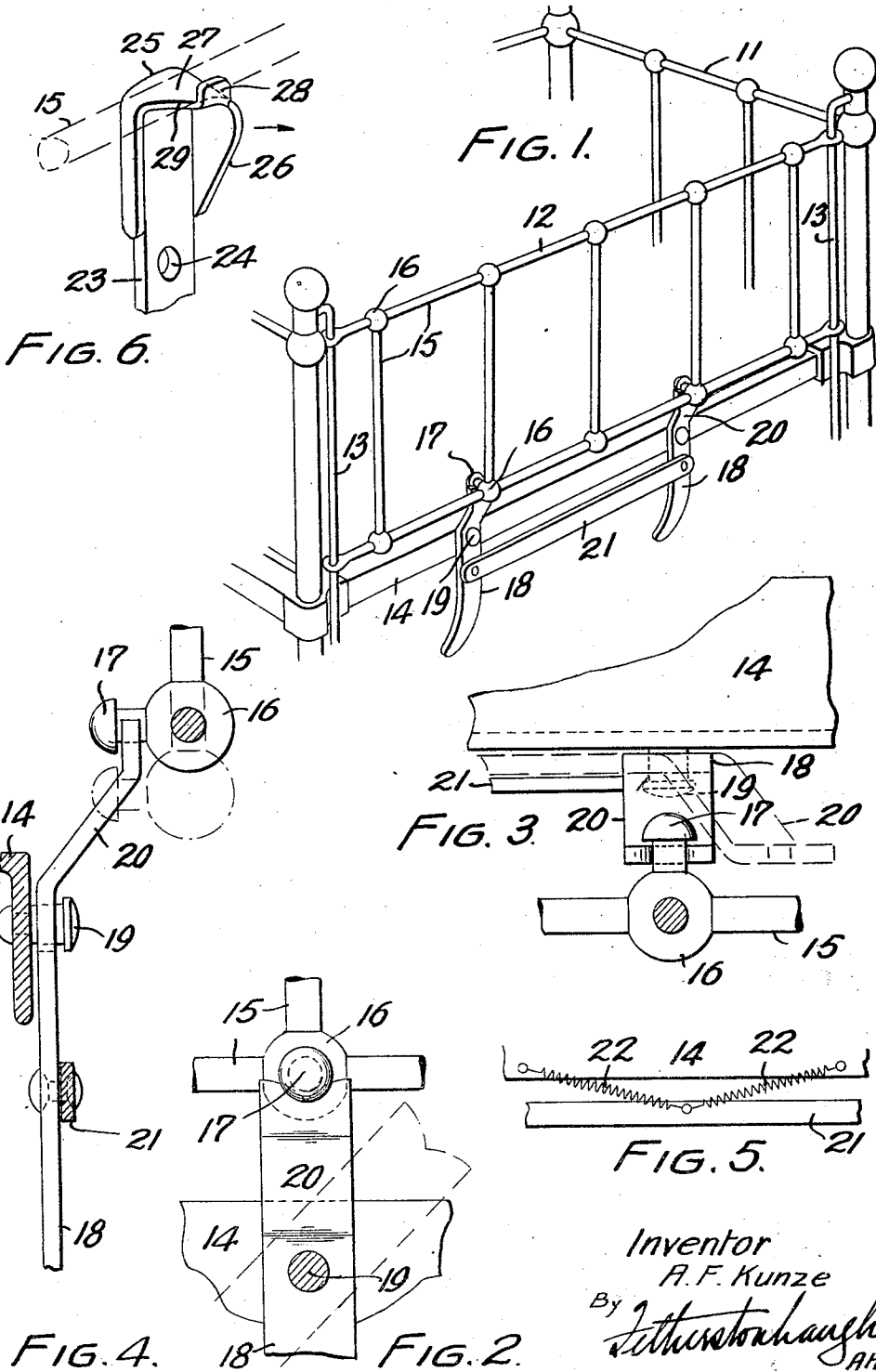


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CRIB DROP SIDE LATCH.
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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ARTHUR F. KUNZE, a citizen of the United States, and resident of the city of Montreal, in the Province of Quebec and Dominion of Canada, have invented certain new and useful Improvements in Crib Drop-Side Latches, of which the following is a full, clear, and exact description.

