No. 763,828. PATENTED JUNE 28, 1904.

S. H. WOODBURY.

HAND LOOM.

APPLICATION FILED JUNE 17, 1903.

NO MODEL.

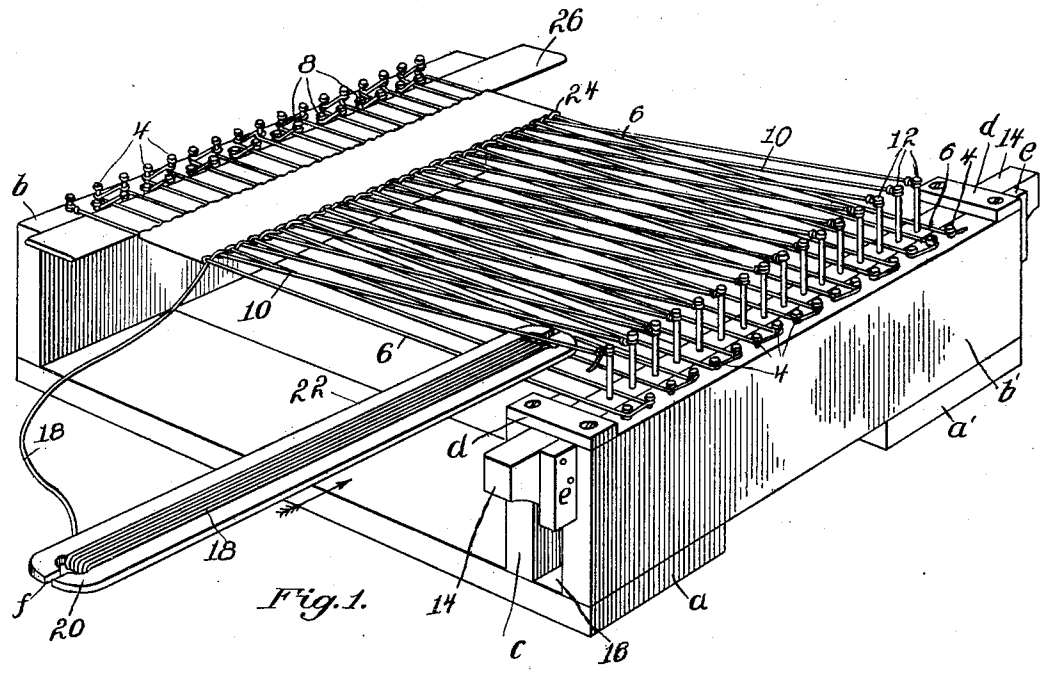
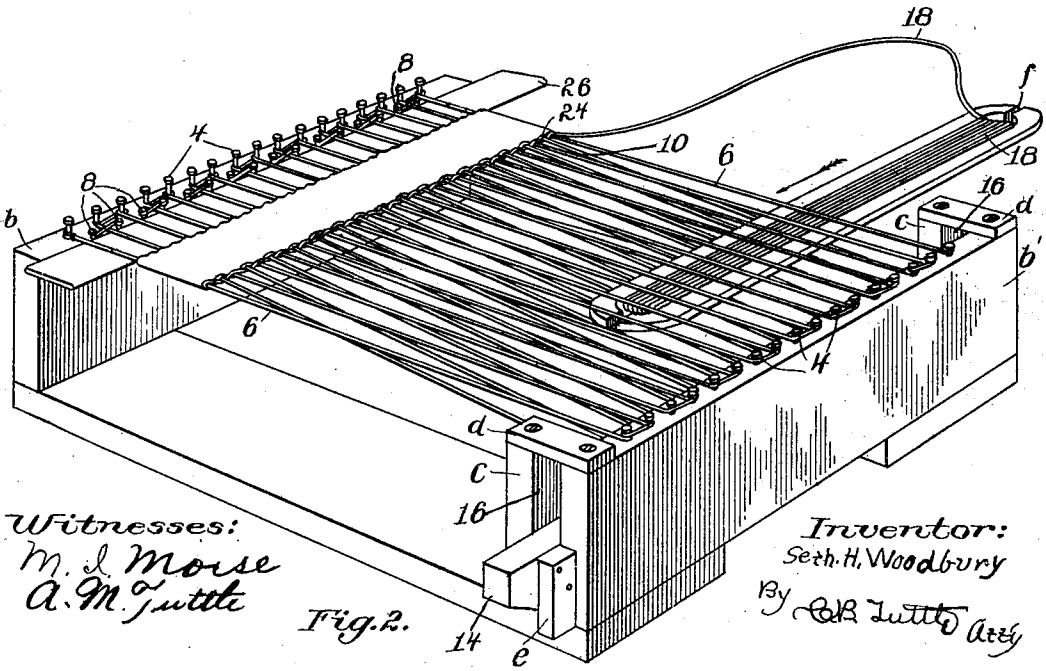


