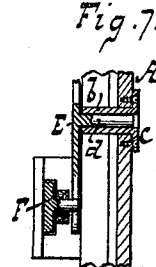
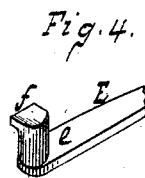
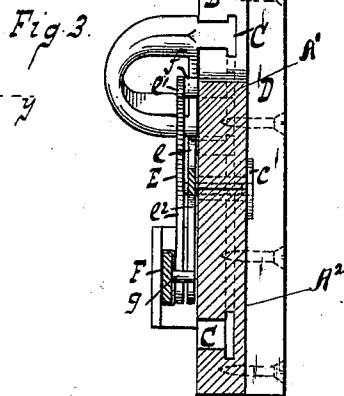
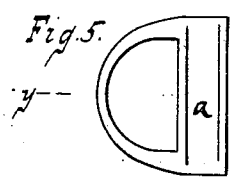
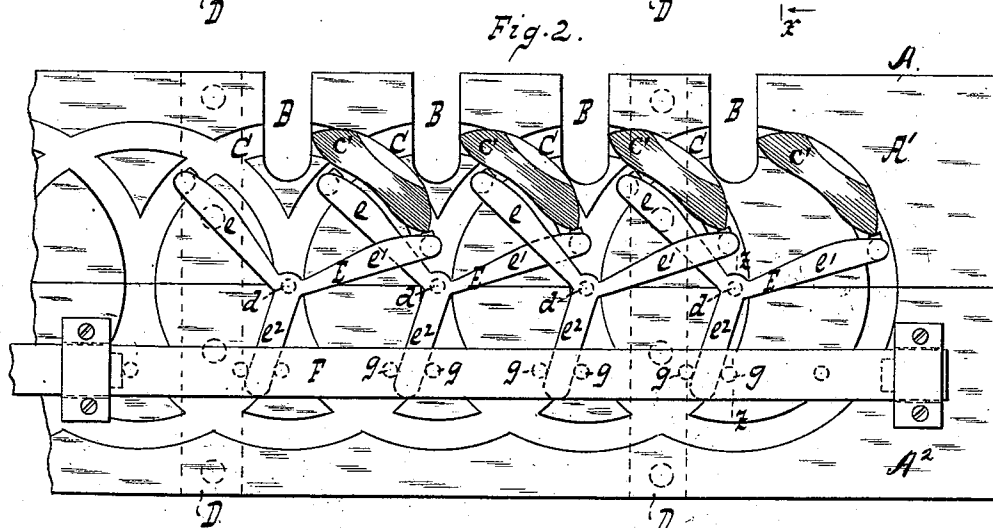
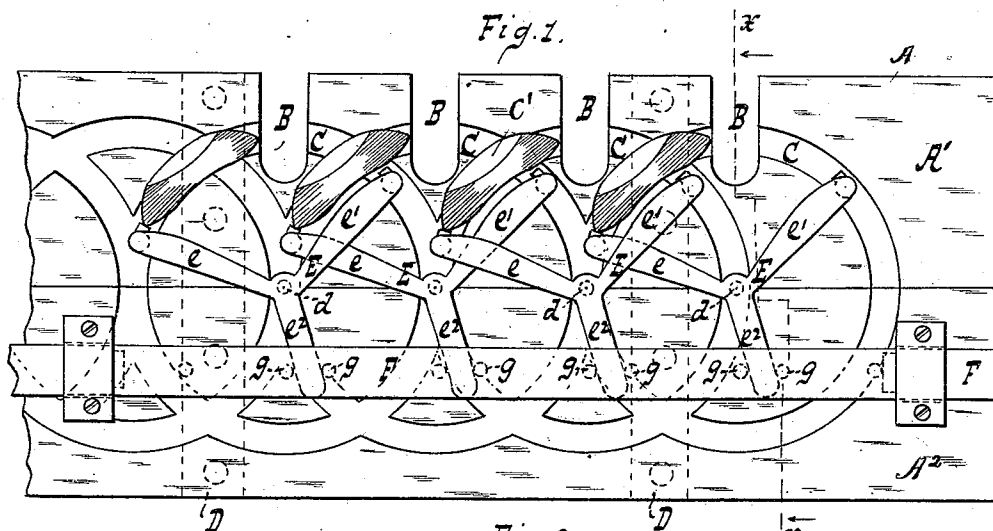


(No Model.)

