E. A. CUNNIFF.

FILLING FORK MECHANISM FOR LOOMS.

APPLICATION FILED FEB. 27, 1911.

1,013,375. Patented Jan. 2, 1912.

Fig: 1

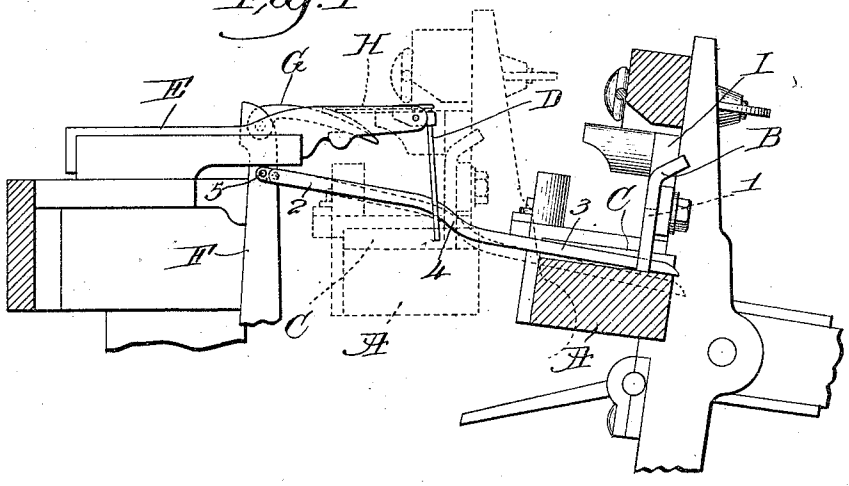
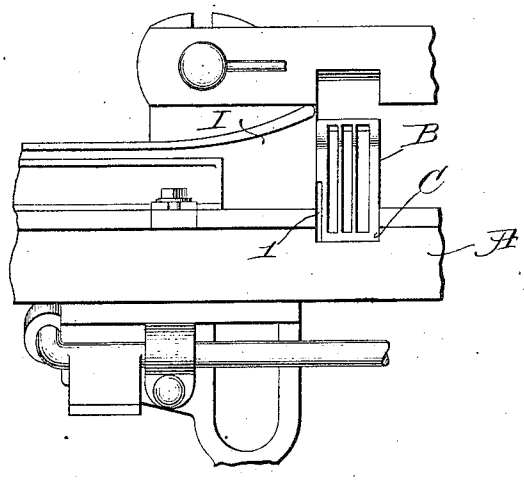


Fig: 2.



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UNITED STATES PATENT OFFICE.

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FILLING-FORK MECHANISM FOR LOOMS.

1,013,375. Specification of Letters Patent. Patented Jan. 2, 1912.

Application filed February 27, 1911. Serial No. 611,014.

To all whom it may concern:

Be it known that I, EDWARD A. CUNNIFF, a citizen of the United States, and resident of New Bedford, county of Bristol, State of Massachusetts, have invented an Improvement in Filling-Fork Mechanism for Looms, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention has for its object the production of simple and novel means for intermittingly sustaining the filling in such manner that it will be prevented from passing under the filling-fork of a loom on the detecting pick, the upholding of the filling also positioning the same to insure the proper tilting of the fork. Obviously, if the filling passes under the fork the latter will not be tilted, and an unnecessary change in the operation of the loom will result; not only that, but if the filling permits the fork to get behind it the filling will be broken as the lay goes back.

The novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a transverse sectional view of a portion of a loom with one embodiment of my invention applied thereto, the lay being shown at back and front center by full and dotted lines, respectively, and two positions of the filling sustainer are shown in similar manner; Fig. 2 is a front elevation of a portion of the lay and shuttle-box at the detecting side of the loom, showing the guideway, between the fork grid and the back wall of the shuttle-box, in which the filling sustainer slides as the lay swings forward and back.

