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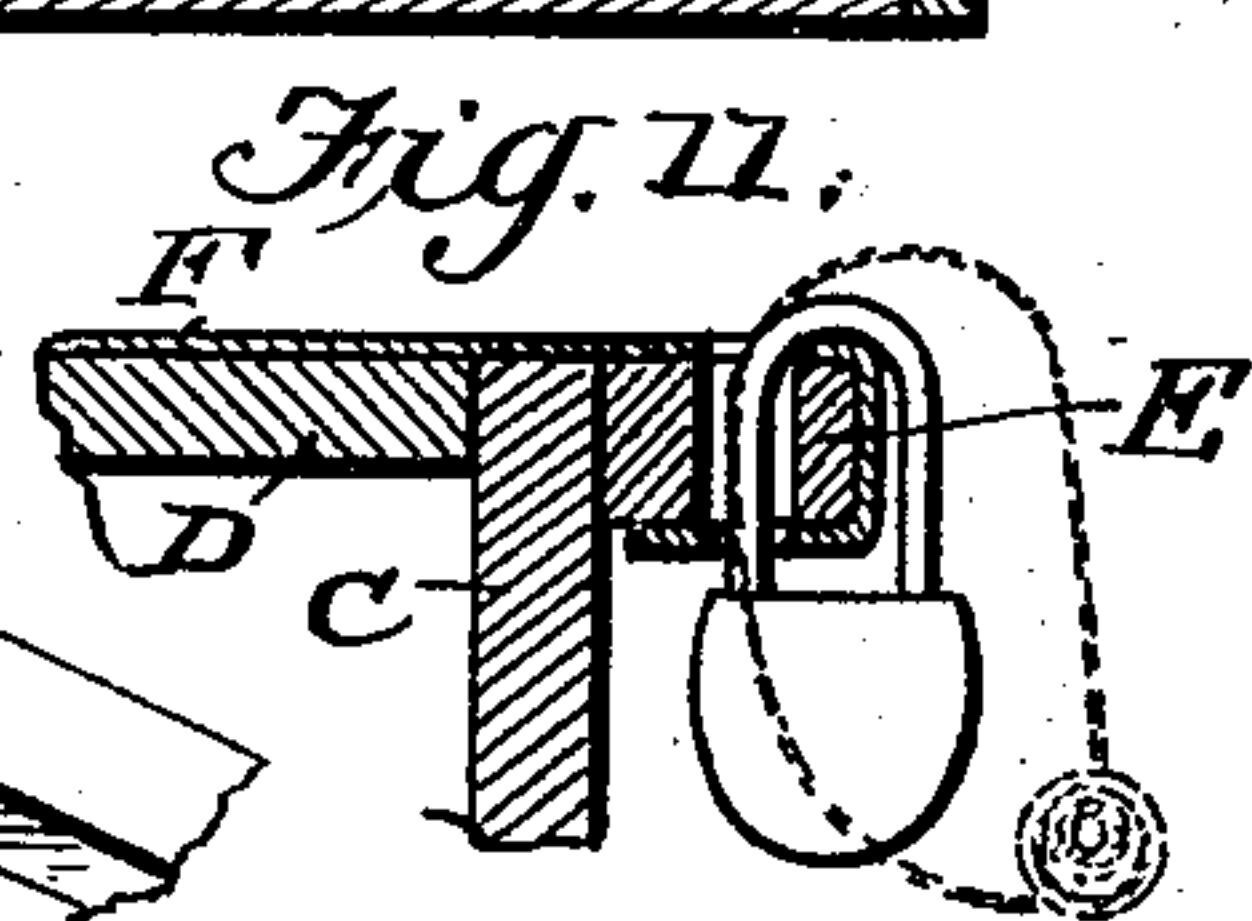
