

(No Model.)

H. WYMAN.

SHUTTLE BOX FOR LOOMS.

No. 381,519.

Patented Apr. 17, 1888.

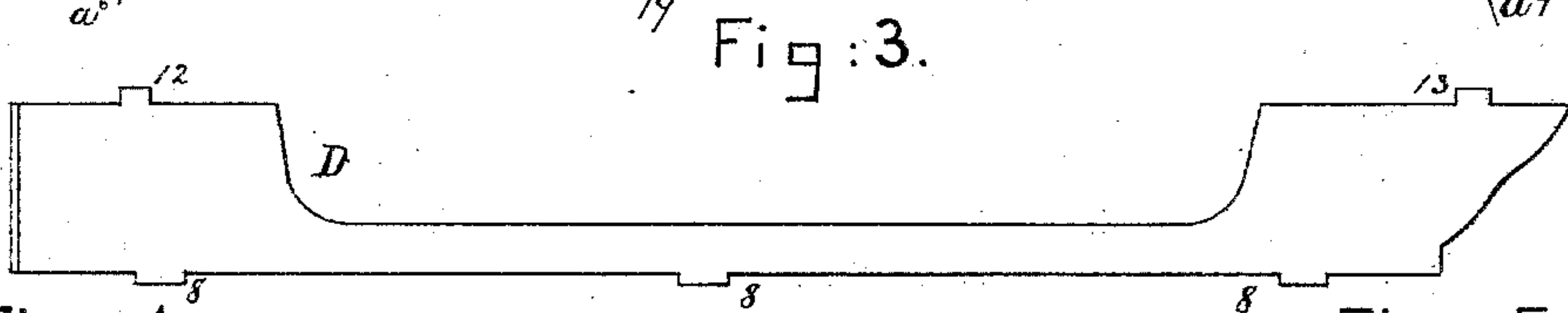
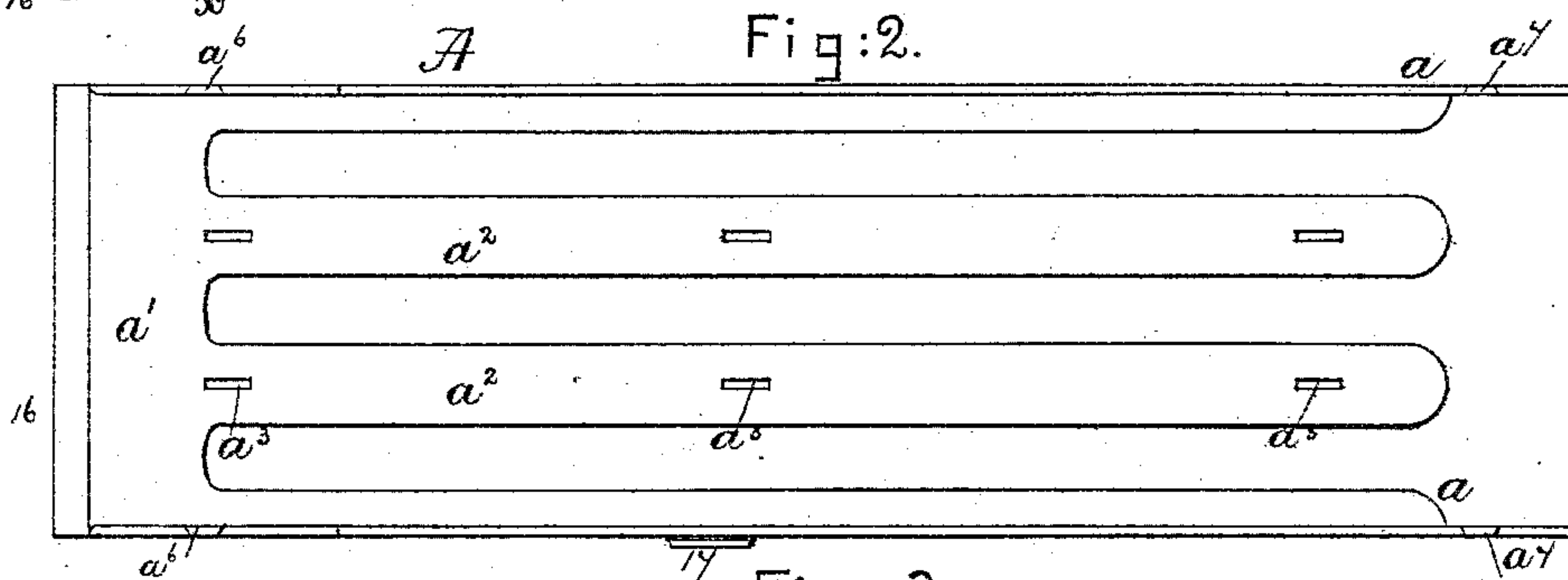
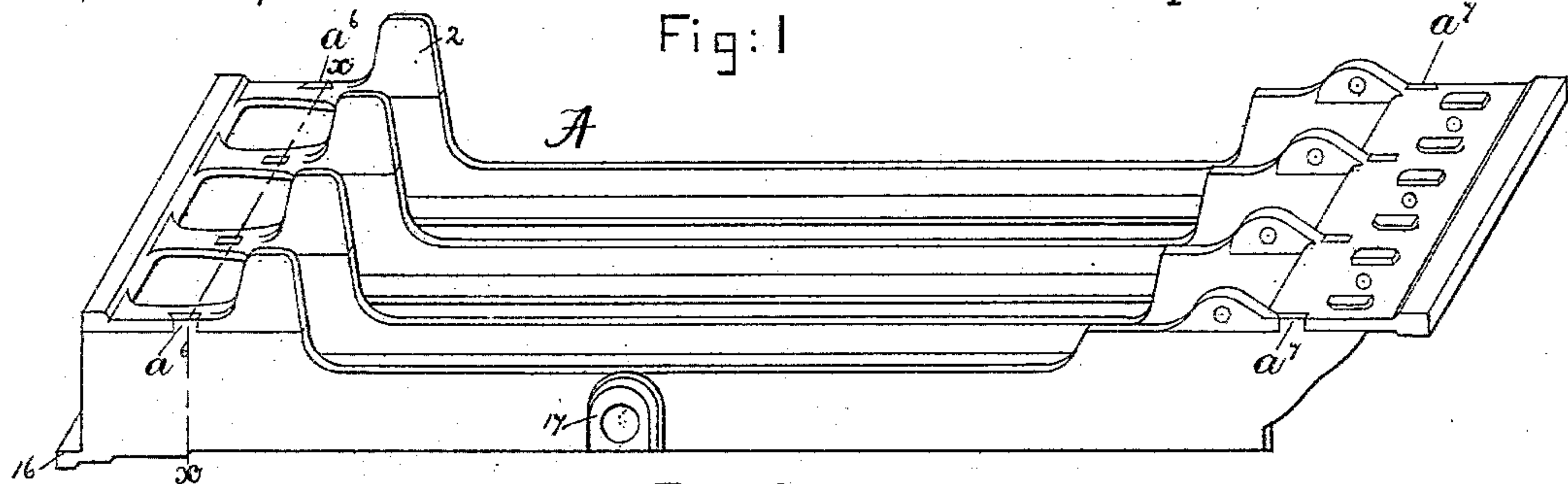


