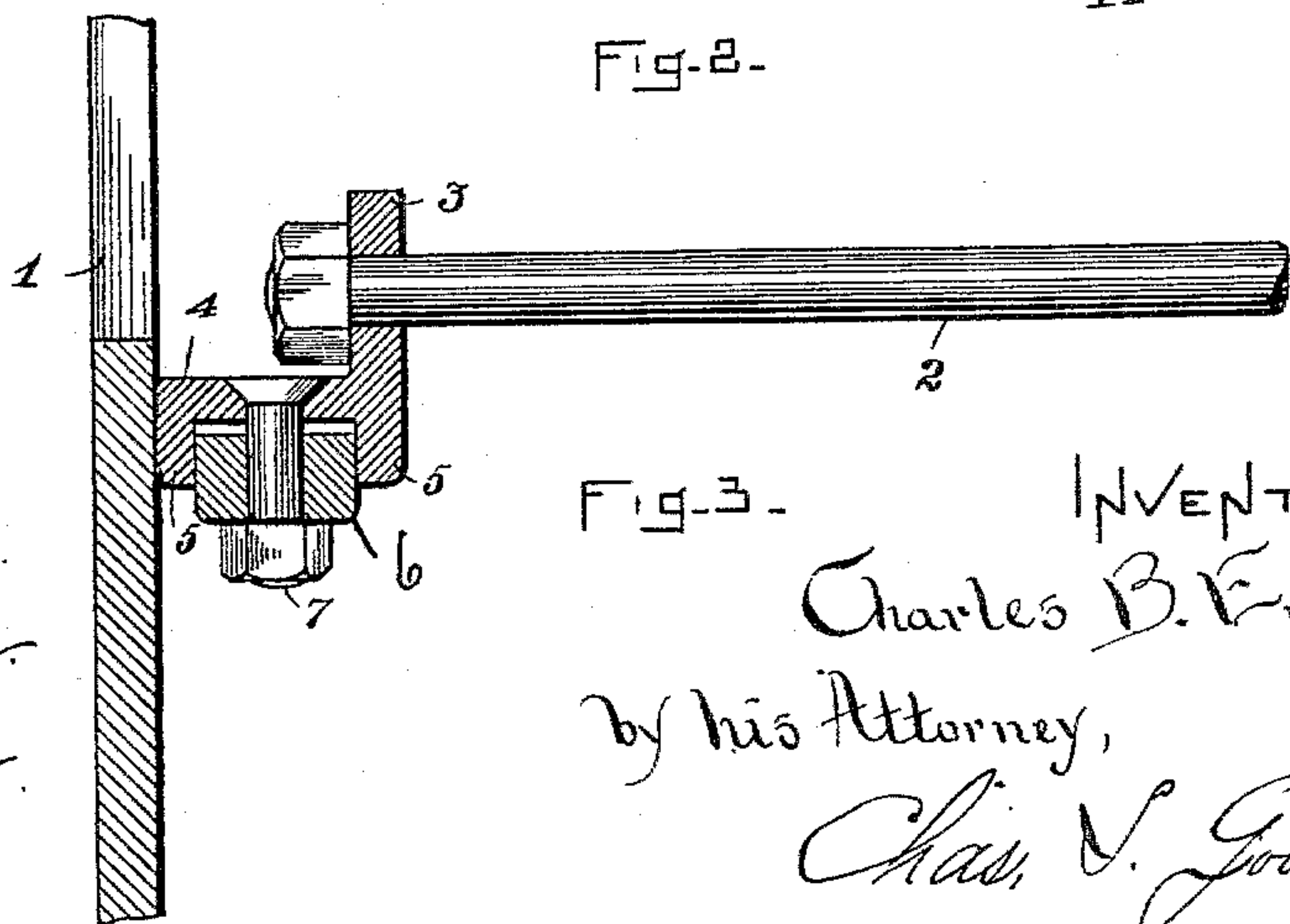