This invention relates to improvements in latches, for the drop-sides of children's cribs or cots, and the object of the invention is to provide a latch of simple, inexpensive and durable construction, which will be very simple and reliable in operation.

A further object is to provide a latch which may be operated by the foot and which is at the same time entirely out of the child's reach.

A still further object is to provide a latch which is entirely automatic in its operation.

The advance in bed and cot making in recent years has developed what is known as the drop-side crib, that is to say, a crib in which both sides and ends are raised considerably above the mattress level, so as to prevent a young child from falling or climbing out of its cot. For convenience, one of the sides has been made to swing out or slide down. The former type has been practically abandoned on account of its extreme awkwardness, but the latter type is in large public demand. At the present time, the great drawback is that the latch is designed to be hand-operated, so that when one is carrying a child, it is somewhat awkward to release the latch. Furthermore, the latches in general use, so far as is known, are not automatic in their operation, and require to be manually operated to hold the side in its elevated or closed position. This also has the disadvantage that the latch, if conveniently located, is within reach of the child.

According to the present invention, a latch is provided under the cot, so as to be practically out of a child's reach, and in any event out of sight, so that curiosity is not aroused. The latch is designed to be operated by foot to release the sliding side and to immediately and automatically return to latching position, so that when the side is raised, the latch will operate automatically to hold it in such position. The arrangement consists essentially of a lever offset to-

ward one end, and recessed at the end for the reception of a suitable part of the sliding side. The latch is pivoted to the cot frame, so as to have pivoted movement longitudinally of the crib. The point of support is such that the latch operates by the force of gravity to normally maintain the locking position, although opposed springs may be used for the same purpose. The free end of the latch depends below the crib where it may be conveniently found with the foot and moved in either direction to release the side. Preferably, two such latches are used and connected by a link in order that the crib side may be supported at two points, and also in order that the operator's foot may have a choice of two points of operation and a less distance to travel in feeling for the latch, if the same is for any reason not visible.

In the drawings which illustrate the invention:—

Figure 1 is a perspective view of a drop-side crib illustrating the application of the latch thereto.

Fig. 2 is a fragmentary side elevation of one of the latch members.

Fig. 3 is a fragmentary plan view illustrating one of the latch members.

Fig. 4 is an end elevation of one of the latches.

Fig. 5 is a fragmentary side view illustrating a slight modification.

Fig. 6 is a fragmentary perspective view illustrating a latch adapted to engage the sliding side proper.

Referring more particularly to the drawings, 11 designates a child's crib or cot having a slide-down side 12 traveling on tracks 13 connected to the head and foot posts, and extending upwardly from a short distance above the side rail 14 of the crib frame. These cribs, which are generally speaking of inexpensive construction, are usually made of iron rods or tubes connected together by castings 16. As this is a very common form of construction, the invention has been illustrated in connection with a cot of this type, but it will be understood that it is in no way limited to such construction. A catch 17 projects inwardly from one of the castings 16 at the lower edge of the drop-side. This catch may conveniently be an

ordinary stock rivet, or may be with other types of construction a specially formed piece, designed to prevent outward pressure on the crib side disengaging it from the latch.

The latch comprises a bar 18 pivoted toward one end to the side frame 14 of the crib by means of a rivet 19, which is sufficiently smaller than the hole in the latch, through which it passes, and sufficiently long to permit the latch a limited oscillatory motion in all directions. Being loosely pivoted toward one end, it is obvious that the latch will hang by the action of gravity in a vertical position. The portion of the latch above the supporting rivet 19 is offset away from the side frame, as clearly shown at 20 in Fig. 4, and the upper extremity thereof is slightly notched, as clearly shown in Fig. 2, for the reception of the catch 17. The notch is made quite shallow, in order that the catch will offer very little resistance to the oscillation of the lever, as in Fig. 2.