The lay A having a fork-grid B, the transverse recess C in the lay for the reception of the lower ends of the tines of the filling-fork D, the fork-slide E, weft-hammer F having the hook G to engage the tail H of the filling-fork upon failure of the filling on the detecting pick, may be and are all of well known construction, except that herein the side of the grid B adjacent the back-wall I of the left-hand shuttle-box is cut away to leave an upright and elongated, slot-like guideway 1, Fig. 2. When the filling is intact on the detecting pick it bridges the recess C in front of the bars of the grid B, the shuttle then being in the adjacent shuttle-box, and as the lay beats up the tines of the fork B engage and are tilted by the intact filling, lifting the tail H out of the path of the hook G as the weft-hammer moves forward. If the filling tension is too slight, or the filling is kinky it may pass under the lower ends of the fork-tines on the detecting pick, and the objectionable results before referred to then occur. To prevent this improper action of the filling I provide herein a filling sustainer, shown as an elongated flat and preferably metallic bar 2, 3 set on edge and having its rear portion 3 extended loosely through the guideway 1 and slidably supported on the bottom of the recess C, the front portion 2 of said sustainer being pivoted at 5 to the weft-hammer. The parts 2, 3 are offset from each other vertically, the front part 2 being the higher, and connected by a bend or cam portion 4, so located that when the lay beats up and the weft-hammer is at the end of its rearward stroke the under edge of the bend will be engaged by the bottom of the recess at the back thereof, see dotted lines Fig. 1, so that the front portion 2 of the sustainer will cross the lay above the raceway. This elevation of the sustainer is not effected until after the filling has been laid and the shuttle boxed at the left hand side of the loom, on the detecting pick, so that the filling is sustained and upheld by the sustainer at such a height that the fork cannot possibly pass over the filling but must engage the same as it is held up across the grid B. The weft-hammer F begins its forward stroke just as soon as the detecting action of the fork occurs, so that if the fork is not tilted the hook G will engage the fork-tail H. This forward stroke of the weft-hammer, acting at the time the lay is moving back from front center, will cause the filling upholding portion 2 of the sustainer to be clear of the shuttle path before the shuttle is picked from the box adjacent the fork-grid. Were it not for the forward movement imparted to the sustainer by the weft-hammer just after the detecting pick said sustainer could not clear the shuttle on its flight from left to right, as the shuttle is picked when the lay is about on top center. There is no difficulty when the shuttle is picked from right to left, for before the shuttle reaches the recess C the lower portion 3 of the sustainer is well below the level

of the shuttle raceway on the lay. The guideway 1 prevents any improper lateral play of the filling sustainer while giving ample freedom for its other movements up and down as it slides back and forth over the bottom of the recess C when the lay swings forward and back.

The construction is simple, the filling sustainer can be easily applied to a loom by either changing the grid or replacing the ordinary grid with one having the notched edge to form the guideway 1, and by my invention I prevent improper positioning of the filling with relation to the fork on the detecting pick.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a loom, a weft-hammer, a filling-fork having depending tines, a lay transversely recessed for the passage of the lower ends of the tines, a grid at the rear end of the recess, and a filling sustainer pivotally connected at its front end with the weft-hammer and at its rear end slidably supported on the bottom of the recess, said sustainer having a cam portion engaged by the bottom of the recess when the lay beats up to raise and operatively position said sustainer above the lay raceway and cause it to maintain the filling elevated above the lower ends of the fork-tines and in front of the grid.

2. In a loom, a filling-fork having depending tines, a transversely recessed lay, a grid at the rear end of the recess, having an upright guideway, a weft-hammer, a filling sustainer pivotally connected therewith and rearwardly extended in the recess and through the guideway, the rear end of the sustainer sliding upon the bottom of the recess, and a cam portion on said sustainer to coöperate with the bottom of the recess and operatively position said sustainer above the lay raceway on the detecting pick to hold the filling in front of the grid and above the lower ends of the fork-tines to insure engagement of the latter and the filling, the forward stroke of the weft-hammer moving said sustainer out of the shuttle path when the shuttle is picked from the detecting side of the loom.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

EDWARD A. CUNNIFF.

Witnesses:
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