

L. FERGUSON.
SHUTTLE MOTION FOR POWER LOOMS.

No. 17,323.

Patented May 19, 1857.

Fig. 1.

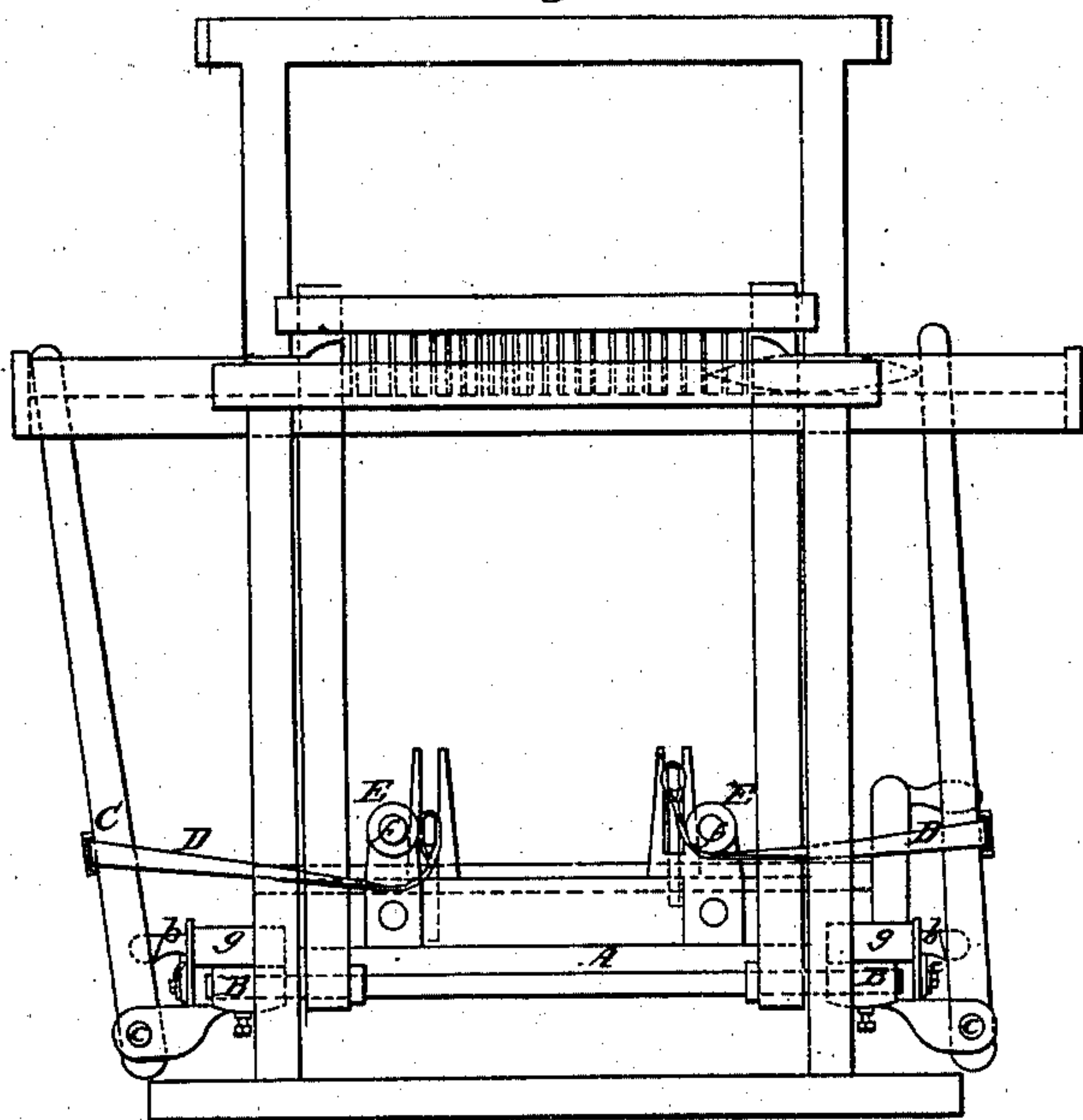


Fig. 3.