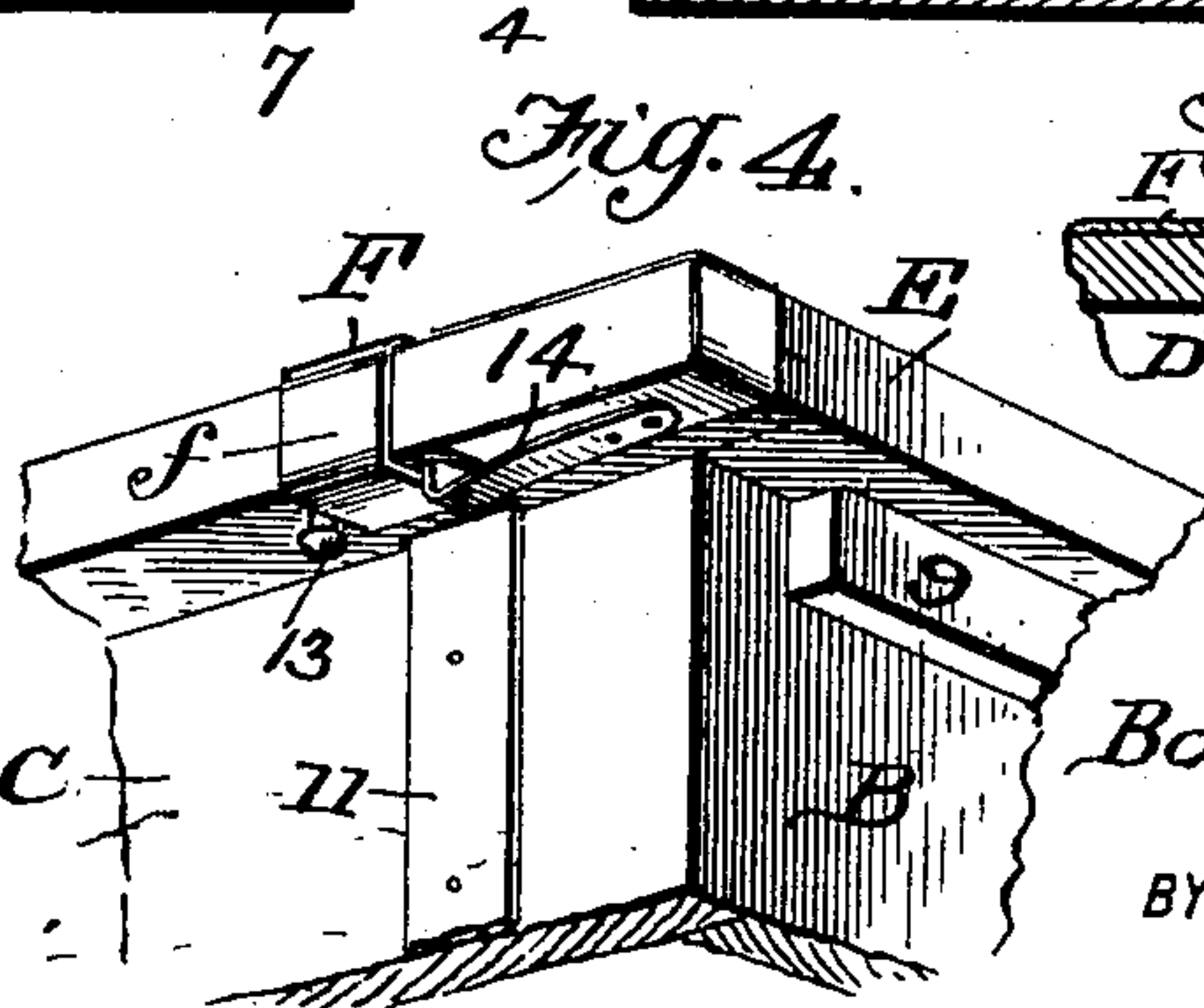
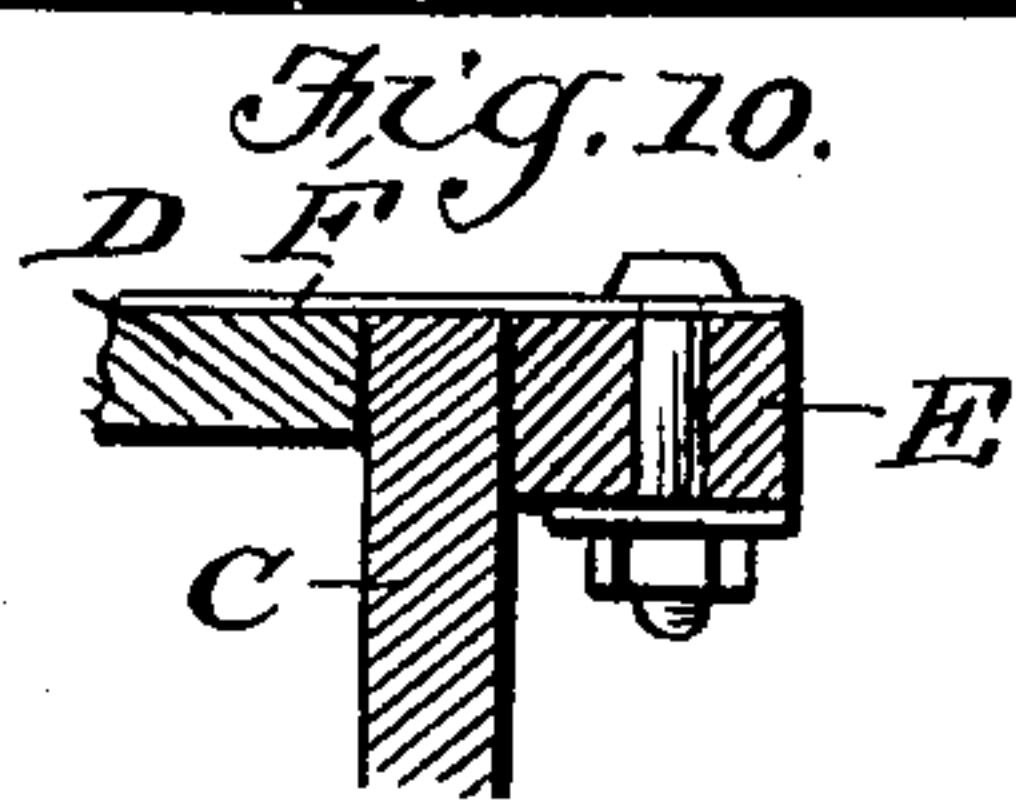
