# C. I. KANE & S. E. MOWER.

## Loom-Shuttle Driving Mechanisms.

No. 152,120. Patented June 16, 1874.

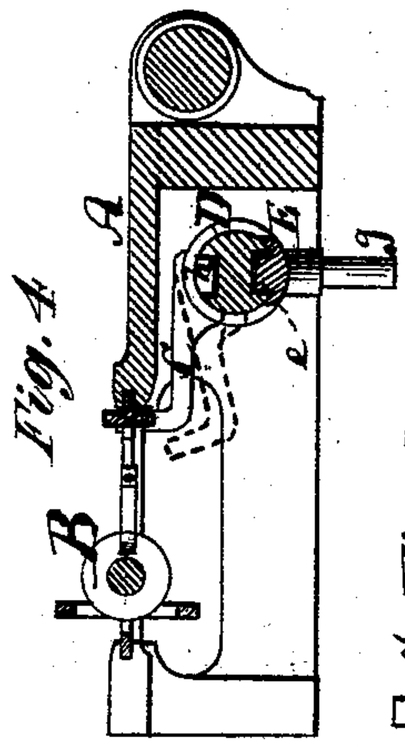
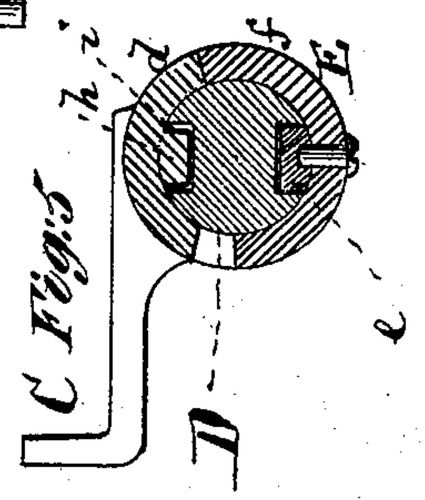


Fig. 4



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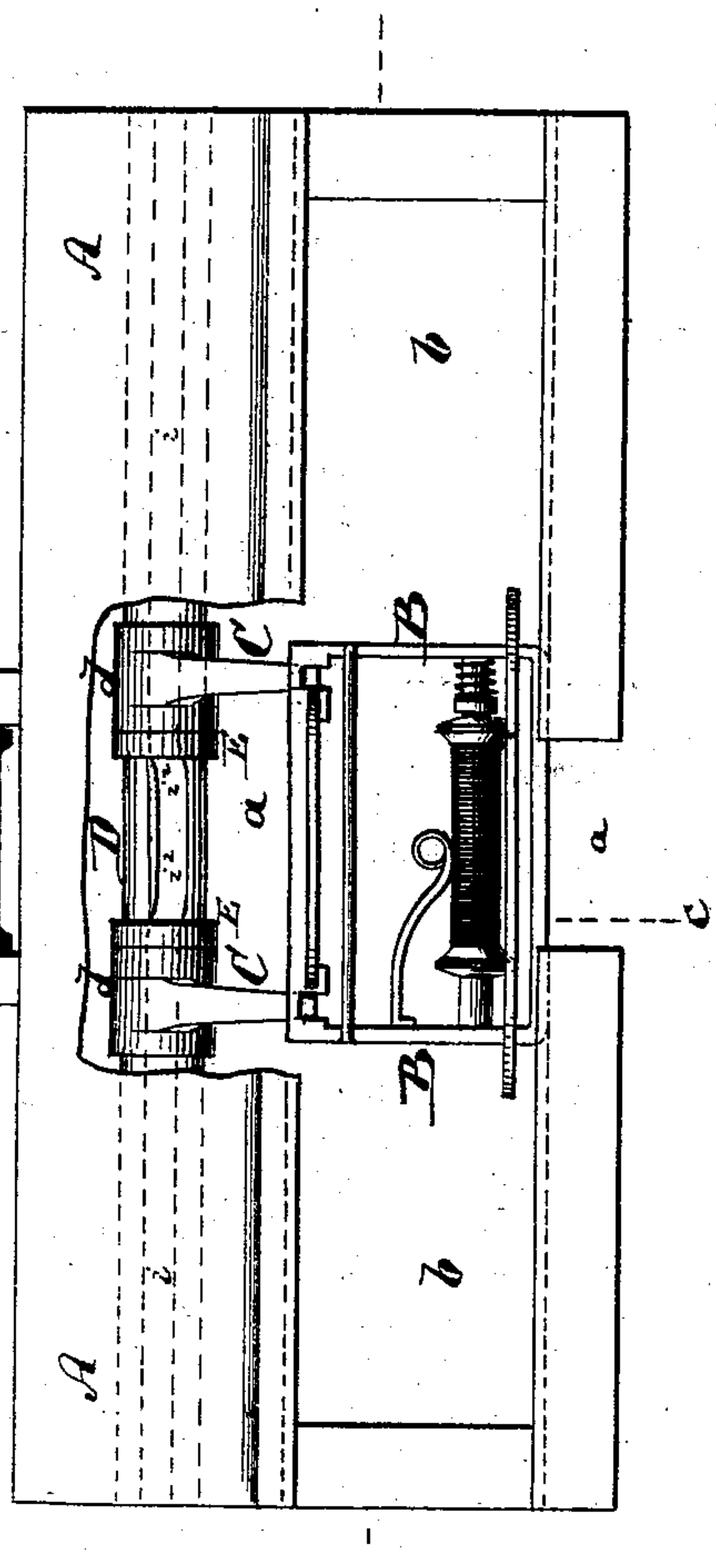