Fig:4.

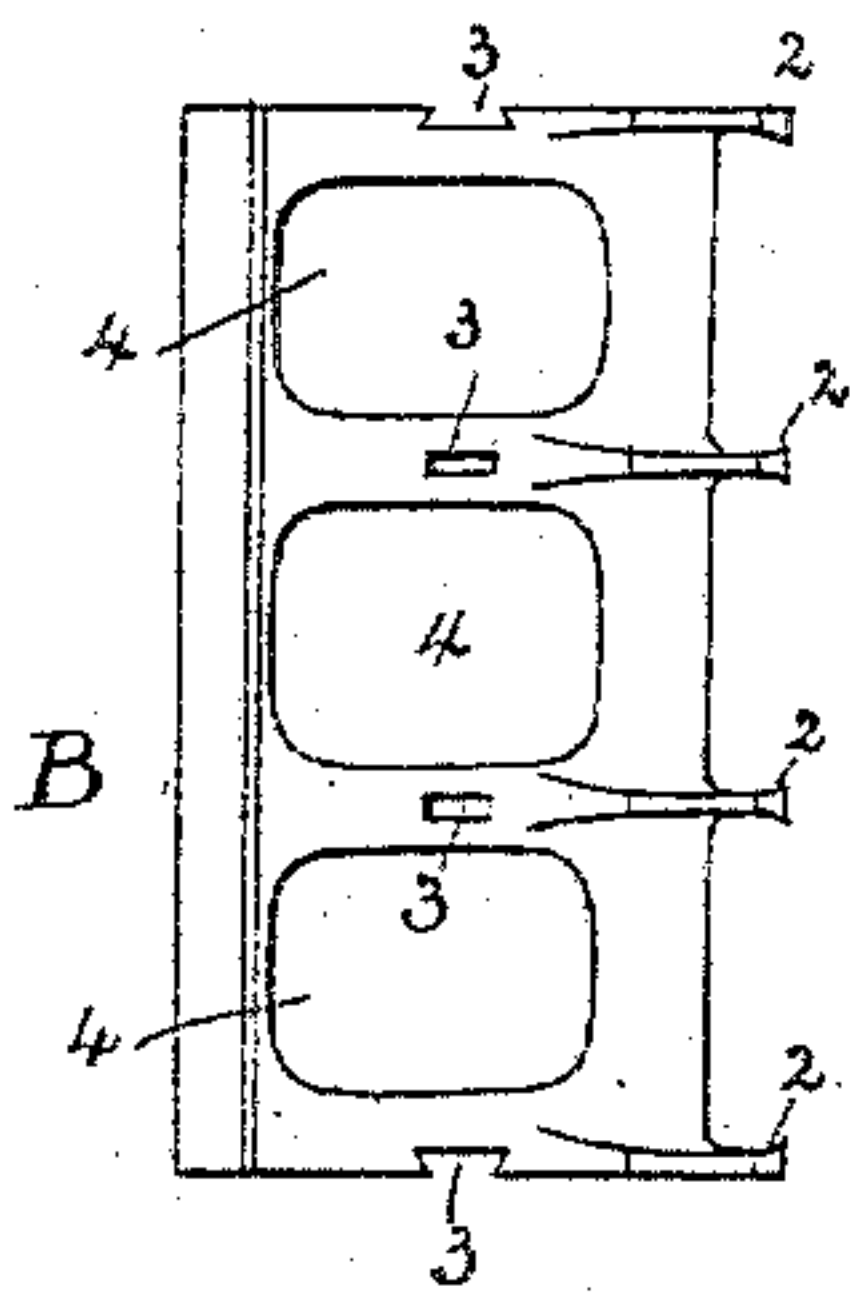


Fig:5.