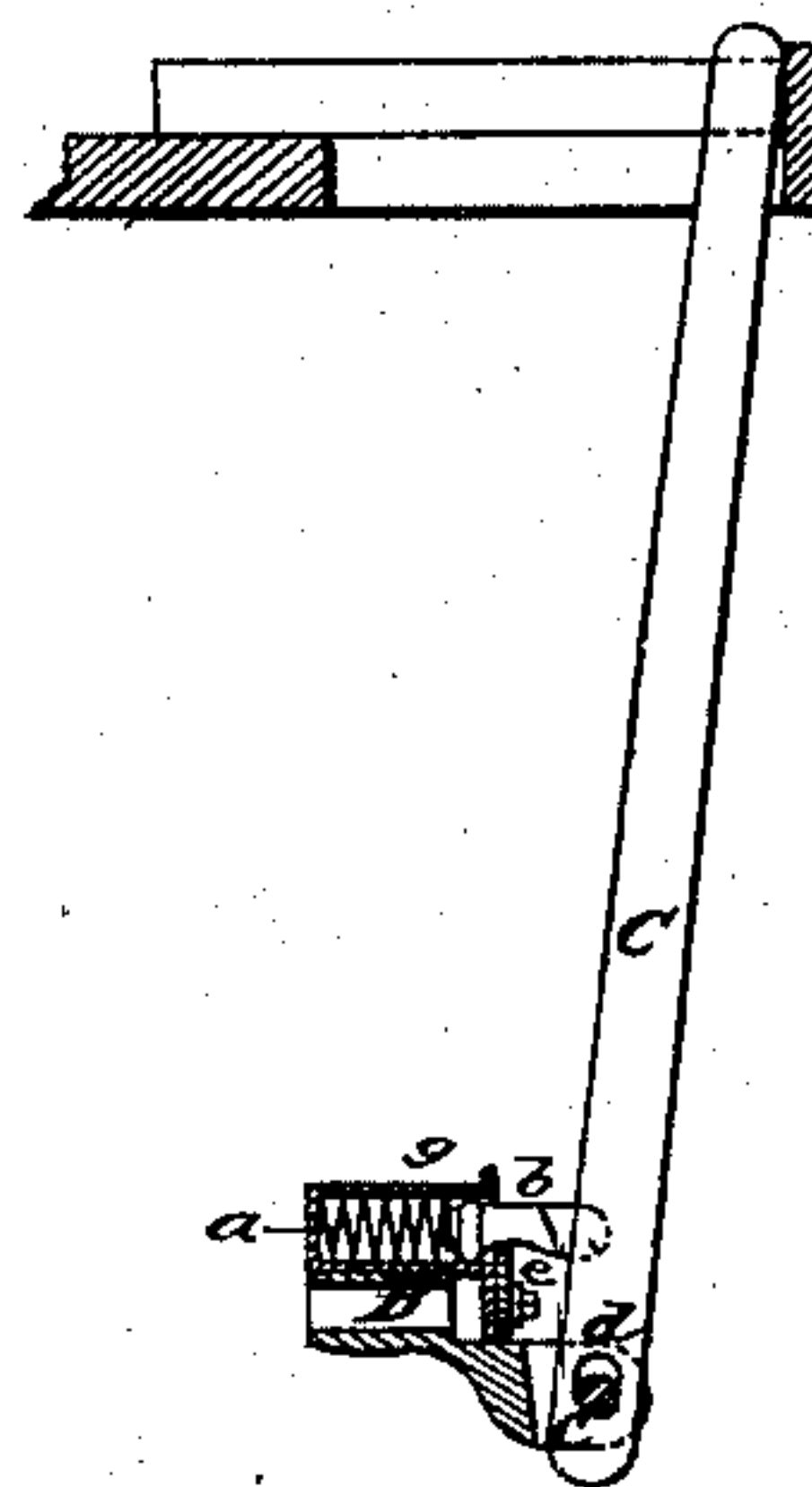
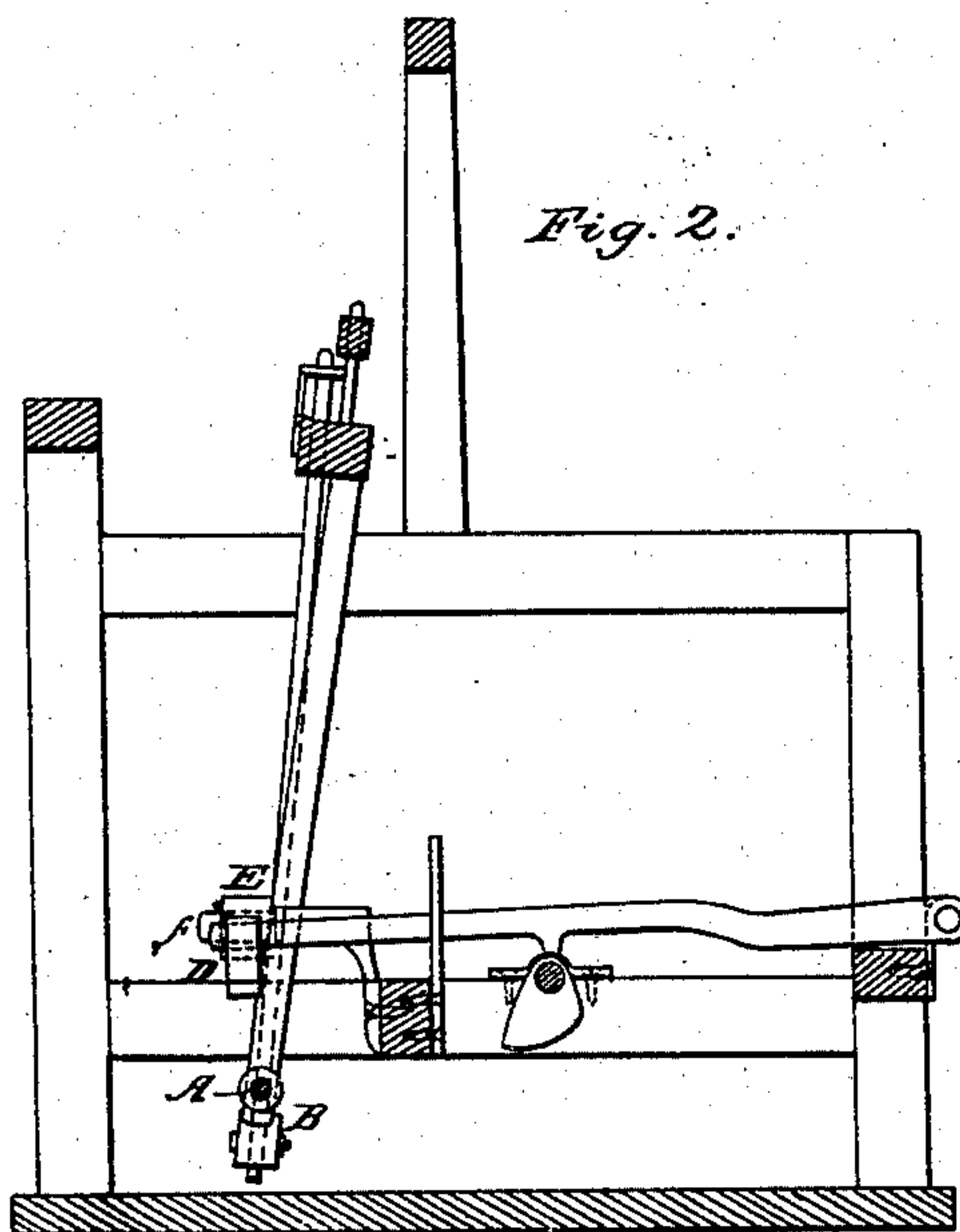


