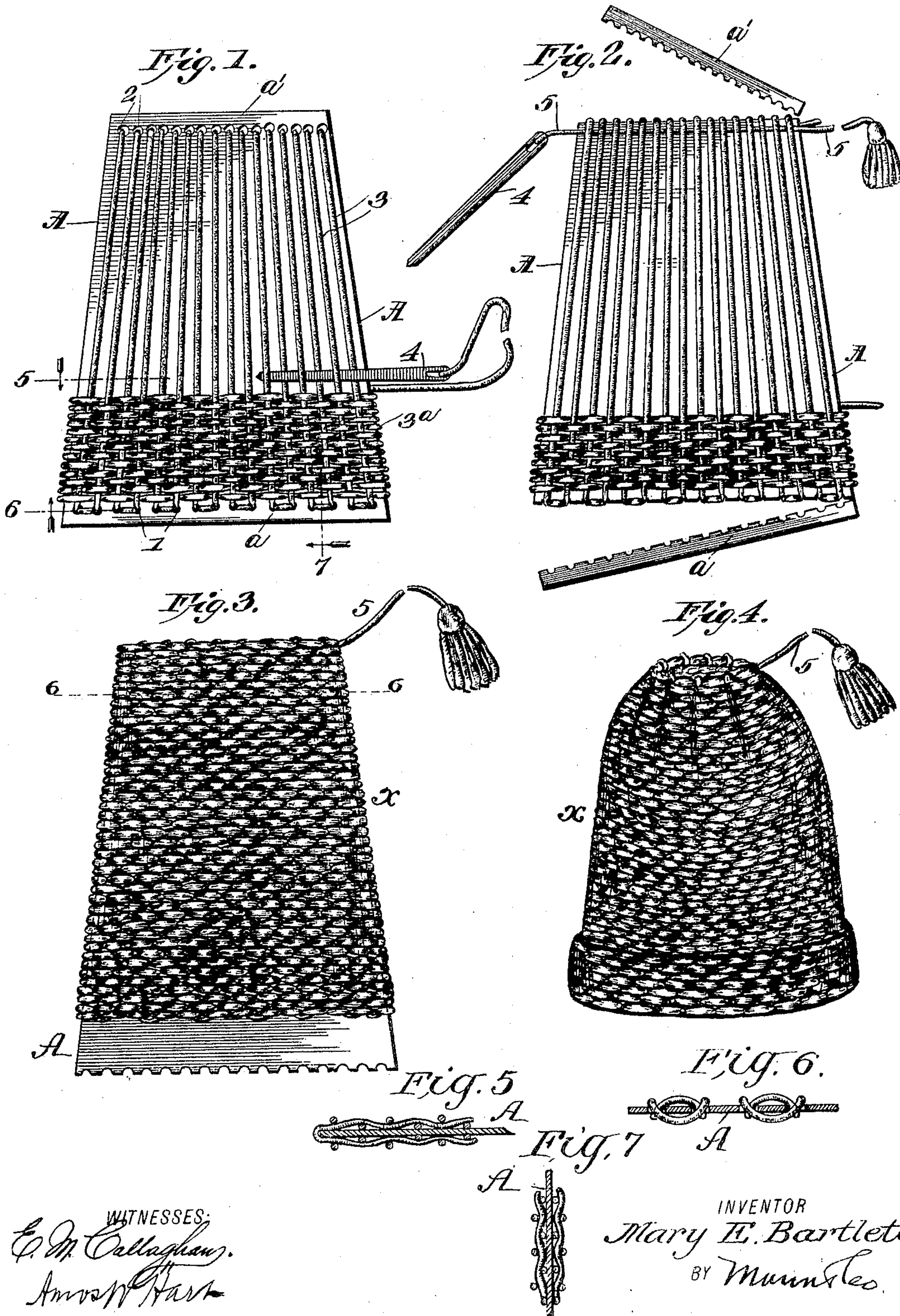


No. 798,559.

PATENTED AUG. 29, 1905.