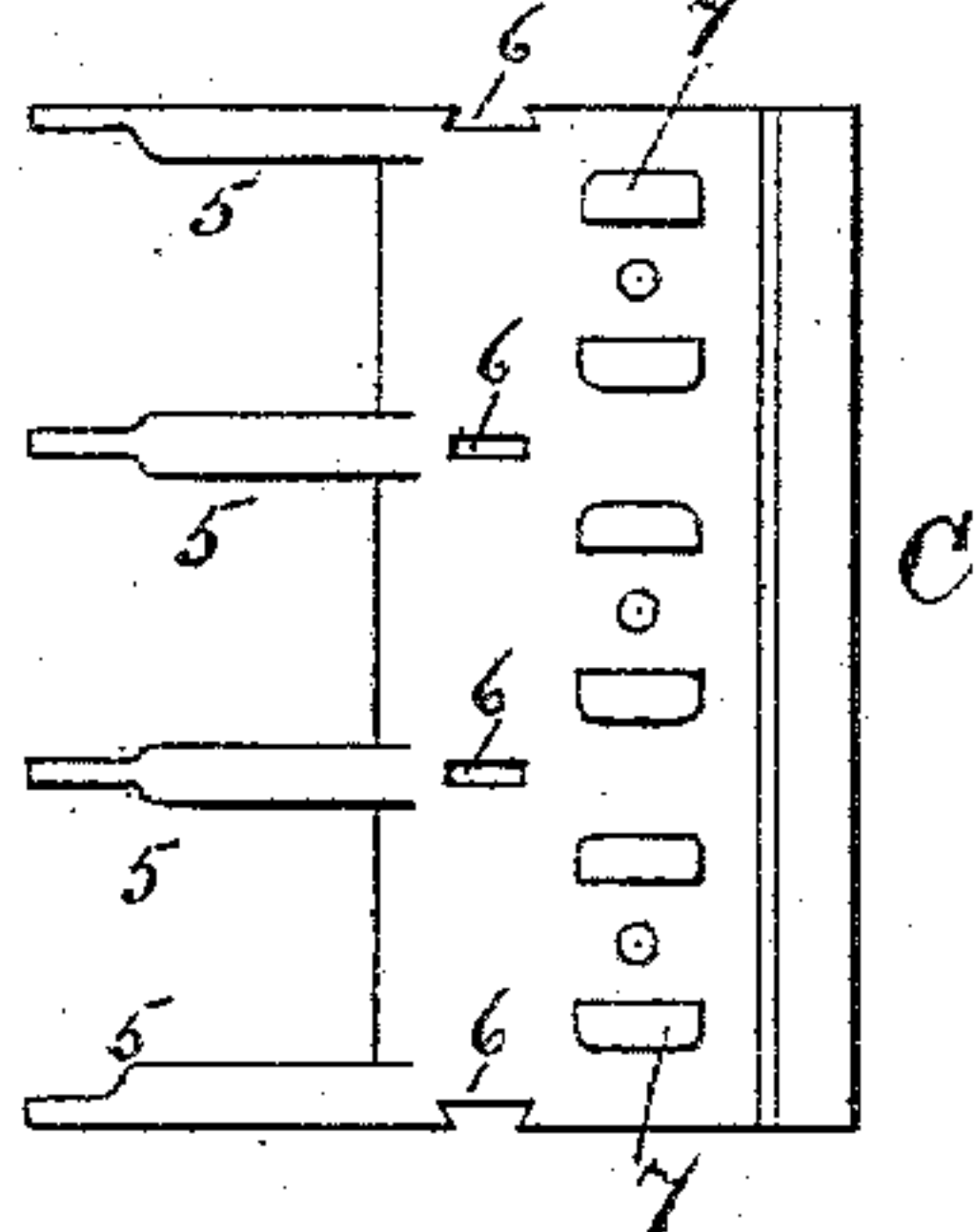
