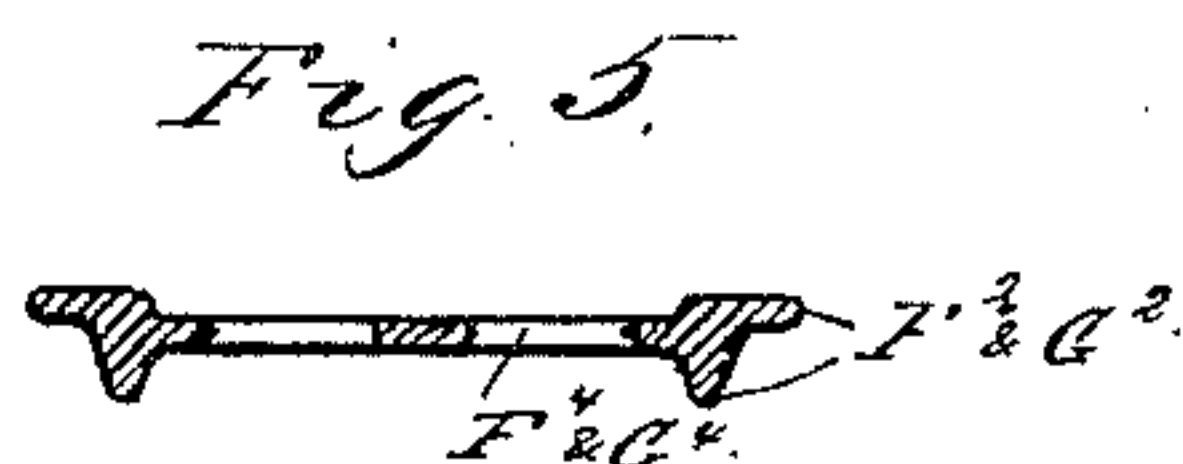