Fig. 1

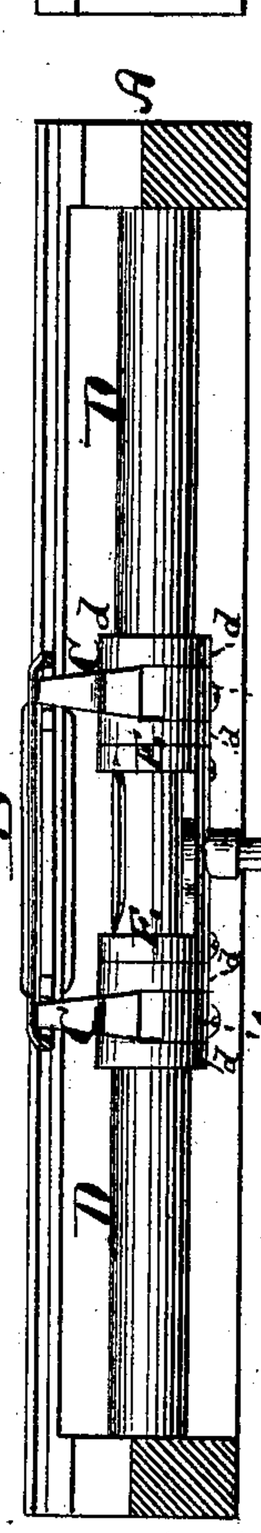

Fig. 2

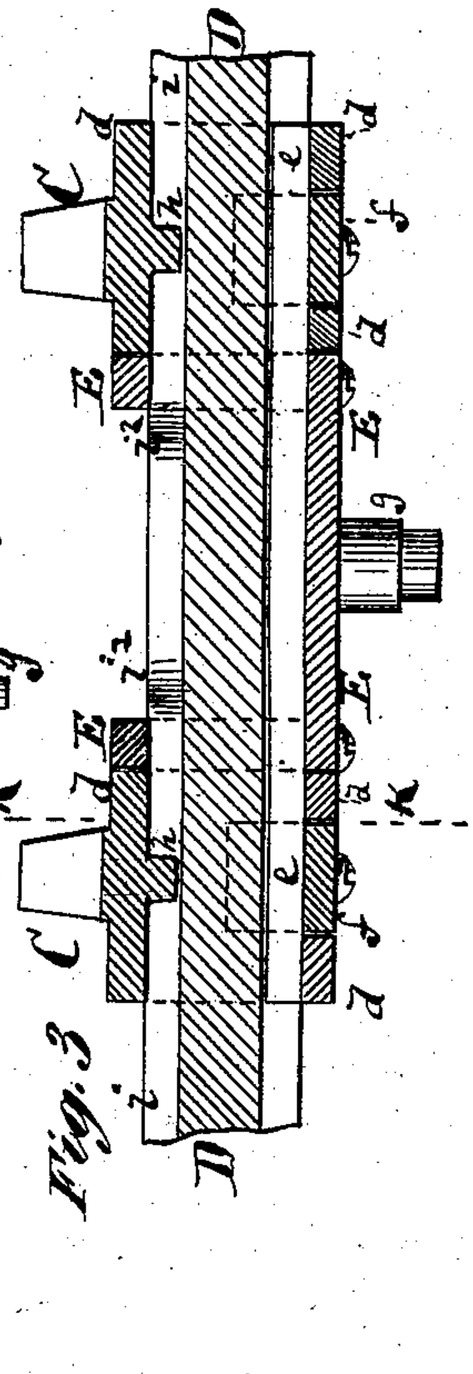

Fig. 3

Witnesses.
Michael Ryan
Fred Haynes

Charles I. Kane
Samuel E. Mower
by their Attorneys
Brown & Allen

# UNITED STATES PATENT OFFICE.

CHARLES I. KANE AND SAMUEL E. MOWER, OF MILFORD, CONNECTICUT.

## IMPROVEMENT IN LOOM SHUTTLE-DRIVING MECHANISMS.

Specification forming part of Letters Patent No. **152,120**, dated June 16, 1874; application filed November 22, 1873.

*To all whom it may concern:*

Be it known that we, CHARLES I. KANE and SAMUEL E. MOWER, of Milford, in the county of New Haven and State of Connecticut, have invented an Improved Shuttle-Driving Mechanism, of which the following is a specification:

Figure 1 is a plan or top view of our improved shuttle-driving mechanism. Fig. 2 is a face view, partly in section, of the same. Fig. 3 is a longitudinal vertical section thereof; Fig. 4, a vertical transverse section on the line *c c*, Fig. 1; Fig. 5, a detail vertical transverse section on the line *k k*, Fig. 3.

Figs. 3 and 5 are drawn on a scale somewhat larger than the remaining figures.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to an improved means of driving a shuttle of a narrow-ware loom; and consists in the use of peculiar means for actuating the sliding fingers by which the shuttle is moved, said fingers being moved along a stationary bar or shaft by a sliding carrier, and oscillated at proper intervals for the purpose of clearing the warp by a bend in a groove of the bar, into which groove projecting tenons of such fingers enter. By this arrangement a positive motion is imparted to the shuttle, and the carrying-fingers are alternately and properly disengaged from the shuttle, for the purpose of clearing the warp by simple and inexpensive mechanism, the groove in the supporting-bar being the only requisite, together with the tenons projecting into the same, for oscillating the fingers at the proper time and in the requisite manner.

