

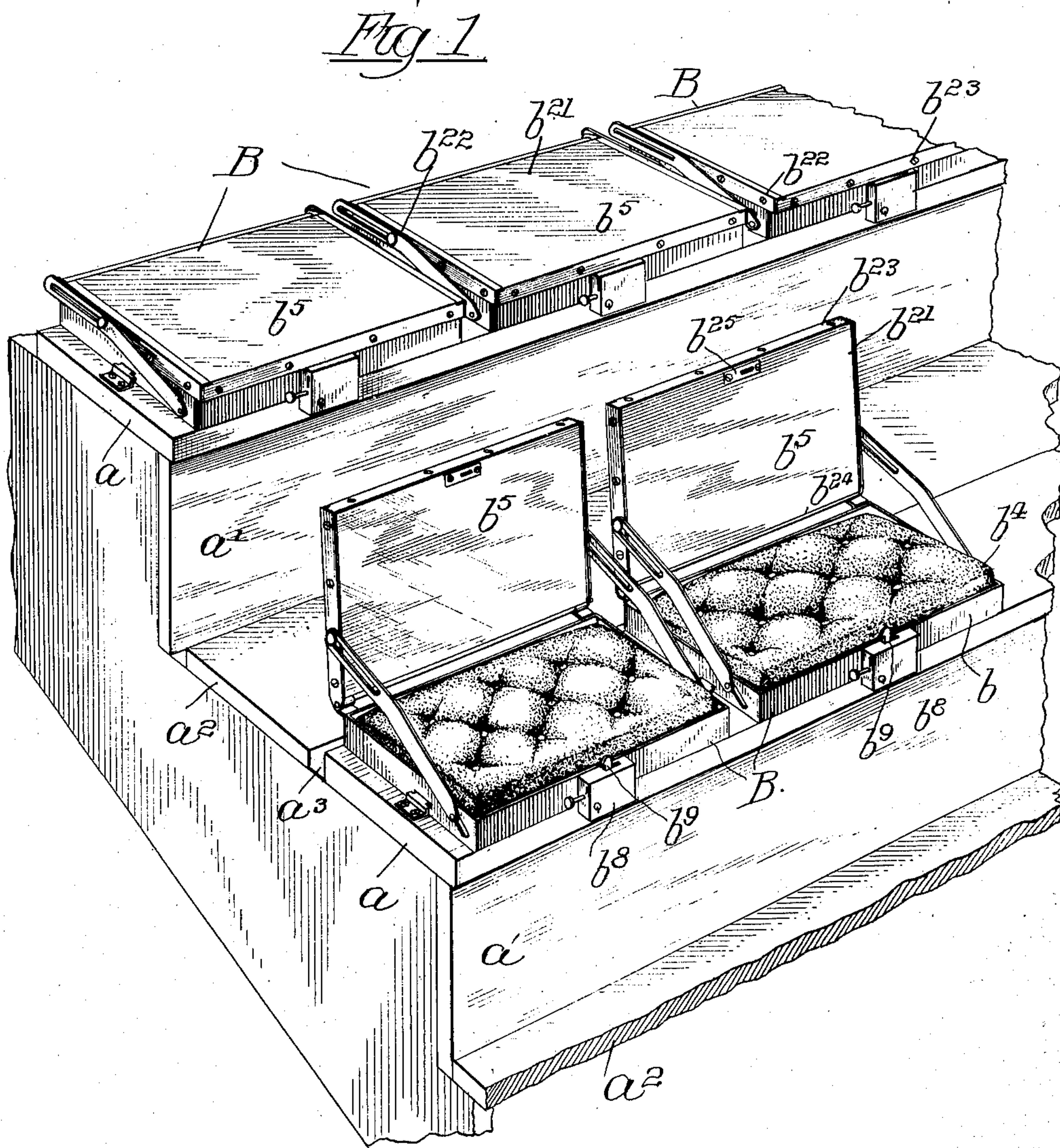
No. 865,327.

H. G. BARRETT.  
SEAT.

PATENTED SEPT. 3, 1907.

APPLICATION FILED MAY 21, 1906.

4 SHEETS—SHEET 1.



Witnesses:

J. H. Landers  
A. M. Rher

Inventor:

Harold G. Barrett.

by D. W. Smith, Attorney at Law  
his Attys.