M. E. BARTLETT.
APPARATUS FOR HAND WEAVING.
APPLICATION FILED MAR. 25, 1905.

2 SHEETS—SHEET 1.

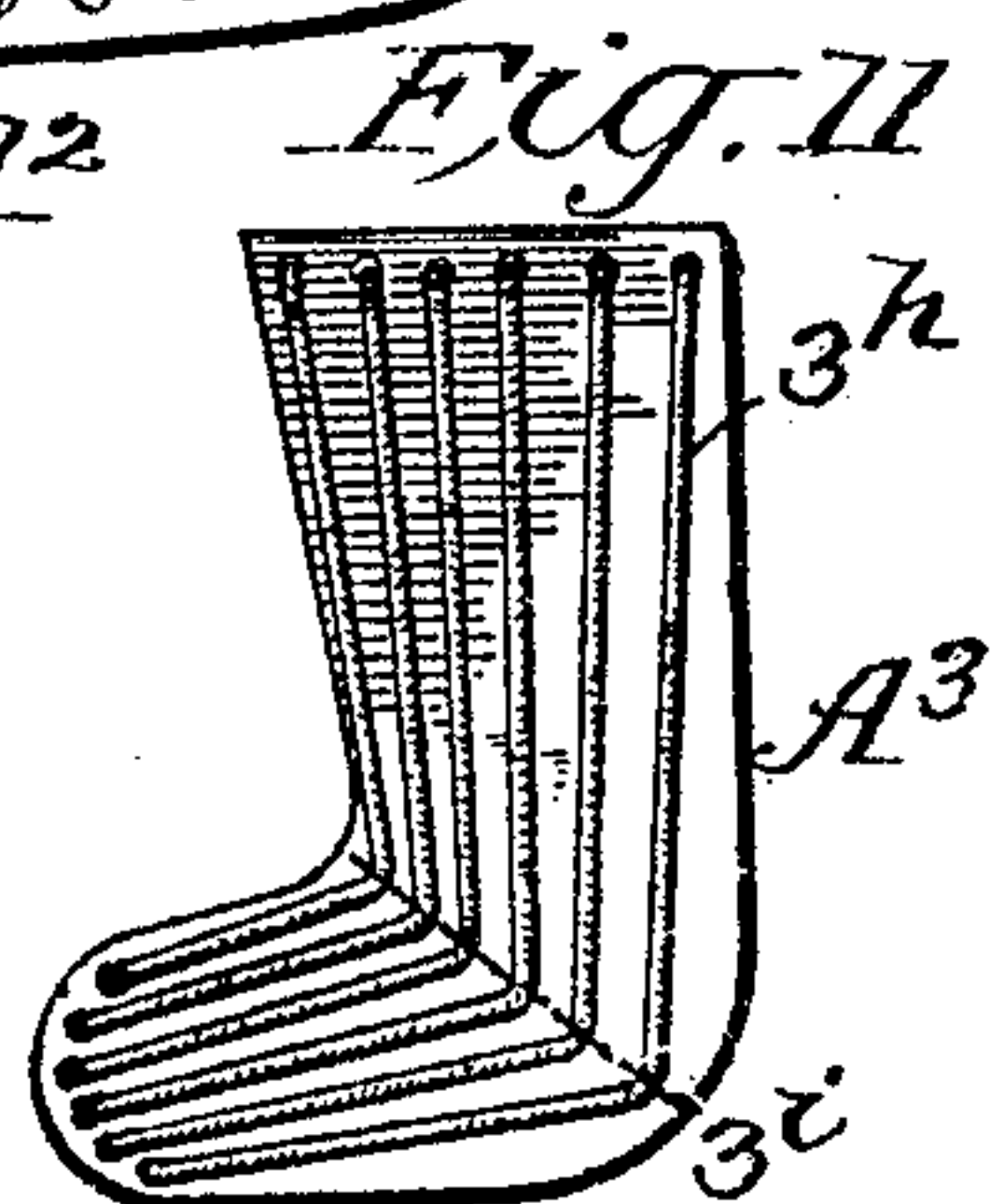
