No. 848,391. PATENTED MAR. 26, 1907.

W. F. OLIVER.

LOCKING DEVICE FOR CHAIR TRAYS.

APPLICATION FILED DEC. 15, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

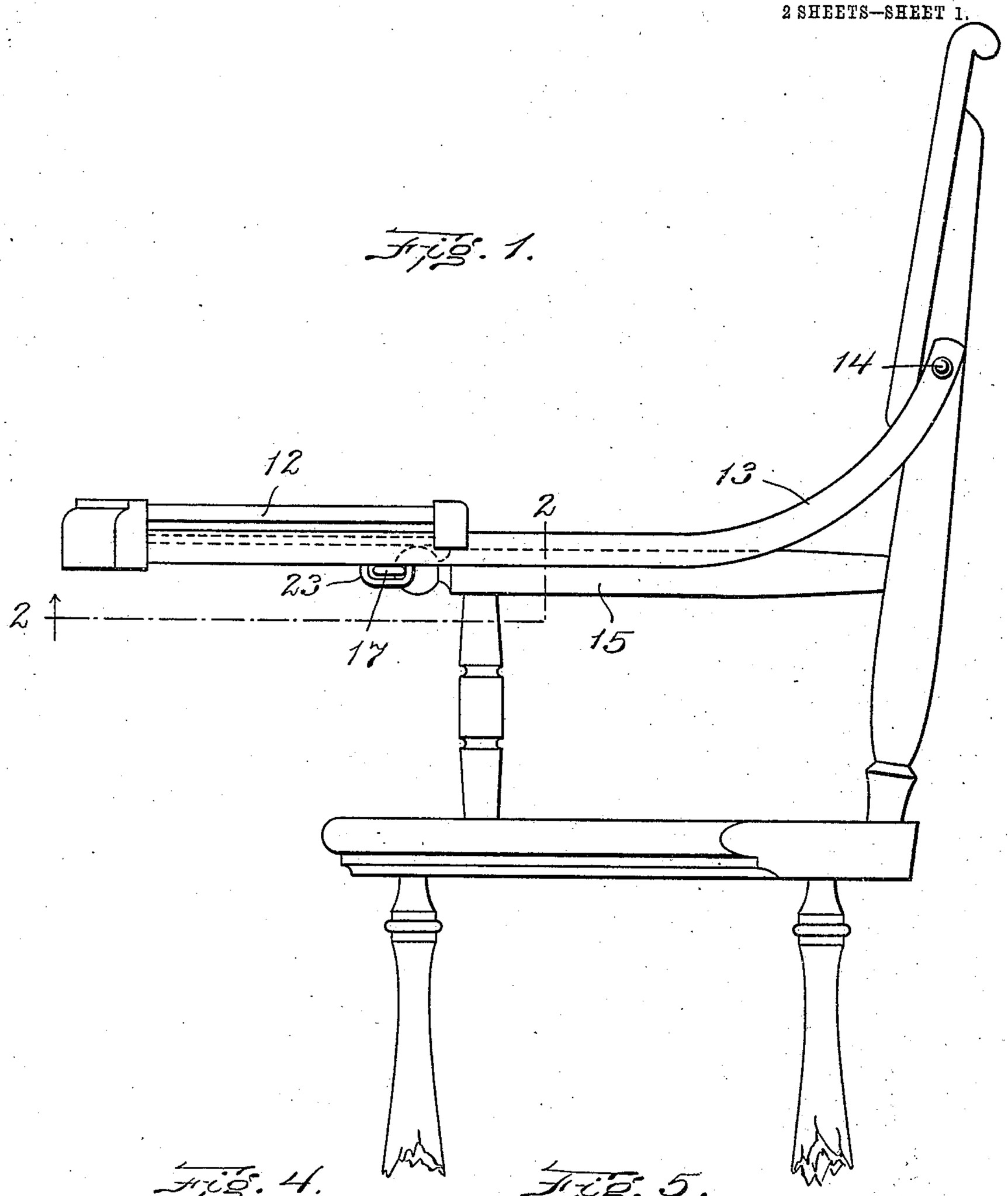



Fig. 4.

