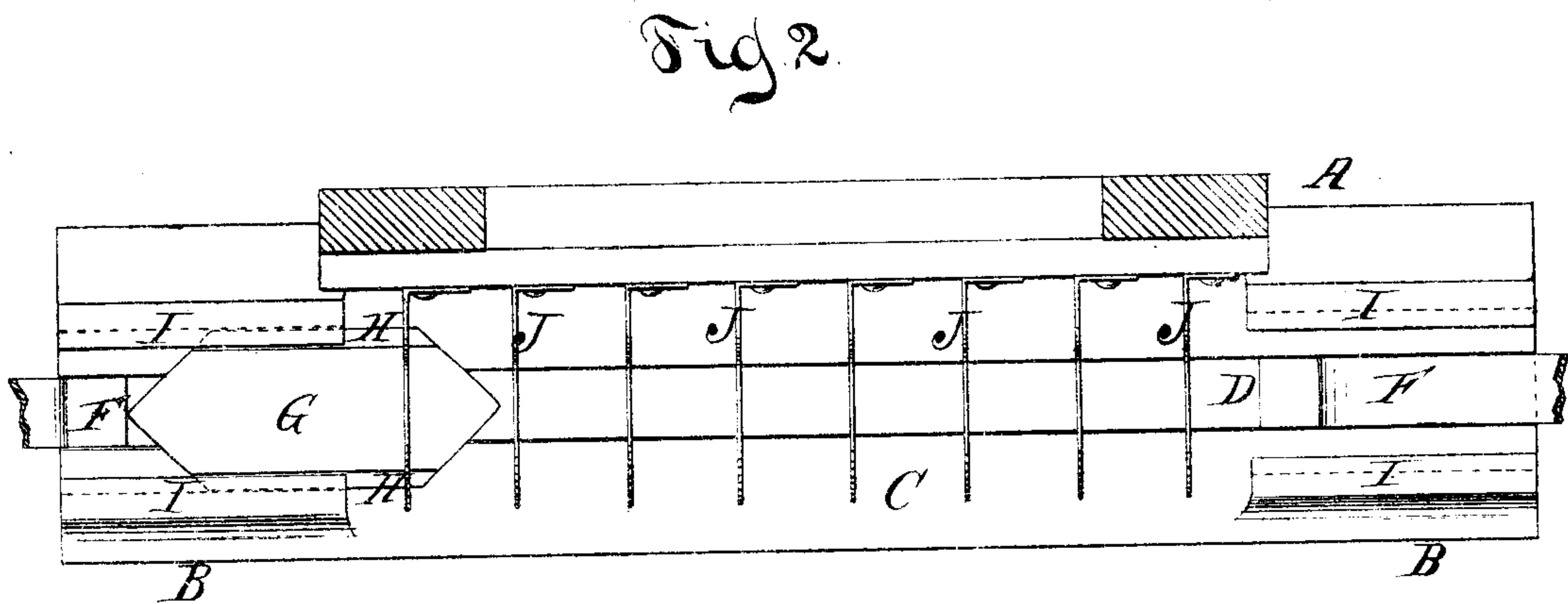
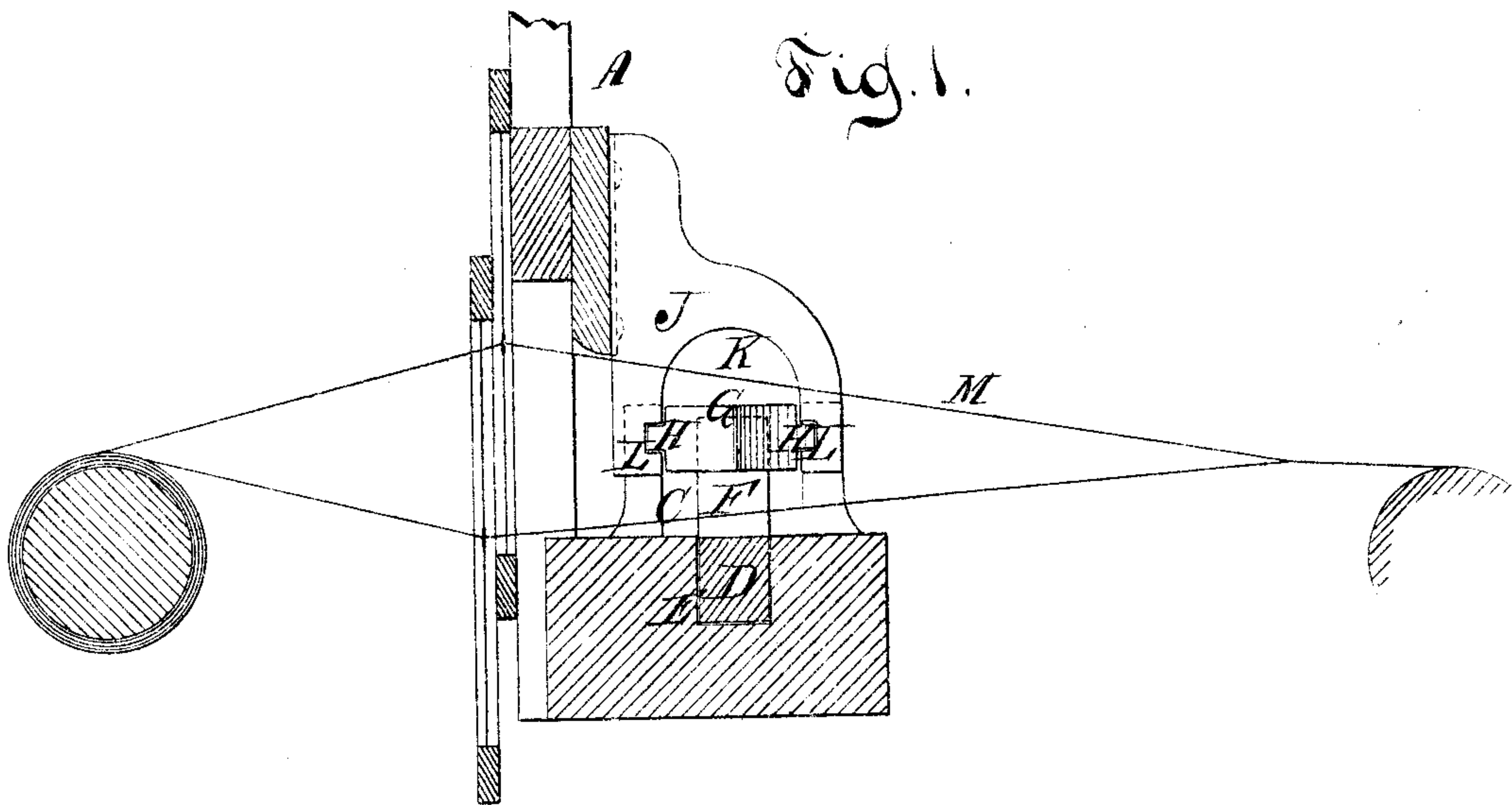