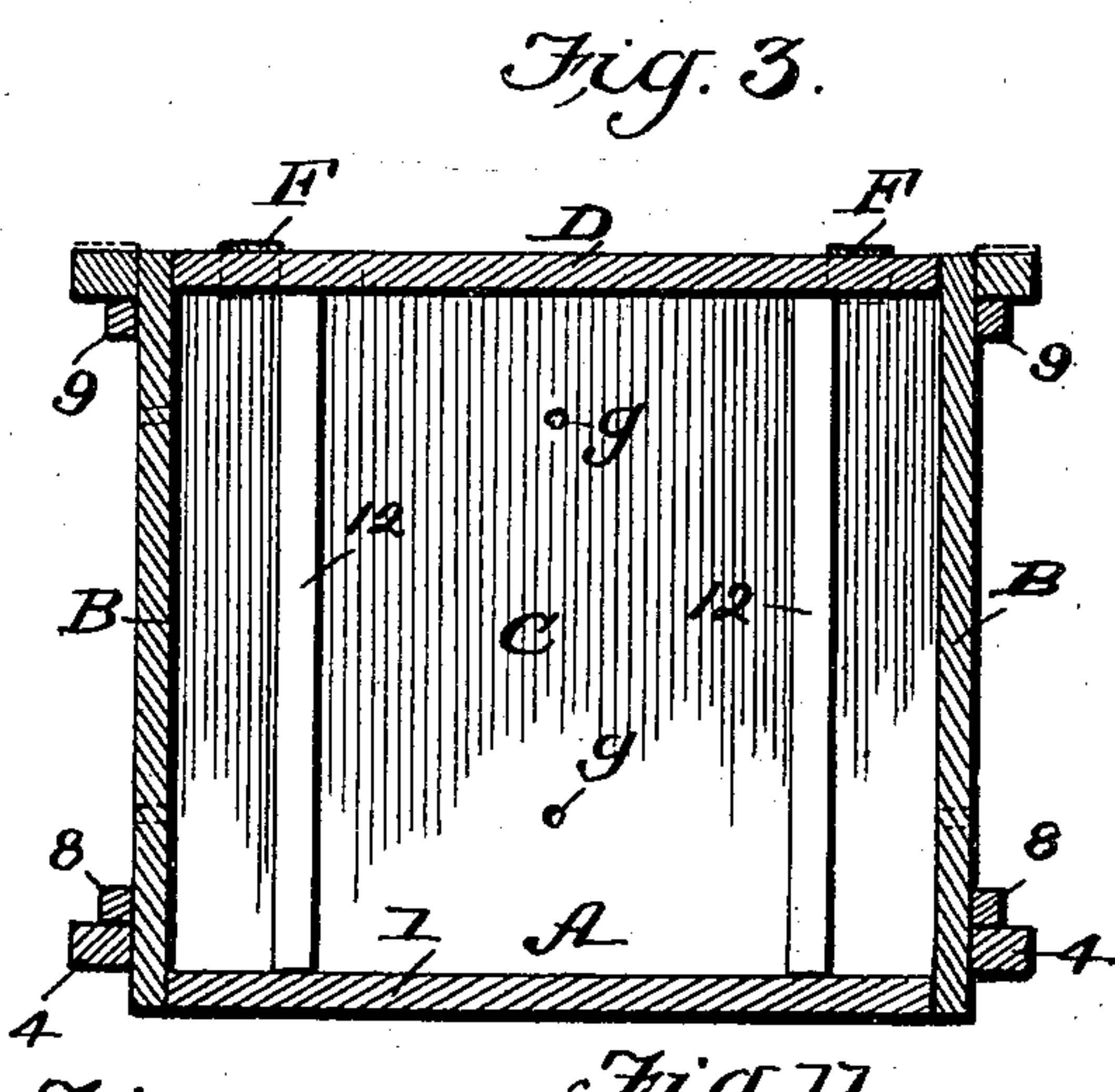
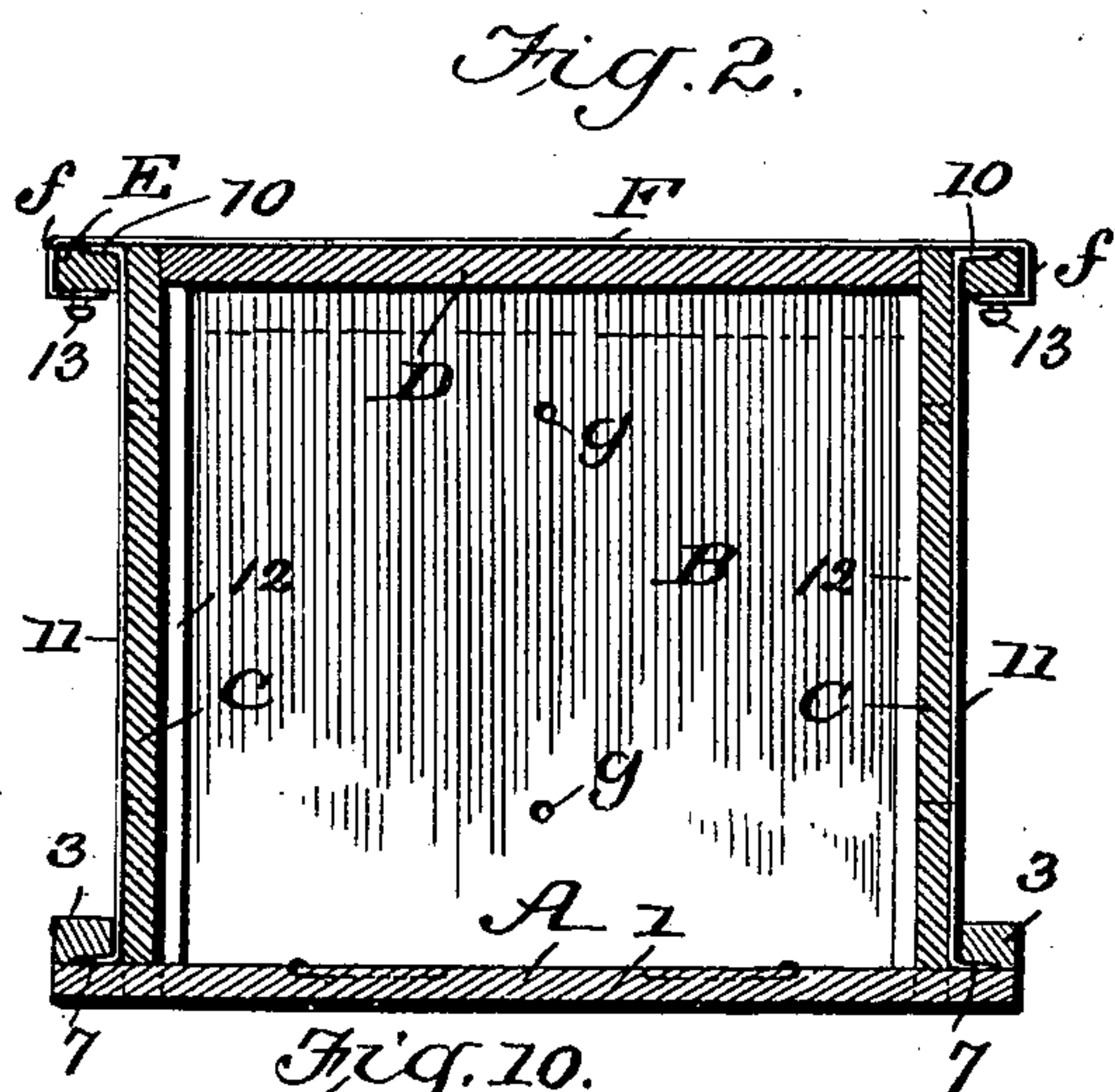