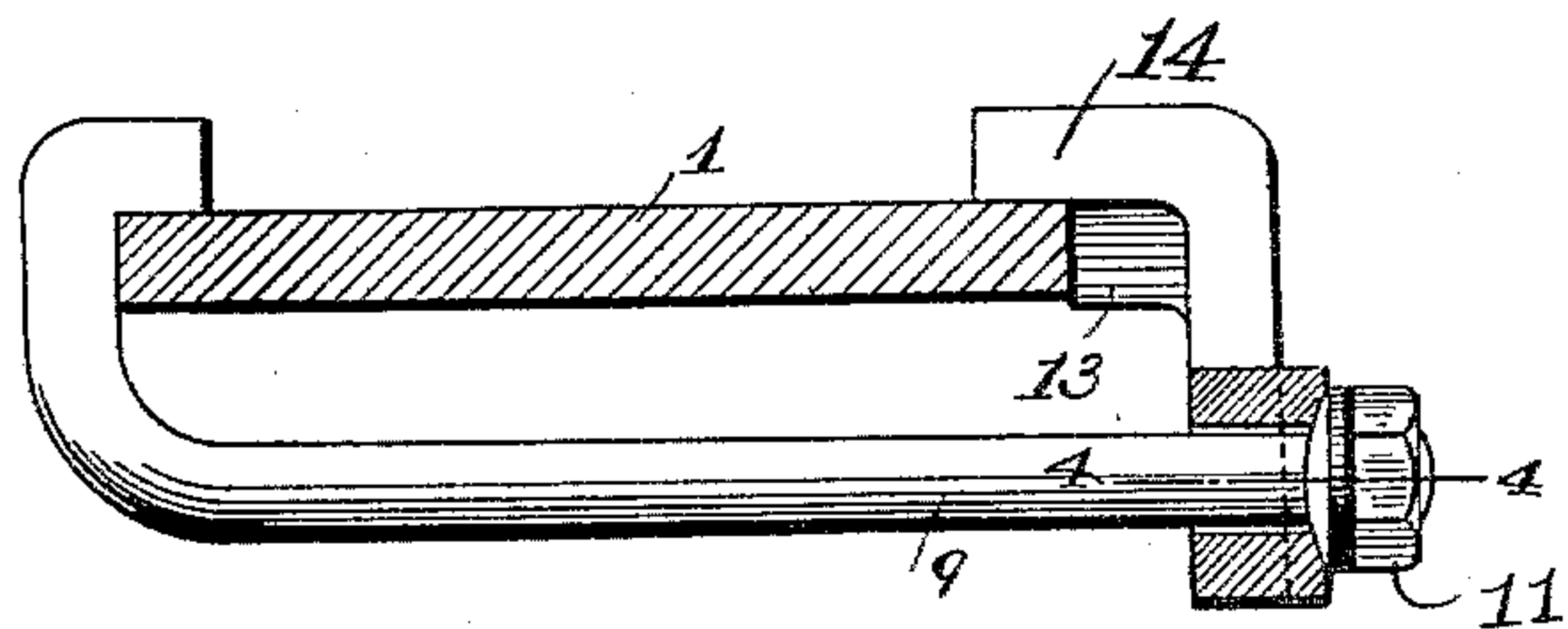
