

M. J. ARMSTEAD.
FORK GRID CLEARER FOR LOOMS.
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973,741.

Patented Oct. 25, 1910.

Fig. 1.

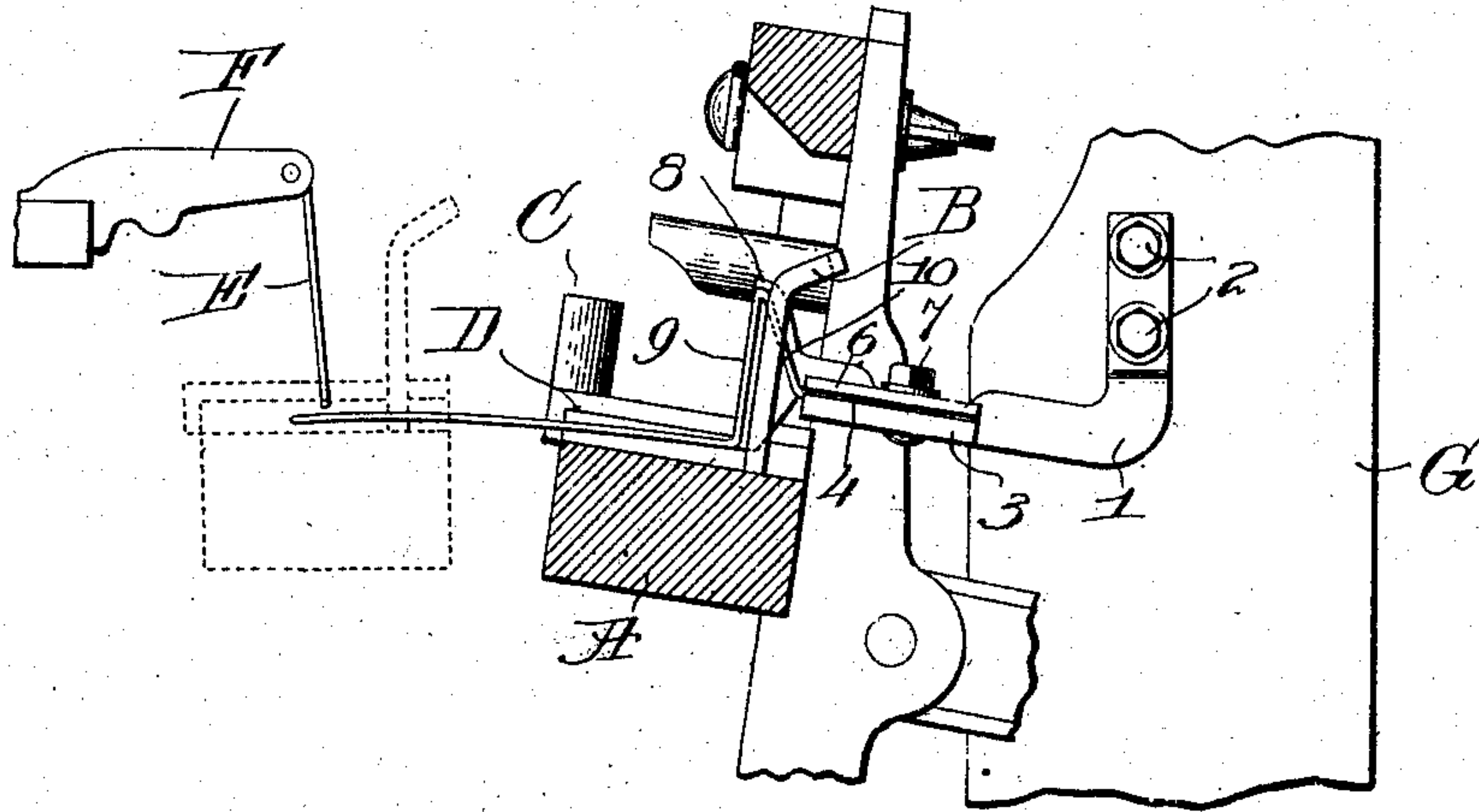


Fig. 2.