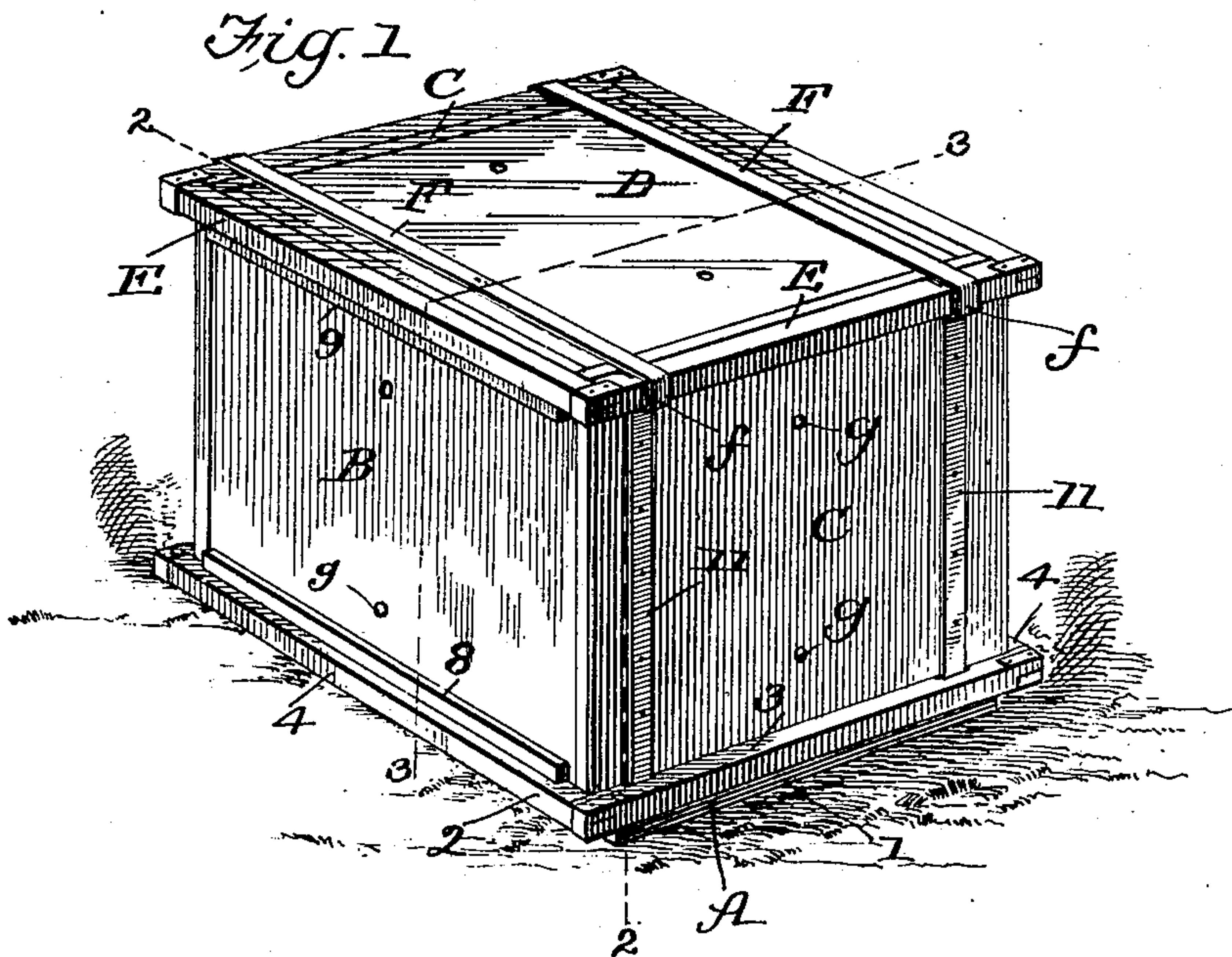
Patented Aug. 13, 1901.