A. GARTENMANN.  
Loom Shuttle-Motion.

No. 136,501.

Patented March 4, 1873.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

ANTON GARTENMANN, OF NEW YORK, N. Y.

## IMPROVEMENT IN LOOM-SHUTTLE MOTIONS.

Specification forming part of Letters Patent No. 136,501, dated March 4, 1873.

*To all whom it may concern:*

Be it known that I, ANTON GARTENMANN, of the city, county, and State of New York, have invented a new and useful Improvement in Looms; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a vertical section of my loom in a direction transverse to the shuttle-race. Fig. 2 is a plan or top view of the same.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of one or more guide-plates, forming a sectional continuation of the shuttle-boxes, and projecting down over the race in such a manner that the shuttle is effectually prevented from leaving the race in its flight; and consequently I am enabled to reduce the length of the shuttle, and also to use a short shuttle in looms of great width. Furthermore, the shuttle is supported by the guide plate or plates, and all injurious contact of the shuttle with the warp-threads is effectually prevented. The shuttle is propelled through the medium of the common picker-bar, which can be elongated and made to operate a series of shuttles in cases where the loom is arranged for weaving a series of pieces side by side. In such case I repeat for each division of the batten or lay the arrangement of guide-plates for each shuttle.

In the drawing, the letter A designates the batten of a loom, which is provided with the shuttle-boxes B B, arranged and constructed in any suitable manner, at the ends of the shuttle-race C. The letter D designates a picker-bar, arranged in this example to slide in a groove, E, formed for it in the bottom of the race, the ends of the picker-bar being provided with vertical projections F F, which alternately strike against the shuttle G, and propel it through the race. The shuttle is provided on its sides with tongues H H, which run in lateral grooves I I, formed in the sides of the shuttle-boxes, so that the shuttle while in the boxes is supported thereby, and does not bear on the bottom of the boxes, nor on the picker-bar. The shuttle is also supported above and free

from contact with the bottom of the race C by means of transverse guide-plates J, which extend from the upper cross-piece of the batten, and project over the race sufficiently far for guiding and supporting the shuttle therein, their lower sides being open and hollowed out, as seen at K, to afford room for the shuttle to pass within the hollow space thus formed. The inner sides of the guide-plates are provided with grooves L L, arranged at the same height as that of the grooves in the shuttle-boxes, and otherwise so constructed that when the shuttle is driven out of the boxes its tongues H will enter the grooves L L of the guide-plates, and the shuttle be thereby guided and carried through the shed to the opposite box without being able to fly out, and without bearing on or rubbing the threads M of the warp. The guide-plates are made very thin, so as not to interfere with the formation of the shed, and are arranged near enough to each other to give effectual support to the shuttle in its travel.

My invention is applicable to all looms where a flying shuttle is employed, and is very useful in weaving wide goods, where the distance the shuttle must travel increases the liability of the shuttle to fly out of the race. In ordinary looms there is a tendency of the shuttle to fly out of the race, injuring the shed not only, but doing other injury and hindering the work; and in order to counteract this tendency, shuttles of considerable length and weight are usually employed. My invention obviates this difficulty, and I am enabled to employ a short, light shuttle, since it is always kept in its course by the guides. My invention is also useful in weaving goods whose appearance or character would suffer injury from the contact of the shuttle with the threads of the warp.

I am aware that guide-grooves for the shuttle have been provided in the dents of the reeds; but such grooves only support the shuttle on its inside, thus retaining the shuttle in such a position that the weight of the overhanging portion of the same has a tendency to bend the dents of the reed, and to create friction, whereby the free passage of the shuttle through said grooves is obstructed. I am also aware that guides have been pro-

vided which rise from the shuttle-race between the shuttle-boxes; but such guides do not prevent the shuttle from coming in contact with the warp-threads, and they rather increase the strain on the warp-threads, instead of decreasing the same. My shuttle-guides do not come in contact with those of the warp-threads which remain stationary when the shed is made, while the guides rising from the shuttle-race rub, as the batten moves, against those warp-threads which are not raised when the shed is made.

I do not claim, broadly, as my invention, the arrangement of a series of shuttle-guides between the shuttle-boxes of a loom; but

What I do claim, and desire to secure by Letters Patent, is—

The transverse guide-plates J, secured to the upper cross-piece of the batten, and provided with grooves on their inner edges, corresponding with shoulders or ribs on the sides of the shuttle, to guide and support the shuttle while the same passes through the shed, substantially as described.

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Witnesses:

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