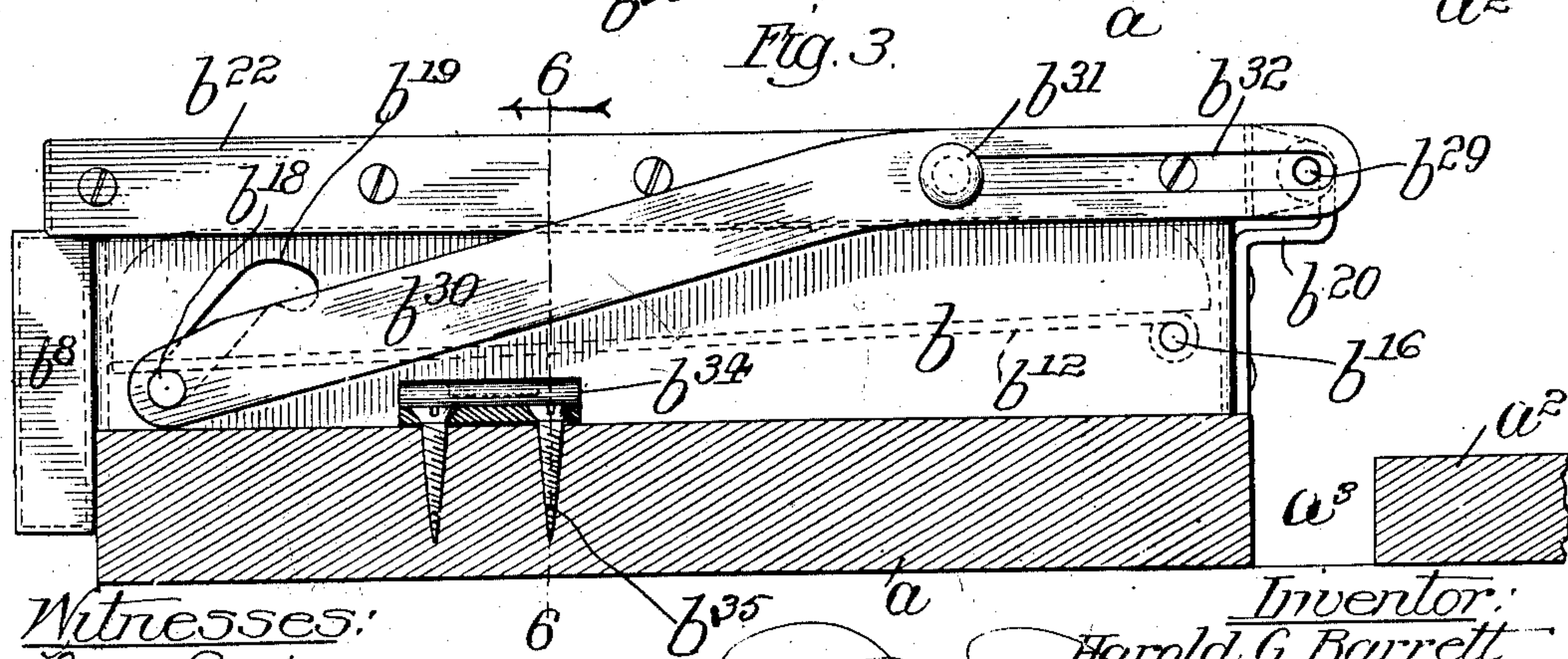
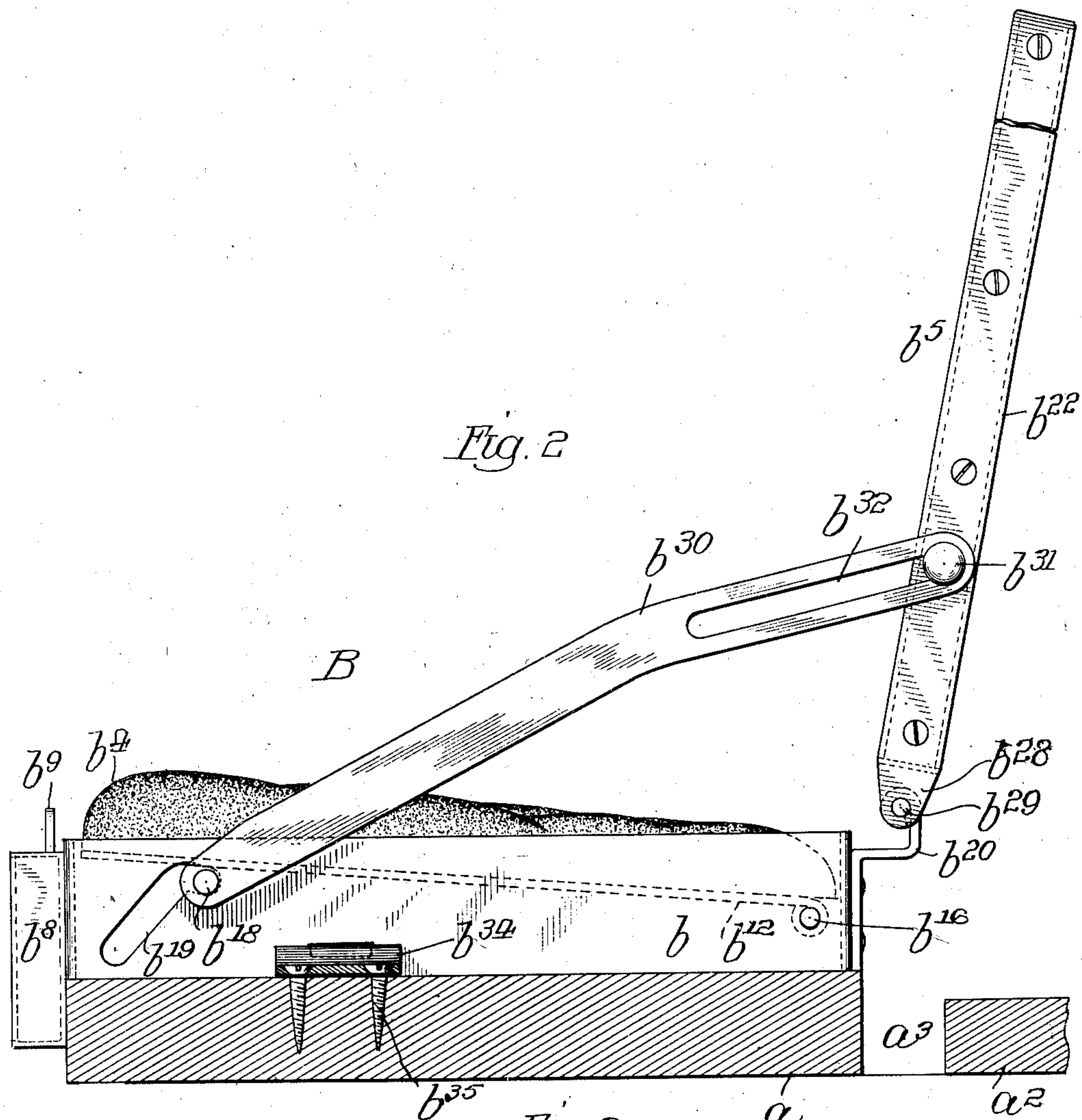
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4 SHEETS—SHEET 2.