Fig. 1.



Witnesses:
M. L. Morse
A. M. Tuttle

Fig. 2.

Inventor:
Seth H. Woodbury
By C. B. Tuttle Atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 763,828. Patented June 28, 1904.

UNITED STATES PATENT OFFICE.

SETH H. WOODBURY, OF LYNN, MASSACHUSETTS.

HAND-LOOM.

SPECIFICATION forming part of Letters Patent No. 763,828, dated June 28, 1904.

Application filed June 17, 1903. Serial No. 161,862. (No model.)

To all whom it may concern:

Be it known that I, SETH H. WOODBURY, a citizen of the United States of America, and a resident of Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Hand-Looms, of which the following, read in connection with the accompanying drawings, is a specification.

My invention relates to improvements in looms, and more particularly to that class known as "hand-looms," the objects being to provide a neat, simple, and inexpensive device which can be utilized for making belts, collars, or other articles; and to this end my invention consists in certain novel details of construction and combinations of parts, such as will be more fully described hereinafter and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my invention, and Fig. 2 is a similar view showing the loom at a different stage of its operation.

In carrying out my invention I provide a frame of any suitable material comprising, preferably, a base *a a'*, provided with end pieces or uprights *b b'* and a guide member *c*, the upright *b'* and guide *c* inclosing a skeleton way 16, hereinafter described, braces *d d* connecting the upper ends of the upright *b'* and guide *c*.

The upright *b* carries along its upper edge a plurality of series of pins 4 and 8 in staggered relation to one another, while the opposite upright *b'* carries a single row of pins 4.

A warp-strand 6, of any suitable material, is secured to one of the pins 4 on upright *b*, from whence it extends to the first pin 4 on upright *b'*, about which latter pin it is bent and secured, if desired, the strand then passing across to the second pin 4 of the upright *b'*, adjacent the first pin, to which it is secured, and then extends back to the second pin 4 of that series on upright *b*, about which it is secured, and then across to the third pin 4 of the series of upright *b*, thence back to the third pin 4 of the series on upright *b'*, and so on until the pins of series 4 4 on uprights *b b'* are connected to one another in pairs, as shown in Fig. 1.

Received in the way 16 is a member 14, movable up and down in the way 16 and provided with stops *e e*, secured thereto and bearing against the end walls of the upright *b'*, which stops serve as guides in reciprocating the movable member and also prevent endwise or longitudinal movement thereof.

A series of high pins 12 12 are mounted upon the upper edge of this movable member, which pins when the member is in its elevated position project between each two of the strands 6 6 and occupy a staggered relation to the series of pins 4 on upright *b'*. The pins 12 12 are longer than are the pins 4 4 or 8, and a second movable warp-strand 10 is secured to the first pin of the series 12, from whence it passes to the first pin of series 8, across to the second pin of the series 8, then back to the second pin of the series 12. As shown, each two adjacent pins in either series 8 or 12 are connected by means of separate strands 10, which latter are so disposed as to alternate with strands 6.

The weft material 18 is carried on a shuttle 20, which latter consists of a body portion provided with slotted recesses *f f* at either end for receiving the weft material, which is wound longitudinally thereon.

