

T. HALL & J. NEWTON.
Loom-Shuttle Guards.

No. 157,684.

Patented Dec. 15, 1874.

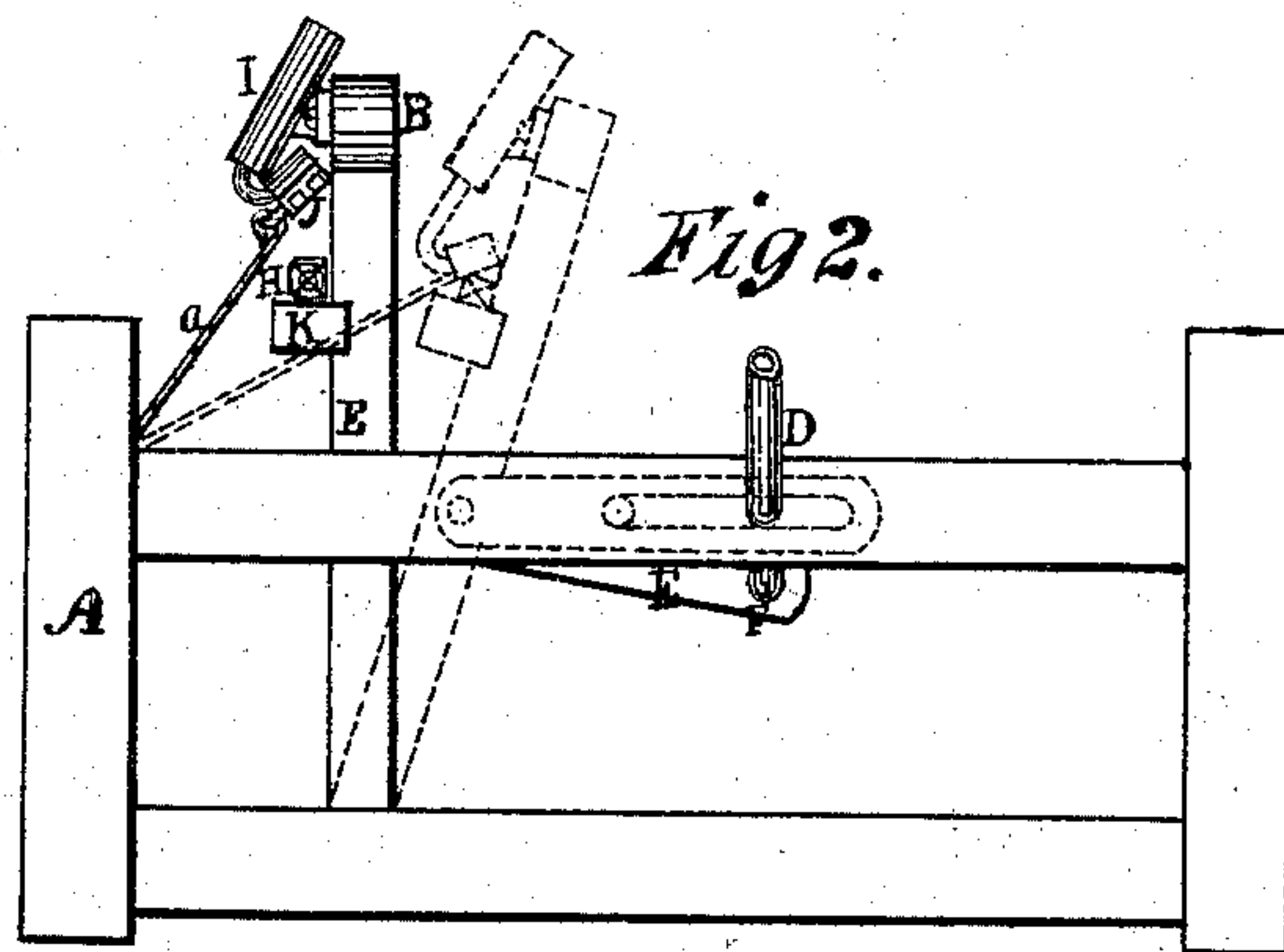
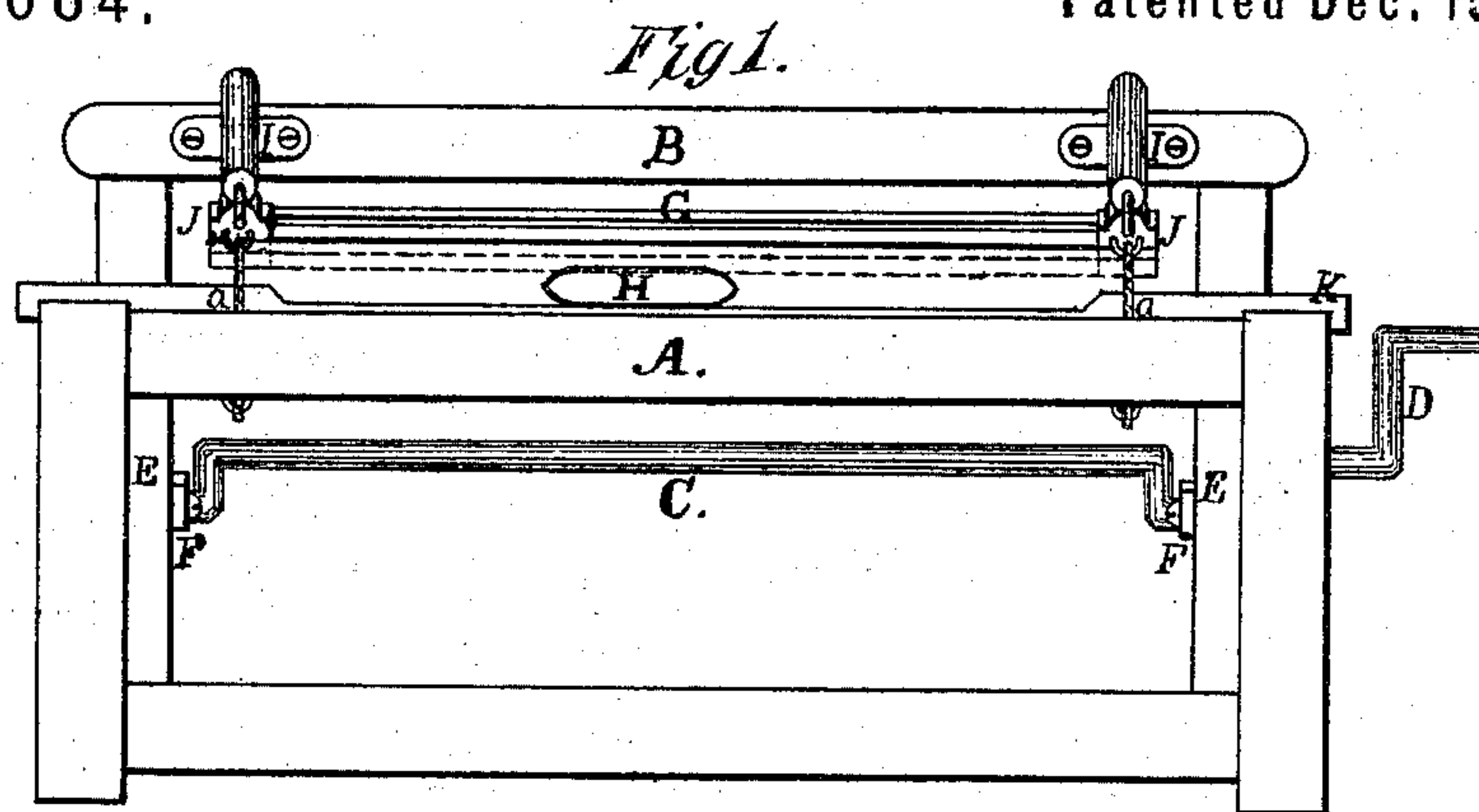