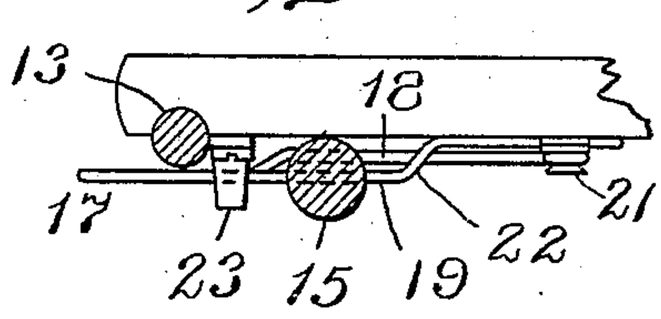
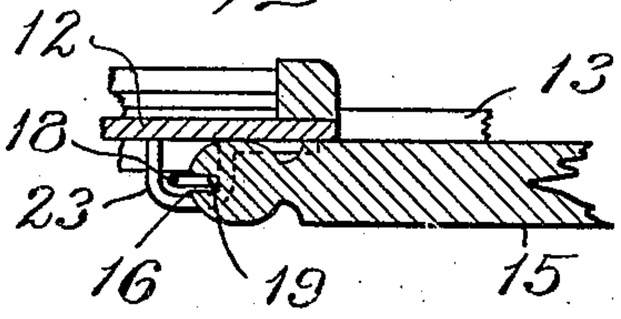



Fig. 5.

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2 SHEETS—SHEET 2.

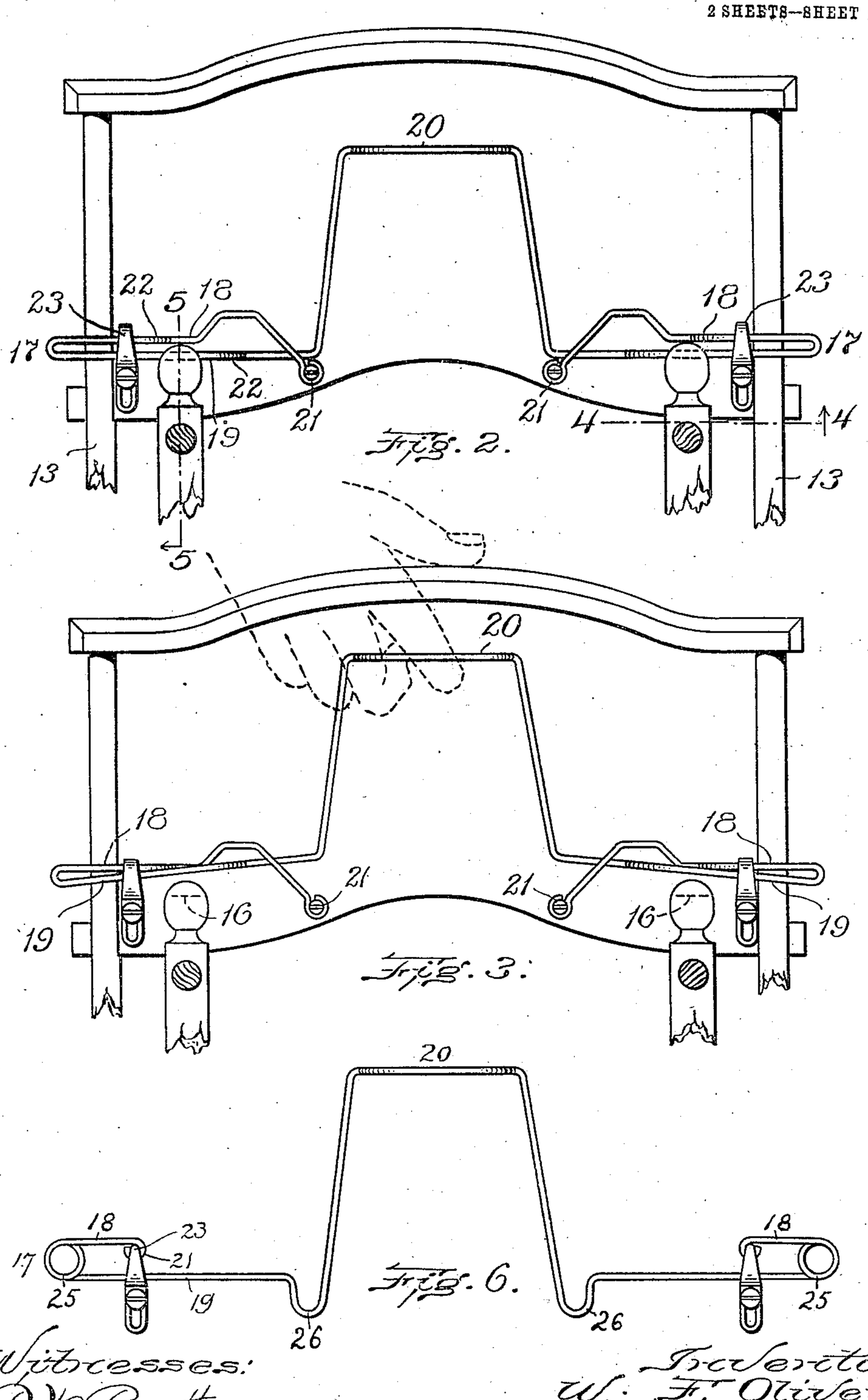


Fig. 2.




