

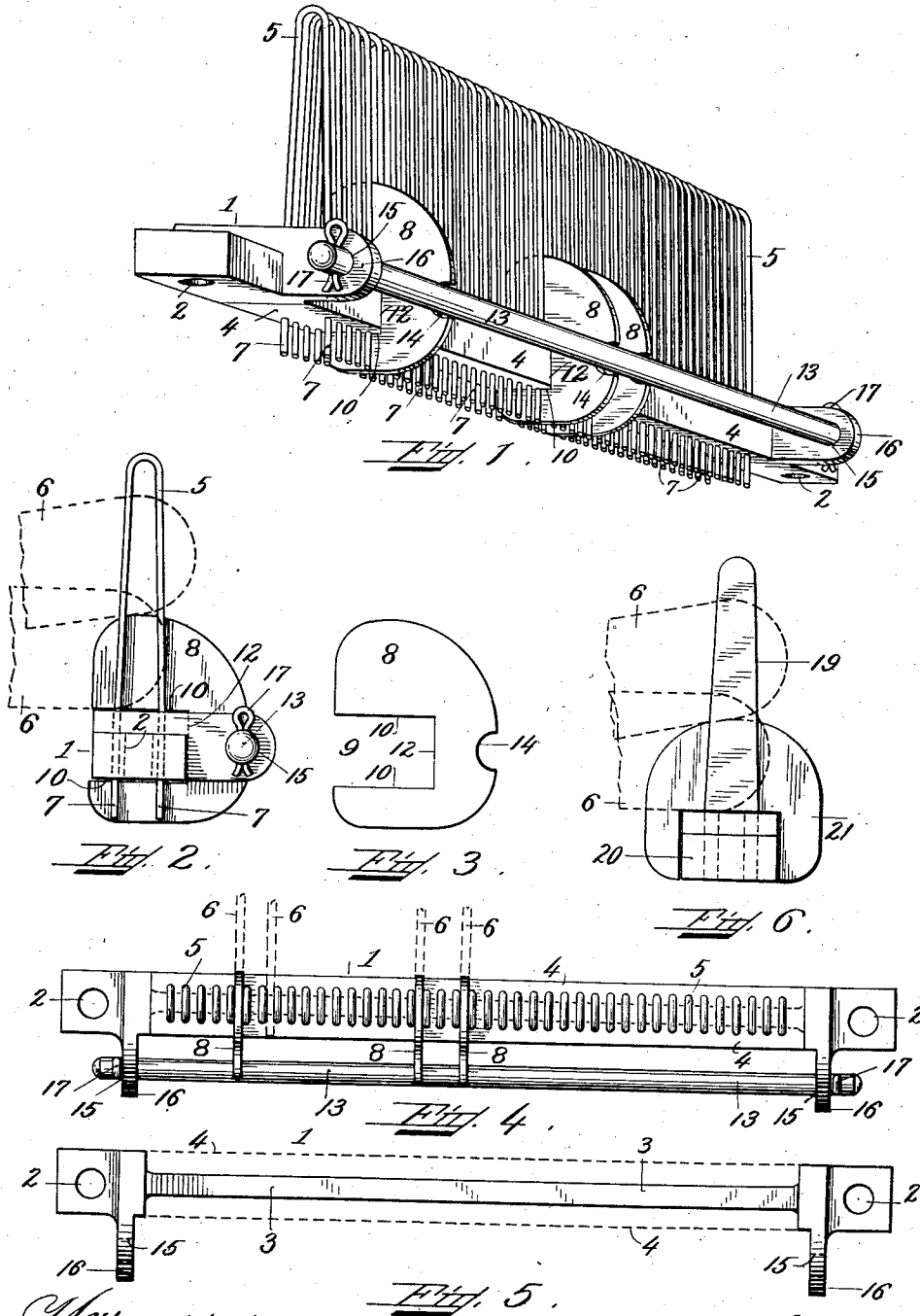
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DOBBY.

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1,062,864.

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To all whom it may concern:

Be it known that I, CHARLES SYLVESTER, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Dobbies, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates particularly to the pin-rack, the finger supports, and their combination in a dobby mechanism.

The pin-rack of a dobby machine, as at present constructed, consists of a strip of wood having two parallel rows of metallic pins, staggered, and standing vertical, to form guide ways for the pivoted fingers which, through suitable mechanism, operate the heddles required; and one or more of which fingers, it is often desirable to support in operative position throughout the weave. The principal objections to this form of pin-rack are: 1st, that the rack being of wood, the metallic fingers constantly falling upon the top of the rack, soon wear and hollow out its top surface; and 2nd, that the pins cannot be operatively arranged in a single line, for the pins and holes therefor would be so close together that the wood would split; and 3rd, that even if the pins were staggered, or were in a straight line, a finger support, inserted between any two adjacent pins, would be likely to stick out into the path of an adjacent finger and prevent it from performing its absolutely necessary function, unless some way were provided for retaining the finger support in the plane of the operating finger. Now I overcome these objections, 1st, by providing the rack with finger guides that will themselves hold the finger supports in the planes of their respective fingers, so that each cannot interfere with its adjacent finger; 2nd, by providing the pin-rack with a soft metal surface upon which the fingers can fall; 3rd, by making up the pin-rack out of a metal bar about which is molded soft metal as lead, not only for the purpose of forming a soft but durable buffer for a falling finger, but also for the purpose of securing finger guides or pins in single line, and at a suitable distance apart; and 4th, by a finger support adapted to be held by the finger guides in the plane of its respective finger.