In the accompanying drawing, the letter A represents the raceway for the shuttle B, said raceway having an opening, *a*, for the warp, and a horizontal way, *b*, for the shuttle. C C are the shuttle-driving fingers. They are provided with hubs *d*, that embrace a stationary cylindrical bar or shaft D, said bar or shaft being parallel with and behind the raceway, as shown. Upon the bar D is also fitted a slide or carrier, E, which is cylindrical, so as to embrace the bar, and is provided with a tenon, *e*, that enters a straight groove formed, by preference, in the under side of the bar D. The hubs *d* of the driving-fingers C embrace or straddle projecting bows *f* of the carrier E, as is more clearly indicated in Fig. 2, so that such carrier, when moved along the bar D, will invariably take both driving-fingers C along with it. A projecting pin, *g*, on the carrier serves to connect the same with suitable mechanism for imparting reciprocating motion to it. The fingers C C are so placed, with reference to the length of the shuttle B, that they will, respectively, be opposite or nearly opposite the ends of the shuttle, the space between the two driving-fingers being larger than the width of the warp used on the loom. Each hub *d* is provided with a projecting tenon, *h*, that enters a groove, *i*, cut, preferably, into the upper side of the bar D. This groove *i* is, directly beneath the warp or opening *a*, bent forward, as indicated at $i^2$ in Fig. 1, so that when a finger arrives beneath the warp, or, in fact, shortly before it arrives beneath the warp, the tenon *h* pertaining to such finger will enter the bent part $i^2$ of the groove *i* in the bar D, and thereby be deflected from its normal position, so as to swing its hub *d* and projecting finger C, disengaging the latter from the shuttle, and causing the finger to clear the warp. The groove has the same effect on each finger, from whatever side the carrier may approach the warp.

What we claim as our invention is—

The shuttle-driving mechanism consisting of the carrier E and the sliding oscillating fingers C C, working upon a stationary bar, D, which has a curved groove, *i*, receiving tenons *h* on the said fingers, the whole combined and operating substantially as described.

CHARLES I. KANE.
SAMUEL E. MOWER.

Witnesses:
ANON CLARK,
OWEN T. CLARKE.