Witnesses:

J. H. Landes  
A. M. Usher

Inventor:

Harold G. Barrett

by *D. W. Smith, D. W. Smith, & Co.* Attys.



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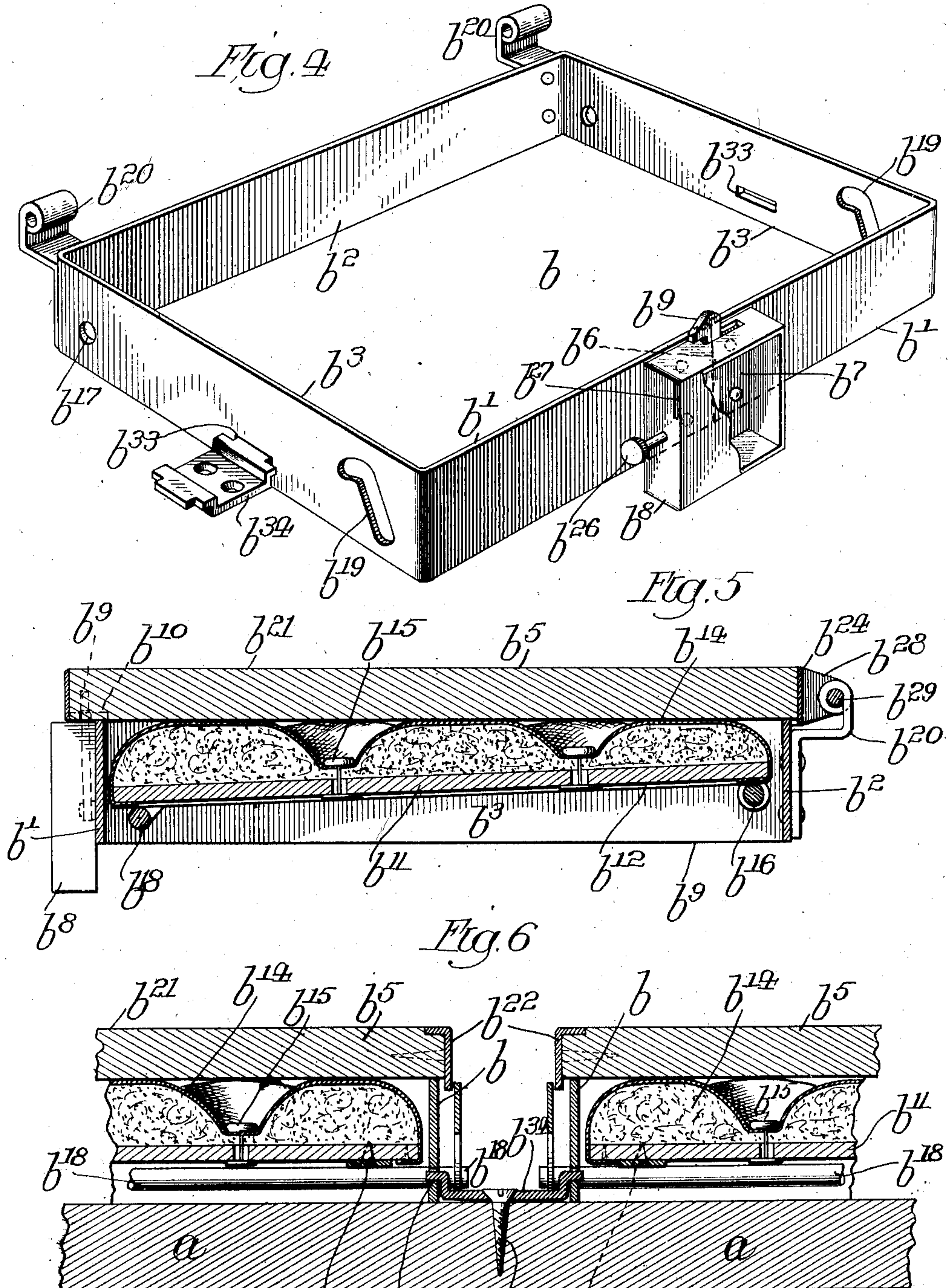
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4 SHEETS—SHEET 3.



Witnesses:

J. H. Landes  
A. M. Uher

Inventor:

Harold G. Barrett

by Seymour Smith, Seymour Smith, & Wiles  
his Attorneys

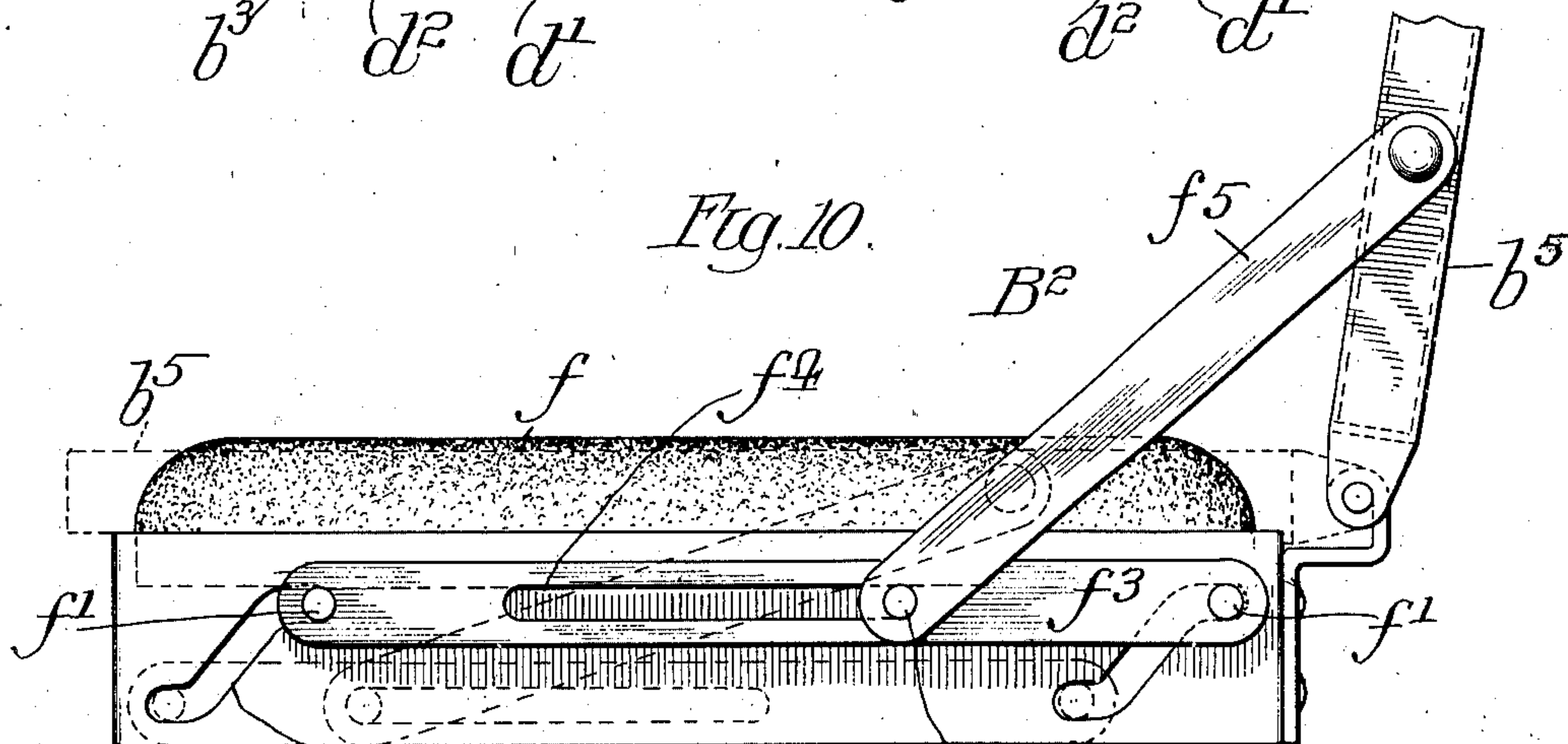
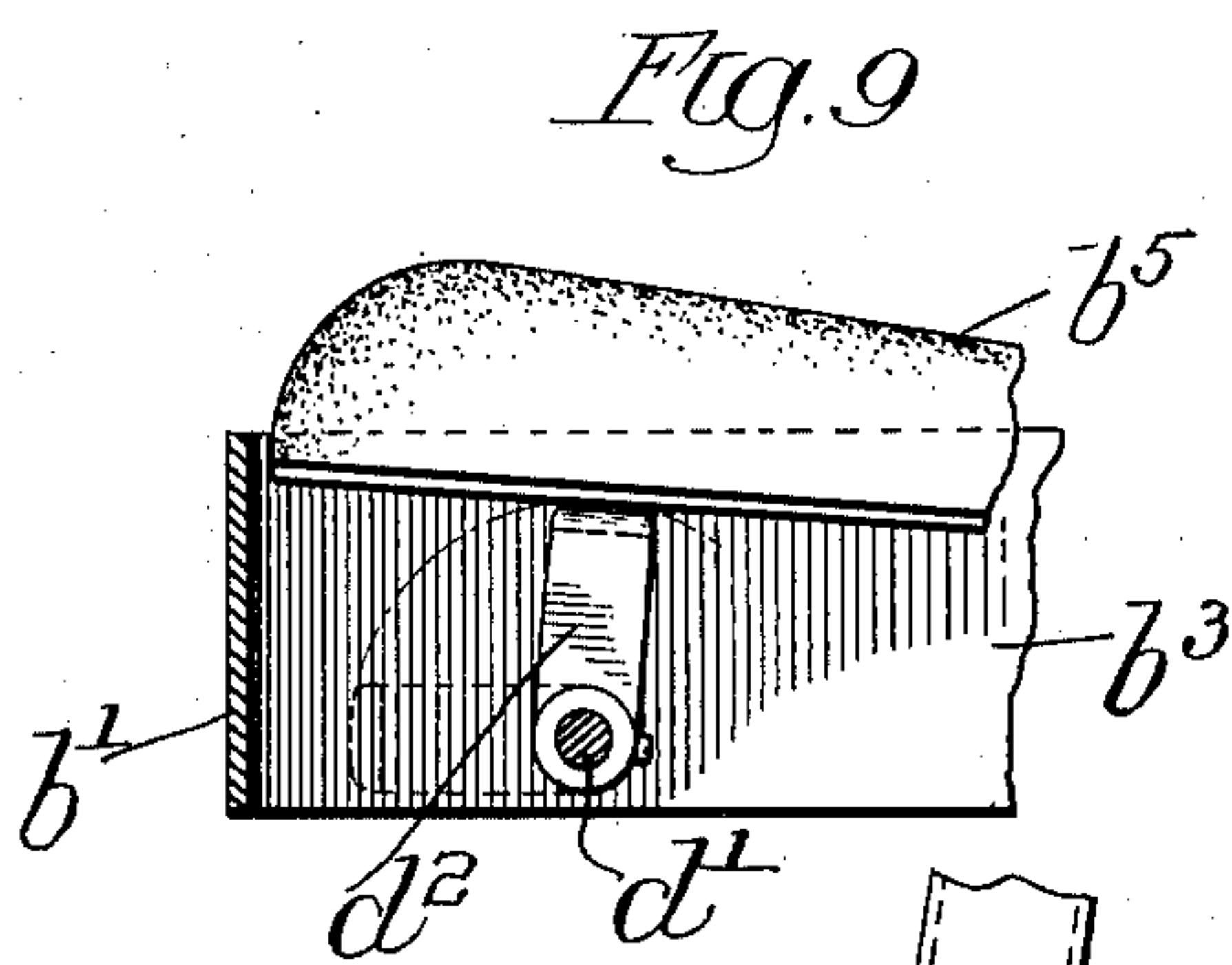
