

No. 864,855.

PATENTED SEPT. 3, 1907.

A. B. NIELSEN.
COMBINED CHAIR AND CRIB.
APPLICATION FILED DEC. 11, 1906.

3 SHEETS—SHEET 1.

Fig. 2.

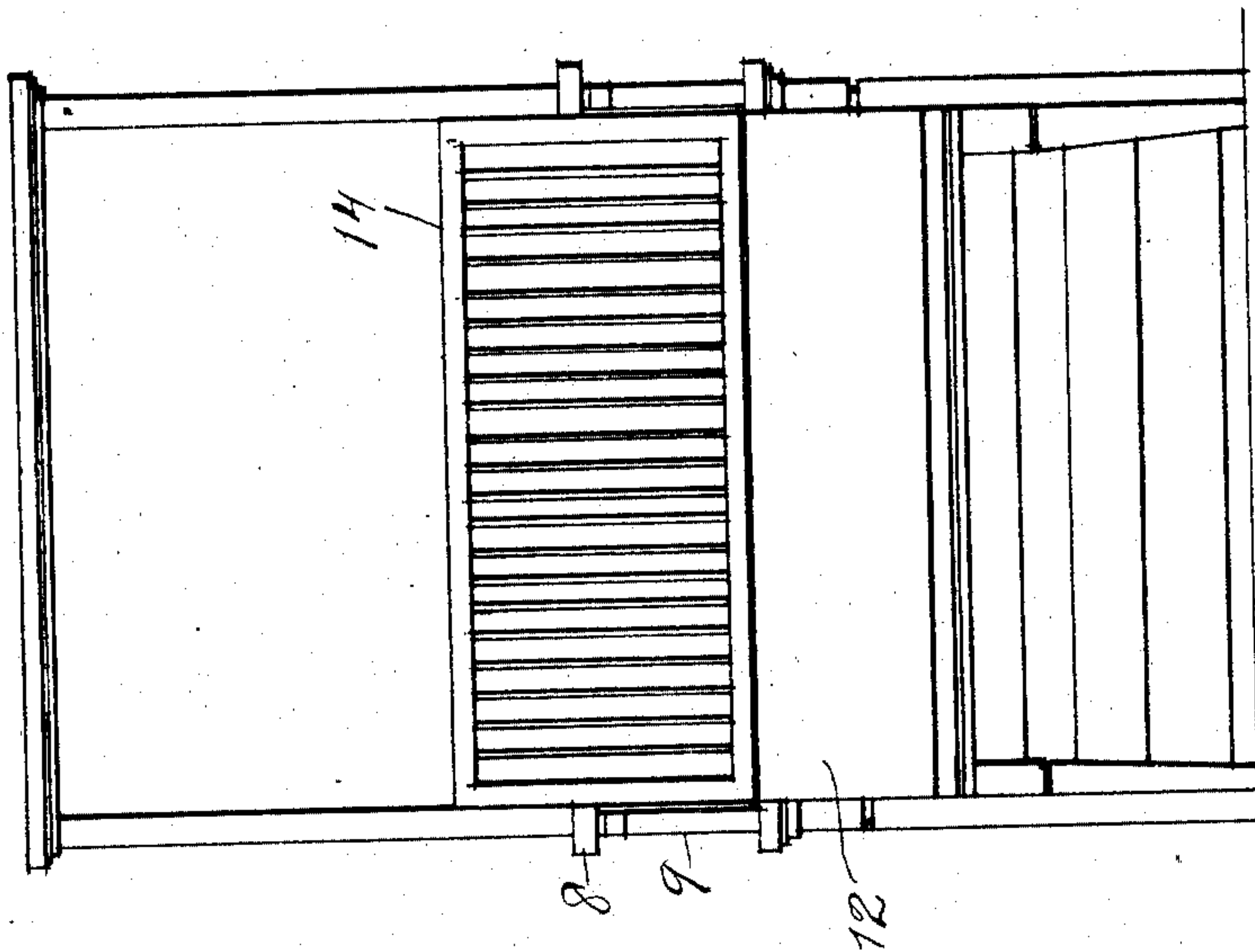
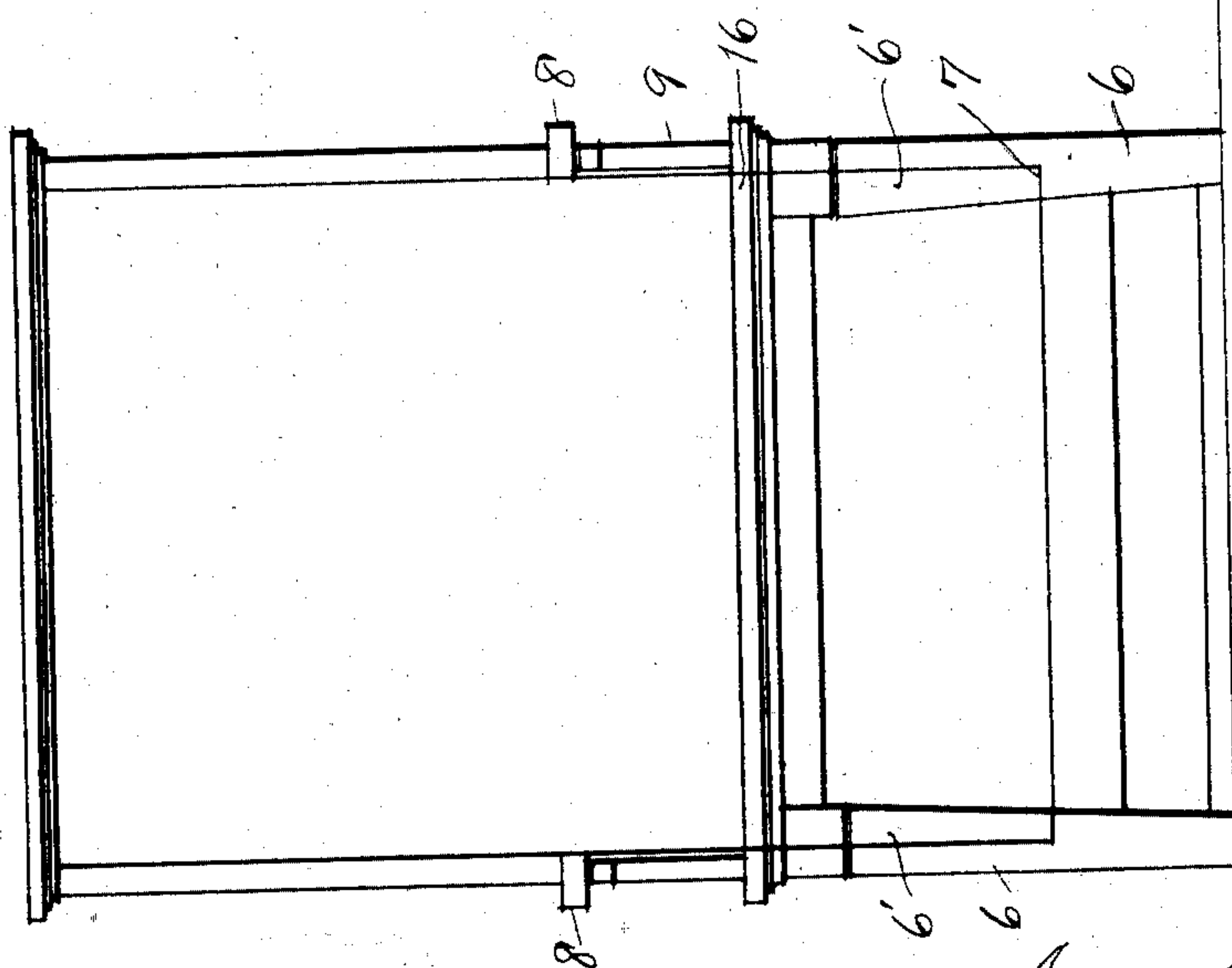