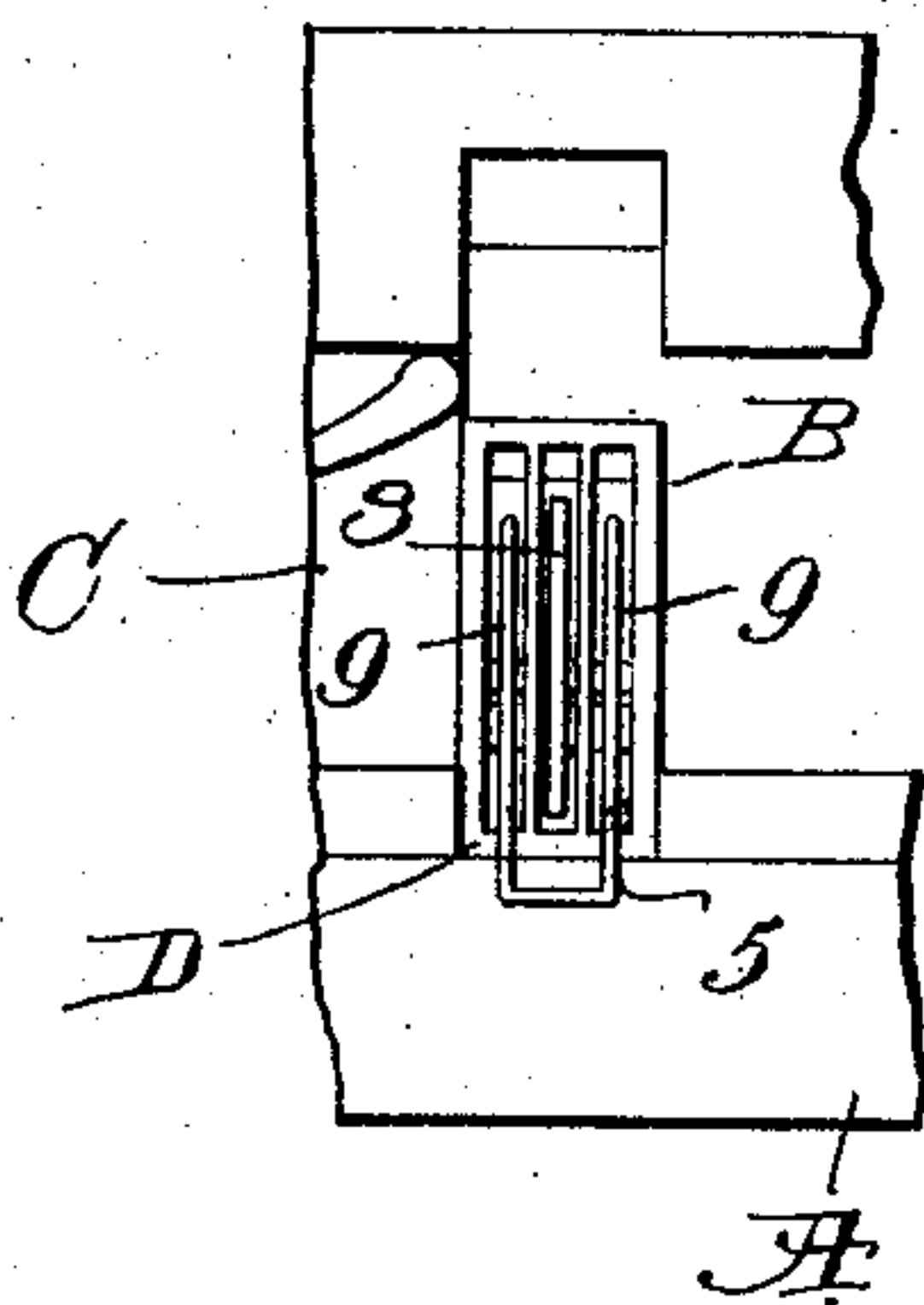


Fig. 3.