In order to more securely support the sliding side 12, it is preferred to use two similar latches, as indicated in Fig. 1, and to connect these by a link 21 extending parallel with the side frame 14 of the crib, so that when either latch is operated, the movement is transmitted to the other one, which operates simultaneously. This link further increases the weight below the pivotal support of the latches, so that the action of gravity holding the latches in vertical position is increased. In addition to these two factors, the use of two links gives the user a selection as to which end of the crib the device will be operated from, and reduces the distance the foot is compelled to travel in finding one of the latches, if for any reason the same cannot conveniently be seen.

If only one latch is used, it is obvious that it will be located at the point of balance of the sliding side. If for any reason, it is found undesirable to rely on the force of gravity to maintain the latch or latches normally in vertical position, springs may be used. In the case of the multiple latch arrangement, as shown in Fig. 1, these springs may be connected between the link 21 and the side frame 14 in opposed relation, so that when the springs are in equilibrium, the latch or latches are vertical. Movement of the latches in either direction tensions one spring or the other. If only one latch is used, it is obvious that the springs 22 may be connected directly between the latch and the side frame 14 in the same manner and with the same effect.

The operation of the device is extremely simple. The lower end of the latch is moved to either right or left by the operator's foot and draws the upper end out from under the catch 17. The shallowness of the catch enables this operation to be performed with

great ease. This movement of the latch brings the offset portion thereof entirely out of the path of the catch 17, as clearly shown in Fig. 2, so that the sliding side 12 may drop, there being nothing to hold the catches. As soon as released, the latch returns to its normal position, bringing the offset 20 thereof in the path of the catch 17. When the crib is to be closed, the side is raised in the usual manner. In the latter part of this upward movement, the catch engages the inclined offset 20, and the side of the crib springs outwardly away from it to enable the catch to pass the latch. Immediately the catch passes above the latch, the latter resumes its vertical position, bringing its notched upper extremity under the catch, so that the side is securely held in its elevated or closed position.

In Fig. 6 the invention is shown adapted to engage the bottom bar of the sliding side, and thus dispense with the additional member 17, the bottom bar being in this case the catch. The latch consists of a bar 23 pivoted at 24, and having a stamped or cast head portion 25 corresponding to the upper part of the lever. In the part 25, the sloping edge 26 corresponds with the offset 20 of the latch 18 and the top 27 and lug 28 with the notched upper extremity of the latch 18. The part 25 has an additional sloping edge 29, as shown, for the purpose of disengaging the side bar 15 from the top 27 and lug 28.

From the foregoing description, it will be seen that the device is extremely simple and durable, practically impossible to put out of order, and quite inexpensive. It enables a person to operate the drop side of the crib by means of the foot when both hands are occupied, and is automatic in its latching action. It is impossible for the side to be raised and not latched, as might occur with other types, for the reason that if the latch is not in engagement with the side, the same will immediately drop to open position. The notched top of the latch further operates to hold the device centrally in proper position when the weight of the side is on it, the catch always seeking the lowest part of the notch. The device is invisible to the child, and therefore does not by exciting curiosity tempt the child to experiment with the latch, and in addition, the latch is out of the reach of any child too young to climb over the side or liable to suffer from a fall out of the crib. The operation and action of the form shown in Fig. 6 is as follows: The bottom bar 15 of the sliding side rests on the top 27 of the part 25, and is held against disengagement by outward pressure by the lug 28. When it is desired to lower the crib side, the latch is tilted, so that the support of the side 15 is transferred from the approximately level top 27 to the sloping edge 29. The crib side

immediately slides down over this edge past the lug 28, and drops, leaving the latch free to resume its normal position by the action of gravity. When the crib side is raised, the 5 bottom bar thereof slides up over the inclined edge 26 to a position above the cam, and then drops on the top 27.

Having thus described my invention, what I claim is:—

10 In a crib of the class described, a frame element, a sliding side element, and means

for latching said frame and side comprising a normally vertical pivoted latch on one of said elements and means on the other element adapted to coact with said latch, said 15 latch being movable for disengagement, and means on the latch for moving the co-acting means for engagement.

In witness whereof, I have hereunto set my hand.

ARTHUR F. KUNZE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."