Fig. 1.



Witnesses:
Emilie Rose
L. Swan Engeman

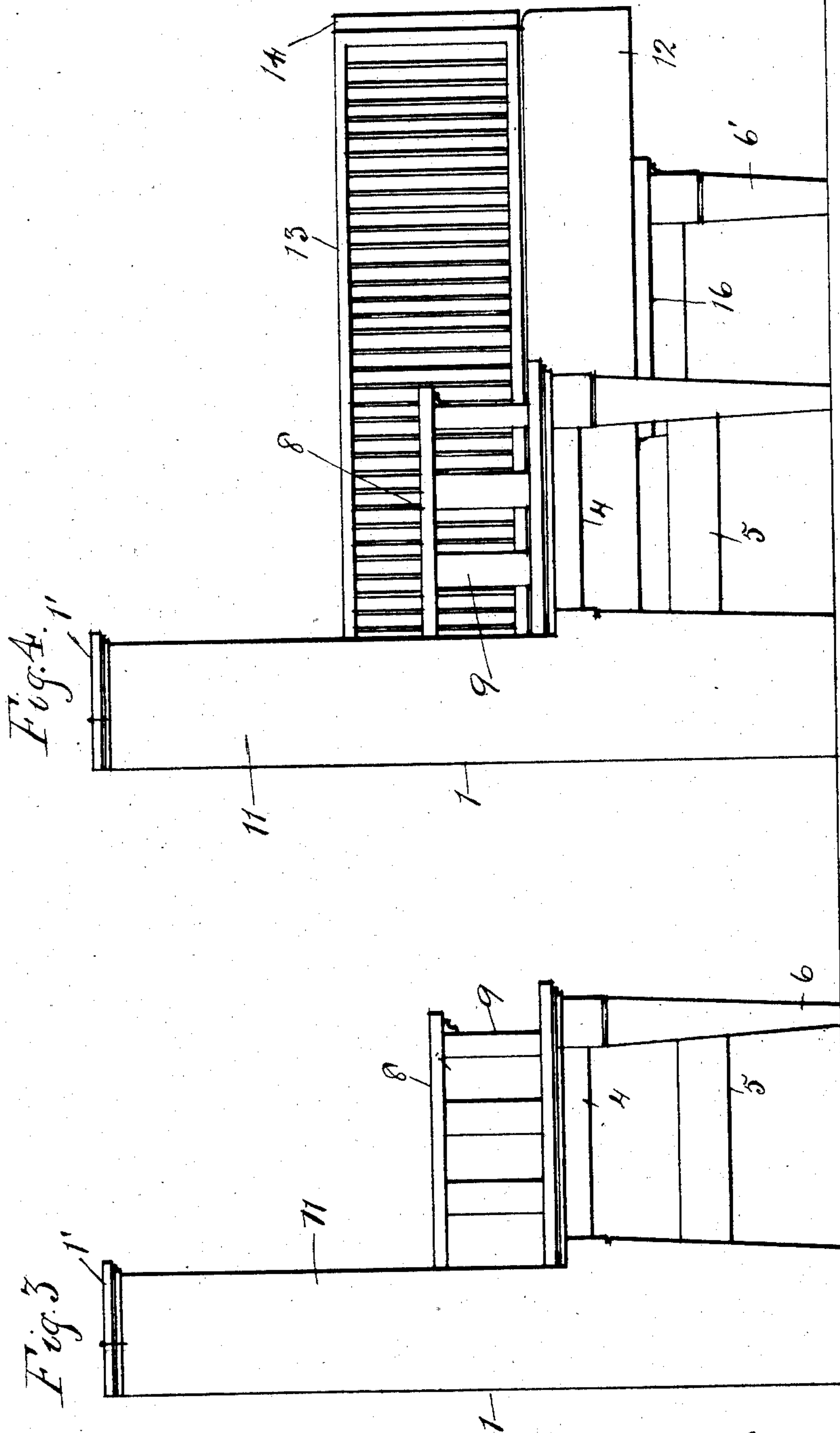
Inventor:
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3 SHEETS—SHEET 2.



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Att'y.