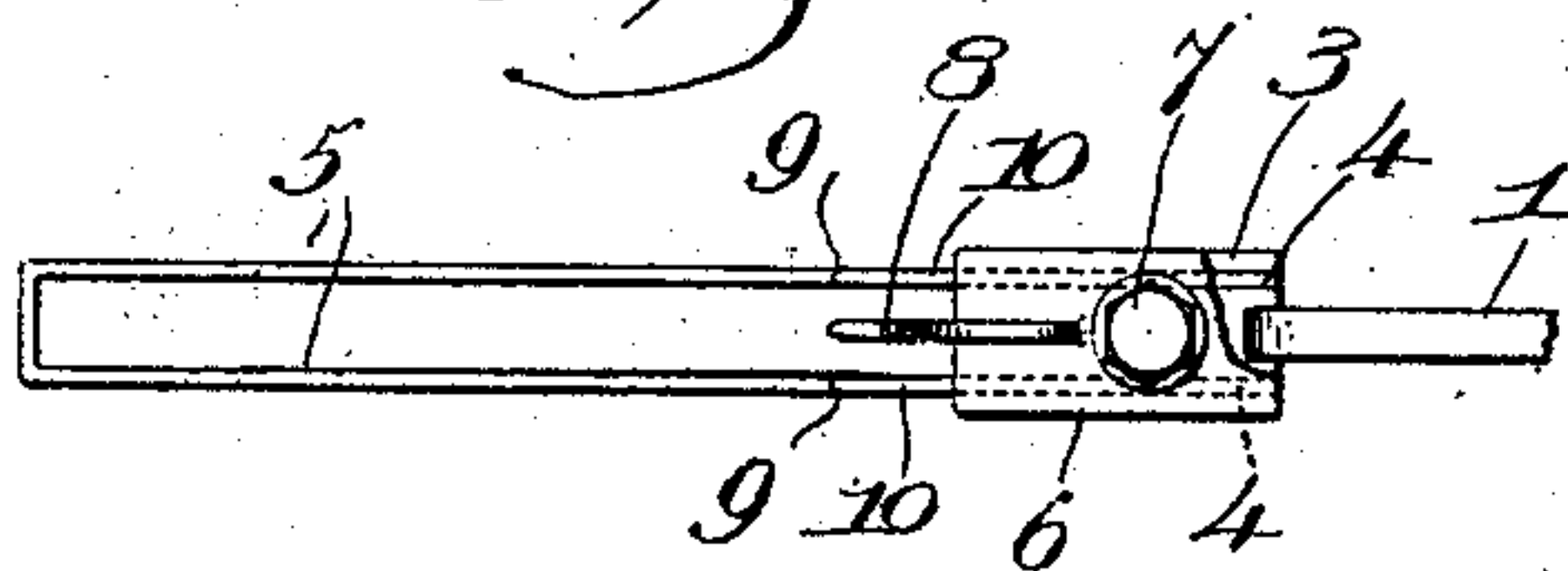
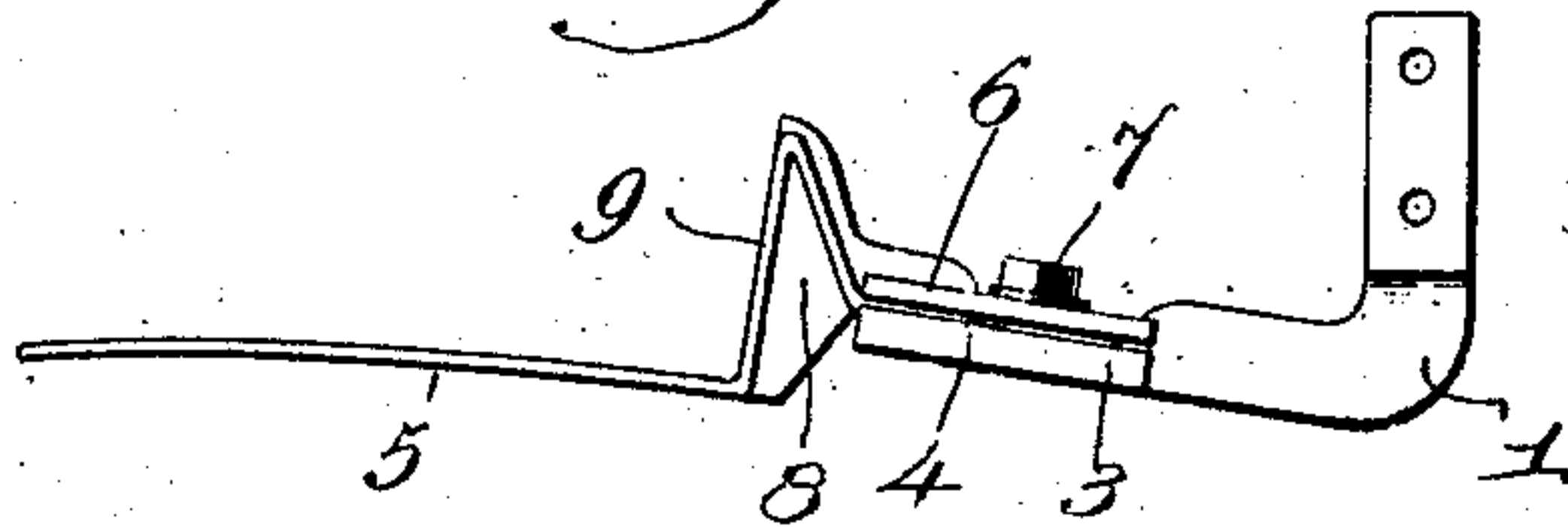


