

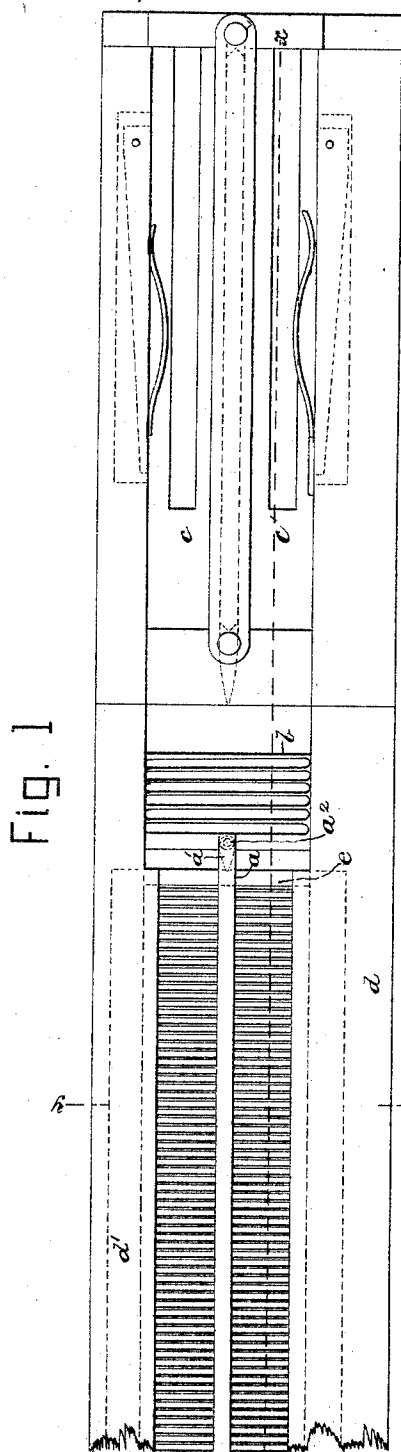
(No Model.)

A. D. EMERY.

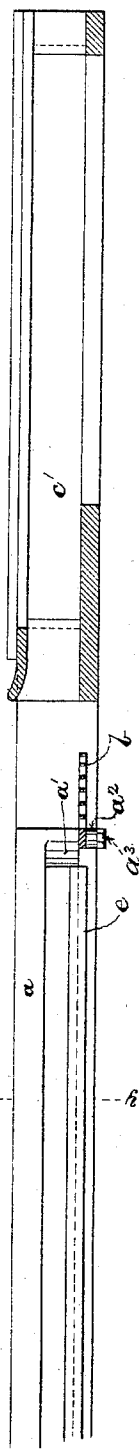
RACE RAIL FOR DOUBLE SHED VERTICAL LOOMS.

No. 503,465.

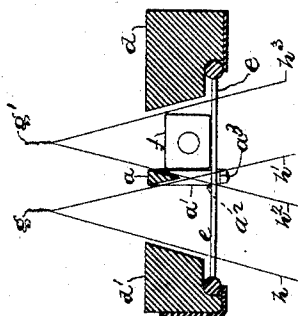
Patented Aug. 15, 1893.



19



29.



29

Witnesses
Walter J. Emery.
J. E. Burns.

by

Inventor
Abram H. Emery
Edw. E. Twenty Att'y.

UNITED STATES PATENT OFFICE.

ABRAM D. EMERY, OF TAUNTON, MASSACHUSETTS.

RACE-RAIL FOR DOUBLE-SHED VERTICAL LOOMS.

SPECIFICATION forming part of Letters Patent No. 503,465, dated August 15, 1893.

Application filed September 18, 1890. Renewed November 10, 1891. Again renewed December 1, 1892. Serial No. 453,692.
(No model.)

To all whom it may concern:

Be it known that I, ABRAM D. EMERY, of Taunton, Massachusetts, have invented a certain Improvement in Race-Rails for Double-Shed Vertical Looms, of which the following is a specification.