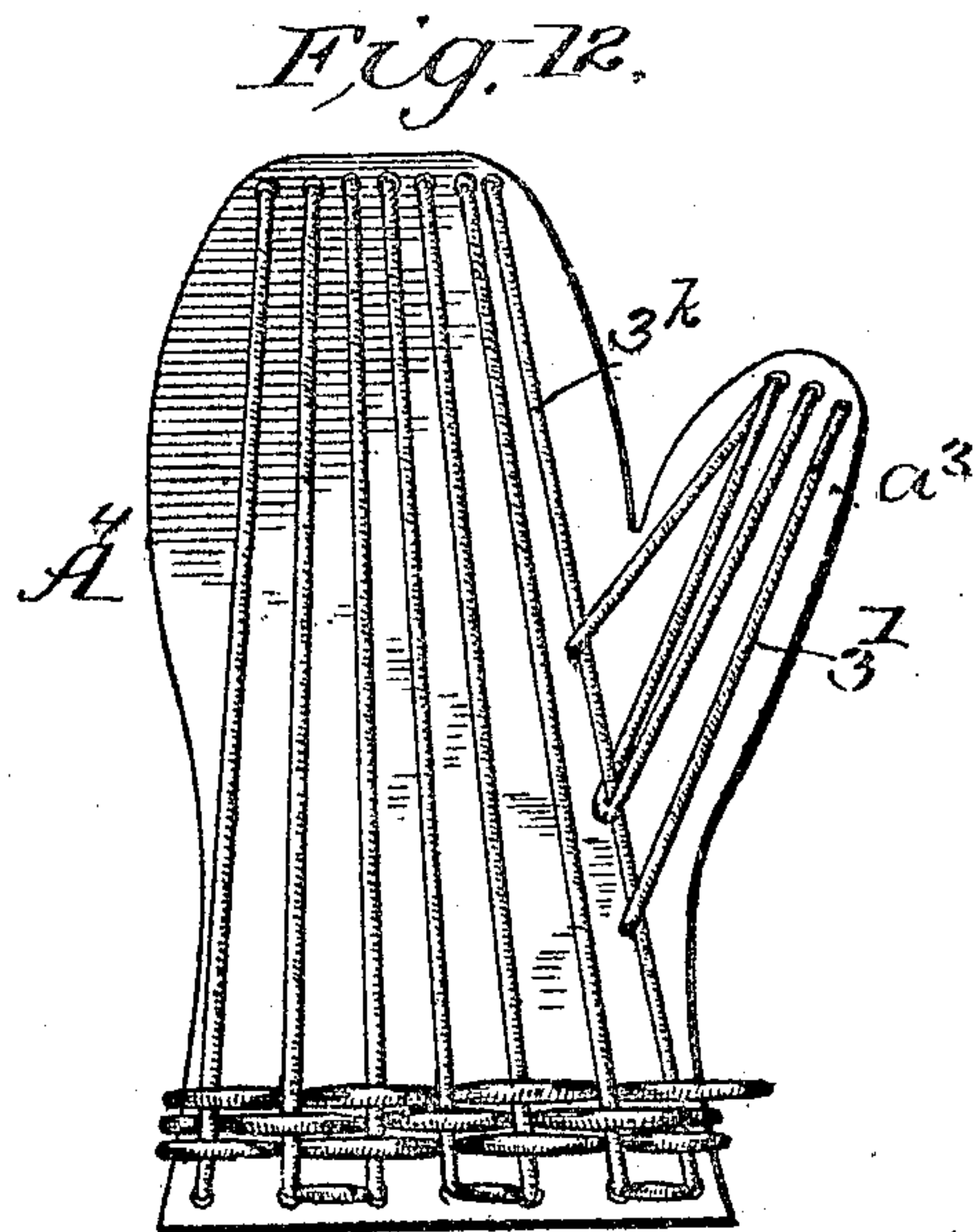
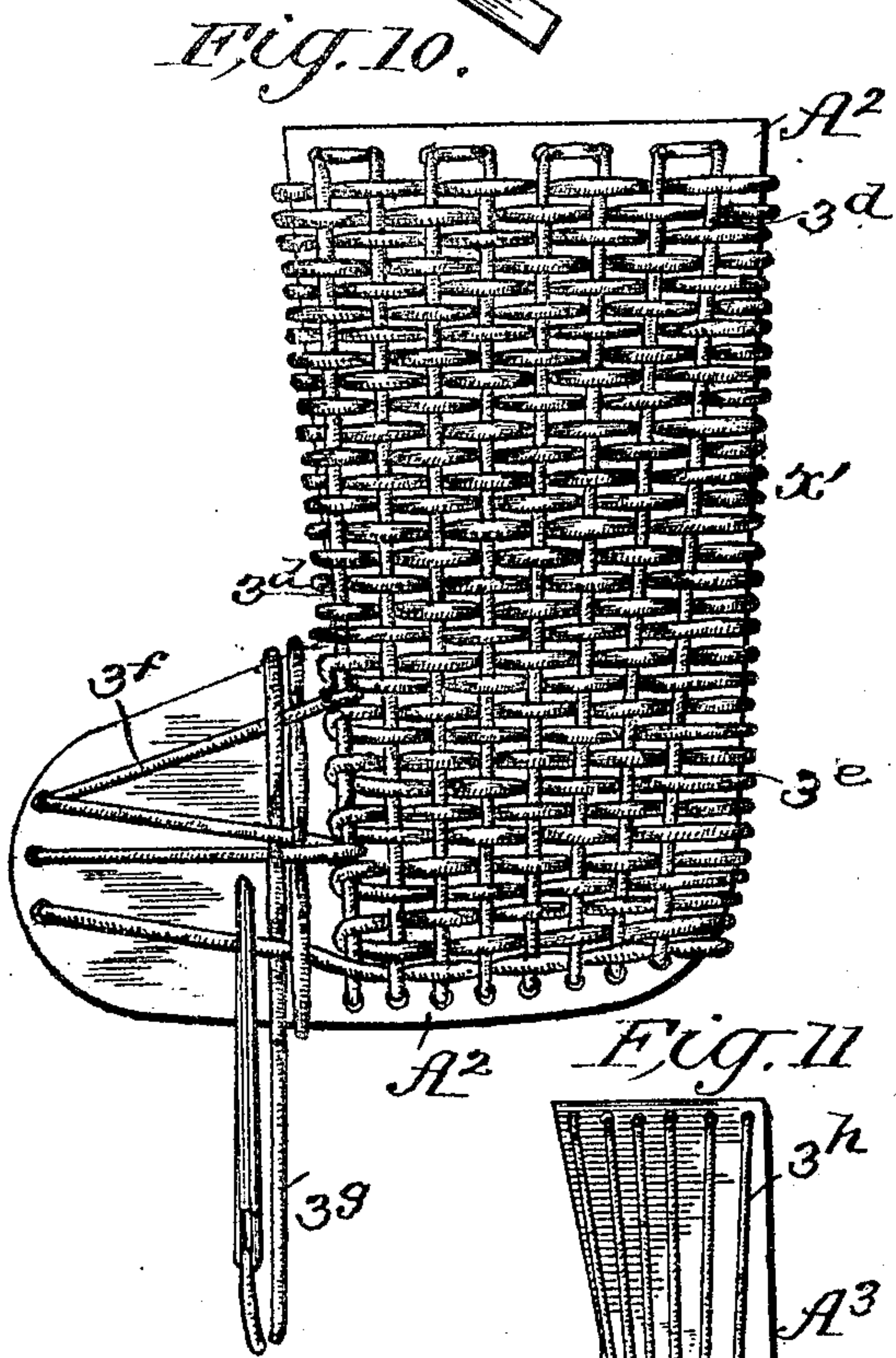