B. N. SYKES.
KNOCKDOWN BOX.

(Application filed Mar. 6, 1901.)

(No Model.)

3 Sheets—Sheet 1.



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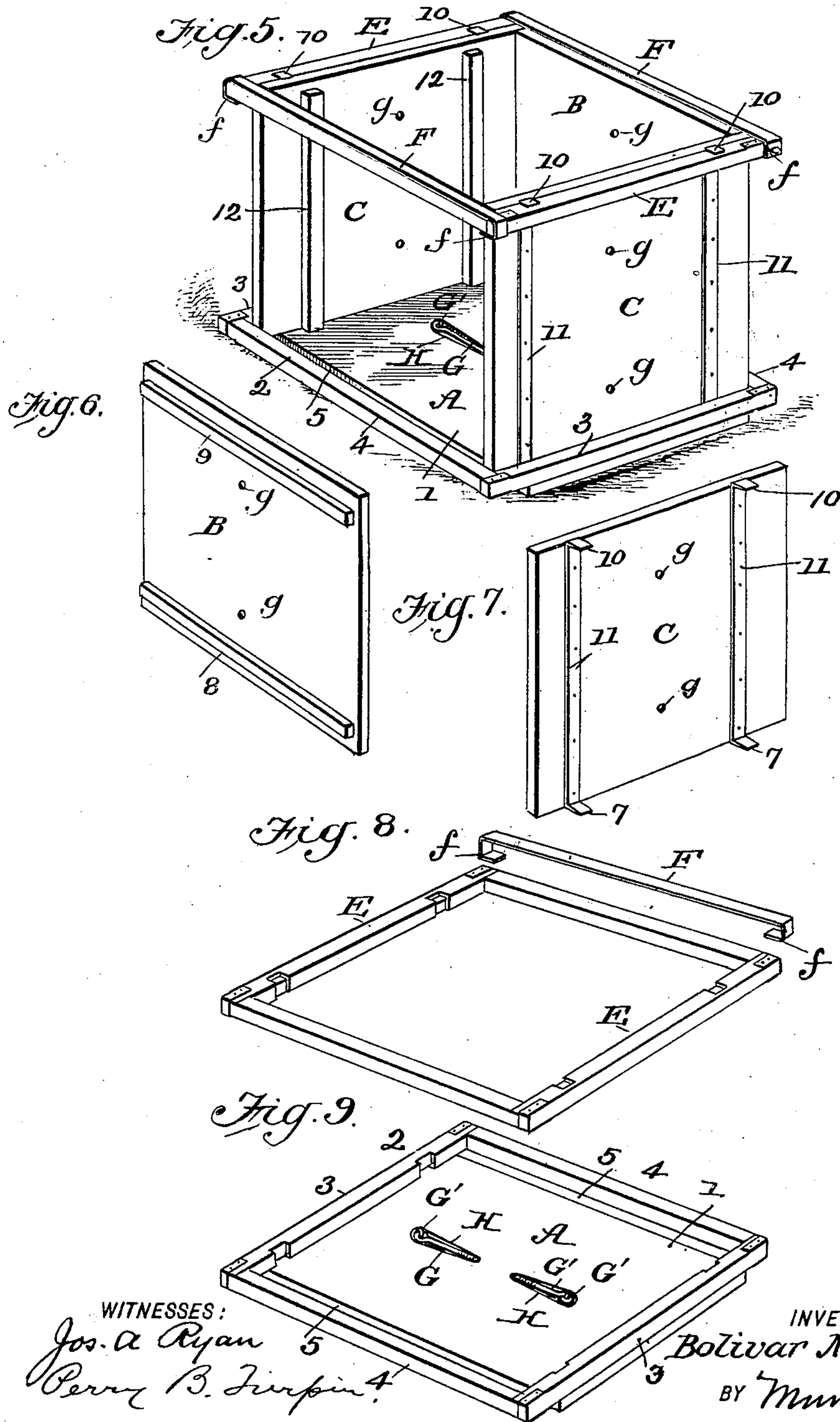
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3 Sheets—Sheet 2.