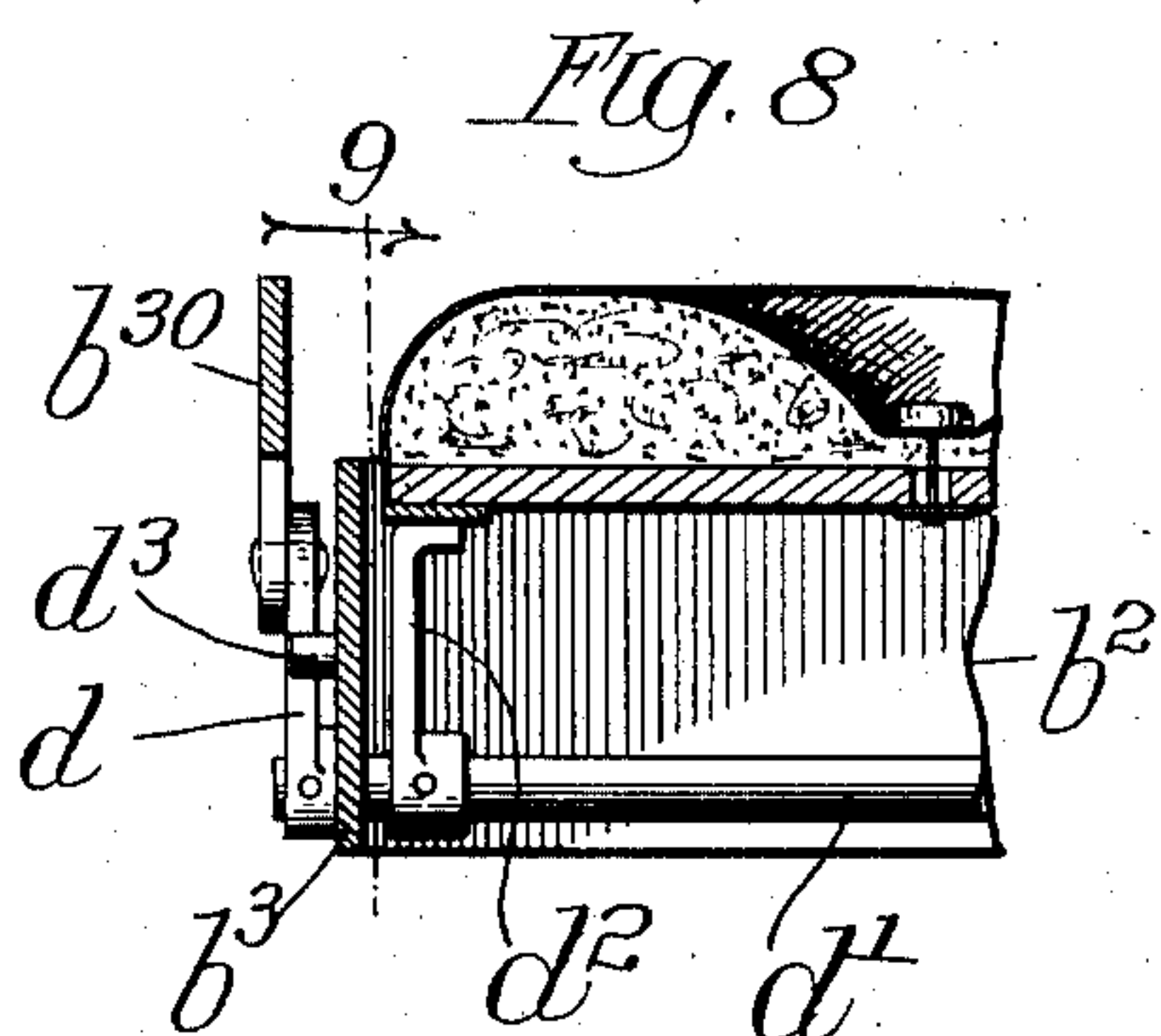
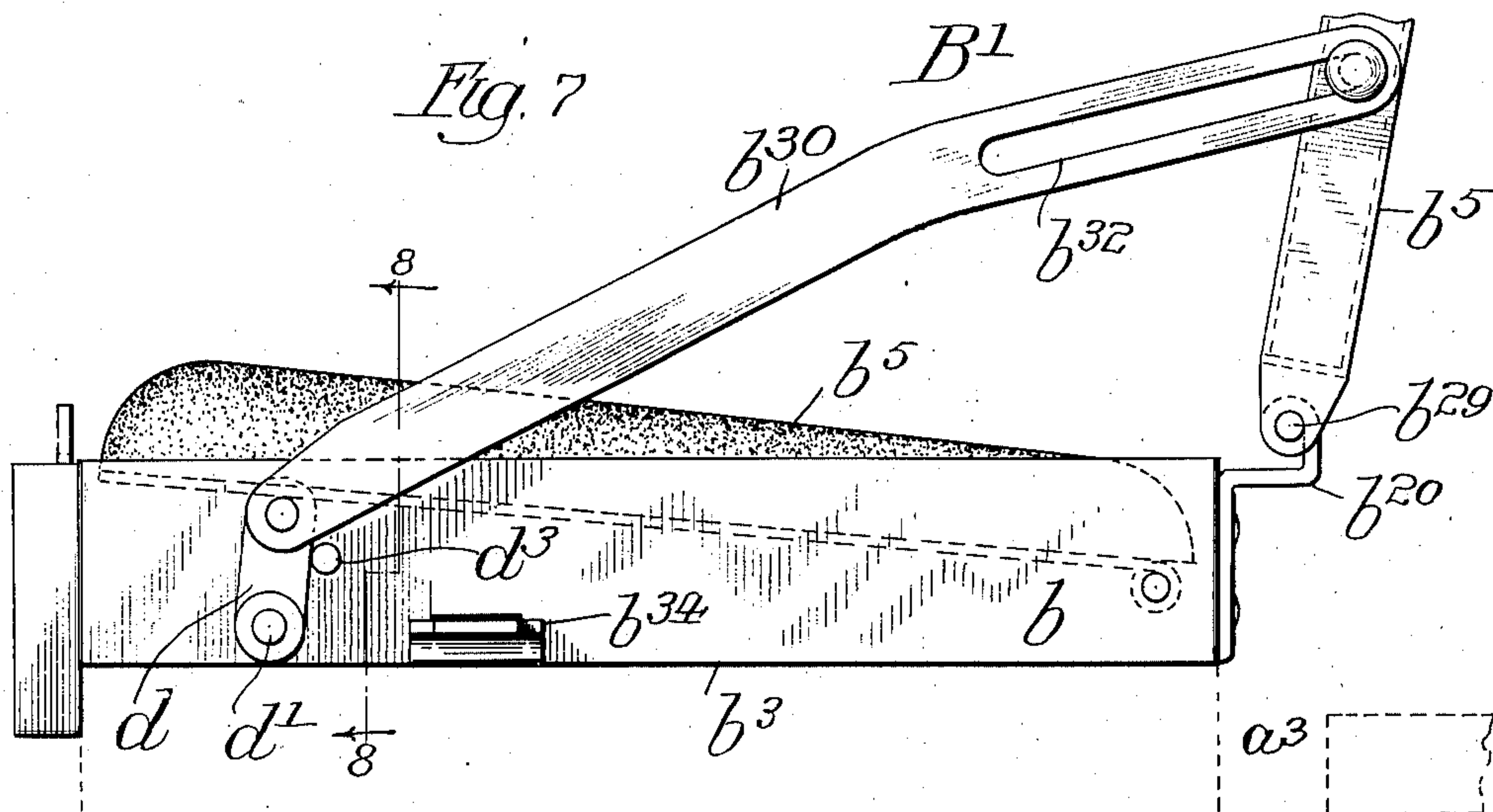
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4 SHEETS—SHEET 4.