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FORK-GRID CLEARER FOR LOOMS.

973,741.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MICHAEL J. ARMSTEAD, a citizen of the United States, and resident of Lowell, county of Middlesex, State of Massachusetts, have invented an Improvement in Fork-Grid Clearers 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 means for clearing automatically the fork-grid of a loom of any lint, waste or the like which would tend to clog the same and prevent the proper action of the filling-fork. If the grid becomes clogged the fork may be tilted for several picks even though the filling be absent, resulting in the production of faulty cloth.

In the present embodiment of my invention the clearer is mounted on a fixed part of the loom in a permanent position, and provided with upright clearing members which traverse the spaces between the bars of the fork-grid as the lay beats up, and again as the lay swings back. The lower part of the clearing members have an attached forwardly extended portion which traverses the usual transverse recess in the lay made for the reception of the fork-tines on the beat-up, such extension serving not only to hold the filling up in position to be engaged by the fork but also to remove any fluff or lint which might collect on the fork-tines.

The various 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 sufficient portion of a loom, with one embodiment of my invention applied thereto; Fig. 2 is a front elevation of a portion of the lay and fork-grid, with the clearer; Fig. 3 is a top plan view, detached; Fig. 4 is a side elevation thereof.

The lay A having the grating or fork-grid B thereon adjacent the inner end of the shuttle-box C, the transverse recess D in the race plate of the lay, for the reception of the tines of the filling-fork E on the beat-up, and the fork-slide F, Fig. 1, may be and are all of well-known construction and operate in a manner familiar to those skilled in the art.

