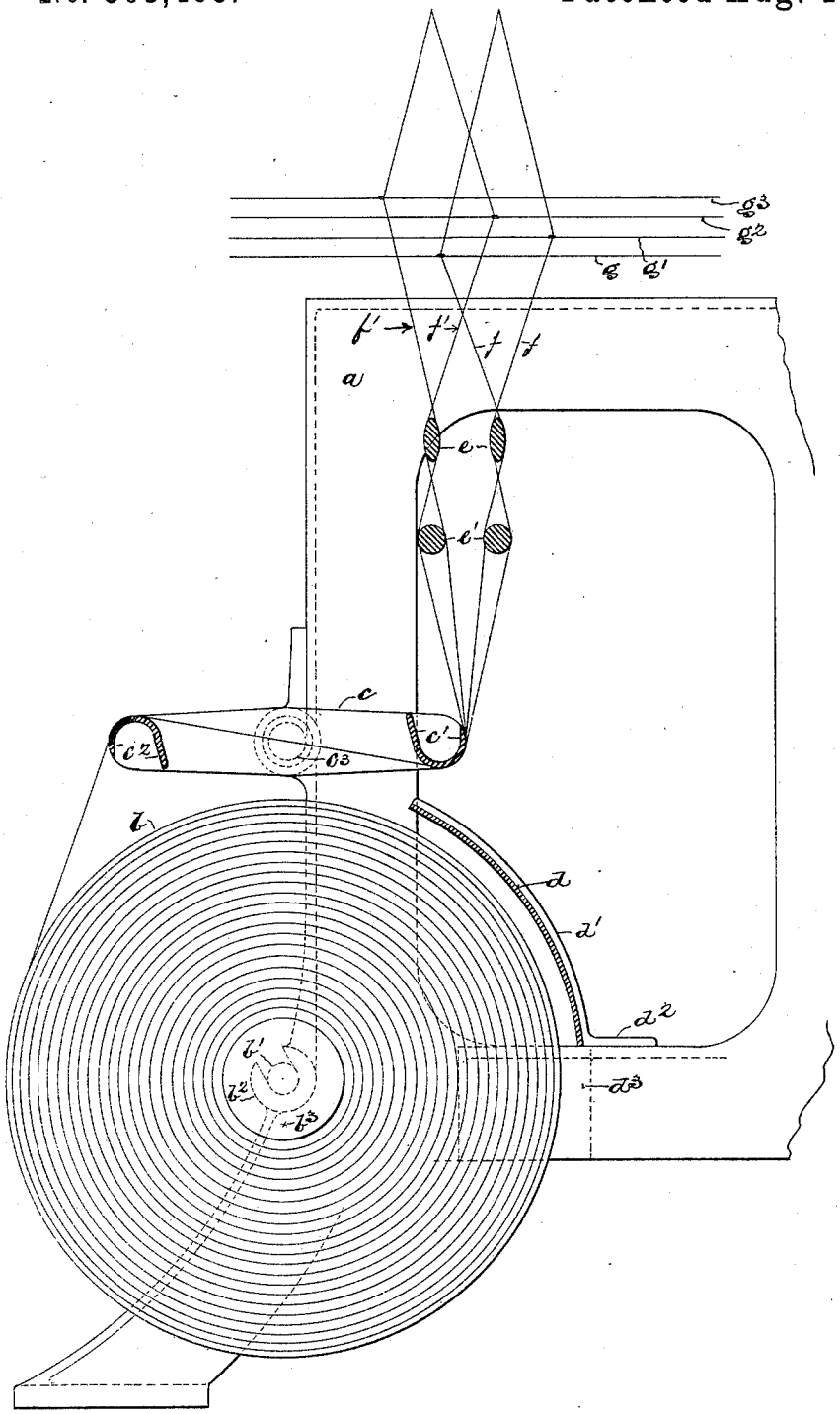
(No Model.)

A. D. EMERY.

FLUFF CATCHER FOR VERTICAL LOOMS.

No. 503,463. Patented Aug. 15, 1893.



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UNITED STATES PATENT OFFICE.

ABRAM D. EMERY, OF TAUNTON, MASSACHUSETTS.

FLUFF-CATCHER FOR VERTICAL LOOMS.

