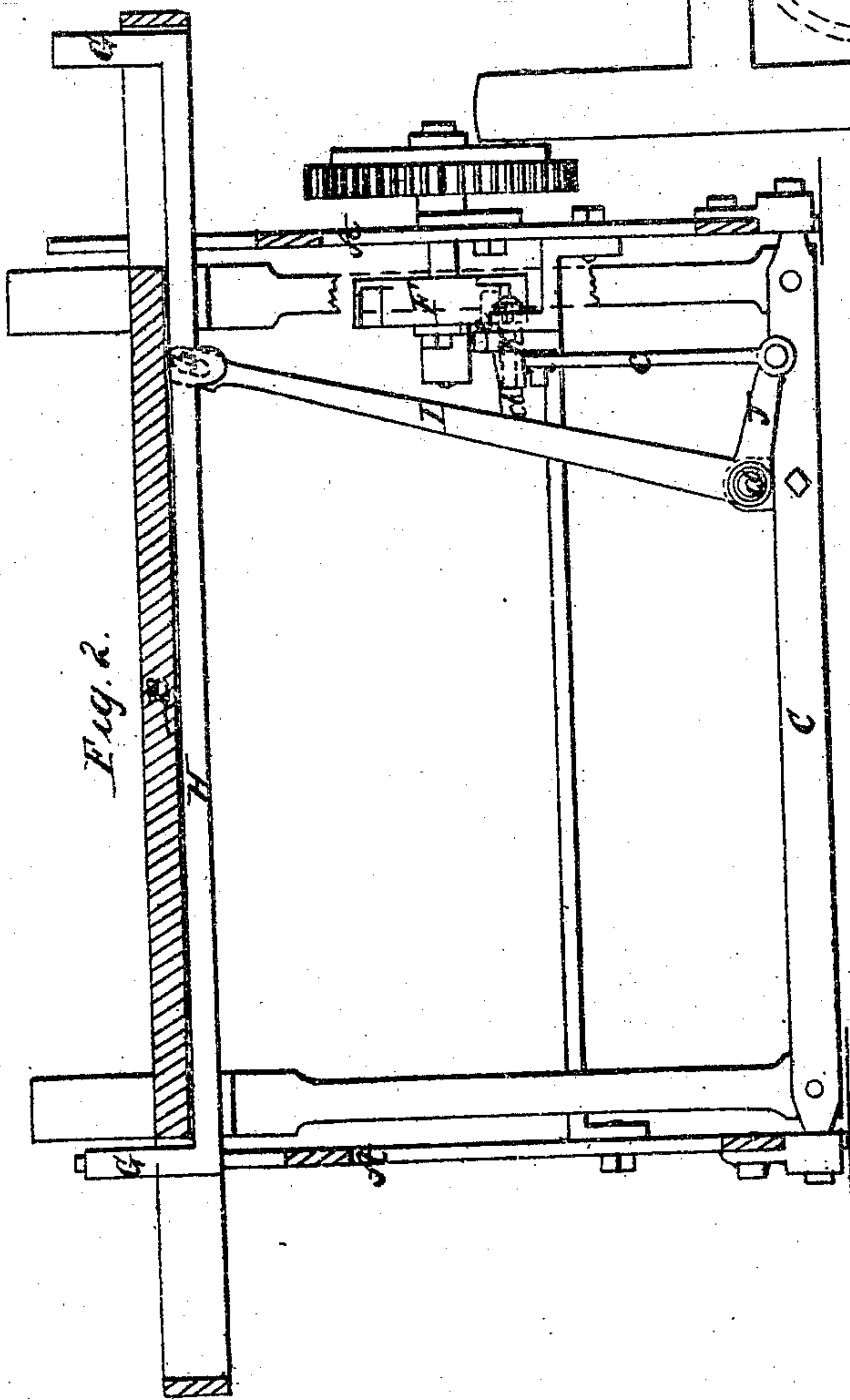
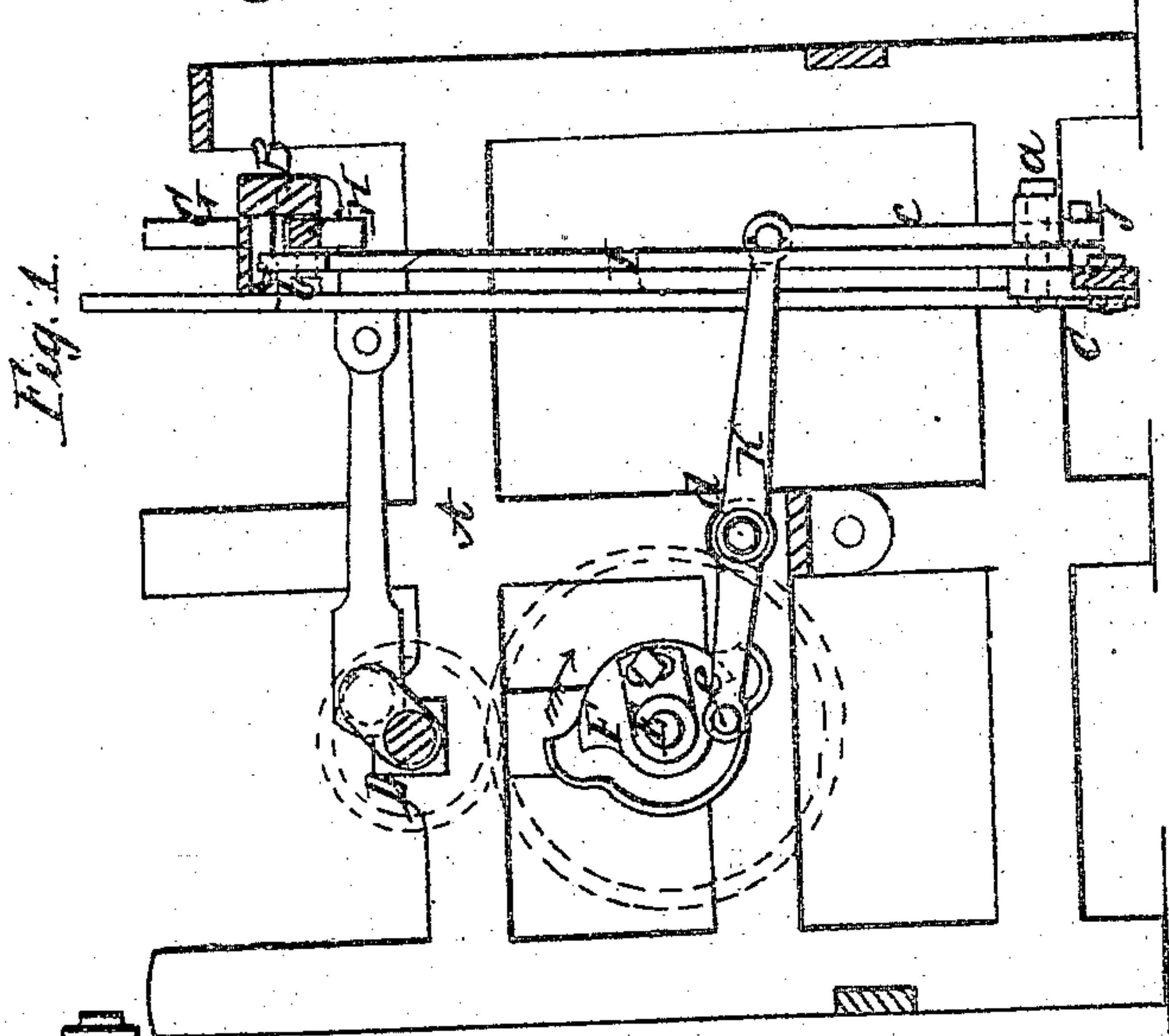