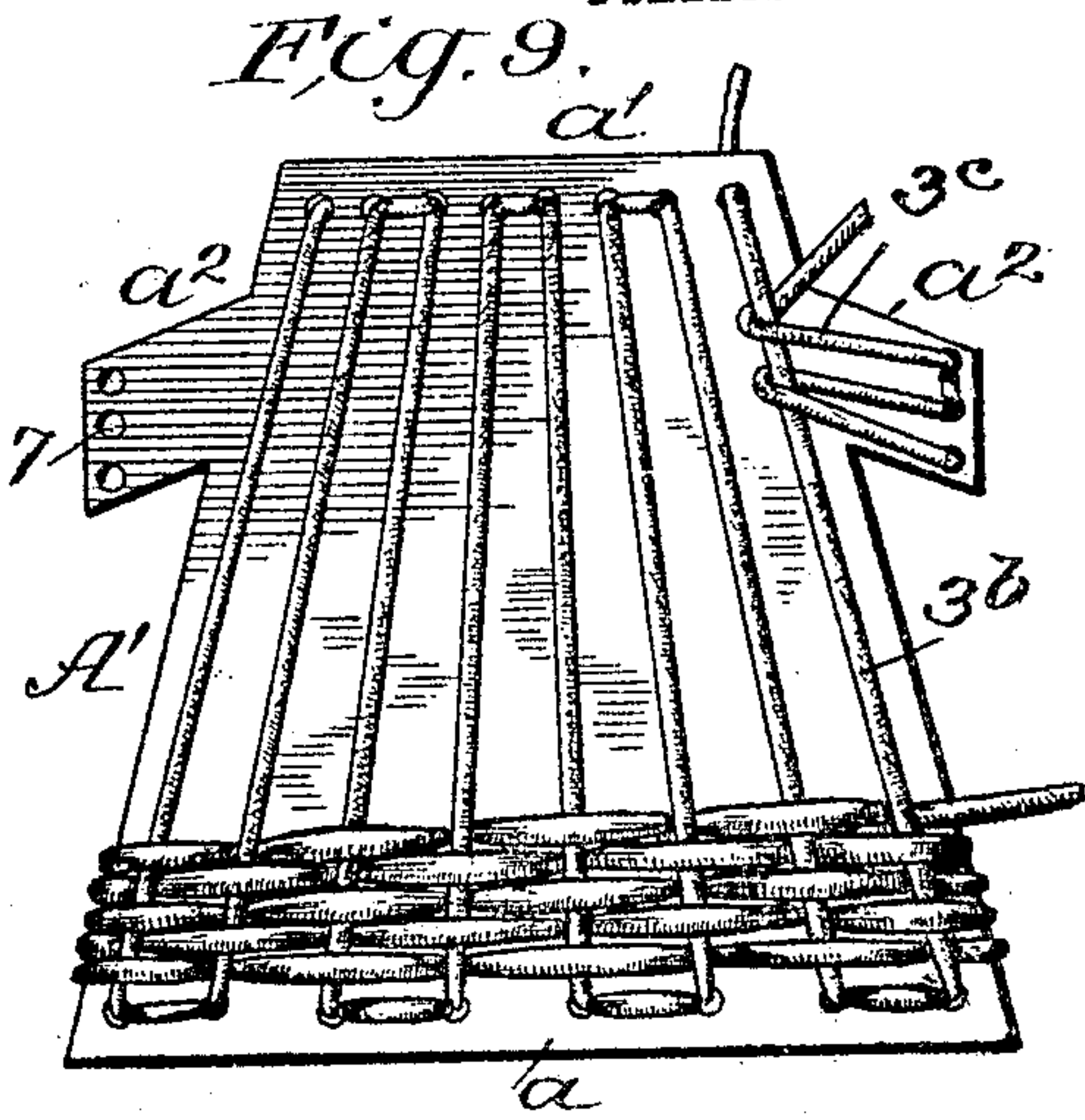
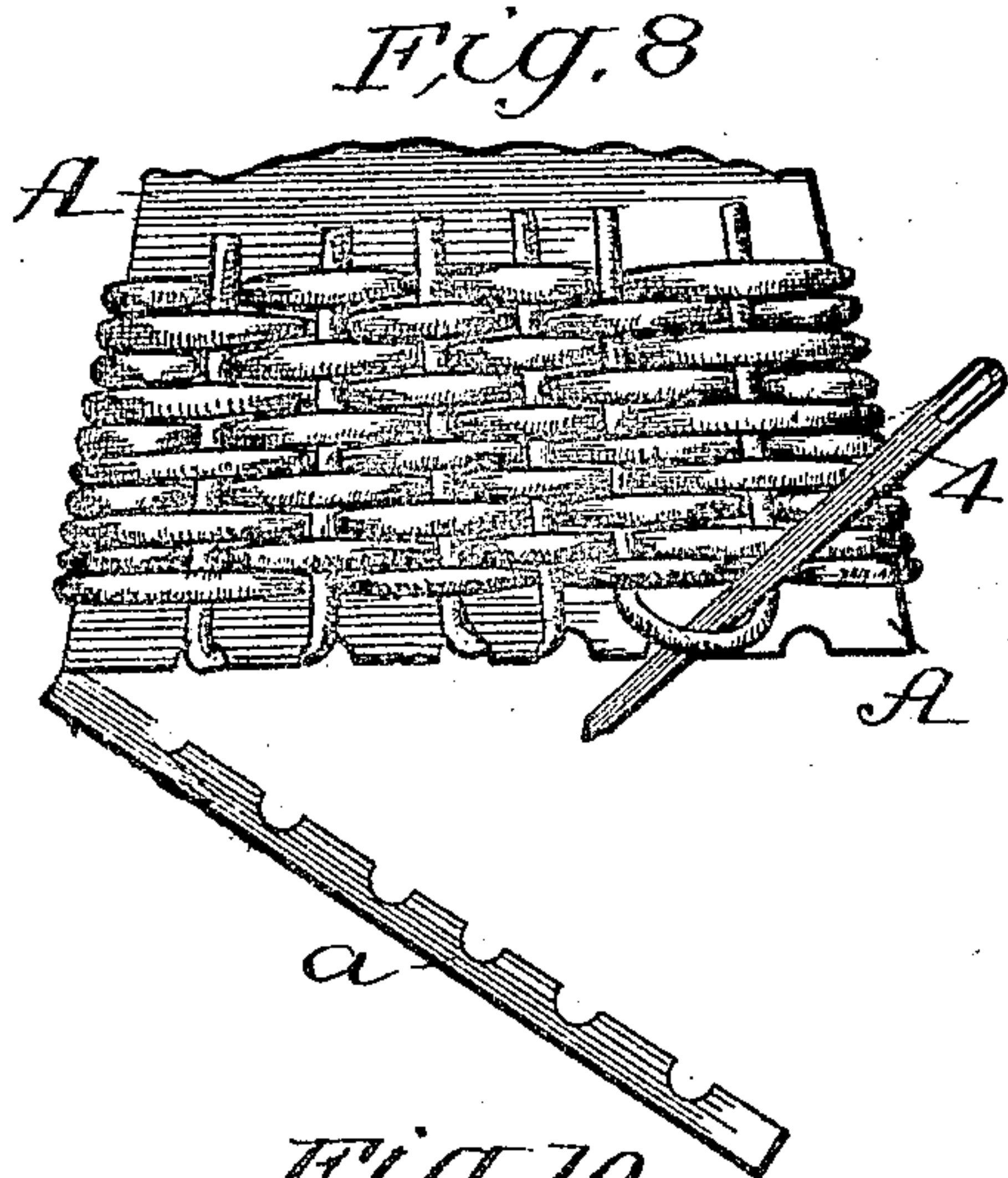