Fig. 3.




Fig. 6.

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# UNITED STATES PATENT OFFICE.

WALTON F. OLIVER, OF TEMPLETON, MASSACHUSETTS.

## LOCKING DEVICE FOR CHAIR-TRAYS.

No. 848,391. Specification of Letters Patent. Patented March 26, 1907.

Application filed December 15, 1905. Serial No. 291,840.

*To all whom it may concern:*

Be it known that I, WALTON F. OLIVER, of Templeton, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Locking Devices for Chair-Trays, of which the following is a specification.

This invention relates to an infant's chair provided with a tray having rearwardly-projecting arms which are hinged to the back of the chair, the arrangement being such that when the tray is not required for use it may be swung over the back of the chair and depend therefrom behind the seat. When the tray is required for use, it may be swung forward over the chair-back and rest upon the forward portions of the chair-arms.

The invention has for its object to provide simple and effective means for locking the tray to the chair-arms in its operative position in such manner that while the tray can be readily unlocked and displaced by pressure applied at or near the forward edge of the tray it cannot be unlocked by any pressure which can be exerted by the occupant of the chair, thus preventing all liability of the unauthorized or undesired unlocking of the tray while the chair is occupied.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a chair and a tray therefor to which my invention is applied. Fig. 2 represents a section on line 2 2 of Fig. 1 looking upwardly and showing a bottom plan view of the tray and an embodiment of my invention applied thereto, the locking device being shown in its position of engagement with the chair-arms. Fig. 3 represents a view similar to Fig. 2, showing the locking device in its position of disengagement from the chair-arms. Fig. 4 represents a section on line 4 4 of Fig. 2. Fig. 5 represents a section on line 5 5 of Fig. 2. Fig. 6 represents a modification.

The same letters of reference indicate the same parts in all the figures.

In the drawings, 12 represents a tray to which are rigidly attached curved arms 13 13, the rear portions of which are pivoted at 14 to the back of the chair. When the tray is in use, it occupies the position relatively to the back and arms of the chair shown in Fig. 1, the tray resting on the forward portions of the chair-arms 15. The outer ends of said arms are provided with slots or notches 16, Fig. 5, which constitute locking members adapted to engage complemental locking members carried by the tray. The construction thus far described is common and well known, and therefore forms no part of my invention.

In carrying out my invention I provide the tray with an improved locking device adapted to engage the slots 16 of the chair-arms in such manner as to lock the tray securely in its operative position without liability of its being unlocked by an infant sitting in the chair, the locking device being of such character that it can be readily manipulated to simultaneonsly disengage the tray from both arms of the chair by pressure exerted at a portion of the tray which is inaccessible to the occupant of the chair.

In the embodiment of my invention here shown for the purpose of illustration the locking device comprises a single piece of resilient wire the end portions of which are bent to form two compressible loops 17 17, each comprising an inner arm 18 and an outer arm 19, while the central or intermediate portion 20 is substantially U-shaped and projects forwardly into suitable proximity to the forward edge of the tray. The outer ends of the loop-arms 18 are provided with eyes 21, adapted to receive attaching-screws which secure or anchor the locking device to the under side of the tray, the arms 18 being, therefore, anchoring members. The loops 17 are offset at 22, so that the main portions of the loops stand below the bottom of the tray, as shown in Figs. 4 and 5, the outer arms 19 of the loops being thus held in position to spring into and engage the slots 16 of the chair-arms, the said arms 19 constituting locking members. The U-shaped central portion 20 is formed so that when the eyes 21 are secured to the tray the said U-shaped portion will be under compression and in its effort to expand will press the outer arms 19 of the loops backwardly toward the rear edge of the tray, so

that when the tray is in its operative position the loop-arms 19 will be held yieldingly in engagement with the slotted ends of the chair-arms. The anchorage of the arms 18 to the tray is essential, such anchorage preventing displacement of the outer portions of the arms 18 when the portion 20 is moved to compress the loops. The compression imparted to the loops by a movement of the portion 20 is therefore held by the anchorage, so that the loops are enabled to effectively expand after the portion 20 is released.