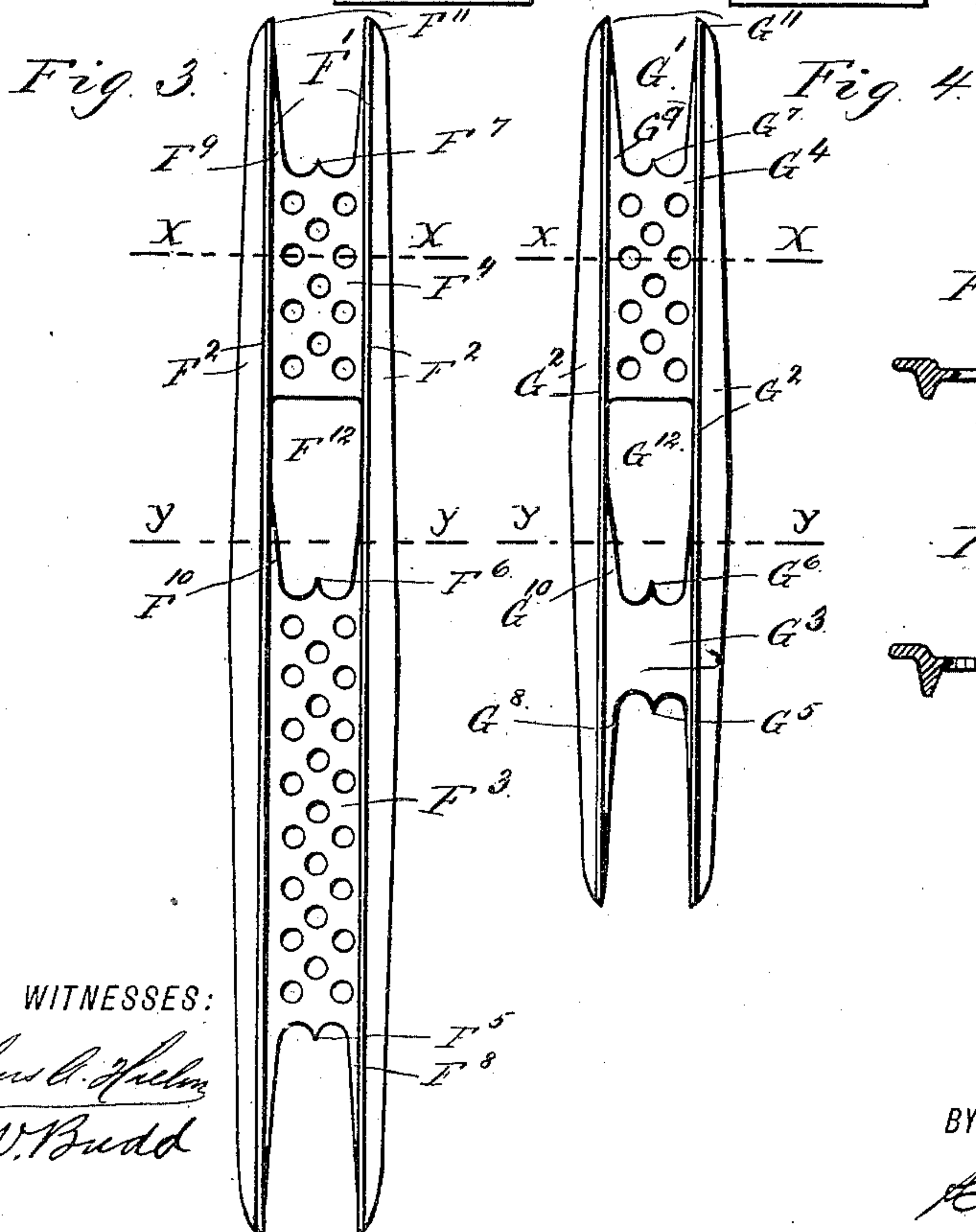
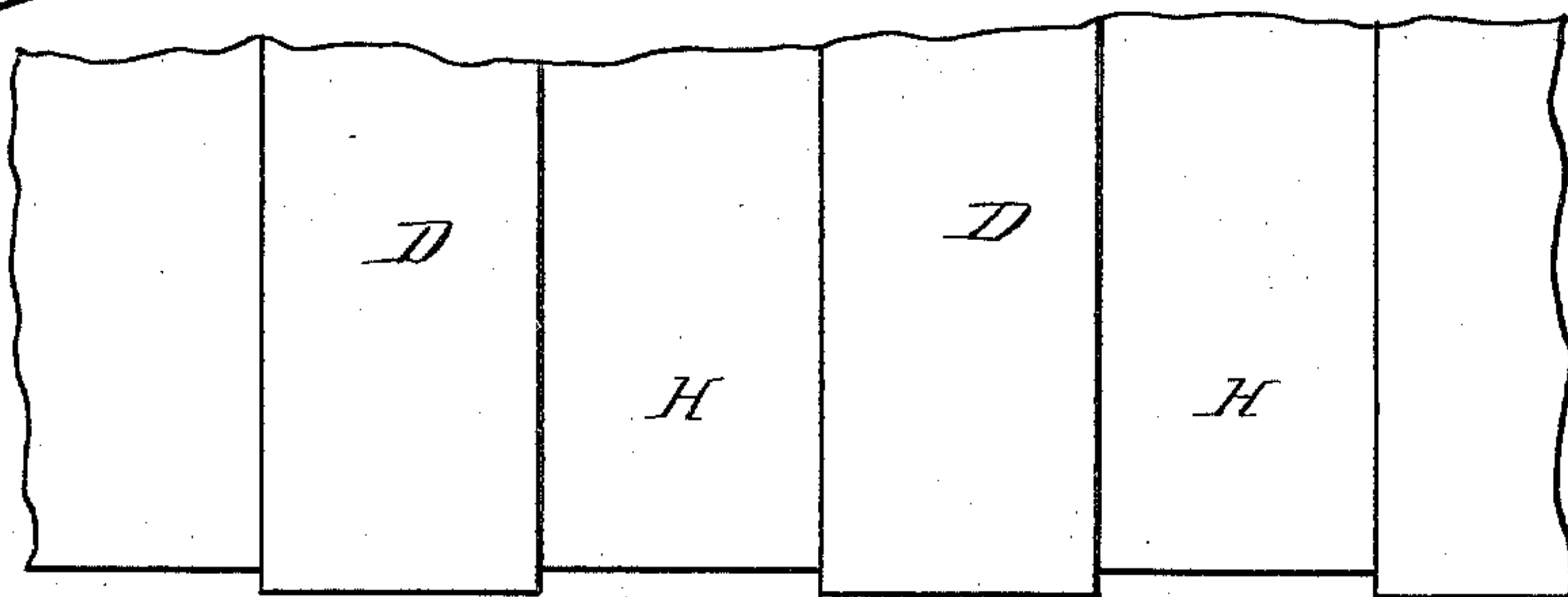