T. EHRENBURG.
LOOM BATTEN.

No. 512,171.

Patented Jan. 2, 1894.



WITNESSES:
William Miller
Chas. C. Loewgen.

INVENTOR:
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BY
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his ATTORNEYS.

UNITED STATES PATENT OFFICE.

THEODOR EHRENBURG, OF NEW YORK, N. Y.

LOOM-BATTEN.

SPECIFICATION forming part of Letters Patent No. 512,171, dated January 2, 1894.

Application filed July 21, 1893. Serial No. 481,091. (No model.)

To all whom it may concern:

Be it known that I, THEODOR EHRENBURG, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Loom-Battens, of which the following is a specification.

This invention relates to certain improvements in loom battens as pointed out in the following specification and claim and illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the batten showing the shuttles on one side of the warp-openings. Fig. 2 is a similar view showing the shuttles on the opposite side of the warp-openings. Fig. 3 is a transverse vertical section in the plane xx Fig. 1. Fig. 4 is a perspective view of a portion of one of the shuttle drivers. Fig. 5 is a plan view of a shuttle. Fig. 6 is a transverse vertical section in the plane yy Fig. 5. Fig. 7 is a transverse vertical section in the plane zz Fig. 2.

In the drawings the letter A designates the batten which is provided with a series of warp-openings B and a corresponding series of curved shuttle-races C. In the example shown in the drawings these shuttle-races are made as complete circles, but I do not confine myself thereto.

The shuttles C' are provided with grooves a (Figs. 5 and 6) and the shuttle-races are T shaped in their transverse sections or end views (see Fig. 3) so that they retain the shuttles in the required position.

In order to be able to introduce the shuttles into the shuttle-races, the batten is constructed of two parts A', A² which after the shuttles have been introduced are united by strips D secured to the back of the batten as shown in Fig. 3 and also in dotted lines in Fig. 2.

The shuttle drivers E are provided each with three arms e e' e^2 which radiate from a common center and they are mounted each on a stud b which extends from a plate c secured to the back of the batten (Fig. 3) and which is tubular to engage a pin d secured in and projecting from the center of the shuttle drivers (see Fig. 7). When the shuttles are in the position shown in Fig. 1 they bear upon the ends of the arms e of the shuttle drivers and when they are in the position shown in

Fig. 2 they bear against the ends of the arms e' of the shuttle drivers and these ends are provided with lugs f (Fig. 4) which extend into the shuttle races and form the supports for the shuttles.

F is a slide which serves to impart motion to the shuttle drivers and which is provided with pins g to engage the arms e^2 of the shuttle drivers. This slide is thrown backward and forward by a cam and lever such as are usually employed for imparting motion to the shuttle drivers in looms.

In practical operation the shuttles are thrown by what may be termed percussive blows or sudden blows, much the same as in an ordinary hand loom, and therefore the shuttles will never interfere with the correct movement of the arms e , e' of the levers E. If the slide F is moved from the position shown in Fig. 1 to that shown in Fig. 2, all the shuttles are suddenly thrown from the former to the latter position, and vice-versa, and consequently neither of the shuttles will interfere with the movement of either of the remaining shuttles. At the same time it will be seen that each shuttle is thrown back and forth by one and the same shuttle driver, each of the shuttle drivers being provided with three arms, two of which serve to act upon the shuttle, while the third is acted upon by the shuttle-driver actuating-slide F.

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

A batten for a loom provided with a curved shuttle race extending across the warp opening, a three-armed shuttle driver mounted on a stud at the center from which the curved shuttle race is struck, and a slide engaging one arm of the shuttle-driver, the remaining arms of said shuttle driver being provided with lugs extending into the shuttle race, one of said lugs serving to throw the shuttle one direction and the other to throw the shuttle in the opposite direction, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THEODOR EHRENBURG.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.