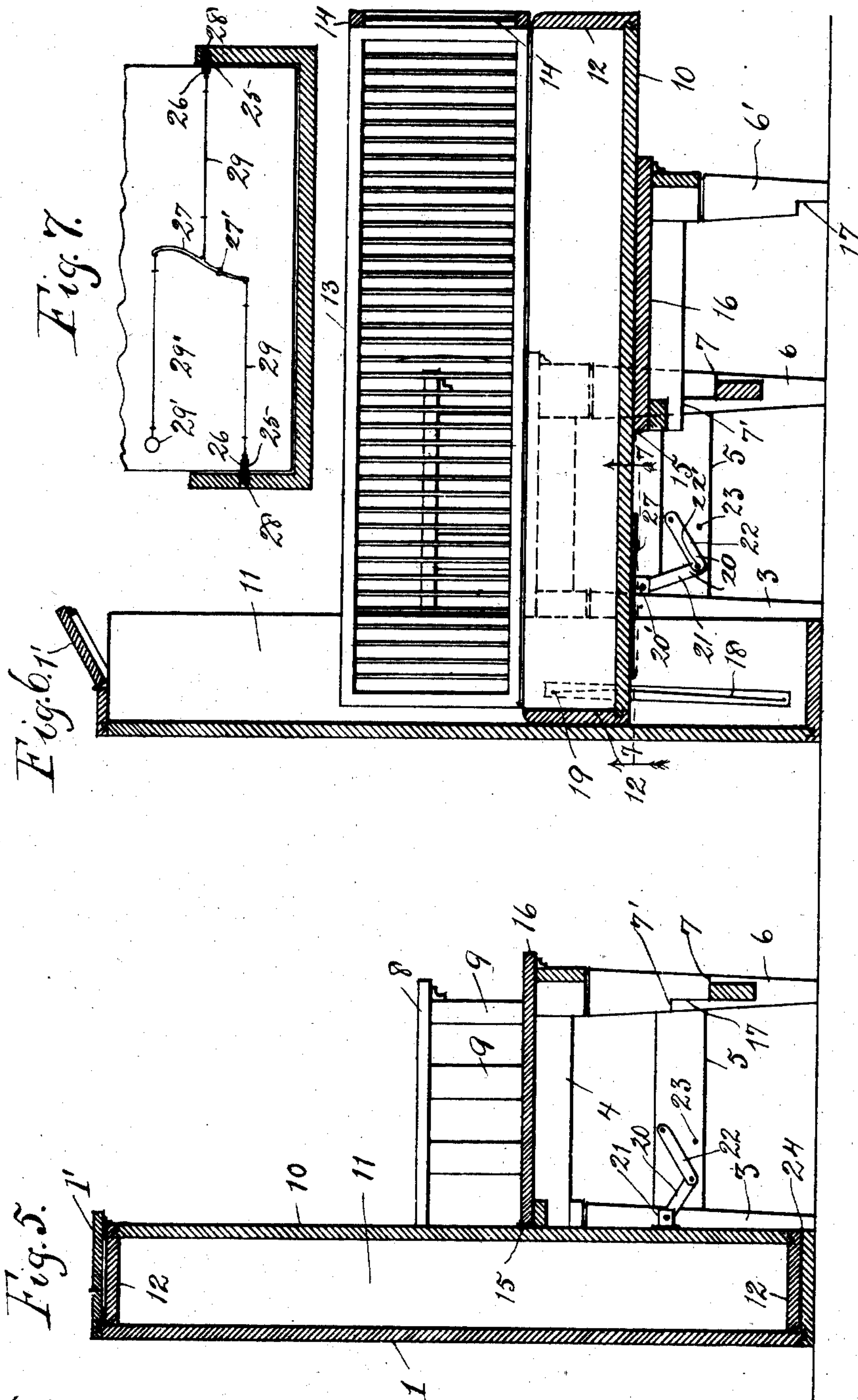
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3 SHEETS—SHEET 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

ANDREW B. NIELSEN, OF DOWNERS GROVE, ILLINOIS.

COMBINED CHAIR AND CRIB.

No. 864,855.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed December 11, 1906. Serial No. 347,328.

To all whom it may concern:

Be it known that I, ANDREW B. NIELSEN, a citizen of the United States, residing at Downers Grove, in the county of Dupage and State of Illinois, have invented certain new and useful Improvements in a Combined Chair and Crib, of which the following is a specification.

This invention relates to improvements in combined chairs and cribs and has among its salient objects to provide a construction which in one position is adapted to form a chair and in its other serves as a crib; to provide a construction of relatively few parts and which are durable and economical in construction; to provide improved means for lowering and raising the crib; to provide means whereby the crib is concealed when the device is used as a chair; to provide means whereby the chair parts automatically adjust themselves by merely lowering or raising the crib, and in general to provide an improved construction of the character referred to.

In general, the construction is similar to an ordinary folding bed and is, of course, suitably constructed to present a neat and attractive appearance.

The invention will be readily understood from the following description, reference being had to the accompanying drawings in which,

Figures 1 and 2 are front elevations of the device adjusted respectively as a chair and crib; Figs. 3 and 4 are similar side elevations; Figs. 5 and 6 are vertical sectional views of the device adjusted respectively as a chair and crib and showing details of mechanism; Fig. 7 is a horizontal sectional view taken on line 7—7 of Fig. 6 and looking upwardly.

