A. Williamson.

Narrow Ware.

No. 28,135. Patented May 1, 1860.

Fig. 1

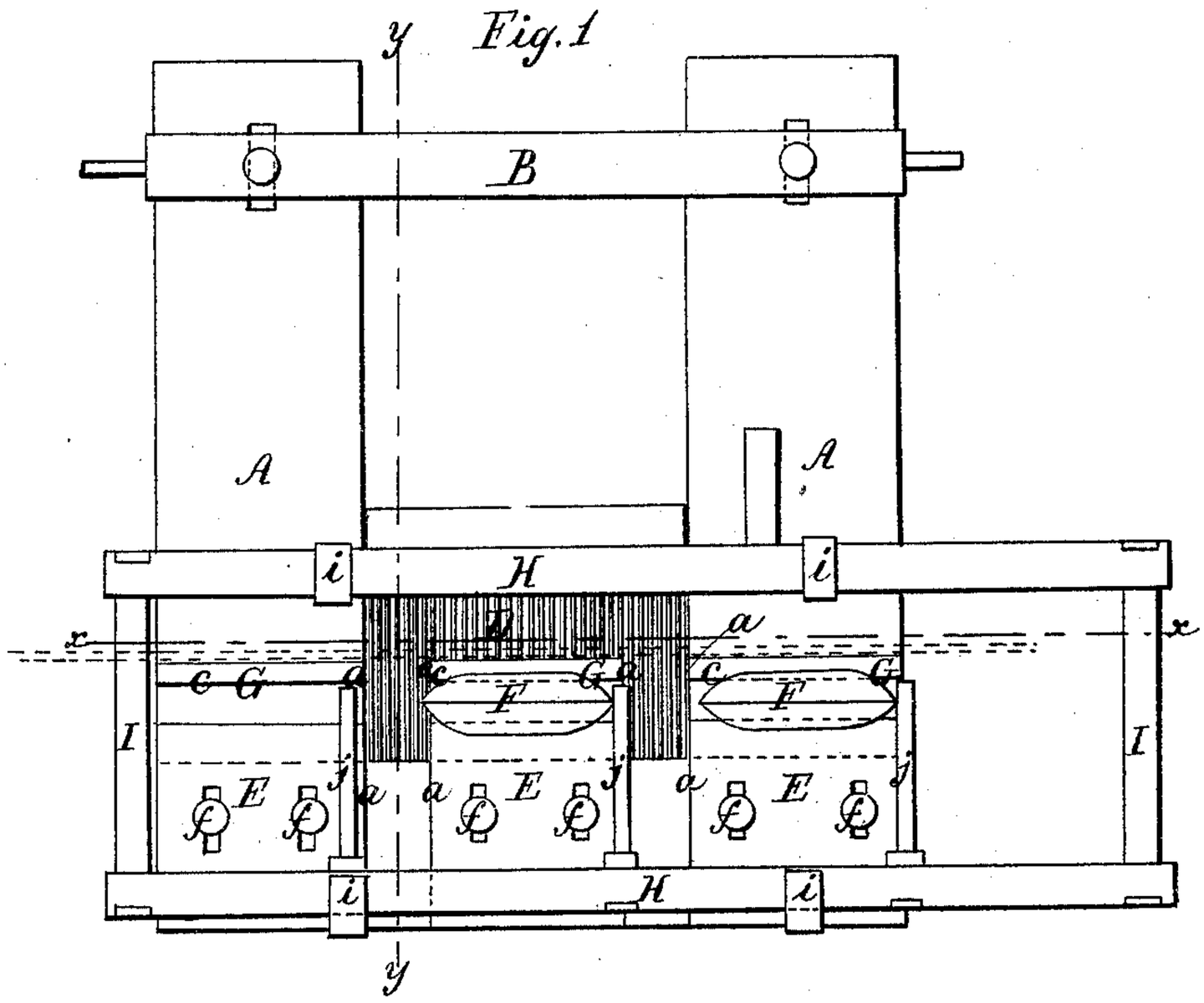


Fig. 2

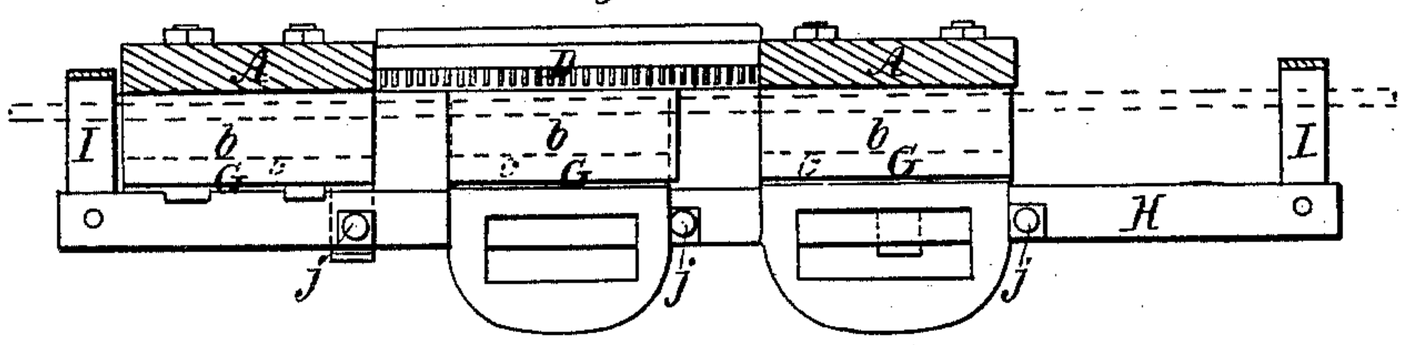


Fig. 3

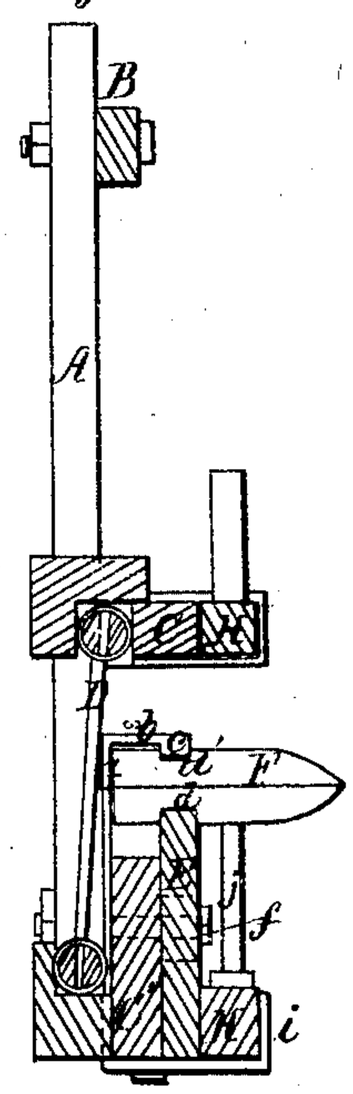


Fig. 4

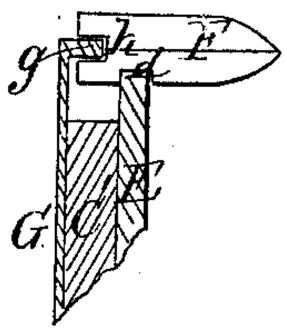
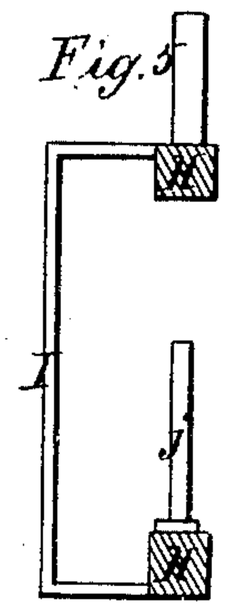


Fig. 5



Witnesses,
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W Hauff

Inventor:
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UNITED STATES PATENT OFFICE.

AARON WILLIAMSON, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND THOMAS FRANCE, OF SAME PLACE; BENJAMIN HARDY ADMINISTRATOR OF SAID AARON WILLIAMSON, DECEASED.

NARROW-WARE LOOM.

Specification of Letters Patent No. 28,135, dated May 1, 1860.

To all whom it may concern:

Be it known that I, AARON WILLIAMSON, of the city, county, and State of New York, have invented a new and useful Improvement in Looms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a front view of the lay, shuttle driver and shuttles of a hand loom with my improvements. Fig. 2, is a horizontal section of the same in the plane indicated by the line *x*, *x*, in Fig. 1. Fig. 3, is a transverse vertical section of the same in the plane indicated by the line *y*, *y*, Fig. 1. Fig. 4, is a transverse section of the raceway exhibiting a modification of my invention. Fig. 5, is a transverse vertical section of the shuttle-driver detached from the loom.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to that description of loom known as the "narrow-ware" loom, employed in weaving tapes and other narrow fabrics. In these looms it is well known that several webs are woven at the same time.