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2 SHEETS—SHEET 2.



WITNESSES:
E. M. Callaghan
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Fig. 15. Mary E. Bartlett,
INVENTOR
BY Munn & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

MARY E. BARTLETT, OF BALTIMORE, MARYLAND, ASSIGNOR TO WILLIAM J. C. DULANY COMPANY, OF BALTIMORE, MARYLAND.

APPARATUS FOR HAND-WEAVING.

No. 798,559.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed March 25, 1905. Serial No. 251,979.

To all whom it may concern:

Be it known that I, MARY E. BARTLETT, a citizen of the United States, residing at Baltimore, in the State of Maryland, have made certain new and useful Improvements in Apparatus for Hand-Weaving, of which the following is a specification.

My invention is an improvement in apparatus employed by children in kindergarten and primary schools for weaving diminutive tubular garments, particularly caps, dresses, and stockings for dolls.

The invention is embodied in the construction and form of the pattern-card or hand-loom proper upon which the weaving is done and by which the definite and required shape of the article of apparel is imparted and also in the manner in which the weaving and detachment and subsequent tying-in of the garment are effected.

The details of the construction of the hand-loom or pattern-card are as hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a hand-loom or pattern-card upon which yarn is represented as woven and a garment partly completed. Fig. 2 is a plan view of the same hand-loom or pattern-card, illustrating another step or stage in carrying out my method. Fig. 3 is a plan view of the same hand-loom or card, the garment—to wit, the body of a toboggan-cap—being shown complete and partly drawn out from the card. Fig. 4 is a perspective view of a diminutive toboggan-cap produced by my improved means. Fig. 5 is a transverse section on the line 5 of Fig. 1. Fig. 6 is a transverse section on the line 6 of Fig. 1. Fig. 7 is a longitudinal section on the line 7 of Fig. 1. Fig. 8 is a plan view of the lower portion of the hand-loom or pattern-card illustrated in Figs. 1, 2, and 3, together with yarn woven thereon, the view as a whole illustrating the operation of freeing the end warp-loops from the card. Fig. 9 is a plan view of a modified form of hand-loom or card suitable for production of a dress or body-garment, the weaving operation being partly completed. Fig. 10 is a plan view of a loom or pattern-card suitable for producing a stocking, the weaving operation being mainly completed. Fig. 11 is a plan view of a modification of the mode of weaving illustrated in Fig. 10. Fig. 12 is a plan view of a hand-loom or