In the drawings, 1 designates as a whole a box-like supporting frame member, open at its front end and adapted to receive and conceal the interior of the crib when the latter is not in use. This frame member may be constructed similarly to the usual frame member of a folding bed and is provided at its top end with a hinged cover 1' in order that the crib may move freely into and out of the frame and at the same time may fit closely within the latter.

At a height approximately equal to the desired height of the chair seat, the front sides of the frame member 1 are extended to form back legs 3, 3 and to these legs are secured front legs 6, 6, by suitable cross braces 4, 4, and 5, 5. The upper inside face of each leg 6 is partly cut away to form two shoulders 7 and 7', for a purpose hereinafter described.

8, 8 designate the arms of the chair which are secured to the main frame member at one end and supported by slats 9 suitably fastened to the braces 4, 4.

Describing now the crib, 10 designates the crib body having usual sides 11 and ends 12 and adapted to fit closely within the box frame. The crib is provided with the usual side rails 13 and front end rail 14, which are hinged to fold inwardly so as to permit the crib body

to fit within the frame and are adapted to be suitably hooked together when upright

To the bottom of the crib body is suitably hinged at 15 the chair seat 16 and from the front end of this seat and integral therewith depend secondary legs 6' which rest upon the floor and together with the seat 16 support the crib when the latter is in use. The legs 6' are at their lower ends provided with right angled rabbets 17 which fit upon and receive the shoulders 7' of the legs 6 when the device is used as a chair.

In order to guide the crib as it moves in and out of the frame, and also to prevent its being pulled entirely out of the latter, I provide interiorly in each side of the frame member a longitudinal groove or slot 18 in which reciprocate pins 19 mounted on the sides of the crib body. The grooves 18 are curved somewhat and so arranged that the crib will move freely in and out of its frame member without binding and at the same time maintain a close and accurate fit with reference to its frame, in a well known manner.

As an important feature of my invention I provide supports upon which the crib swings and pivots as it is raised and lowered. These supports comprise toggles 20 mounted upon the lower parts of the frame 1, pins 23 upon the members 5 and the legs 6'. The toggle mechanisms 20 are arranged at either side of the crib and each consists of a pivot stud 20', a link 21 connected thereto and a link 22 connected to link 21 and secured at the other end to the corresponding cross brace 5. The movement of the links 22 is limited in the direction away from the frame 1 by the pins 23 secured in the cross arms 5, 5. The toggle mechanism is so arranged that during the greater part of the movement of the crib the links 22 rest against their respective pins 23, and the crib fulcrums upon the lower end of said links.

Describing now the operation of the device and assuming that it is in the position shown in Fig. 5, *i. e.* adjusted as a chair and that it is desired to use it as a crib, the cover 1' is first lifted up and the crib pulled outwardly. During its initial outward movement the crib fulcrums at 24 on the base of the supporting member 1. As the crib continues to move outwardly the toggle links 22 are pushed down against their pins 23. The crib now fulcrums on the lower end of the links 22 and swings downwardly and outwardly being guided in its movement by the pins 19 reciprocating in the slots 18. When the crib has reached its horizontal position the pins 19 have reached the upper limit of their respective grooves and further movement of the crib is arrested.

On the initial outward movement of the crib the members 6' slip off of their respective shoulders 7, 7' the seat 16 swings down by gravity upon its hinge 15 and the members 6' drag outwardly with the further movement of the crib. When the latter has nearly reached its horizontal position the links 21 pull the

links 22 away from and out of contact with the pins 23 and the crib then fulcrums on the shoulders 7' and members 6' now resting on the floor. The final downward movement of the crib pushes the seat 16 up flush with the bottom of the crib forcing the members 6' into a vertical supporting position. It will be understood of course that the members 6' reach their vertical supporting position at the same time that the pins 19 reach their limit of movement in their respective grooves 18. The crib is now supported by the seat 16 and its legs 6' but in order that it may not be tipped downwardly at its inner end and may also be locked against accidentally closing when in use, I provide a suitable locking device which in the present instance takes the form of a pair of spring bolts such as are used in the ordinary window. These bolts 25 are provided with springs 26 in the usual manner and are secured to the bottom of the crib at either side. Sockets 28 are formed in the side of the frame, so located that the bolts will register with their respective sockets when the crib is in its horizontal position. In order to manually actuate these bolts, I provide a lever 27 pivoted to the bottom of the crib at 27' and secured to the bolts by connecting wires 29. The lever is operated by a thumb ring 29' secured by a wire 29'' to the free end of the lever.