This improvement consists of a central race-rail which forms the part of a lay of a double-shed vertical loom for weaving two fabrics side by side through a single reed, and which is elevated a sufficient distance above the reed to permit the adjacent groups of warp threads, when the sheds are formed, to cross each other between the reed and the center race rail, thus permitting the use of a comparatively narrow reed. The said center race-rail by occupying a position midway between the two outsides of the lay, and hence between the two sheds in suitable proximity to the reed, constitutes a common guide or rail for the adjacent sides of the two race-ways through which the two shuttles are driven.

The accompanying drawings representing the central race-rail and so much of the adjacent parts of the loom mechanism as suffices to illustrate the construction and mode of operation of the improvement, are as follows, viz:

Figure 1, is a top view of one half of the lay exhibiting one half of the center race-rail and of the reed, the other half of the structure being a counterpart of that shown. Fig. 2, is a longitudinal section taken through the plane indicated by the dotted line $x x$ on Fig. 1. Fig. 3, is a transverse section taken through the plane indicated by the dotted line $y y$ on Fig. 1, and the similar dotted line on Fig. 2.

The drawings show the center guide or race-rail, a , secured in position in the lay by being affixed to or formed in one piece with the vertical pillar a' , provided at the bottom with the stud a^2 , which projects downward through an aperture in the weft-fork grate b , to which it is fastened by the nut a^3 . The lay is provided with the two shuttle boxes, $c c'$, and is constructed with the rear bar, d , and the front bar, d' . The two pieces of fabric, $g g'$, are woven side by side. The sheddings for forming these fabrics are composed of the groups of threads $h h'$, for forming the fabric g , and

the groups of threads, $h^2 h^3$, for forming the fabric g' . The threads for forming these sheddings are fed through a single reed e , on the face of which the shuttles travel through the parallel paths afforded by the two sheddings.

In Fig. 3 one of the shuttles, f , is shown in the position which it acquires when passing through the shedding for forming the fabric, g' ; the other shuttle acquires a similar position in its passage through the other shedding. It will be seen that the shuttle f , is prevented from departing from its proper path on one side by the center rail a , and on the other side by the inclined face of the rear bar of the lay-beam, d ; the other shuttle is similarly prevented from departing from its proper path by the opposed sides of the center rail, a , and the front bar, d' , of the lay. The center race-rail is constructed preferably with downwardly converging sides to conform to the shape of the shedding and it is represented in the position which it occupies when the lay-beam is in its lowest position. The race-rail does not chafe the threads because it does not ordinarily touch them. If, however, either of the shuttles should travel otherwise than in a straight line it will strike against the race rail and be thereby guided into its proper position, so that it will properly enter the box toward which it is traveling.

In the drawings the race rail, a , is represented as secured directly to the weft-fork grate, b , which is a convenient place to secure it, but it will of course be understood that the center race-rail may be secured to the lay in any other way desired, so long as it is made to occupy its required position between the two bars, $d d'$, at the proper height above the reed to give its inclined sides a slight clearance from the adjacent groups of warp-threads, when those threads occupy the positions in which they are represented in Fig. 3—which shows them in the positions which they acquire at the conclusion of each of the double-shed forming operations. It will be seen that the pillar a' , is rounded or chamfered on the side toward the reed so that it may not present an abrupt obstruction to the movement of the shuttle in case the shuttle should be deflected

out of its proper path; but will, on the contrary, serve to smoothly guide the shuttle back to its proper path.

What is claimed as the invention is—

5 1. In combination with the front and rear bars of the lay of a double shed vertical loom, a center race rail elevated a prescribed distance above the reed, substantially as and for the purposes set forth.

10 2. In combination with the lay of a double shed vertical loom, the center race rail, hav-

ing downwardly converging sides and elevated a prescribed distance above the reed, substantially as and for the purposes set forth.

3. In combination with the lay of a double shed vertical loom, a center race rail elevated a prescribed distance above the reed and fastened to and forming a part of said lay.

ABRAM D. EMERY.

Witnesses:

WALTER T. EMERY,

H. J. FULLER.