No. 735,177. PATENTED AUG. 4, 1903.

L. A. TRUESDELL.

KINDERGARTEN LOOM.

APPLICATION FILED APR. 15, 1903.

NO MODEL.

Fig. 1.

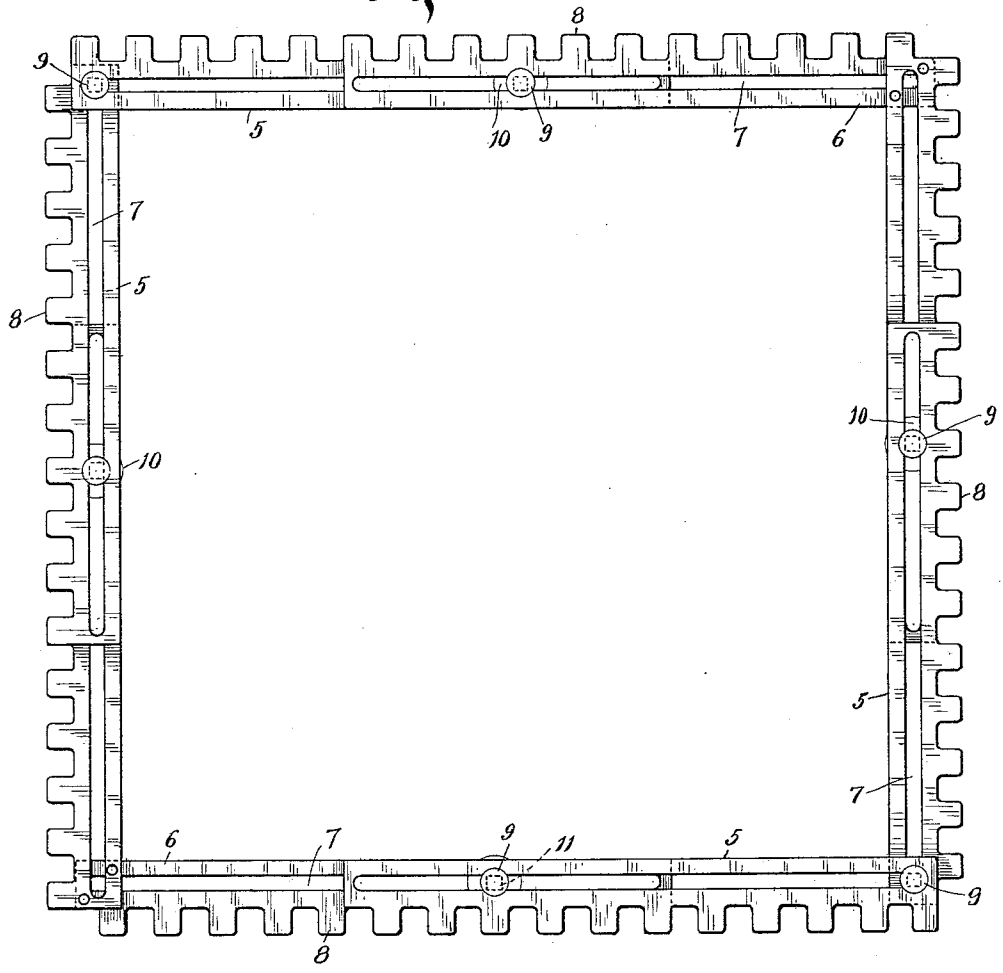



Fig. 2.

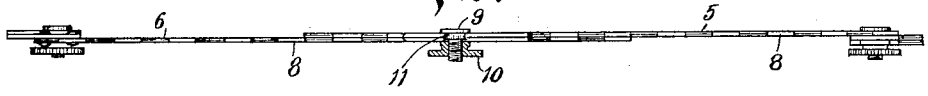



Fig. 3.

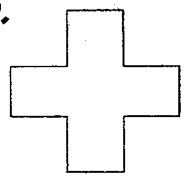
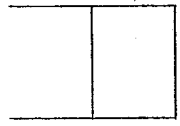


Fig. 4.



Witnesses.

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No. 735,177. Patented August 4, 1903.

# UNITED STATES PATENT OFFICE.

LIZZIE A. TRUESDELL, OF MILWAUKEE, WISCONSIN.

## KINDERGARTEN-LOOM.

SPECIFICATION forming part of Letters Patent No. 735,177, dated August 4, 1903.

Application filed April 15, 1903. Serial No. 152,811. (No model.)

*To all whom it may concern:*

Be it known that I, LIZZIE A. TRUESDELL, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Kindergarten-Looms, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

The improved frame embodying my invention is intended especially to be built in various small sizes, in which form it is adapted for use in kindergarten and primary schools and in industrial classes especially, to be held by the child or person using it and thereon to weave plain fabrics of yarn or raphia or cotton thread or wool warp and rags or such other material as is adapted for the plain or simple weaving of the general character stated.

General objects of the improved frame are that it shall be light in weight, but strong and rigid, and adapted to be adjusted to various sizes and, indeed, into several shapes, so as to be capable of use in many sizes and in the several forms to which it may be adjusted or in which it is put together. For this purpose the principal parts of the frame are constructed of sheet-steel or other light and strong metal and the parts are so formed as to a great extent to be interchangeable and readily adjustable on and fitted to each other.