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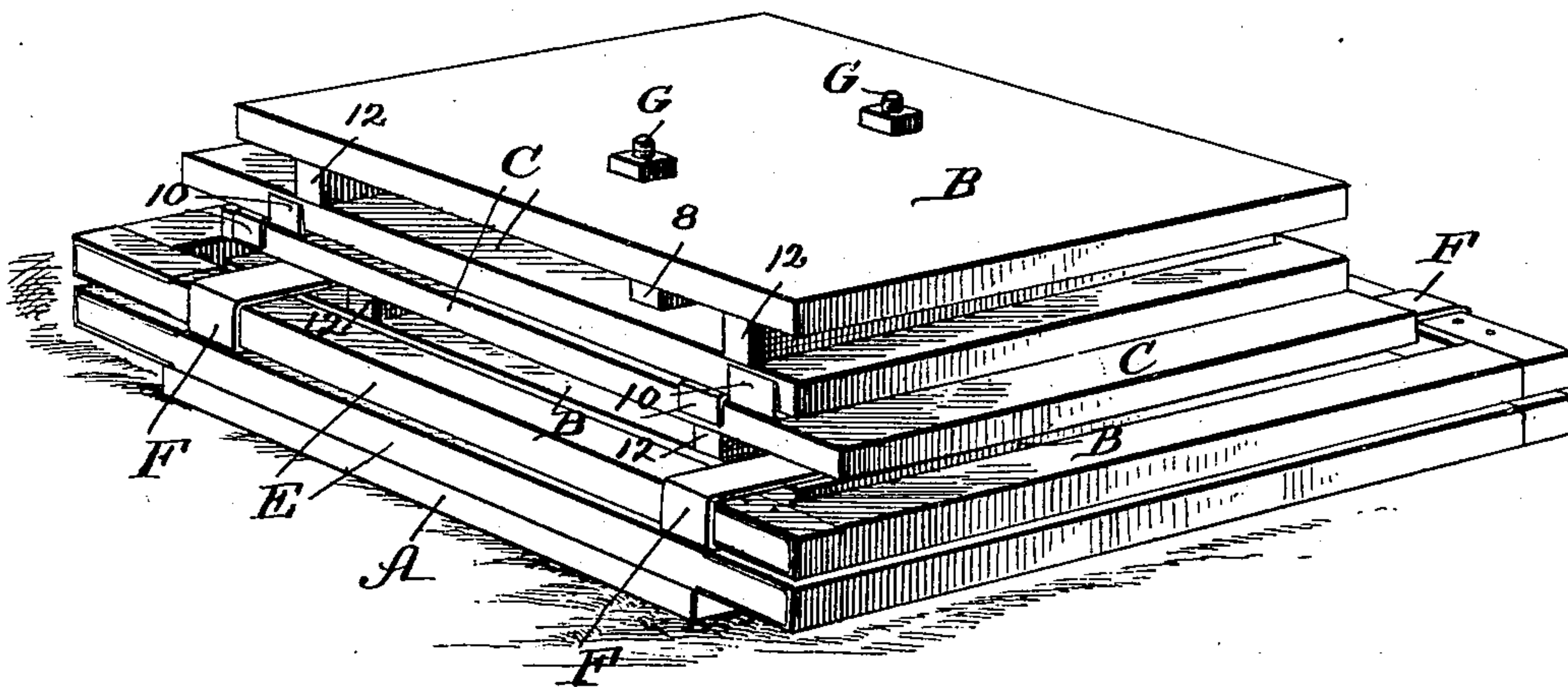
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3. Sheets—Sheet 3.

