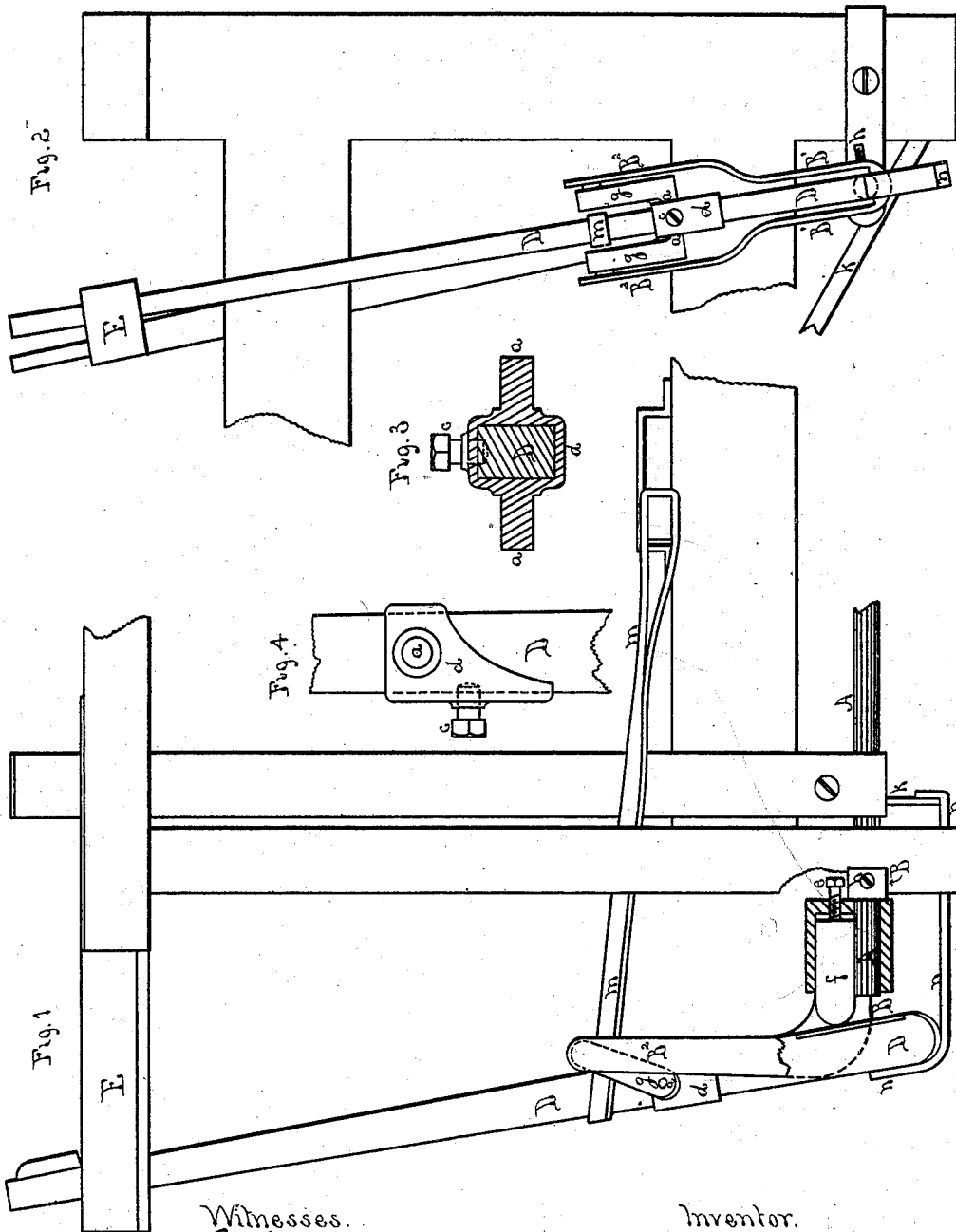


D. M. COLLINS.
Loom-Picking Mechanism.

No. 165,408.

Patented July 13, 1875.



Witnesses.
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IMPROVEMENT IN LOOM PICKING MECHANISMS.

Specification forming part of Letters Patent No. **165,408**, dated July 13, 1875; application filed May 1, 1875.

To all whom it may concern:

Be it known that I, DAVID M. COLLINS, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Loom Picking Mechanisms, of which the following is a specification, reference being had to the accompanying drawings forming part thereof, in which drawings—

Figure 1 represents a front, and Fig. 2 an end, elevation of a portion of a loom having my improvements thereunto applied, Fig. 1 being partly in section. Figs. 3 and 4 represent detached details not fully shown in the other figures, Fig. 3 being a section through the two studs *a* and the picker-staff D.