The invention consists of the frame, its parts, and combinations of parts, as herein described and claimed, or the equivalents thereof.

In the drawings, Figure 1 represents my improved frame put together in square form, which is the most usual form of employing it. Fig. 2 is an edge view of the improved frame, one of the nuts on a clamping-bolt being shown in section. Figs. 3 and 4 are diagrams of forms in which the frame or several parts of similar frames may be put together forming a single frame of these shapes. Frames of other forms may also be constructed of parts employed to make up the novel frame.

In the drawings, 5 represents a single rail or frame member adapted to be employed in the improved frame. In each complete square frame it is desirable to have two of the corners made up of a rigid member, and for that purpose two of the frame members 5 are riveted together at their ends at a right angle to each other, forming a right-angled frame member 6, two of which are shown in the drawings, disposed at diagonal corners of the frame. These two rigid corner members serve as base members, to which the single members 5 5 are attached in such way as to complete the square frame and maintain it in the square form.

Each of the frame members 5, including the two members that are riveted together to form the rigid corners 6, consists of a straight strap or rail of sheet metal provided with a longitudinal slot 7 and a considerable number of obtuse fingers 8 8 at equal distances apart, formed of the sheet metal on the outer edge of the rail and projecting therefrom in the plane of the width of the rail. These fingers are of equal widths, the width of each finger being advisably the same as the width of the space between that finger and the next adjoining finger on the rail. The several frame members are adapted to be placed together in the form of the desired frame, the members overlapping adjacent members to such extent as is necessary to make up a frame of the size desired, and the members are fastened together conveniently by means of short clamping-bolts 9 9, provided with thumb-nuts 10, advisably having milled heads and turning thereon. The bolts are provided adjacent to their heads with an enlarged faced part 11, adapted to fit and slide in a slot 7 and prevent the rotation of the bolt in the slot. A frame may be made up of the number of members shown in Fig. 1 and may be adjusted in the manner therein shown to a medium size or may be made smaller or larger to the extent of the limit of the members by moving the members together or separating them, as desired. Also a larger frame may be made by using more of the single members 5 as intermediate members of the frame, one on each of two sides of the frame, thus extending its length in one direction, or one or more members may be employed on every side of the frame, thus increasing its size in all directions.

In using the frame the warp is put on across the frame vertically, being carried back and forth around the fingers at the opposite edges at the top and bottom of the frame, being car-

ried successively from one finger to and about the succeeding finger on each edge of the frame entirely across the frame. The woof is then put in, carrying it across the frame laterally from the highest finger at one side to and about the finger on the opposite side and back and forth to and about the succeeding fingers toward the bottom of the side rails of the frame, the woof being woven into the warp by carrying it alternately under and over the strands of the warp. A needle may be employed for this purpose, though it can be done by the fingers alone. A wood or tape needle is a common implement for this purpose. To remove the woven fabric from the frame, the clamping-bolts, or so many of them as is necessary, may be loosened, allowing the sides of the frame to be moved toward each other, so that the loops of the warp and the woof can be readily removed from the outwardly-projecting fingers of the rails. It will be understood that by reason of the regular spacing of the fingers of the rails the warp and woof of the fabric must necessarily be regular in the distance of the strands from each other and that by reason of the projection of the fingers outwardly in the plane of the widths of the fingers the pull of the warp and the woof on the fingers merely tightens the fabric being made on the frame and without much strain on the fingers, as the strain comes against the edge of the rails and transversely of the width thereof and does not permit the warp or woof to escape or become released from the fingers, as it might do if pins were set up on the face of the rails and at right angles thereto for receiving the loops of the warp and the woof.

What I claim as my invention is—

1. A frame for weaving, comprising a plurality of straight rigid rail members and one or more rigid corner members formed of two of the straight rail members, each rail member having a longitudinal slot and fingers projecting from the outer edge of the rail in the plane of its width and of the frame, and means adapted to pass through the slots for clamping the rails to each other adjustably and detachably.

2. In a frame for weaving, a sheet-metal rigid rail member having in a straight line a series of flat obtuse fingers of equal width at little distances apart formed of the sheet metal and in a plane with the width of the rail, the rail being provided with a longitudinal slot, and means entering the slot for securing together adjustably two of these flat rails elsewhere than at the corner of the frame.

3. In a frame for weaving, a flat sheet-metal rigid corner member having a series of flat obtuse fingers of equal width and at regular distances apart formed of the sheet metal and projecting in the plane of the width of the member, and provided with slots elsewhere than at the corners and extending longitudinally of the arms of the corner member, and means for securing the corner member adjustably to a similar overlapping member.

4. A frame for weaving, comprising a plurality of straight flat rigid rail members and one or more rigid corner members formed of two of the straight rail members fastened together, each rail member having an elongated slot and flat fingers of equal width and at equal distances apart projecting from the outer edge of the rail and in the plane of the width of the rail, and clamping-bolts having a faced portion, the bolts being adapted to pass through the slots of overlapping rails and clamp the rails to each other releasably.

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

LIZZIE A. TRUESDELL.

Witnesses:
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