N. Crighton.
Shuttle Motion.
Nº 10,120. *Patented Oct. 18, 1853.*



UNITED STATES PATENT OFFICE.

WM. CRIGHTON, OF FALL RIVER, MASSACHUSETTS.

SHUTTLE-MOTION FOR POWER-LOOMS.

Specification of Letters Patent No. 10,126, dated October 18, 1853.

To all whom it may concern:

Be it known that I, WILLIAM CRIGHTON, of Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Shuttle-Motions for 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 part of this specification, in which—

Figure 1, is a vertical section parallel with the warp, of part of a loom to which my invention is applied. Fig. 2, is a vertical section of the same, taken longitudinally through the race-beam of the lay.

Similar letters of reference indicate corresponding parts, in both figures.

This invention consists in connecting the two pickers by means of a rigid rod or connection passing through the lay, and giving motion to the same, by a picker-lever which is operated upon, to throw the shuttle in both directions, by a single cam. The result obtained by this improvement is, the giving of the pickers a perfectly parallel motion, by simpler mechanism than that commonly employed for the purpose.

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

A, is the frame of the loom.

B, C, indicate the lay.

D, is the crank shaft; and E, is the cam shaft, geared with the crank shaft in the ordinary way; but, instead of extending through the loom, as usual, only extending far enough within the framing to carry the cam, F.

G, G, are the pickers, which consist of two short pieces of wood, protruding vertically through slots in the lay, and intended to be faced with hide, in the ordinary way. They are connected at their lower ends by a rod, H, by which it is made imperative for both to move together. The rod works in suitable guides, so as to be inclosed within the race-beam, B, of the lay, and keeps the pickers in place.

The picker-lever, I, rocks on a pivot, a, which is fixed in a block secured to the lower part of the lay, and is connected with the rod, H, by a pin, b, which is secured in the rod, and enters a slot in the staff. At right angles to the upright arm, I, of the

picker-lever, is a short arm, J, which is connected by a rod, c, with the longer arm of, K, a lever of the first order, whose fulcrum, d, is on a suitable part of the framing, behind the lay. The shorter arm of the lever, K, is furnished with a stud, e, which is acted upon by the cam, F. This cam has its operating part in the form of two arcs of circles, of different diameters, described from the axis of its shaft; the said arcs being each nearly half a circle, and being connected together, at both ends, by steps. During the revolution of the cam, the lever, K, is kept stationary, except when the steps come in contact with the stud, e, when the lever receives a sudden movement. The distance moved by the stud is very small; but the increased length of the opposite arm of the lever, K, and the shortness of the arm, J, on the picker-lever, cause the upper end of the picker-staff to move, very quickly, the required distance to throw the shuttle.

In the drawing, the parts are shown in the position when the motion of the pickers to the left is just commencing. After this motion is finished, they will remain stationary until the proper time to throw the shuttle to the right, when the cam will have rotated far enough to bring the next step into operation on the stud, e, and will give the required movement. The ascent and descent of the stud, from one arc of the cam to the other, will continue to give the necessary motion to the pickers, at regular intervals.

This shuttle-motion dispenses with the long shaft, and with one cam, and is altogether less complicated and costly than the separate mechanism employed in most looms, to drive the shuttle in each direction.

I do not claim operating the picker by a cam on a short shaft, at the side of the loom; but

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

Connecting the two pickers with a rod or rigid connection, H, which receives motion from a single lever, I, and one cam, F, whereby both pickers are operated, as herein set forth.

WM. CRIGHTON.

Witnesses:

LOUIS LAPHAM,
A. S. LINDSEY.