Fig 3.

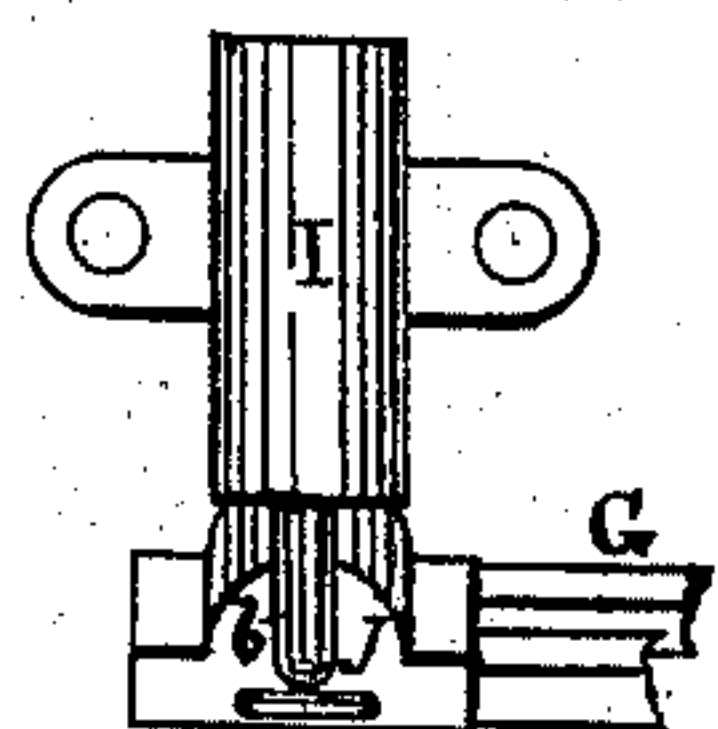


Fig 4.