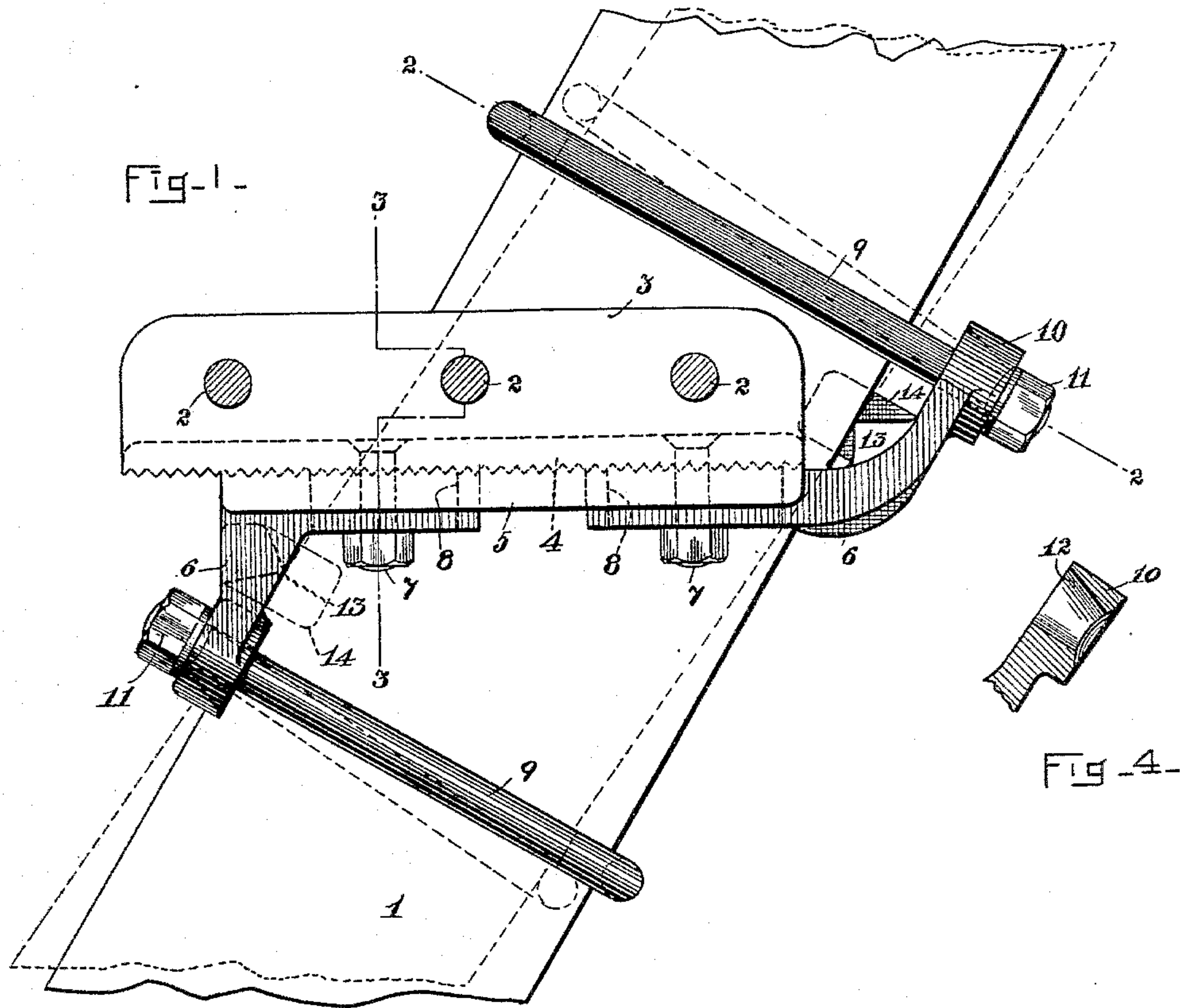
2 Sheets—Sheet 1.