Fig. 12.



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UNITED STATES PATENT OFFICE.

BOLIVAR N. SYKES, OF HARRELLSVILLE, NORTH CAROLINA, ASSIGNOR OF ONE-HALF TO JOHN T. WILLIAMS, OF SAME PLACE.

KNOCKDOWN BOX.

SPECIFICATION forming part of Letters Patent No. 680,628, dated August 13, 1901.

Application filed March 6, 1901. Serial No. 50,017. (No model.)

To all whom it may concern:

Be it known that I, BOLIVAR N. SYKES, residing at Harrellsville, in the county of Hertford and State of North Carolina, have made certain new and useful Improvements in Knockdown Boxes, of which the following is a specification.

My invention is an improvement in knock-down boxes, having for an object to provide a novel construction of box which can be readily erected for use and can be knocked down and compactly arranged for storage or shipment whenever desired; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of my box set up for use and with the cover applied and secured by the fastening-straps. Figs. 2 and 3 are cross-sectional views on respectively lines 2 2 and 3 3 of Fig. 1. Fig. 4 is a detail inverted perspective view of one of the upper corners of the box, showing the fastening-strap and the latch and stop-pin therefor. Fig. 5 is a detail perspective view of the box erected for use, one side and the cover being removed. Fig. 6 is a detail perspective view of one of the sides. Fig. 7 is a detail perspective view of one of the ends. Fig. 8 is a detail perspective view of the rim-frame and one of the fastening-straps. Fig. 9 is a detail perspective view of the base. Figs. 10 and 11 are detail sectional views showing modified devices for securing the fastening-straps, and Fig. 12 is a perspective view of the box knocked down and secured by the bolts.

The box is formed with the base A, the sides B, the ends C, the cover D, the top or rim frame E, and the fastening-straps F. The base A comprises a bottom board 1 and a frame 2 secured thereon and composed of the end bars 3 and the side bars 4. The end bars are longer than the bottom 1 is wide, so that they extend beyond the sides of the bottom 1 and support the side bars 4 at a distance from the bottom, forming socket-like openings at 5 for the lower ends of the sides B. The end bars 3 are formed to provide lateral sockets at their lower edges for the lugs 7 at the lower ends of the ends C of the box, as

shown in Fig. 2. The frame 2 may be suitably secured to the board 1, or, if desired, the bars 3 and 4 may be integral with the board 1; but ordinarily this construction would be difficult to make and expensive.

The sides B are shouldered at 8 and 9 on their outer sides near their lower and upper edges, as shown in Figs. 3 and 6. This shouldered construction is preferably secured, as shown, by fastening cleats upon the outer side of the side pieces B, as will be understood from Figs. 3 and 6. In operation the shoulder 8 rests upon the side bar 4 of the frame 2, as shown in Figs. 1 and 3, while the shoulder 9 rests beneath and forms a support for the rim-frame E, as shown in Figs. 1 and 3.

The ends C are provided on their outer sides at their lower and upper ends with outwardly-projecting lugs 7 and 10, these being preferably formed at the opposite ends of straps 11. The lugs 7 fit beneath the end bars 3 of the base-frame 2, while the upper lugs 10 overlie the rim-frame E, as shown in Figs. 2 and 5. The ends C are shown as provided on their inner sides with upright battens 12, which terminate below the upper edge of the box and serve as a support for the top or cover D. Manifestly when the box is designed to receive canned goods and the like upon which the top may be rested the battens 12 may be omitted, but they will ordinarily be preferred, because they strengthen the ends of the box.

In erecting the box the bottom A can be placed upon a floor, counter, or other support and the ends applied with their lugs 7 fitting beneath the end bars 3 of the base-frame 2, and thus engaging with the bottom of the box as desired. When both ends C are applied, the rim-frame E may be fitted in place and the upper ends of the end pieces C be engaged therewith by adjusting the lugs 10 above the said rim-frame, as shown in Fig. 5. The sides B may now be placed in position with their lower edges fitting in the sockets 5, their shoulders 8 resting upon the side bars 4 of the bottom and their shoulders 9 resting beneath the rim-frame E, as will be understood from Figs. 1, 3, and 5. It will be noticed that the sides B extend between the opposite ends C and hold the same in place.

It will also be noticed that the sides rest below the rim-frame E, while the lugs on the ends engage above said rim-frame. Thus the top or rim frame is held up by the sides of the box and down by the ends thereof, means being provided on the sides and ends by which to prevent the rim-frame from moving in either direction. If now the top D be applied, as shown in Figs. 1, 2, and 3, it will lock the ends and sides in position.