After the crib has been lowered and locked, the side and end rails are lifted up into their vertical positions and hooked together.

When it is desired to close the crib, the rails are first unhooked and folded into the crib. The latter is then lifted up from its front end, fulcruming initially at the hinges 15. At the same time the toggle links which are now in their normal position are being swung toward their respective pins 23 and as soon as they reach the latter the crib fulcrums upon the pins and links and continues to do so until the lower end of the crib encounters and rests upon the base of the supporting member, when the crib fulcrums during the rest of its movement at the latter point until it is closed within its frame. The upward movement of the crib is of course guided by the pins 19 reciprocating in their respective slots 18.

When the crib begins to fulcrum upon the pins 22' in the ends of the respective levers 22 through the action of the toggle mechanism, the seat 16 hangs idly and the legs 6' drag along the floor. As the crib is lifted upwardly towards its vertical position the seat is of course dragged upwardly and approaches a right angle with respect to the bottom of the crib. Inasmuch as the rear edge of the seat is hinged to the bottom of the crib body and the end margins of the members 4 are at right angles to the top of the seat, it follows that as soon as the seat assumes a position at right angles to the crib body it will become rigid with the latter and lifted thereby, so that in the further movement of the body the legs 6' will be lifted up and carried into their seats resting upon the shoulders 7 and 7'. The cover is now closed over the top of the crib and the device is ready for use as a chair.

I have described my device as embodied in a high chair and crib but it could of course be otherwise embodied without departing from the spirit of the invention. The size of the device may be varied to suit requirements. For example, I may embody it in toy size.

I claim as my invention:

1. In a combined chair and crib, an upright supporting frame, a crib reciprocating in and out of said supporting frame, a leg frame and legs secured to said frame member, a chair seat hinged to the bottom of said crib, a second pair of legs rigidly secured to depend from said chair seat, said latter pair of legs supporting the crib when the latter is in use and resting upon the first pair of legs to support the chair seat when the crib is closed within its frame.

2. In a combined chair and crib, the combination of a box-like supporting member, a crib reciprocating therein, pin and slot connections guiding and limiting the movement of the crib relatively to said supporting member, rails upon said crib adapted to fold inwardly when said crib is closed within said box member, a leg frame and legs rigidly secured to said box member, arms supported by and above said leg frame, a chair seat hinged at one edge to the bottom of the crib, a pair of legs rigidly secured to the opposite edge of said chair seat, said legs being adapted to rest upon the floor and support the crib when the latter is in use, shoulders upon said leg frame upon which the seat-supporting pair of legs rest when the crib is in its vertical closed position, toggles secured to the crib and to the leg frame and stop pins limiting the movement of said toggles whereby the fulcrum axis of the crib is transferred during a part of the former's reciprocatory movement.

3. In a combined chair and crib, a box like supporting member, a crib reciprocating in and out of said member, a pair of supporting legs secured by cross pieces to said box member, a chair seat hinged to the bottom of said crib a second pair of legs rigidly secured to said chair seat, said latter pair of legs being adapted to support the crib when the latter is in use and adapted to rest upon the first pair of legs when the device is used as a chair, and links upon which the crib fulcrums during its shifting movements.

4. In a combined chair and crib, the combination with a supporting frame, of a crib arranged to reciprocate in and out of said frame, a pair of upright supporting members secured by cross pieces to said frame, a chair seat pivotally secured to said crib, depending members rigidly secured to the lower side of said chair seat, said latter members supporting the crib when the latter is in use and resting upon the first pair of members when the crib is closed within its frame, a toggle mechanism upon which said crib fulcrums during part of its reciprocatory movement and a locking mechanism preventing said crib from being closed when in use.

5. In a combined chair and crib, the combination of a supporting frame member, a crib reciprocating in and out of said member, a pair of upright supporting members secured to said frame member, a shoulder upon each of said upright members, a chair seat pivotally connected to the bottom of said crib, a second pair of supporting members rigidly secured to the front of said chair seat and provided with rabbets adapted to rest upon the respective shoulders of the upright members and mechanism upon which said crib fulcrums during its shifting movements.

ANDREW B. NIELSEN.

Witnesses:

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