Fig. 2.



UNITED STATES PATENT OFFICE.

LEVI FERGUSON, OF LOWELL, MASSACHUSETTS.

SHUTTLE-MOTION FOR LOOMS.

Specification of Letters Patent No. 17,323, dated May 19, 1857.

To all whom it may concern:

Be it known that I, LEVI FERGUSON, of the city of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in the Shuttle-Motions of Power-Looms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front view of such portions of a power loom as are necessary to illustrate my invention. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a front view of one of the picker staves, with a section of the corresponding shuttle box, and part of the mechanism for operating the picker staff.

Similar letters of reference indicate the same parts in the several figures.

This invention consists in certain means whereby, in the vibrating movement that is given to the staff to throw the shuttle, that point in the staff which comes in contact with the shuttle in the raceway, is caused to move in a straight line parallel with the raceway.

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

A is the rockshaft of the lay, having secured to each end a cast iron head B, which is slotted at its end to receive the picker staff C, and has in it above the rockshaft a cylindrical cavity or box *g*, to contain a spiral spring *a*, and to receive and guide one end of a sliding rod *b*, the other end of which enters a mortise in the inner side of the picker staff and is held against the staff by the spring *a*.

c, c, are the pivots or fulcra on which the picker staff vibrates, secured firmly in the heads B, B, and passing each through a slot *d*, (see Fig. 3) in its respective picker staff, said slot being to allow the staff to rise and fall sufficiently to enable its upper part to move in a straight line. The under sides of the sliding rods *b, b*, are curved as shown in Fig. 3, so that by each working in contact with the top of a rest *e*, bolted to its respective head B, it may guide the upper part of its respective picker staff, which comes in contact with the shuttle, to work in a straight line.

D, D, are the picker straps by which motion is given to the picker staves to throw the shuttles, operated in a well known manner by cams and treadles and passing under rollers E, E, working on stationary studs *f, f*. The springs *a*, serve the purpose of throwing back the picker staves after they have been thrown toward the warp by the action of the cams, treadles, and straps, and also of keeping the guide rods *b*, in connection with the picker staves. The rollers E, E, and the attachments of the picker straps to the picker staves are so arranged relatively to each other that the straps have a downward inclination from the staves to the rollers, which causes the straps to have a sufficient pull in a downward direction to keep the curved under surfaces of the guide rods *b, b*, in contact with the rests *e, e*, in case the weight of the picker staff is insufficient. It will be readily understood that, if the curved under sides of the rods *b, b*, are correctly struck, the upper parts of the staves cannot fail to work in straight lines parallel with the raceway.

I do not claim, generally, the employment of curved guides near the bottom of the picker staves to direct the upper ends of the staves in straight lines parallel with the warp; as I am aware that plates with curved slots to receive and form guides to studs on the picker staves have been employed, which device is less simple and more expensive in its construction and does not work with so little friction as mine. Nor do I claim, of itself, inclosing the retracting spring in a box carried by the rocker shaft. But

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

The combination, substantially as described, of the rest *e*, carried by the rockshaft, the curved sliding guide-rod *b*, connected with the picker staff, and the box *g*, attached to the rockshaft, the latter serving not only to guide the sliding guide rod, but also to contain the spring by which the picker staff is thrown back after throwing the shuttle; the whole operating substantially as herein set forth.

LEVI FERGUSON.

Witnesses:

MOSES A. JOHNSON,
WM. F. SALMON.