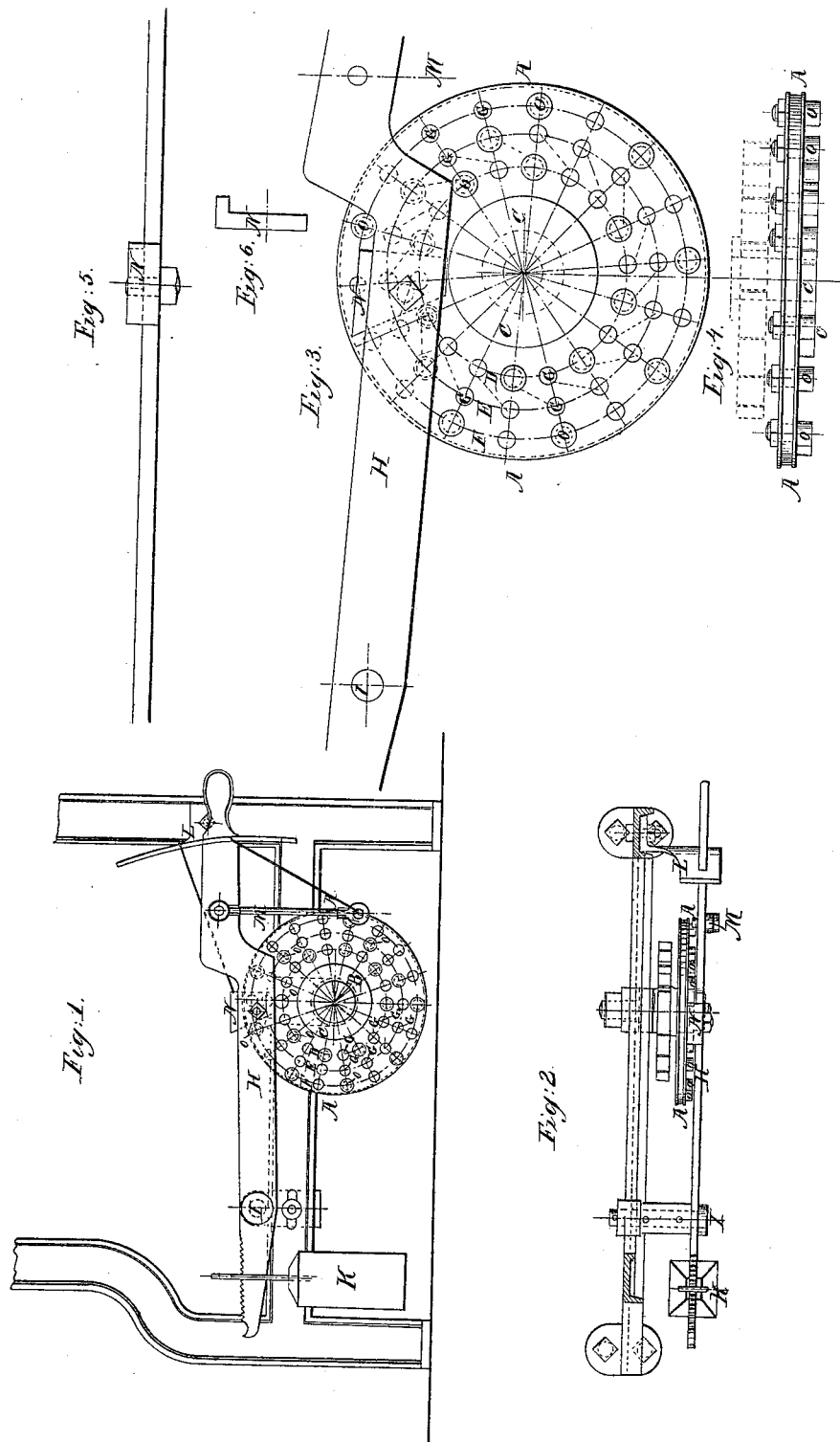


A. Allen.
Shuttle Motion.

N^o 6,693.