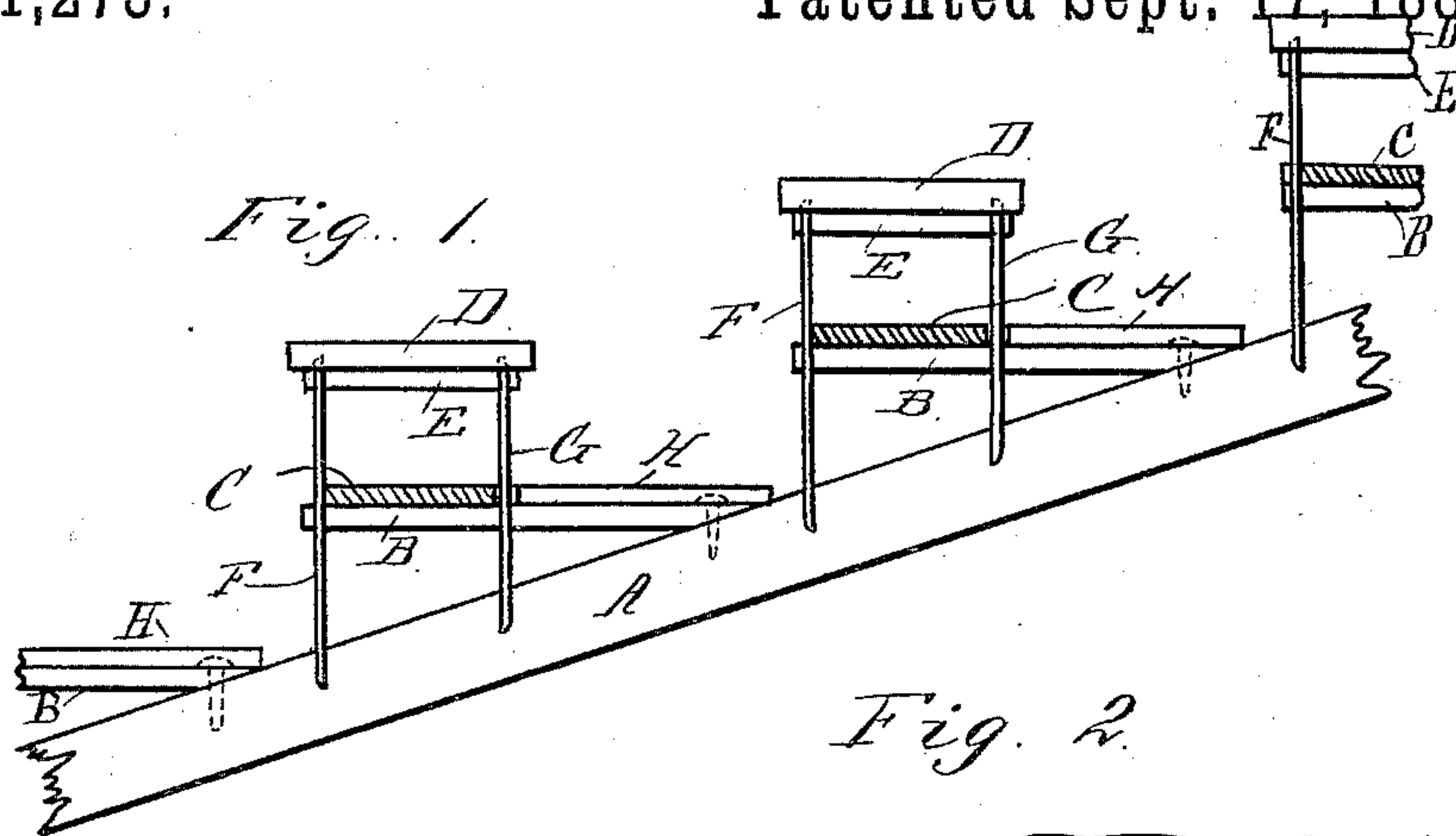