C. B. EMERY.

ADJUSTABLE TREAD SUPPORT FOR STAIRS.

No. 597,966.

Patented Jan. 25, 1898.



WITNESSES -

Wm. H. Varnum.
Geo. H. Cushman.

INVENTOR -
Charles B. Emery,
by his Attorney,
Chas. V. Gooding.

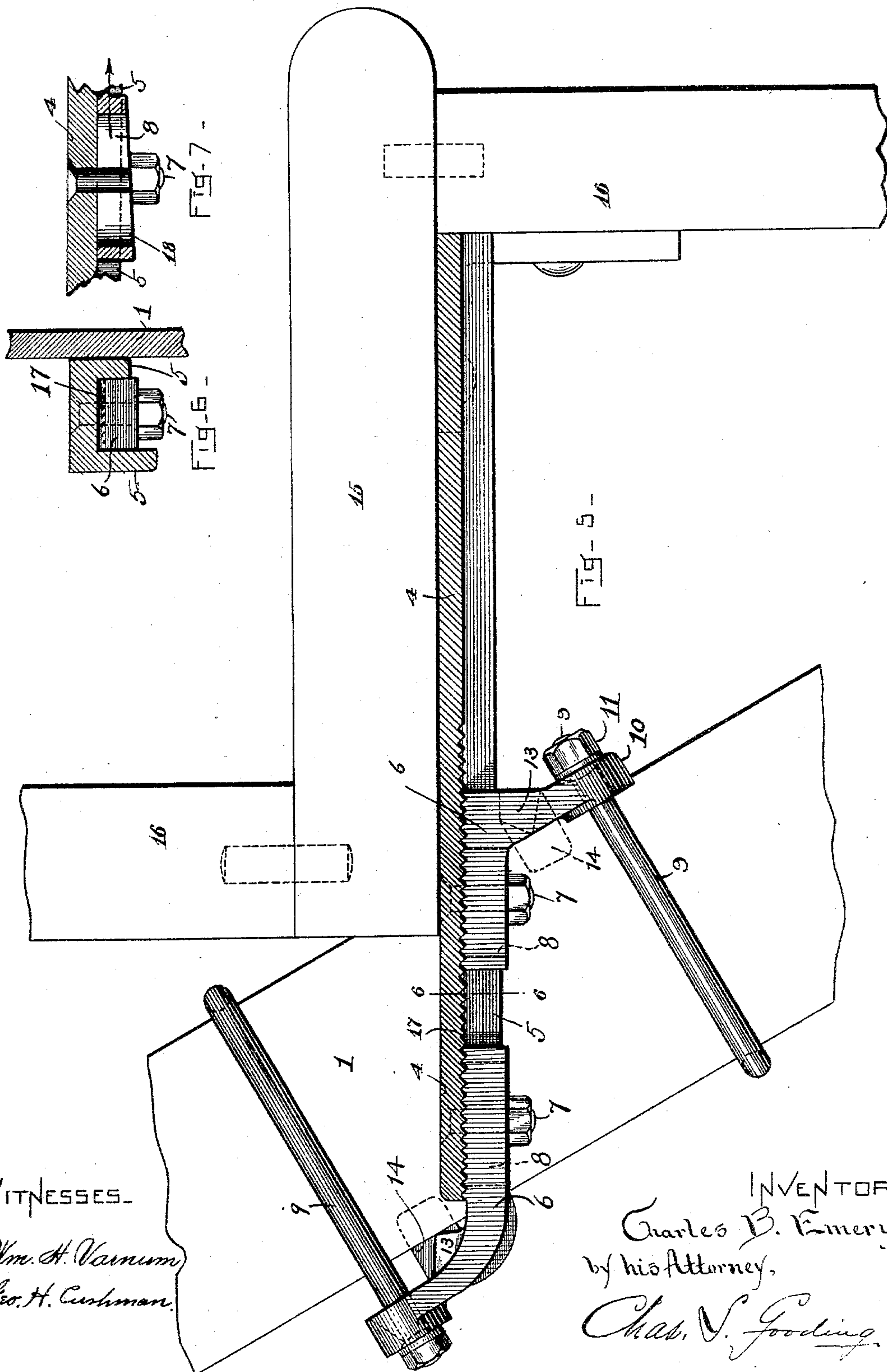
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UNITED STATES PATENT OFFICE.

CHARLES B. EMERY, OF BOSTON, MASSACHUSETTS.

ADJUSTABLE TREAD-SUPPORT FOR STAIRS.

SPECIFICATION forming part of Letters Patent No. 597,966, dated January 25, 1898.

Application filed February 6, 1897. Serial No. 622,302. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. EMERY, of Boston, county of Suffolk, and State of Massachusetts, have invented a new and useful Adjustable Tread-Support for Stairs, of which the following description, in connection with the drawings, is a specification.

Like numerals refer to like parts throughout the several figures of the drawings.

10 The object of the invention is to provide a cheap, simple, convenient, and practical means of attaching the treads to the carriages of an iron or metal staircase either for the interior of houses or for fire-escapes.

15 The invention consists of a side bracket for supporting the treads of a staircase, said bracket being adjustable to fit carriages of different widths and different angles.

20 The invention further consists in the manner of attaching the bracket or tread-support to the carriage of the staircase.

25 In the drawings forming a part of this specification, Figure 1 is a side elevation of my improved tread-support as applied to a fire-escape, the treads being composed of rods, shown in section. Fig. 2 is a detail section, partly in elevation, taken on line 2 2, Fig. 1. Fig. 3 is a vertical section taken on line 3 3, Fig. 1. Fig. 4 is a detail section, line 4 4, Fig. 2. Fig. 5 is a sectional elevation of my improved tread-support as applied to a marble staircase with metal carriages. Fig. 6 is a cross-section taken on line 6 6, Fig. 5. Fig. 7 is a longitudinal section through a modified form of tread-support.