pattern-card suitable for production of a mitten, the weaving being partly finished. Figs. 13, 14, and 15 are detail views illustrating modifications in the construction of the end portions of the hand-loom or pattern-cards.

I will first describe how the weaving is effected in connection with the hand-loom or pattern-card illustrated in Figs. 1 to 8, save Fig. 4, which illustrates a completed article of apparel—to wit, a toboggan-cap. As shown, the hand-loom or card A has the form or contour of a truncated isosceles triangle. In other words, its contour is an irregular quadrilateral having top and bottom edges parallel and the sides equal in length, but converging slightly from bottom to top. This contour is necessary to give a cap or dress or other body-garment the required shape and also to enable the garment to be conveniently removed when the weaving operation has been finished. The loom or card A has a series of holes 1 formed in its lower portion parallel and adjacent to its edge *a* and a similar row 2 parallel and adjacent to its top edge *a'*. These holes are for the purpose of receiving the warp yarn or thread 3, which is applied as follows: The yarn is tied or fastened at one corner of the card A—say the upper right-hand corner, Fig. 1—and then passed down over the face of the card and through the first opening adjacent to the lower right-hand corner and is returned through the next opening, then up to the top and through the second opening and directly back down the other side of the card and into the first opening, then back through the second opening, then again up to the top and through the next opening, and so on. This operation is most conveniently effected by means of a short, blunt, and flat needle 4. The next operation consists in applying the weft 3ⁿ, which is done by passing the needle 4 alternately over and under the series of warp-strands 3 and drawing the thread after it and then around the edge of the card and repeating the operation on the opposite side of the latter, as will be readily understood by reference to Figs. 1 and 2. The garment may be left open at the top and bottom when it is to form a dress-skirt or body-garment. On the other hand, when it is to be closed at the top, as required to produce a toboggan-cap X, as illustrated in Fig. 4, a draw-string 5 (see Figs. 2 and 3) is run through all the top loops

of the warp 3, and by traction on such string the top of the garment is drawn together, as shown in Fig. 4, thus forming a complete toboggan-cap. It will be understood, however, that while the draw-string 5 may be applied as shown in Fig. 2 the next stage of the operation after applying the warp and interweaving the weft therewith consists in removing the garment X from the card or loom. To effect this, it is necessary to cut or otherwise separate the ends a a' of the card from the body thereof, as indicated in Fig. 2, which leaves the warp-loops free and accessible at each end of the card. Then by inserting the needle 4, as indicated in Fig. 8, successively through the warp-loops at the lower end of the card A and drawing them off the tongues or projections that intervene the several holes 1 therein the lower edge of the garment X is entirely free from the card, whereupon, owing to the taper or gradual narrowing of the card from bottom to top, the garment may be conveniently and quickly drawn off from the card. This operation is illustrated in part in Fig. 3, where the garment X is shown partly drawn off, the top edge of the card being indicated by the dotted line 6. The arrangement of the warp and weft will be fully understood by reference to Figs. 5 and 7, and the arrangement of the warp-loops at the lower edge of the card will be understood by reference to Fig. 6.

In Fig. 9 I show a form of hand-loom or pattern-card A' which is the same as the form A, save that it is provided with lateral extensions a^2 , the same being arranged near the top a' of the card and inclining downward at a slight angle. Their ends are provided with holes 7 to receive short warp-threads 3^c . Thus warp-threads 3^b are applied to the card A' in the same manner as the warp 3 is applied to the card A, and the weft is similarly interwoven therewith. Then warp 3^c is applied by passing the same through the end opening 7 of the lateral extensions or arms a^2 and back around the adjacent warp-strands 3^b on each side of the card. The next step consists in interweaving a weft with these short warp-strands 3^c , the same passing around the arms a^2 in the same manner as around the body of the card. This card is particularly adapted for forming a dress, the portions woven upon the extensions a^2 constituting the arms of the dress. In order to remove the garment produced on the card A', it is first necessary to break the arms a^2 along the line of junction with the body of the card, and the latter being preferably made of brittle pasteboard the operation may be easily effected. When this has been done, the garment is slid off the card in the same manner as before described.