(No Model.)

G. W. ZEIGLER.
STAGING.

No. 411,273.

Patented Sept. 17, 1889.



WITNESSES:

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GEORGE W. ZEIGLER, OF PHILADELPHIA, PENNSYLVANIA.

STAGING.

SPECIFICATION forming part of Letters Patent No. 411,273, dated September 17, 1889.

Application filed May 13, 1889. Serial No. 310,610. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. ZEIGLER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Stagings and Galleries and Clamps therefor; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof as to enable others skilled in the art to make and use the said invention.

This invention relates to stagings and galleries and step-shaped structures for the seating of spectators in shows and public meetings and similar situations, and has for its object the production of such structures of great strength and security without waste of lumber and susceptible of easy erection, easy removal, and compact storage; and it consists of a new and useful form of iron clamp for securing the wooden parts of such structures to each other, and, in combination therewith, wooden parts fitted thereto, forming the joists, steps, and seats, as hereinafter fully described, and shown in the accompanying drawings, in which—

Figure 1 shows a side elevation of a gallery embodying this invention; Fig. 2, a ground plan thereof; Fig. 3, an enlarged front view of one of the clamps used for uniting the wooden parts; Fig. 4, an enlarged front view of another of the clamps, and Figs. 5 and 6 sections of the clamps in horizontal planes. (Indicated by the dotted lines X X and Y Y, Figs. 3 and 4.)

Like parts are indicated by the same reference-marks in the several figures.

A A are inclined beams.

B B are horizontal strips beveled or tapered at one end, so as to rest on the beams A A.

C C are steps resting on the strips B B. That portion H of the steps C which comes between the seats is adapted to be used as a foot-board after the spectators have mounted the steps and seated themselves.

D D are seats resting upon horizontal blocks E E.

F and G are clamps uniting the blocks E E, strips B B, and beams A A, and differ from each other in length only.

The clamps F and G are made of upright parallel metallic bars F' and G', stiffened by ribs F² and G² and united by webs or plates of metal F³ F⁴ and G³ G⁴, formed integrally therewith and preferably perforated to reduce their weight, and are provided with points F⁵ and G⁵, which, entering the beams A, prevent slipping, points F⁶ and G⁶, which, entering the strips B B, prevent slipping, and points F⁷ and G⁷, which, entering the blocks E E, prevent slipping. There are openings in spaces F¹² and G¹², between the webs F³ and F⁴ and G³ and G⁴, to receive the strips B B. On the inner sides of the bars F' and G', below the webs F³ and G³, are ridges of metal F⁸ and G⁸, which converge toward their upper ends and, when pressed downwardly on the beams A A, indent the side of the beams A A and hold the clamps F and G in upright position on the beams A A. Similar ridges F⁹ and G⁹ above the plates F⁴ and G⁴, converging downwardly, indent the blocks E E and hold them securely in position. Similar ridges F¹⁰ and G¹⁰, converging downwardly in the openings F¹² and G¹² between the webs or plates F³ and F⁴ and G³ and G⁴, indent the sides of the strips B B and hold them in position. The upper ends of the bars F' and G' are pointed at F¹¹ and G¹¹, so as to enter the under sides of the seats D D and prevent slipping.

The clamps F and G are cheaply made of malleable iron or steel castings, but may be made of wrought-metal plates by pinching or by forging or rolling in dies.

To erect the staging, the clamps F and G are erected on the beams A A and pressed downward, so that the forked lower ends embrace and indent the sides of the beams, the blocks E E are pushed down into the forks of the upper ends of the clamps F and G, and the strips B B are inserted in the openings F¹² and G¹², between the plates F³ and F⁴ and G³ and G⁴. The steps C C are next laid on the strips B B, and the seat laid on the points F¹¹ and G¹¹ and pressed downward until they rest on the blocks E E. By this system of construction the entire strength of the timber is utilized in the structure, and it can be readily taken apart and compactly stored and re-erected without waste.

Having described this invention, what I claim is—

1. In staging, the combination of the beams A, clamps F and G, strips B, blocks E, seats
5 D, and steps C, constructed and arranged as set forth.

2. The clamps F and G, of unequal length, provided with converging ribs in the inner edges adapted to indent and hold upon tim-
10 ber, substantially as set forth.

3. The clamps F and G, provided with internal converging ridges and spurs or points F⁵ and G⁵, F⁶ G⁶, and F⁷ G⁷, F¹¹ and G¹¹, constructed substantially as described, and for the purpose set forth.

GEORGE W. ZEIGLER.

Witnesses:

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