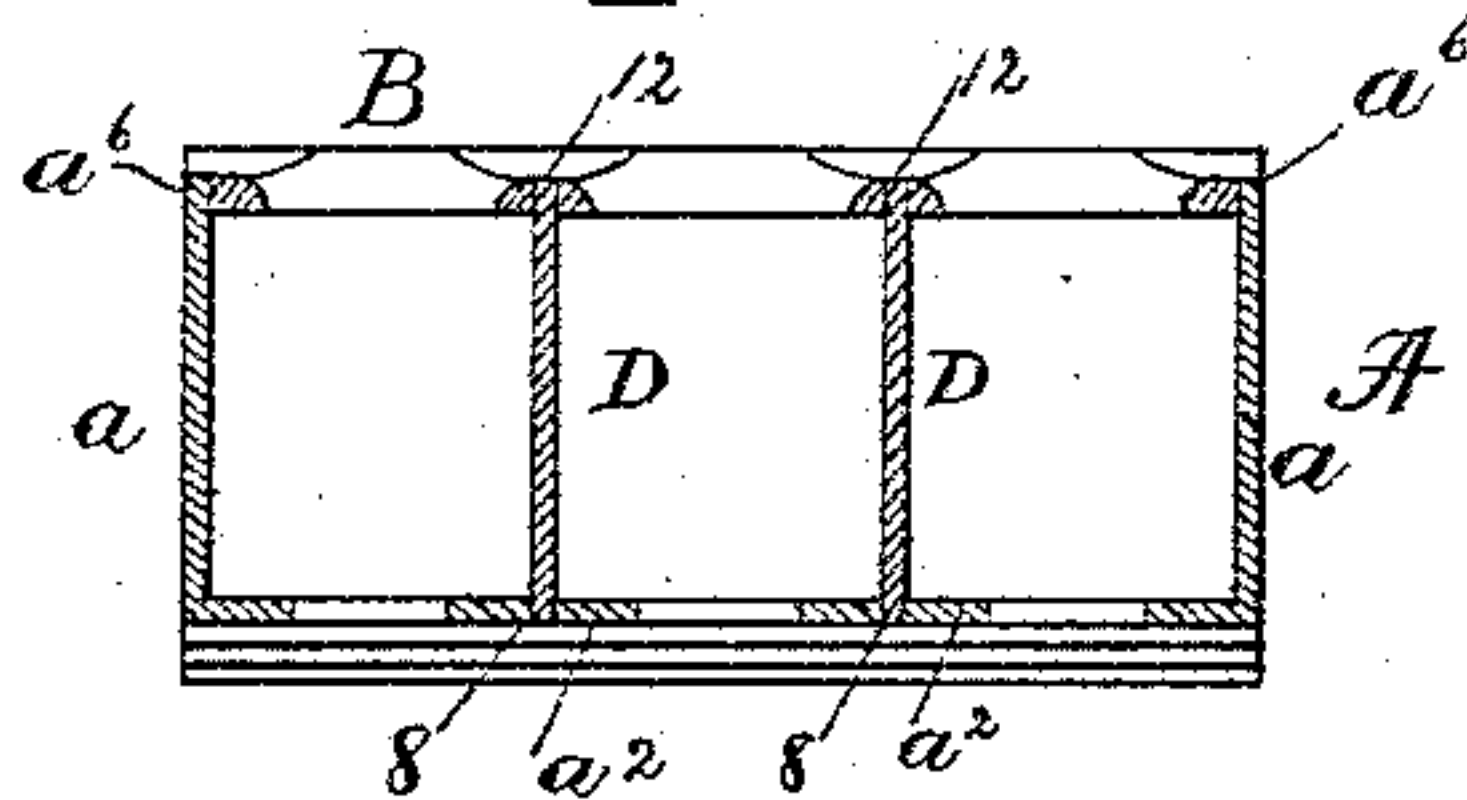