Patented Sept. 4, 1849.



UNITED STATES PATENT OFFICE.

ANDREW ALLEN, OF WILMINGTON, DELAWARE, ASSIGNOR TO CHAS. J. GARDNER.

APPARATUS FOR OPERATING SHUTTLE-BOX FOR LOOMS.

Specification of Letters Patent No. 6,693, dated September 4, 1849.

To all whom it may concern:

Be it known that I, ANDREW ALLEN, of the city of Wilmington, New Castle county and State of Delaware, late of the city of Philadelphia, have invented a new mode of changing the shuttle-boxes upon power-looms, so as to weave various patterns of checks and stripes; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in providing and affixing a lever to the plain power loom, with a shoe attached to said lever, that rises and falls by means of studs affixed in a circular dial plate, thus raising and lowering the shuttle boxes by means of a rod connecting with said lever and the box rod, which enables the operator to weave any desired pattern of check or stripe.

To enable others skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

I construct my power loom in any of the known forms, and construct my improvement as follows: viz. I procure a circular plate of brass, iron or other material of sufficient strength and durability represented by A A in the accompanying drawing, Figure 3^a. In the center of this plate, I make a hole B of such a size as will fit upon a projected end of the axis of the ratchet wheel of the loom.

C is the hub of the dial plate and projects out from the dial plate; with B as a center the concentric circles D, E and F are drawn. The portions of the diameter D E and E F are respectively equal to that portion intercepted between the outside of the hub C and circle D. In the circumference of each and every of these concentric circles D, E and F are made eighteen holes of a uniform size, so arranged that the holes in each circumference shall be equi-distant from each other, and that a straight line drawn from the center of the hole B to the center of each hole in the outside circumference F, will pass over the respective holes in the circles D and E. I prepare eighteen studs O that will fit the holes G, and put them in a corresponding number of holes so as to produce the desired pattern. These studs should pass through the holes and be fastened on the back side having heads of a uniform projection, and equal to the projection of the hub of the dial plate, C, as shown by Figure 4th. This dial plate with

its appurtenances, is put on the axis of the ratchet wheel of the loom and fastened so as to revolve with the ratchet wheel.

I procure a lever H as shown by different views, in Figs. 1, 2 3 and 5. I is the fulcrum K a weight L a slide in which the lever passes up and down, M a connecting rod, that connects the lever with the box rod, and N a shoe, attached to the lever, and connects with the ratchet wheel.

In the accompanying drawing Fig. I is a side view of the operating machinery, Fig. II, is a top view of the same, Fig. III represents the dial plate in connection with the ratchet wheel and lever, Fig. IV, is a top view of the dial plate and ratchet wheel, Fig. V, is a top view of the lever and shoe and Fig. VI is an edge view of the shoe.

The improvement being now complete as shown by Fig. II and the loom being put in motion, the dial plate revolves with the ratchet wheel, and the studs being carried around causes the lever to raise and allows it to fall by means of the action of the studs upon the shoe N, which raises and lowers the boxes as desired, thus producing any desired pattern, by the variation of the studs in the dial plate.

I am aware that shuttle boxes have been operated and their motions regulated, by studs arranged according to the patterns in the face of revolving wheels. I do not claim merely doing this but where studs have been thus used, they have not been so arranged as to have entire command over the movements of the boxes: For example, when the shuttle has been thrown from the upper box, by the arrangement of studs heretofore known, the lower box cannot be brought into action at the next pick. But by my arrangement any two of the shuttles can be thrown in succession.

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

The wheel having apertures (or other devices for holding the studs) arranged in radial lines, or nearly so, and at the same time in circles concentric with the wheel, or nearly so, in combination with the movable studs, and the shoe or its equivalent, upon the weighted lever, for raising the shuttle boxes, and allowing them to fall substantially as herein set forth.

ANDREW ALLEN.

Witnesses:

THOMAS SMITH,
W. M'CAULLEY.