In Fig. 10 I illustrate a hand-loom or pattern-card A² suitable for the production of a stocking. The warp is applied to the card in

the same manner as in the instances before described and the weft 3^e is interwoven therewith and passed around the card transversely in the same manner as before until the foot portion of the card is reached, when the weft is passed around one of the warp-strands 3^d which lie nearest the toe of the pattern, and is then doubled back around the heel portion of the pattern and in a similar way is passed around the opposite strand nearest the toe. In other words, in this operation those warp-strands 3^d which lie nearest the toe of the pattern A² take the place of the side edge of the card, the weft being passed around them, as stated. Then warp 3^f is applied to the toe portion of the pattern A² in the same manner as to the lateral arms or extensions a^2 of the loom A', before described, and the weft 3^e is then interwoven therewith and passed around the edges of the toe portion of the pattern. In order to remove the stocking X' thus produced, the toe portion of the pattern is broken from the body of the card A² along a vertical line, and then the top and bottom strips are severed as before described.

In Fig. 11 I illustrate a modification in the production of a stocking in which the pattern-card A³ has no holes or openings along the bottom, the warp 3^h being applied by passing it through holes at the top of the card and through holes at the point of the toe portion, the same being passed intermediately through yarn or thread loops 3^i , extending diagonally from the heel to the instep.

In Fig. 12 I illustrate another form of hand-loom or pattern-card A⁴, suitable for the production of a mitten. In this case the warp 3^k is applied as before and then separate warp $3'$ is applied to the thumb portion a^3 in the same manner as to the lateral arms or extensions a^2 of the pattern A'. In order to remove the mitten produced by weaving upon the loom or pattern A⁴, the thumb projection a^3 is first broken along its line of junction with the body of the card.

While I consider the form of hand-loom or pattern-card which is provided with rows of holes for receiving the warp to be greatly preferable, it is possible to carry out my method by means of other forms of openings—to wit, open slots, such as are illustrated in Figs. 13, 14, and 15 in the respective cards A⁵, A⁶, and A⁷.

It will be seen that an important and I believe distinctive feature of my invention is the construction of the loom or pattern-card in the approximate form of the article of doll's apparel to be produced, so that no care, study, or skill is required by the pupil or weaver save such slight degree thereof as may be involved in the simple operation of weaving, and, further, that the form of the loom or pattern-card enables the garment to be easily removed therefrom.

While thin paper-board is preferred as the material for production of the loom or pattern-card, since it has minimum cheapness and lightness, is flexible, and easily frangible and may be cut with ease, it is manifest other materials may be employed with greater or less success.

What I claim is—

1. A hand-loom for making tubular garments, the same comprising a pattern-card having opposite longitudinal sides conforming generally to the longitudinal contour of the garment to be formed thereon, and the opposite ends of the card having openings for receiving the warp as it is carried around the card.

2. A hand-loom comprising a pattern-card formed of thin flexible board, having substantially the contour of the article to be woven thereon, and provided at each end with a row of holes for receiving and temporarily holding the warp-yarn, as shown and described.

3. A hand-loom comprising a pattern-card, having the form of a truncated isosceles triangle, and provided at its ends with a row of

openings to receive warp-yarn, as shown and described.

4. A hand-loom consisting of a pattern-card for a doll's dress, the body of the same having the general contour of a truncated isosceles triangle and near its upper end narrow lateral extensions at opposite points corresponding to the arms of the dress, the ends of the body and said extensions being provided with openings for reception of warp-yarn, as shown and described.

5. A hand-loom comprising a pattern-card having longitudinal sides inclined or formed on converging lines, and provided at its ends with openings for reception of warp-yarn, as described.

6. A pattern-card or hand-loom for making tubular fabric having a thin flat body which is formed of easily-frangible material and provided with end openings for reception of warp, as shown and described.

MARY E. BARTLETT.

Witnesses:

EDWIN T. DICKERSON,
FRANCIS O. PETERSON.