A bracket-like arm 1 is fixedly attached by bolts 2 to the inside of the loom-side G, Fig. 1, and is extended forward behind the fork-grid, the front end of the arm being laterally widened to form a flat, upwardly inclined support 3 having longitudinal and parallel grooves to receive the rear ends 4 of an elongated and slightly curved loop 5. Said ends 4 are tightly held on the grooved support 3 by a retaining or cap plate 6, secured to the support by a suitable bolt 7, said plate having formed upon it a thin upright pin or blade 8, extending above and below the plate and projecting beyond its front end, the blade being located centrally of the plate. This blade forms the central clearing member and extends through the central opening of the fork-grid B slightly beyond its front face when the lay is back, as shown in Fig. 1, but being fixedly supported behind the grid permits free movement of the latter with the lay. Between the loop-like extension 5 and the clamped ends 4 the wire is bent to form upright portions 9, 9, one at each side of the blade 8, parallel thereto and in the upright plane of its front edge, said parts 9 constituting the outside clearer members, and so located as to pass through the side openings of the grid, as shown in Fig. 2.

The portions 10 of the wire loop rigidly connect the parts 9 with the clamped ends 4, making an acute angle with the former, Figs. 1 and 4, the forward extension 5 of the loop traversing the recess D in the lay. By reference to Fig. 1 it will be seen that the forward end of the extension 5 just clears the tips of the tines of the filling-fork E, so that if any lint collects thereupon it will be brushed off by such extension. The lower ends of the clearing members 8, 9 project into the recess D well below the race way of the lay, to prevent any possibility of the filling passing thereunder, and as the lay beats up the extension 5 will support the filling in position to best engage the tines of the fork to tilt the latter. As the lay beats up the clearing members traverse the spaces between the bars of the grid B and remove any waste or lint which may have collected thereon, and as the lay swings back such clearing members again traverse the grid, but from back to front, so that the clearing action takes place on each stroke of the lay, the clearing members being long enough to

sweep through the greater part of the length of the grid openings. This serves to maintain the grid free from any accumulation of foreign matter which would tend to clog it, hence there is no obstruction to the proper action of the filling-fork.

The clearer is of simple construction, it is supported in a fixed position, thus eliminating wear when moving parts are present, and it is out of the way of other portions of the loom structure. As the shuttle is picked when the lay is about at top center there is no chance for the fork-grid clearer to interfere in any way with the flight of the shuttle, for when the shuttle passes the grid the latter is in front of the clearing members, as will be apparent.

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

1. In a loom, a lay having a fork-grid, a series of upright, stationary clearing members adapted to traverse the grid-openings as the lay swings forward and back, a bracket-arm fixed on the loom-side and having a flattened forward end behind the grid, and a plate to clamp the outer clearing members on said flattened end of the bracket, the center clearing member being mounted on the plate.

2. In a loom, a lay having a transverse recess in its race way, a fork-grid mounted on the lay in the recess at its rear end, a series of upright clearing members adapted to traverse the grid openings as the lay swings forward and back, a stationary support for the clearing members, behind the lay, and a loop-like extension projecting frontward

from the lower ends of the clearing members and traversing the recess in the lay.

3. In a loom, a lay having a transverse recess in its raceway, a fork-grid mounted on the lay in the recess at its rear end, a fixedly mounted bracket behind the lay and having a flat, longitudinally grooved front end, a cover-plate clamped thereon and provided with an upright, blade-like clearing member to pass through the center opening of the grid, and a wire loop having its ends clamped on the grooved end of the bracket by the cover-plate and bent to form two upturned portions constituting clearing members to pass through the outer openings in the grid.

4. In a loom, a lay having a transverse recess in its raceway, a fork-grid mounted on the lay in the recess at its rear end, a series of upright clearing members adapted to traverse the grid openings as the lay swings forward and back, a supporting bracket fixed on the loom-side behind the lay, means to fixedly connect the clearing members with the front end of the bracket, and an extension projecting frontward from the lower part of the clearing members and traversing the recess in the lay, to support the filling in front of the grid when the lay beats up and adapted to remove lint or waste from the tines of the filling-fork.

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

MICHAEL J. ARMSTEAD.

Witnesses:

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