This invention has for its object to furnish a loom picking mechanism which shall effect a parallel motion of the picker, and through this the shuttle, and not only parallel with the horizontal face of the race-board, but laterally, or in line with the reed, and with the center or sides of the race from one shuttle-box to the other; also, by the construction, arrangement, and combination of certain of the co-operative elements, to enable me to better support the picker-staff and its connections, to reduce the size, and consequently the weight, of the picker-staff, thereby beneficially increasing its flexibility, and reducing the friction, and causing the whole picking mechanism to operate with greater ease and freedom, and with less motive power.

In the said drawings, A represents the rocker-shaft, to each opposite end of which I apply a forked stand, B, secured each by a set-screw, *h*. The two divisions B¹ of the forked stand have a space between them sufficient to receive the lower end of the picker-staff, and allow it to move or oscillate freely. The upper ends B² of the two divisions of the forked stand are offset, or curved outward and upward, so as to provide a space on each side of the picker-staff sufficient to contain a sweep or arm, *g*. The upper end of each arm *g* is pivoted to the upper end of one of the forked divisions B², and the lower end of each said arm to a stud, *a*, projecting from the side of a clasp, *d*, on the picker-staff D, the clasp being fastened to the staff by a set-screw, *e*, or by a common wood-screw entering the edge only of the staff, so as

not to weaken it. The two arms *g* swing freely on their pivots, and accommodate the oscillating motion of the staff D, and better support the staff than by the common single arm, and, besides this, said arms *g*, being well secured by their pivots to the stand division B², and to the opposite sides of the staff, prevent torsional action or twisting of the latter, and thereby retain the top end of the staff and the picker, when in action, in a line parallel with the center or with the front and rear sides, as well as parallel with the horizontal face of the race-board, this being the upper surface of the lay-sill E. Between the two divisions of the forked stand, and above each connected end of the rocker-shaft, and in a socket constructed for that purpose, I apply an adjustable fulcrum, *f*, constructed with a rounded nose, against which the edge of the picker-staff rocks and slides when in operation, the edge of the staff being generally plated with metal to increase its wearing capacity. The fulcrum *f* is adjustable longitudinally, or toward and from the edge of the staff, by a set-screw, *e*, passing through the end of the socket, and by this means the lower end of the staff D is set and retained in such a position relatively with the two arms *g* as to allow the staff to operate accurately and freely, and with little friction between the nose of the fulcrum and the plated edge of the staff. The clasp *d* is constructed with opposite studs *a*, formed or cast in one with the sides of the clasp, so as to connect the arms *g* without boring the staff to weaken it, and by this means I am enabled to use a much lighter and smaller and more flexible picker-staff than where the staff is bored to receive the pivot which connects the lower end of the common single arm to one side only of the staff. The smaller and lighter staff is the means of diminishing the friction, and causing the whole picking mechanism to operate with less power, and the more flexible staff is less liable to break than the larger and more rigid one, and by reason of its flexibility the connected parts receive less jar or sudden concussion, and are less liable to fracture or injury, or to be disengaged from the staff, or from each other. The usual strap *m*, connected with the loom mechanisms, operates the picker-staff in one direction, and in my device a strap,

n, passing around the lower end of the staff and one end secured to the latter, and the opposite end of said strap fastened to the end of a spring, *k*, operates the staff in the opposite direction, the staff rocking against the rounded nose of the fulcrum, with a slight sliding action, caused by the motion of the arms *g* as they swing on the staff each way. Certain of the parts co-operate to produce unitary results, and all said parts co-operate to produce the complete result of throwing a shuttle on a line parallel with the race from one shuttle-box to the other.

I claim as my invention—

1. The forked stand *B*, constructed as described, with divisions *B*¹ *B*², in combination with the arms *g g* and picker-staff *D*, provided with the picker *b*, whereby the said picker is

caused to travel in a line parallel with the shuttle-race, as described.

2. The forked stand *B*, constructed as described, with divisions *B*¹ *B*², and a socket for the fulcrum *f*, in combination with the rocker-shaft *A*, picker-staff *D*, and arms *g g*, substantially as described.

3. The adjustable fulcrum *f* and its set-screw *e*, in combination with the forked stand *B*, picker-staff *D*, and arms *g g*, as described.

4. The clasp *d*, constructed as described, with opposite studs *a*, in combination with the picker-staff *D*, the arms *g g*, and the forked stand *A*, as described.

DAVID M. COLLINS.

Witnesses:

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JOHN E. CRANE.