Fig:6.



Witnesses

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# UNITED STATES PATENT OFFICE.

HORACE WYMAN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE CROMPTON LOOM WORKS, OF SAME PLACE.

## SHUTTLE-BOX FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 381,519, dated April 17, 1888.

Application filed December 6, 1887. Serial No. 257,104. (No model.)

*To all whom it may concern:*

Be it known that I, HORACE WYMAN, of Worcester, county of Suffolk, and State of Massachusetts, have invented an Improvement in Shuttle-Boxes for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to strengthen shuttle-boxes, and at the same time cheapen their construction and reduce their weight.

My invention has especial reference to the class of shifting shuttle-boxes used in looms employing numerous shuttles, the said boxes carried by the lay being raised and lowered in predetermined order to bring the proper cell of the box opposite the raceway of the lay. These boxes have usually been made of iron by casting, the construction of the castings requiring peculiar flasks. So, also, the said boxes have been made by bending sheet metal into shape.

In ordinary cast-metal boxes containing division-plates or shelves integral therewith great difficulty is experienced in keeping the division-plates parallel to the bottom of the box and the division-plates equidistant from each other and from the bottom of the box. By making the body of the box of cast metal, besides cheapness, it is possible to form the end flange which enters the usual groove or way in the box-guide and the hub for the reception of the shuttle-box rod integral with the body of the box, whereas when sheet metal is used for the body of the box this flange and hub have to be made as independent pieces which are riveted in place.

In my aim to produce a strong light-weight serviceable box at the least expense possible, both as to cost of stock and labor, I have formed the shell of the box by casting and the division-plates of the box of wrought-iron or steel, the main body of the box, the division-plates, and front pieces being riveted together, as will be described. Preferably the front plates of the shuttle-box will be of cast metal; but they may, if desired, be of sheet metal.

Figure 1, in perspective, shows a sufficient portion of a shuttle-box to enable my invention to be understood. Fig. 2 is a front view of the main body of the box made by casting.

Fig. 3 shows one of the sheet-metal division-plates. Figs. 4 and 5 show the two front plates; and Fig. 6 is a section in the line *x*, Fig. 1.

The main body A, forming the back, top, and bottom of my improved shuttle-box, herein shown as having three cells or chambers, is composed of cast metal, preferably malleable cast-iron, the said body being composed of two angle-arms, *a a*, joined to a head, *a'*, the said head having also extended from it arms *a''*, having holes *a'''*, the angle-arms having lugs or fastening projections *a<sup>6</sup> a<sup>7</sup>*.

The angle-arms, instead of being formed by a bending operation from sheet metal, are cast in angle form. The front pieces, B C, are also preferably of malleable cast-iron. The piece B has a series of lugs, 2 2, a series of notches and holes, 3 3, and open spaces 4 4. The piece C has a series of projections, 5, provided with holes to receive the pin on which is fulcrumed the usual binder, (not shown,) and a series of notches and holes, 6, and a series of lugs, 7, the lugs being made in pairs to receive between them one end of each of the usual binder-springs. (Not shown.)

The division-plates D, cut from sheet metal, preferably low-grade steel, have at their lower edges projections 8, which enter the holes *a'''* of the arms *a''*, in which holes the said projections are upset or riveted to connect the plates rigidly to the said arms.

The plates D have also projections 12 and 13. The pieces B C are then applied in such manner that the notches 3 of the piece B receive in them the projections *a<sup>6</sup>* and 12, which projections are upset in the said notches, and the notches and holes 6 of the piece C are put in position to receive the projections *a<sup>7</sup>* and 13, and thereafter the said projections are upset or riveted in the said notches, thus permanently attaching the said parts together. After this, with the parts assembled as in Fig. 1, the binders and their springs will be applied in usual manner.

The flange 16 at the inner end of the shuttle-box, which flange enters the usual vertical way or groove in the shuttle-box guide or frame, is integral with the cast-metal body A, as is also the hub 17, in which is secured the upper end of the usual shuttle-box rod.

I claim—



The cast-metal body A, comprising the back, top, and bottom of the shuttle-box, it having integral with it fastening projections, as  $a^6$   $a^7$ , holes  $a^3$ , and the flange 16, and hub 17, combined with the pieces B C, having holes, as 3 and 6, to receive the said projections, and with the division-plates having the projections 8, to enter the holes in the arms  $a^2$ , constituting part of the back of the box, and with the projec-

tions 12 and 13, to enter holes in the pieces B C, substantially as described. 10

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HORACE WYMAN.

Witnesses:

G. W. GREGORY,  
F. L. EMERY.