Witnesses: f^2

J. A. Landes  
W. M. Uhr

Inventor:

Harold G. Barrett.

by *Dyumnforth, Dyumnforth, & Wiles,*  
his Attys



# UNITED STATES PATENT OFFICE.

HAROLD G. BARRETT, OF WILMETTE, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS,  
TO DIAMOND BLEACHER SEAT COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION  
OF ILLINOIS.

## SEAT.

No. 865,327.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed May 21, 1906. Serial No. 317,958.

*To all whom it may concern:*

Be it known that I, HAROLD G. BARRETT, a citizen of the United States, residing at Wilmette, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Seats, of which the following is a specification.

My invention relates particularly to cushion-seats for use in connection with bleacher-seats, or in analogous situations, in ball parks or various athletic parks where the seats are usually more or less exposed to the weather.

My primary object is to provide a convertible seat for use on bleachers, and in analogous situations, which may be readily converted from a plain, hard, backless seat to a comfortable cushioned and backed seat, the back serving, in the folded condition of the device, as a protection for the cushion and also as a plain uncushioned seat.

A further object is to provide for the sheathing and unsheathing of the cushion in the operations of lowering and raising the back.

The preferred construction of the invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a broken perspective view of a bleacher equipped with my improved seats; Fig. 2, a broken sectional view of the bleacher with one of the seats shown, in the open condition, in side elevation; Fig. 3, a similar view with the seat in the closed condition; Fig. 4, a perspective view of a seat-frame and coin-controlled, or check-controlled, locking device, the latter shown brokenly; Fig. 5, a sectional view of the improved seat taken perpendicular to the front edge of the seat; Fig. 6, a broken section of two adjacent seats, the section being taken as indicated at line 6 of Fig. 3; Fig. 7, a broken side elevational view of a modified form of the seat in an open condition; Fig. 8, a broken section taken as indicated at line 8 of Fig. 7; Fig. 9, a broken section taken as indicated at line 9 of Fig. 8; and Fig. 10, a broken side elevational view of another modified form of the improved seat.

Referring to Figs. 1 to 6 inclusive, A represents a bleacher having the ordinary board seats *a*, risers *a*<sup>1</sup> and foot-boards *a*<sup>2</sup>; and B, B, represent my convertible bleacher-seats mounted on the common board seats *a*. As is well known, bleachers possess a general resemblance to stairs; and, where each seat and the foot-board in the rear of it are in the same horizontal plane, the bleacher may be likened to a stair with wide treads, each board seat and foot-board in the rear of it corresponding with a tread of the stairs. It is common to separate the seat-board of the bleacher from the foot-board in the rear of it by a narrow space *a*<sup>3</sup>, as will be clearly understood from Figs. 1 and 2. Each convertible seat B comprises an open rectangular frame *b* having front and rear sides *b*<sup>1</sup>, *b*<sup>2</sup>, respectively, and having, also, lateral sides *b*<sup>3</sup>; a sheathable cushion-seat *b*<sup>4</sup> of a