SPECIFICATION forming part of Letters Patent No. 503,463, dated August 15, 1893.

Application filed September 18, 1890. Renewed October 2, 1891. Again renewed December 1, 1892. Serial No. 453,690.
(No model.)

To all whom it may concern:

Be it known that I, ABRAM D. EMERY, of Taunton, Massachusetts, have invented certain Improvements in Fluff-Catchers for Vertical Looms, of which the following is a specification.

These improvements are of especial usefulness in looms in which the warp roll is situated beneath the harnesses, and in which the fluffing resulting from the operation of the loom is liable to fall upon and be entangled with the warp threads.

The present improvements prevent any accumulation of fluffing either upon the warp roll or upon the threads of the warp, as they are led from the warp roll, or upon any part of the loom structure where it would interfere with the operation of the loom.

The invention consists in the employment of a round bottomed trough as the inner bar of the whip roller for catching the fluffing which falls down the front side of the sheddings, and of a curved shield fastened to the frame of the loom, which shield extends partly over the warp roll and is in position to catch the fluffing falling from the rear side of the sheddings.

The accompanying drawing is an elevation partly in section, exhibiting the fluff catchers, and so much of the loom structure as is necessary to illustrate the mode of construction and operation of the improvements. The drawing represents a portion, *a*, of the side frame of the loom, and the roll of warp, *b*. At each end, the axle, b', of the warp roll is seated in a journal, b^2, affixed to the side frame, *a*. The warp threads are wound around the usual core, b^3. A balanced whip-roller, *c*, having its inner bar, c', in the form of a round bottomed trough open at the top, and its outer bar, c^2, in the form of an inverted round bottomed trough, is at each end pivotally mounted in a journal, c^3. A curved shield, *d*, which may be made of sheet metal or any other suitable material, is at each end fastened to a similarly curved arm, d', provided with the foot, d^2, by means of which it is secured to a part, d^3, of the loom frame. The shield, *d*, extends upward over the warp roll and into the space between the warp roll and the inner bar, c', of the whip-roller for a sufficient distance to catch all the fluffing falling from the rear side of the sheddings. The lease rods, *e*, e', of the loom, are represented in section.

The drawing represents the improvements as applied to a double-shed, vertical loom.

The warp threads, *f*. *f*, and f', f', are led upward from the warp roll, *b*, over the round bottom of the inverted trough, c^2, which constitutes the outer bar of the whip-roller, and under the round bottom of the trough, c', which constitutes the inner bar of the whip roller, thence upward across the lease rods to the harnesses, *g*, g', g^2, and g^3, by the movements of which the sheddings are formed.

In weaving with tender warps, considerable fluffing is inevitably produced. Although any fluffing falling upon the surface of the warp roll may fall therefrom by gravity, as the roll revolves, it will nevertheless be found desirable to employ the shield, *d*, which will effectually intercept any fluffing which would otherwise fall upon the warp roll. The greater difficulty ensues when the fluffing is permitted to fall upon the top of the warp threads which extend across the whip-roller, because such fluffing will be carried along and pressed into the warp as it passes under the inner bar, c', of the whip-roller, hence the employment of the trough, c', as a fluff catcher for catching the fluff from the front of the sheddings is of the greatest importance.

It will be seen that the bars of the whip-roller have the same shape and size in cross section, and are hence of the same weight. Their longitudinally corrugated shape adds stiffness to the whip-roller. When the troughs, c', c^2, are made of the same shape, one with its mouth upward, the other with its mouth downward, of course the whip-roller may be reversed in position and either trough used as a fluff catcher, but this is not essential because the front bar of the whip-roller is obviously needed only as a guide for the warp threads and need not therefore have the trough-like shape in cross section.

What is claimed as the invention is—

1. The combination in a vertical loom of a warp core for carrying a toll of warp threads,

a system of harnesses for forming the sheddings, a system of lease rods beneath the harnesses, and a whip-roller, the inner bar of which is in the shape of a round bottomed trough open at the top, for guiding the warp threads to the lease rods, and for catching the fluffing which may fall from the front side of the sheddings.

2. In a loom, the combination of a whip roller, a warp roll arranged beneath said whip roller and a shield fastened to the frame of the loom and extending partly over said warp roll into the space between said warp roll and the inner bar of said whip roller, as and for the purpose set forth.

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