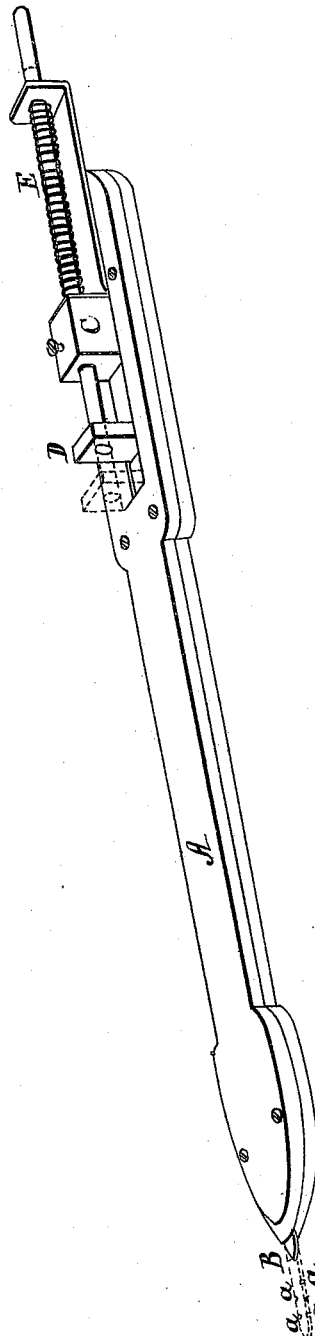


J. Blanchard.
Hair Cloth.

N^o 46,442.

Patented Feb. 21, 1865.



Witnesses,
Benj. F. Thurston
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JOHN BLANCHARD, OF PAWTUCKET, RHODE ISLAND.

IMPROVEMENT IN WEFT-FEEDING DEVICE FOR HAIR-CLOTH LOOMS.

Specification forming part of Letters Patent No. **46,442**, dated February 21, 1865; antedated February 16, 1865.

To all whom it may concern:

Be it known that I, JOHN BLANCHARD, of Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and Improved Feeder for Hair-Cloth Looms; and I do hereby declare that the following specification, taken in connection with the drawing, making a part of the same, is a full, clear, and exact description thereof.

The drawing exhibits in perspective the instrument.

My invention is especially applicable to power-loom for weaving hair-cloth, and is designed to provide a simple and efficient means for readily selecting a single hair to be used for the weft of the cloth to be woven from a bunch of hair conveniently placed for the purpose.

It is well understood among those familiar with the art of weaving hair-cloth that four or more harnesses are employed to weave the body of the cloth between the selvages in order to give to the fabric a twilled surface. Formerly each hair of the filling was supplied to the loom by an attendant, who, with the thumb and forefinger of the right hand dexterously rolled a single length of hair from the surface layers of a bunch held in the left hand and presented it to the vibrating hook or nippers, which in this class of looms occupies the place and performs the functions of the shuttle in a cotton-loom. Several inventions have been made for selecting lengths of hair singly from a bunch by mechanical means, the principal of which that has been put into use is the one described in Isaac Lindsley's patent, dated June 25, A. D. 1861. The method described in that patent, and which is common to the majority of other mechanical feeders for the same purpose, is the employment of three separate and distinct sets of apparatus. The first of these three consists of an instrument shaped somewhat like a lance, which, as it reciprocates, is thrust through a bunch of hairs, and is provided with a notch which is capable of holding only a single hair. The second is a device for retaining the single hair so taken up in the notch until the third apparatus can seize it and introduce it between the threads of the warp. The action of these three distinct and independent sets of apparatus in combination

constitute the mode of operation for feeding mechanically the weft to looms of this class, which is generally employed. I have succeeded in my invention in accomplishing the same result by the use of an instrument which imitates the action of the thumb and forefinger of the human hand in separating a single hair from a bunch by combining within itself the means for both selecting it and seizing it, whereby the several distinct sets of apparatus above mentioned are dispensed with, while at the same time a greater simplicity and certainty of operation is secured. This instrument or apparatus shown in the drawing must be supposed to be attached to a loom, and to have a reciprocating motion, coincident with the beat of the lay, imparted to it in the usual way either by means of a wag-staff or by straps worked by cams, as is well understood by all persons conversant with the manufacture of hair-cloth.

A is a sheath, which incloses a slender bar or finger, B, fitted to slide to a limited extent longitudinally in a channel or mortise, which it nearly fills, there being only sufficient space between the finger and the sheath at the extremity of the latter to be filled by a single hair. The surface of this finger is provided with a number of barbs, like the teeth of a file, *a a a*, upon that part which can be protruded beyond the sheath. It is well that each of these barbs should be capable of holding a single hair only, but it is not necessary, as the space between the sheath and the finger determines how many hairs shall be gripped, and the excess will be permitted to fall. As the apparatus is carried by the action of the loom toward the bunch of hairs (which it must be supposed are placed in a box at the side of the loom) the finger B is thrust out of its sheath far enough to enter the outer layers of hairs by the action of the block C, to which the actuating-straps are attached, striking against the rear end of the finger, which is turned up at right angles to its length, as shown at D. As soon as the lay stops and commences to beat in the opposite direction a spring, E, which may be arranged as shown and has been compressed by the forward movement of the finger, causes the finger B, by its recoil, to be instantly drawn back into the sheath.

The operation of the apparatus in selecting and securing a single hair is as follows: The finger B enters the bunch of hairs only far enough to enable some one of the layers of hairs near the surface of the bunch to be drawn by one of the barbs into the end of the sheath, where it is gripped by the pressure of the parts and held until it has been drawn through the shed of the warp, when the hair may be released by a slight forward movement of the finger, caused by the striking of the block C against a stop set for the purpose. It will be of no consequence if each of the barbs in the finger should happen to take

a hair, as the one only which is first gripped at the mouth of the sheath will be held, and the others, having nothing to keep them in the barbs, will not be drawn from the bunch.

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

The improved feeder for a hair-cloth loom, described, constructed, and operated substantially as herein specified.

JOHN BLANCHARD.

Witnesses:

BENJ. F. THURSTON,
W. B. VINCENT.