In the drawings illustrating the principle of my invention and the best mode now

known to me of embodying the same in operative structure, Figure 1 is a perspective view from a point below, but at one side of, the front of the pin-rack and finger supports. Fig. 2 is an end elevation, with two fingers dotted in, one resting upon a finger support, and the other upon the top of the pin-rack. Fig. 3 is a side view of one form of finger support. Fig. 4 is a plan of what is shown in Figs. 1 and 2. Fig. 5 is a plan of a metal bar about which is molded soft metal, indicated in dotted lines. Fig. 6 is an end view of a modified form of finger support, and finger guide.

A pin-rack 1 is designed to be mounted upon the frame of a loom in the usual manner, by means of bolt holes 2 and bolts therefor in the end portions of the rack. The rack may be of cast iron, having its middle portion 3, Fig. 5 polygonal in section, and surrounded by soft metal 4, as lead, as indicated by dotted lines, Fig. 5, and more fully explained hereinafter. Finger pins 5 of wire, and hairpin shaped, straddle the middle portion 3 of the rack, in planes parallel to those of the well known pivoted fingers 6, some of which are indicated in dotted lines in Figs. 2, 4 and 6, and at right angles to the longitudinal axis of the rack. The lower end portions 7 of the pins extend below the bottom of the rack, and are secured in proper relations thereto by means of molten lead poured into a suitable mold, not shown, into which the middle portion 3, Fig. 6, of the rack, and the pins 5 are removably secured. The mold is of such form that the lead surrounds the middle portion 3, of the rack, and assumes the form of a rectangular bar. While the pins may be secured in position in this way, it may be desirable to fix them absolutely in their respective positions, and this may be done by coating with solder those portions of the pin that contact the molten lead in the mold.

Adapted to be mounted upon the pin-rack between any two adjacent pins, is a finger support 8, preferably of fiber. In thickness it is substantially equal to the distance between the adjacent finger pins, and has in one side an opening 9, Fig. 3, with parallel opposite sides 10, 11, whereby the support may be moved edgewise into position between adjacent pin guides and into engagement with the rectangular bar 4 of the pin-rack. It will be noted that by this con-

struction the finger support is held in a vertical plane, namely, that of the finger to be supported. The movement of the support toward the fingers is limited by the bottom 12 of the opening 9 in the finger support, while that in the opposite direction is prevented by a lock rod 13, engaging a slot 14 in the rear of the finger support, and removably mounted in holes 15 therefor in ears extending outwardly from the rack; cotter pins 17 fixing the lock bar in the ears. From this description, it will be plain that any one or more of the pivoted fingers may be supported by their respective supports; that those not supported may fall upon the soft metal top surface of the rack; that the adjacent finger pins, will hold the finger supports in the planes of pivoted fingers; that the finger supports may be locked in operative position upon the pin-rack; that the apparatus is simple in construction, durable, and cheap to manufacture.

While I have described the preferred form of structure, it will be obvious that broadly speaking the pins need not extend below the pin bar; that they need not be hairpin shaped; that their functions would be performed if for the pins there were substituted two adjacent parallel plates like 19, Fig. 6, secured at a suitable distance apart as to a rack 20, to receive and hold between them a suitable finger support, in the plane of its finger. Still further, the form of the finger support may be varied without departing from the spirit of my invention, provided the support be operatively secured in the plane of its pivoted finger. Fig. 6 shows such a modified finger support 21, designed to straddle a pin-rack 20 and held down thereon by gravity.

Having described my invention, and desiring to protect the same in the broadest manner legally possible, what I claim is:—

1. In a dobby machine, a rack, and finger guides fixed thereto in transverse parallel planes and adapted to hold a finger support, when removably mounted on the rack, in the plane of its pivoted finger.

2. In a dobby machine, a metal bar; finger guides mounted in transverse parallel planes, on said bar; and soft metal, molding said bar and finger guides into fixed relation to each other.

3. In a dobby machine, a metal bar; a row of vertically parallel hair pin shaped pins arranged in transverse planes to form finger guides; and soft metal molded about said metal bar to hold and fix said pins in proper relation to each other and the bar.

4. In a dobby machine, a metal bar; hair-pin shaped finger guides fixed to the bar in transverse parallelism to hold a finger support in the plane of its pivoted finger.

5. In a dobby machine, a finger support; a bar; finger guides fixed thereto in transverse planes and adapted to hold the finger support in the plane of its pivoted finger.

6. In a dobby machine, a finger support; a bar; finger guides fixed thereto in transverse parallel planes and adapted to hold the finger support in the plane of its pivoted finger; and means for securing the finger support to the bar.

7. In a dobby machine, a finger support; a bar rectangular in cross-section; finger guides fixed thereto in transverse parallel planes and adapted to hold the finger support in the planes of its respective finger; said finger support consisting of a plate having its thickness correspond to the distance between the adjacent finger guides; and having cut in one edge thereof an opening having its two opposite sides parallel so as to be adapted to engage two opposite sides of the bar, to aid in securing the support to the bar.

8. In a dobby machine, a finger support; a bar rectangular in cross-section; finger guides fixed thereto in transverse parallel planes and adapted to hold the finger support in the plane of its pivoted finger; said finger support consisting of a plate having its thickness correspond to the distance between the adjacent finger guides; and having cut in the edge thereof an opening having its two opposite sides parallel so as to be adapted to engage two opposite sides of the bar, to aid in securing the support to the bar; and a lock rod engaging the finger support to secure the support to the bar.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES SYLVESTER.

Witnesses:

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