23 23 represent stops affixed to the bottom of the tray and located in such proximity to the rear arms 18 of the loops as to prevent bodily forward movement of the loops to such an extent as to disengage the rear arms of the loops from the slots of the chair-arms. In other words, if the occupant of the chair were to exert forward pressure against the loops they would be arrested by contact of the rear arms of the loops with the stops 23 before the outer arms 19 can be disengaged from the slots of the chair-arms. It will be seen from the foregoing and by reference to Fig. 3 of the drawings that the outer arms 19 of the loops can only be disengaged from the chair-arms by compression of the loops. This compression may be conveniently exerted by application of the operator's fingers to the U-shaped portion 20, as indicated in Fig. 3, this portion constituting a handle or finger-rest extension of the outer arms of the loops and being arranged so that pressure of the fingers can be advantageously exerted upon it to compress the loops laterally and thus unlock the tray. It will be seen that provision is thus made for simultaneously unlocking the tray from both arms of the chair and that this simultaneous action cannot be conveniently caused by any instrumentality excepting a hand applied to the front portion of the tray and at the under side thereof, this portion being inaccessible to the occupant of the chair.

My improved locking device possesses the following advantages: First, it requires no change in the construction of the chair; secondly, it may be very easily attached, only two attaching-screws being required; thirdly, its construction is very inexpensive, only one piece of wire being required, and, fourthly, it is applicable to trays of various sizes and proportions. I do not limit myself, however, to the duplication of the locking devices. It is obvious that only one of the loops here shown may be used, the portions of the wire constituting the other loop being utilized as means for holding the outer arm of the first-mentioned loop in its operative position.

In Fig. 6 I show as a modification the eyes 21 of the loops 17 engaged with the stops 23, the rear arms of the loops being correspondingly reduced in length. In Fig. 6 I also show the wire forming the outer ends of the loops provided with coils 25, which increase the resiliency of the loops, the outer arms 19 being shown as provided with offset portions 26, which bear on the bottom of the tray and prevent the loops from being tipped or deflected from the plane of the slots 16 of the chair-arms.

I claim—

1. A locking device for a chair-tray, having a compressible loop, one arm of which is attached at one end to the tray, and constitutes an anchoring member, the other arm constituting a locking member adapted to engage a complemental locking member on a chair, and means for yieldingly expanding the loop to normally hold the locking member separated from the anchoring member and in its locking position, the free end of the loop having a finger-engaging extension adapted to receive pressure to compress the loop and disengage the locking member from the chair.

2. A locking device for a chair-tray having a compressible loop the inner arm of which is attached to the tray, while the outer arm constitutes a locking member adapted to engage a complemental locking member on a chair and a stop adapted to engage the inner arm to prevent disengagement of the locking member from the chair by bodily displacement of the loop, and means for yieldingly maintaining the loop with the outer arm in its locking position, the said outer arm having a finger-engaging rest or extension adapted to receive loop-compressing and outer-arm-displacing pressure.

3. A locking device for a chair-tray having a resilient wire rod bent at its end portions to form two compressible loops each having an inner arm attached to the tray and an outer arm constituting a locking member adapted to engage a complemental locking member on a chair, and an intermediate resilient U-shaped portion connecting the outer arms of the loops and yieldingly maintaining the loops with their outer arms in locking position, the said intermediate portion constituting a finger-rest adapted to receive loop-compressing pressure.

4. As an article of manufacture a resilient tray-locking rod bent at its end portions to form two compressible loops each having an inner arm provided with an eye for engagement with an attaching device, and an outer arm constituting a locking member adapted to engage a complemental locking member on a chair, and an intermediate resilient U-shaped portion connecting the outer arms of the loops and constituting a finger-rest.

5. A locking device for chair-trays comprising two locking-arms anchored to the

tray and movable sidewise on their anchorages to and from their locking positions, and a resilient finger-engaging member located between and connecting said arms, and adapted to simultaneously retract the same, said member normally holding the arms in their locking positions.

In testimony whereof I have affixed my signature in presence of two witnesses.

WALTON F. OLIVER.

Witnesses:
CARLETON A. FLETCHER,
WILLIAM E. NORTON.