An abutment 26 is removably positioned between the stationary warp-strands 6 and the movable warp-strands 10, adjacent the upright *b*, the abutment adapted to serve as a stop against which the weft material is forced and being of sufficient width to permit the ends of the warp-strands to be tied or otherwise fastened to prevent the raveling of the weft material. The shuttle 20 is provided with a suitable straight edge 22, which is utilized to press the weft-strands or filling material 24 closely together when required in the weaving operation.

In operation the end of the weft material is suitably secured, if desired, to one of the warp-strands. The movable member 14 is manually operated, whereby the pins 12, with their connected warp-strands 10, are moved to one side of the plane of the stationary warp-strands 6—for instance, above them, as shown in Fig. 1—and then after the shuttle with its weft material has been passed or inserted be-

tween the warps 6 and 10 the member is reciprocated to its opposite limit of movement, whereby the movable warp-strands 10 are lowered to a position beneath the stationary warp-strands 6, whereby the shuttle is again passed through the space thus formed, as shown in Fig. 2, and the weft-strands pressed toward the abutment 26, as described. In other words, the reciprocating member 14, carrying the movable strands 10, is adapted to form a shed alternately above and below the stationary strands 6. The cross-bars *d d* serve to limit the movement of the reciprocating member in one direction, and the base *a a'* serves to limit its movement in the opposite direction. When the woven material has been completed, it may be removed by detaching the stationary and movable warp-strands from their respective pins,

It is evident that many changes might be made in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A portable hand-loom comprising a base, uprights secured thereon, a series of pins carried by one of the uprights, a double series of pins carried by the other of said uprights, a reciprocating member, a series of pins carried thereby, and a shutttle member passing between the stationary and movable warp-strands.

2. A portable hand-loom provided with a plurality of stationary uprights, a plurality of rows of supporting means located on one of the uprights, a single series of supporting means carried by the other of said uprights, a reciprocating member, a series of supporting means carried thereby, and a shuttle member.

3. A portable hand-loom comprising a plurality of uprights connected by stationary warp-strands, a reciprocating member, one of the uprights and the reciprocating member connected by a series of movable warp-strands, an abutment positioned between the stationary and movable warp-strands, and a shuttle member passing between the stationary and movable warp-strands.

4. A portable hand-loom provided with a plurality of uprights, a plurality of series of pins located in staggered relation to each other on one of the uprights, a single series of pins located upon the opposite upright, the single series of pins on the one upright and one of the series of pins on the opposite upright connected by means of stationary warp-strands, a reciprocating member, a series of pins carried thereby and connected with the remaining series of pins on the upright by means of movable warp-strands.

5. A hand-loom comprising a plurality of uprights, a double series of pins arranged in staggered relation to one another carried by one of the uprights, a single row of pins carried by the other upright, a reciprocating member, a row of pins carried thereby, the single row of pins carried by one of the uprights and a single row of the double series of pins carried by the other upright, connected by means of stationary warp-strands extending across and connecting the adjacent pins of each row in pairs, the remaining row of the double series of pins and the pins carried by the movable member connected by movable warp-strands, the movable strands connecting the row of pins on the upright in pairs, the ends of the warp-strands secured to adjacent pins on the movable member, and a shuttle adapted to pass between the movable and stationary strands.

6. A portable hand-loom comprising a base, a plurality of uprights secured thereto and connected with each other by a series of stationary warp-strands, a guide member, forming a way between one of the uprights and itself, a reciprocating member located in the way and connected with the opposite upright by movable warp-strands, and a shuttle passing between the stationary and movable warp-strands.

7. A portable hand-loom comprising a base, a plurality of uprights secured thereto and connected with each other by means of stationary warp-strands, a guide member forming a way between itself and one of the uprights, a reciprocating member received in the way and connected with one of the uprights by means of movable warp-strands, cross-bars connecting the guide member and upright, guides carried by the reciprocating member and a shuttle passing between the movable and stationary warp-strands.

Signed by me this 29th day of January, 1903.

SETH H. WOODBURY.

Witnesses:
C. B. TUTTLE,
A. M. TUTTLE.