size to fit within said frame; and a back *b*<sup>5</sup> pivotally connected with the frame *b* and equipped with means for raising the cushion-seat to the operative position during the raising of the back and for lowering the cushion-seat to its inoperative position during the lowering of the back. Each frame *b* is shown formed of a bar of metal of proper length bent into the hollow rectangular form shown with the ends of the bar meeting near the center of the front side *b*<sup>1</sup> of the frame, as indicated at the dotted line *b*<sup>6</sup> in Fig. 4. The extremities abut against each other and are firmly united by a plate *b*<sup>7</sup> which is riveted thereto and which may constitute the rear side of a coin-box, or check-box, *b*<sup>8</sup>. The box *b*<sup>8</sup> is equipped with a latch, or locking-member, *b*<sup>9</sup>, which serves to engage a keeper *b*<sup>10</sup> with which the back *b*<sup>5</sup> is equipped on its front or lower surface near its upper or front edge, according to the position of the back. The seat *b*<sup>4</sup> comprises a thin plate or board *b*<sup>11</sup>; strap-metal members *b*<sup>12</sup> supporting and securely fastened to the board *b*<sup>11</sup> by screws *b*<sup>13</sup>, said members having pivotal eyes formed at their rear ends; and a cushion *b*<sup>14</sup> upholstered on the board *b*<sup>11</sup> and having buttons *b*<sup>15</sup> with bifurcated shanks extending through perforations in the cushion-board and clenched beneath the same. The cushion-board is pivotally joined near its rear edge to the frame *b* by a pivot-rod *b*<sup>16</sup> which passes through the eyes of the straps *b*<sup>12</sup> and whose ends enter perforations *b*<sup>17</sup> in the sides *b*<sup>3</sup> of the frame. The front portions of the straps *b*<sup>12</sup> rest upon a shiftable transverse rod *b*<sup>18</sup> which works in cam-slots *b*<sup>19</sup> with which the sides *b*<sup>3</sup> are provided at their front portions. Each slot inclines rearwardly and upwardly and has an offset at its upper end, as shown. It is obvious that when the rod *b*<sup>18</sup> is shifted rearwardly the front end of the cushion-seat will be raised, thereby bringing the seat to the operative position, where it is maintained by the rod *b*<sup>18</sup> entering the offsets of the slots *b*<sup>19</sup>. The frame *b* is equipped at its rear corners with pivot-brackets *b*<sup>20</sup>, comprising sheet-metal members having their shanks riveted to the frame and their upper portions bent rearwardly and curved to form the eyes for the pivots. The back *b*<sup>5</sup> preferably comprises a board *b*<sup>21</sup> of somewhat larger dimensions than the frame *b*; angle form binding members *b*<sup>22</sup> applied to the lateral edges of the board *b*<sup>21</sup> and having their forwardly or downwardly turned flanges projecting somewhat beyond the front or lower surface of the board *b*<sup>21</sup>, as clearly shown in Fig. 6, so as to overhang the upper portions of the lateral members of the frame, the rear flanges of the angle bars embracing the lateral margins of the rear or upper surface of the back; a binding strip *b*<sup>23</sup> applied to the upper or front edge of the back and having its edges flush with the surfaces of the back; a binding strip *b*<sup>24</sup> applied to the pivotal edge of the back; and the lock-



plate, or keeper,  $b^{10}$  applied to the lower or front surface of the back near the free horizontal edge thereof at the longitudinal center of the back, said lock-plate  $b^{10}$  coacting with the locking member  $b^9$  of the coin-box  $b^8$ . The coin-box is equipped with a push rod  $b^{20}$  and a slot  $b^{27}$  which serves to receive a coin, or check, it being understood that the push rod will serve through the medium of a coin, slug or check to actuate the member  $b^9$  and release the same from the lock-plate  $b^{10}$ . The lower or rear end-member  $b^{22}$  projects beyond the pivotal edge of the back, thereby forming pivotal lugs  $b^{28}$  which are joined to the brackets  $b^{20}$  by a pivot-rod  $b^{29}$ . With the ends of the shiftable seat-supporting rod  $b^{18}$  are connected links  $b^{30}$ , comprising bars curved edgewise in their own planes, as clearly shown in Fig. 2, so that the rear ends will lie flush with the back when the seat is closed, as shown in Fig. 3. The back is equipped a short distance above its pivot with lateral studs  $b^{31}$  which work in slots  $b^{32}$  with which the links  $b^{30}$  are provided. Otherwise stated, the links have lost-motion connection with the back, thus permitting a certain movement of the back during the initial portions of the closing and opening movements of the back before the seat is actuated. It will now be understood that when the back is swung forwardly from the position shown in Fig. 2, the studs will move in the slots  $b^{32}$  until they encounter the front ends of said slots, when the back will serve to actuate the links  $b^{30}$  and move the seat-supporting rod  $b^{18}$ , allowing the cushion-seat to drop to its sheathed position and the back to rest upon the seat-frame and form a complete closure for the same, thereby inclosing and protecting the cushion. When the back is being raised, it serves during the final portion of its movement to actuate the links  $b^{30}$ , raise the rod  $b^{18}$ , and elevate the cushion-seat. By referring to Figs. 5 and 6, it will be noted that the back of the seat projects beyond the seat-frame on all sides, and on the lateral and rear sides the binding members telescope with the seat-frame, the more certainly to prevent the entrance of rain. It is preferred to fashion the brackets  $b^{20}$  so that they will project slightly in the rear of the frame  $b$ , and to provide such connections between the back of the seat and the frame as will permit the back to incline rearwardly somewhat in the standing position, thereby to increase the capacity of the seat and render the back more comfortable. The lateral members  $b^3$  of the frame are provided with slots  $b^{33}$  which serve to receive projecting tenons on clamping members  $b^{34}$  which are employed for spacing the convertible seats and securing them firmly to the bleacher seats. Each member  $b^{34}$  is of general U-form with lateral projecting tenons which enter the slots  $b^{33}$ . The construction is such that the body of the clip rises slightly above the surface of the bleacher-seat, so that when the clips are attached, by means of screws  $b^{35}$ , the metal of the clip will yield somewhat, thereby insuring a firm connection.