The object of my invention is to weave articles or fabrics composed of a series of narrow webs united together at intervals by a filling running through the whole series, such as horse-nets and skeleton skirts, and to this end the nature of my improvement consists in a certain construction of the raceway of such looms to provide for the introduction of a filling which will extend through the whole or any portion of the series of narrow webs.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

A, A, are the swords, B, is the rocker, and C, C′, the longitudinal pieces of the lay. D, is the reed fitted to the lay in the usual manner.

E, E, is the board which constitutes the lower part of the raceway, having a number of openings *a*, *a*, corresponding with the number of webs to be woven, to permit the webs to pass through. This board is precisely like the lower board of the raceway of the tape or narrow-ware looms heretofore in common use, and secured in the same way by bolts *f*, *f*, to the lower longitudinal piece *c*′, of the lay; and its upper edge fits in the usual manner to a groove *d*, in the bottom of each of the shuttles F. The corresponding upper board which has been hitherto commonly employed to constitute the upper portion of the raceway and which covers up the front of the reed except where there are openings like those *a*, *a*, in the lower board for the webs to pass through, and thus prevents the introduction of a filling extending through or across the whole series of narrow webs, is dispensed with, and in place thereof I use a metal plate G, G, either in the form represented in Figs. 1, 2, 3, or that represented in Fig. 4. I will first describe that represented in Figs. 1, 2 and 3. This plate is secured to the lower longitudinal piece C′, of the lay at the back of the board E, E, and its upper part is bent forward at a right angle as shown at *b*, *b*, to extend over the tops of the shuttles F, F, and a tongue *c*, is formed along the under side of the front edge to constitute an upper guide, to enter the groove *d*′, commonly provided in the top of each shuttle. This plate it will be seen by reference to Fig. 3, leaves an unobstructed opening clear across the loom, in front of the reed to permit the introduction of the continuous fillings which are to connect the narrow webs, to be introduced at the requisite distances apart, as the weaving proceeds, and the part *b*, serves as a resting place for the said filling as is illustrated in the said figure by the representation of the filling in red outline. The plate G, G, shown in Fig. 4, is applied in the same manner at the back of the board E, E, but instead of being extended high enough to reach over the tops of the shuttles F, F, it is only extended to about the middle of the backs of the shuttles and provided with a tongue *g*, extending along its front to enter a groove *h*, in the back of the shuttle. This form of the plate leaves a similar unobstructed opening above the shuttles and in front of the reed, clear across the loom, to that left by the first described plate, and is in all respects equivalent thereto so far as it constitutes an upper guide for the shuttles, but it is not so well adapted for application to looms already

constructed with a top board, as it necessitates the alteration of the shuttles which the first described plate does not.

The shuttle driver employed in connection with this improved construction of the raceway is substantially like that employed in other narrow ware looms in all but one particular. It consists of a frame H, H, I, I, sliding longitudinally in guides *i*, *i*, attached to the front of the lay and furnished with driving pins *j*, *j*, standing up between the shuttles. The ends I, I, of this frame are thrown back from the upper and lower parts H, H, in the manner represented in Figs. 2 and 5, as far as the face of the reed so as to prevent them offering any obstruction to the continuous fillings which are thus enabled to be placed in the loom in front of the said portions I, I.

In applying this invention, the warp for each tape or narrow web should be divided into two equal parts, each requiring a complete harness, and the harness is so mounted that each half of the warp for every tape or web can be woven separately to weave the tapes or narrow webs single between those parts. At starting, the whole of the harness is set in operation at once, to weave the tapes or narrow webs single for a certain length, then one half of each warp is woven to a length equal to the width or semi-diameter of the continuous filling, and then the other half of each in the same manner. The continuous connecting filling is then laid in between them in front of the reed by hand or by any convenient means and the whole of the harness set in operation. The first shot of filling in the several tapes or narrow webs then secures the continuous connecting filling, and the weaving of single narrow tapes or webs then proceeds with for the length desired between the continuous connecting filling, when one half the harness is thrown out of operation, and first one half and then the other half operated separately to make the narrow webs double for a sufficient length to receive and contain another continuous connecting filling which is inserted as before, and then the weaving of the whole of each of the several warps is again proceeded with till the distance for putting in another continuous connecting filling is arrived at, and so on for any length.

If desired, the shuttle race may be completely inverted, that is to say, the plate G, be made to take the place of the lower board heretofore employed instead of that of the upper one, and the upper board retained in its usual place.

What I claim as my invention and desire to secure by Letters Patent, is—

Constructing one portion of the raceway of a tongued plate G, applied substantially as described, to constitute a guide which leaves a continuous unobstructed opening in front of the reed, clear across the loom, substantially as and for the purpose herein described.

AARON WILLIAMSON.

Witnesses:

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