Means are preferably provided on the rim-frame for securing the top D in place. For this purpose I prefer to provide straps F, secured to the rim-frame and extending across the same above the top D in the locked position of the parts, as shown in Fig. 1. By preference the straps F are bent at their ends at *f* to engage slidably with the rim-frame, so that the strap can be slid along the rim-frame to locked position, as shown in Figs. 1 and 3, or to the position indicated by dotted lines in Fig. 3 when it is not desired to secure the top. In Fig. 4 I show in detail the pin 13 for stopping the strap F in the position shown in Fig. 1 and the spring-latch 14 for holding the strap in such position. It may be desirable in some instances to lock the box, and this may be accomplished by the construction shown in Fig. 11, in which coincident openings are provided in the strap and the top or rim frame, through which the shackle of a padlock may be passed, as shown in said Fig. 11, or such openings may permit the application of an ordinary leaden seal, as is indicated in dotted lines, Fig. 11. In some instances the upward pressure on the contents of the box might bulge the strap F at the middle to such an extent as to prevent its being adjusted along the rim-frame from the position shown in Fig. 3 to that indicated in said figure. In such cases the strap might be formed as shown in Fig. 10 and an ordinary bolt be applied to secure the strap, as shown in the said figure.

In the upper face of the base A, I provide grooves at H, in which may be seated the bolt G when the box is in use. These bolts are jointed at G' at one end to the base A and are threaded at their other ends to receive nuts, which may be applied to secure the several parts of the box together. To this end it will be noticed the sides, ends, and tops are provided with openings *g*, through which the bolts G may be passed when the parts are adjusted one upon the other in packing the same for shipment or storage, as shown in Fig. 12.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A knockdown box composed of the base having a bottom board and a frame secured thereon and composed of end bars and side bars, the latter being spaced from the edges of the bottom board forming sockets for the lower edges of the side sections, the side sections fitted at their lower edges to said sockets and provided on their outer faces near

their upper and lower edges with shoulders, the lower shoulders resting upon the side bars of the base-frame, the ends pivoted at their upper and lower edges with outwardly-projected lugs, the lower lugs being engaged with the end bars of the base-frame, the top frame fitting over the sides and ends and resting upon the upper shoulders of the sides and beneath the upper lugs of the ends, the top, and the fastening-straps arranged to extend over the top and held at their ends to the top frame substantially as set forth.

2. The combination of the base having a bottom and a rim-frame, and socketed between the sides of said rim-frame and the bottom, the sides fitting at their lower ends in said sockets and provided with means resting on the rim-frame, the ends resting upon the base and provided with means engaging with the base, the top frame fitting over the upper edges of the sides and ends, and means on the sides and ends for locking the rim-frame from movement either up or down substantially as set forth.

3. A knockdown box comprising the base, the sides and ends thereon, the top frame separate from the top and fitted over the upper edges of the sides and ends and outwardly-projecting means on the sides and ends for holding the top frame from movement up or down substantially as set forth.

4. The combination in a knockdown box of the sides, the ends, the top frame fitted over the upper edges of the sides and ends, the top, and the fastening strap or straps extended over the top and held at its ends to the top frame substantially as set forth.

5. The combination of the base the frame thereon, the sides, the ends provided with lugs engaged with the base-frame, lugs on the ends for overlapping the top frame, the top frame, the top and the fastening strap or straps carried by the top frame substantially as set forth.

6. The combination with the base having a bottom and a frame thereon spaced apart at its sides from the side edges of the bottom forming sockets for the sides, of the sides fitting at their lower edges in said sockets and provided with shoulders resting on the base-frame, and the ends provided with lugs engaged with the base-frame, substantially as set forth.

7. The combination in a knockdown box with the sides and ends, of the top frame fitting over and held to said sides and ends, the top, and the fastening strap or straps slidable at their ends along the top frame substantially as set forth.

8. A knockdown box comprising the base, the sides, the ends, the top frame arranged to fit over the upper ends of the sides and ends, means on the sides and ends for holding such top frame from movement vertically in either direction when the sides and ends are adjusted to position for use, the top, and the fastening-strap extending over the top

and top frame and bent at its ends beneath the top frame whereby it will be held thereto and can be slid along the top frame into and out of position to secure the top substantially as set forth.

5 9. The combination of the base having the bottom board and the frame secured thereon and provided between said board and frame with sockets for the lower edges of the sides, 10 the sides fitting in said sockets and shouldered to rest upon the base-frame, the ends provided on their inner sides with upright cleats forming supports for the top, lugs on the ends engaging with the base-frame, lugs at the up- 15 per edges of the ends for engagement with the top frame, the shoulders on the sides forming supports for the top frame, the top, and the

fastening strap or straps substantially as set forth.

10. A knockdown box comprising the base, 20 the sides and ends provided near their upper edges with outwardly-projecting portions, and the rim-frame fitted over the upper edges of the sides and ends, the outwardly-projecting portions on such parts being arranged 25 some to overlie and some to underlie the top frame whereby the latter will be held from displacement up or down substantially as set forth.

BOLIVAR N. SYKES.

Witnesses:

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