It is noteworthy that the construction is such that the upper or rear surface of the back presents a smooth surface, with no members projecting thereabove, so that the back may serve as an uncushioned seat in lieu of an ordinary uncushioned bleacher-seat. Any suitable means may be provided for locking the free horizontal edge of the back to the front member of the seat-frame. In many situations it is desirable to use

the coin-controlled locking device illustrated, so that users may employ either the uncushioned back, or, if they desire, may, by paying the added cost, employ the cushion seat and the back-rest.

In the modified construction illustrated in Figs. 7, 8 and 9, the convertible seat is designated  $B^1$ . The principal parts are the same as in the construction already described, and are similarly lettered. In this construction, however, the front ends of the links  $b^{30}$  are connected with arms  $d$  applied to the ends of a transverse rock-shaft  $d^1$  equipped with cam-arms  $d^2$  which serve to raise the front portion of the cushion-seat when the back is thrown to the standing position, as will be readily understood. The rearward and upward movement of the arms  $d$  is limited by studs  $d^3$  which project laterally from the side members  $b^3$  of the frame.

In the modified construction illustrated in Fig. 10, the convertible seat is designated  $B^2$ . The general construction is similar to the constructions hereinbefore described, and the parts are similarly lettered, except as to the modified parts which will now be described. In this construction, the cushion-seat designated  $f$  is supported on rods  $f^1$  which move in cam-slots  $f^2$  with which the seat-frame is provided in its lateral members near the front end and rear of the seat-frame. The ends of the rods  $f^1$  are joined by links  $f^3$  provided with slots  $f^4$ . The back has joined to its lateral edges links  $f^5$  whose lower or front ends are equipped with studs  $f^6$  which work in the slots  $f^4$  of the links  $f^3$ . It will be understood without further description that when the back is thrown forwardly to the position indicated by dotted lines in Fig. 10, the links  $f^3$  will be actuated through the medium of the links  $f^5$  and will be lowered through the medium of the cam connection with the frame, thereby allowing the seat to be bodily depressed and wholly sheathed within the seat-frame. In the reverse movement of the back, the seat will be moved parallel with itself and raised to the position shown in full lines in Fig. 10.

In each of the constructions described, a very compact waterproof convertible seat is provided; and in each of the constructions a plain uncushioned seat forming a substitute for the ordinary uncushioned bleacher-seat is provided and also a cushion-seat and back-rest which may be utilized when the back is raised.

I have described my invention in detail for clearness of understanding only, and no undue limitation is to be understood therefrom.

What I regard as new, and desire to secure by Letters Patent, is—

1. The combination of a seat-frame, a cushion-seat movably mounted therein and sheathed within the frame, a back pivotally joined to the seat-frame, and seat-actuating links joined by pin and slot connection to the lateral edge-  
portions of the back.
2. The combination of a seat-frame, a cushion-seat movably sheathed therein, an inclosing pivotally connected back, links having lost-motion connection with the back, and seat-elevating means actuated by said links and having cam-connections with said frame.
3. The combination of a seat-frame, a cushion-seat pivotally connected near its rear edge with said seat-frame, a shaft supporting said cushion-seat near its front edge and having cam-connection with said seat-frame, a back pivotally connected with said seat-frame, and shaft-actuating links having lost-motion connection with said back.
4. The combination of a seat-frame, a seat movably



sheathed therein, a back pivoted to said frame, and bent links serving to actuate said seat and having lost-motion connection with said back, said links lying closely adjacent to the lateral edges of the back in the folded condition of the device.

5 5. The combination with a bleacher-seat, of a plurality of convertible cushion-seats supported thereon, and spacing clips connecting the frames of said convertible seats to said bleacher-seat, each convertible seat comprising a 10 frame and a cushion-seat sheathable within said frame.

6. A convertible seat for the purpose set forth, comprising a shallow seat-frame adapted to rest upon a bleacher-seat and form therewith a box, a cushion-seat sheathable within said frame, a back resting upon the seat- 15 frame and forming a closure therefor, and seat-actuating means connected with said back, said back having a plain uncushioned upper surface serving in the folded condition of the seat as an uncushioned seat.

7. A convertible seat for the purpose set forth, comprising a seat-frame, a movable cushion-seat sheathed 20 within said frame, a back pivotally connected with said frame, and curved seat-actuated links having lost-motion connection with said back, whereby the links are maintained substantially below the upper surface of the back in the folded condition of the device.

8. A convertible seat for the purpose set forth, comprising a seat-frame, a cushion-seat sheathed therein, a 25 back resting upon and forming a closure for said seat-frame and having pivotal connection with the seat-frame, and seat-actuating means connected with the back and in-

cluding links having lost-motion connection with the back, said links being of suitable length to permit the back to incline rearwardly in the standing position of the back.

9. A convertible seat for the purpose set forth, comprising a metal bar bent into rectangular form and forming 35 a seat-frame, a movable cushion-seat sheathed within said frame, pivot-brackets applied to the rear member of said seat-frame and projecting in the rear thereof, a back pivotally connected with said brackets and resting upon and forming a closure for the seat-frame, and seat-actuating 40 means including links having lost-motion connection with said back a short distance from the pivot thereof.

10. A seat-frame for the purpose set forth, comprising a metal bar bent to form four sides of a rectangle, the lateral 45 members of said frame being provided with cam-slots, and a plate connecting the free ends of the bar at the front side of the frame.

11. The combination with a bleacher-seat, of a convertible seat applied thereto, comprising a shallow seat-frame resting upon and forming with the bleacher-seat a 50 box, a cushion-seat movably mounted and sheathed within said frame, and a closure-forming seat-actuating back pivotally joined to said frame and serving, in the folded condition, to cover the seat and frame, the upper or back surface of said back serving as an uncushioned seat in the 55 folded condition of the device.

HAROLD G. BARRETT.

In presence of—

L. HEISLAR,

A. U. THORSEN.