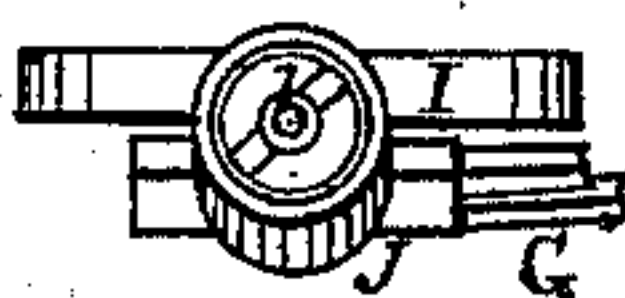
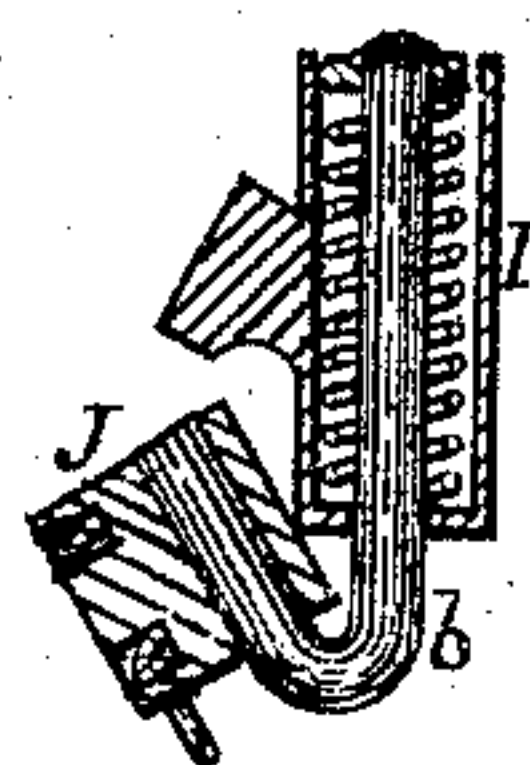


Fig 5.



Witnesses:
Geo. G. Abbott
Joseph E. Russell.

Inventor:
Thomas Hall.
James Newton.
Per. Chas. Moore
Atty.

UNITED STATES PATENT OFFICE.

THOMAS HALL AND JAMES NEWTON, OF LAWRENCE, MASSACHUSETTS;
SAID NEWTON ASSIGNOR TO SAID HALL.

IMPROVEMENT IN LOOM SHUTTLE-GUARDS.

Specification forming part of Letters Patent No. **157,684**, dated December 15, 1874; application filed August 25, 1874.

To all whom it may concern:

Be it known that we, THOMAS HALL and JAMES NEWTON, both of Lawrence, in the county of Essex and Commonwealth of Massachusetts, have invented a Shuttle-Guard, of which the following is a specification:

The object of our invention is to furnish a shuttle-guard for looms which shall retain the shuttle in its proper track, and prevent its leaving the same.

Our invention consists of a guard extending over the warp, and attached to piston-rods working in bracket-sockets on the lay, and operated by bands or chains attached thereto, as more fully described hereinafter.

Figure 1 is a front view of a loom with our improved guard attached. Fig. 2 is an end view of a loom, showing the bracket-socket as attached to reed-cap, and the attachment of the guard and its connecting-cords. Figs. 3, 4, and 5 are front, top, and sectional views of the bracket-socket with the guard-socket attached thereto, on an enlarged scale.

Like letters represent the same parts in each of the drawings.

A is the frame of a loom; B, the reed-cap; C, the crank-shaft; D, the crank; E E, the lever-arms, supporting and oscillating the lathe K; F F, cranks designed to reciprocate the lever-arms E E; G, our improved guard, so constructed of two rods of wood or metal, one parallel with the other, that the work can be seen through the same; H, the shuttle; I I, sockets and brackets, more fully represented in Figs. 3, 4, and 5, being constructed of a hollow cylinder, in which are arranged the piston and piston-rod *b*, and a spiral spring

designed to keep the piston in proper position, and to allow it to reciprocate with the lathe. J J are sockets on the guard G, to which the piston-rods *b b* are attached.

The guard G is brought down over the shuttle-course, when the lathe K is carried back, by means of the cords *a a*, which are attached to the sockets J J, and to any convenient part of the loom-frame A, and it is raised by the piston-rods *b b* and the spiral springs within the sockets I I when the lathe is brought forward to beat up the warp. The guard G is also so constructed that it can be readily removed from the rods *b b*, whenever it shall become necessary, for the purpose of picking out work that has been improperly woven.

To apply our improved guard the bracket-sockets I I are securely screwed to the reed-cap B; the cords or chains *a a* are securely fastened to the eyelets of the guard-sockets J J, and to any convenient part of the loom-frame, the reciprocating motion of the lathe operating it in the proper time to prevent the shuttle from leaving its proper course.

We claim as our invention, and desire to secure by Letters Patent—

The combination of the guard G, the guard-sockets J J, the piston-rods and pistons *b b*, the spiral spring, the bracket-sockets I I, and the cords or chains *a a*, arranged and operating together in a manner and for the purpose herein described and set forth.

THOMAS HALL.
JAMES NEWTON.

Witnesses:

GEO. G. ABBOTT,
CHAS. D. MOORE.