35 Referring to the drawings, 1 is the carriage of a metal staircase or fire-escape.

40 2 2 2 are rods constituting the treads of the stairs. The rods 2 are fastened by nuts or riveted to a vertical flange 3, formed upon the upper side of the channel-iron 4. Between the flanges 5 5 of the channel-iron 4 are fastened two clamp-rod brackets 6 6 by means of the bolts 7 7. Said clamp-rod brackets are slotted at 8 to allow the brackets to be adjusted toward or away from each other upon the channel-iron 4. The brackets 6 6 are clamped by the hook-bolts 9 9 to the carriage 1. Said bolts 9 9 pass through 50 ears 10 10 on the brackets 6 6 and are screw-

threaded to receive a nut 11. The hole 12 in the boss 10 is made conical in shape and the under side of the nut 11 is rounded, so as to permit the bolt 9 to assume different angles with the ear 10 or bracket 6, so that the tread of the stair may be kept level while the clamp-bolt is placed at any desired angle to conform to the angle at which the carriage 1 may stand. For example, in Fig. 1 the tread of the stairs and the tread-support are horizontal, while the carriage 1 stands at an angle of forty-five degrees. If the carriage 1 stood at a different angle, as shown by dotted lines, Fig. 1, the clamp-rods would assume the position shown in dotted lines, same figure, while the tread-rods and tread-support would remain horizontal.

Upon each of the brackets 6 is a lug 13, having a sharp or angular edge which bears against the edge of the carriage 1, so that when the bolts 9 are tightened by nuts 11 the lugs 13 13 are brought to bear upon opposite edges of carriage 1 and hold the tread-support firmly in position. Attached to the brackets 6 6 are ears 14 14, which bear upon the rear face of the carriage 1 and guard against end play of the stair.

80 In Fig. 5 I have illustrated how my invention may be adapted to marble or stone staircases or staircases having a cast-iron tread. In this form of my invention the channel-iron 4 is extended, as shown, to receive the tread 15. Risers 16 16 are joined to the treads in the ordinary manner. In this form the vertical flange 3 is omitted.

85 I have illustrated two methods of preventing the brackets 6 6 from slipping upon the channel-iron 4. In Figs. 1 and 5 the channel-iron 4 and the brackets 6 6 are shown corrugated at 17, so that when joined together by bolts 7 the brackets cannot slip endwise upon the channel-iron, the flanges 5 5 preventing lateral motion of the brackets upon the channel-iron. In Fig. 7 I have illustrated another manner of preventing the bracket from slipping upon the channel-iron, in which I provide an incline 18 upon the lower face of the bracket, so that (the strain being in the direction of the arrow) the tendency will be to wedge the bracket between the lower 100

face of the channel-iron and the nut on the bolt 7, thus locking the bracket to the channel-iron.

It will be observed that by the construction herein shown and described it is unnecessary to drill holes in the carriage to attach the tread-support thereto.

I have shown in the drawings the tread-support 4, having brackets 6 6 adjustably secured thereto, as I consider this the best and most practical form; but I do not wish to be understood as limiting my invention to this exact construction, as it is evident that the brackets 6 6 and tread-support 4 might be cast in one piece, or the brackets 6 6 might be made with the flanges 5 5 thereon and the tread-support 4 formed to fit between said flanges without departing from the spirit of my invention.

What I claim, and desire by Letters Patent to secure, is—

1. A tread-support for stairways, having clamp-brackets adjustably secured thereto, substantially as described for the purpose specified.

2. A tread-support for stairways, having clamp-brackets secured thereto, provided with clamp-bolts whereby said tread-support

may be clamped to the carriage of said stairway, substantially as described for the purpose specified.

3. A tread-support for stairways, having clamp-brackets adjustably secured thereto, provided with clamp-bolts, whereby said tread-support may be clamped to the carriage of said stairway, substantially as described for the purpose specified.

4. The tread-support 4, clamp-brackets 6, 6, adjustably secured thereto, having bearing-lugs 13, thereon, and provided with conoidal openings 12, to receive clamp-bolts 9, whereby said tread-support may be secured to the carriage of a stairway, substantially as described for the purpose specified.

5. The tread-support 4, clamp-brackets 6, 6, secured thereto, having ears 14, 14, thereon and provided with holes 12 to receive clamp-bolts 9, 9, whereby said tread-support may be secured to the carriage of a stairway, substantially as described for the purpose specified.

CHARLES B. EMERY.

Witnesses:

CHAS. S. GOODING,
GEO. H. CUSHMAN.