J. C. & A. P. Garretson.

Hand Loom.

No. 35,229. Patented May 13, 1862.

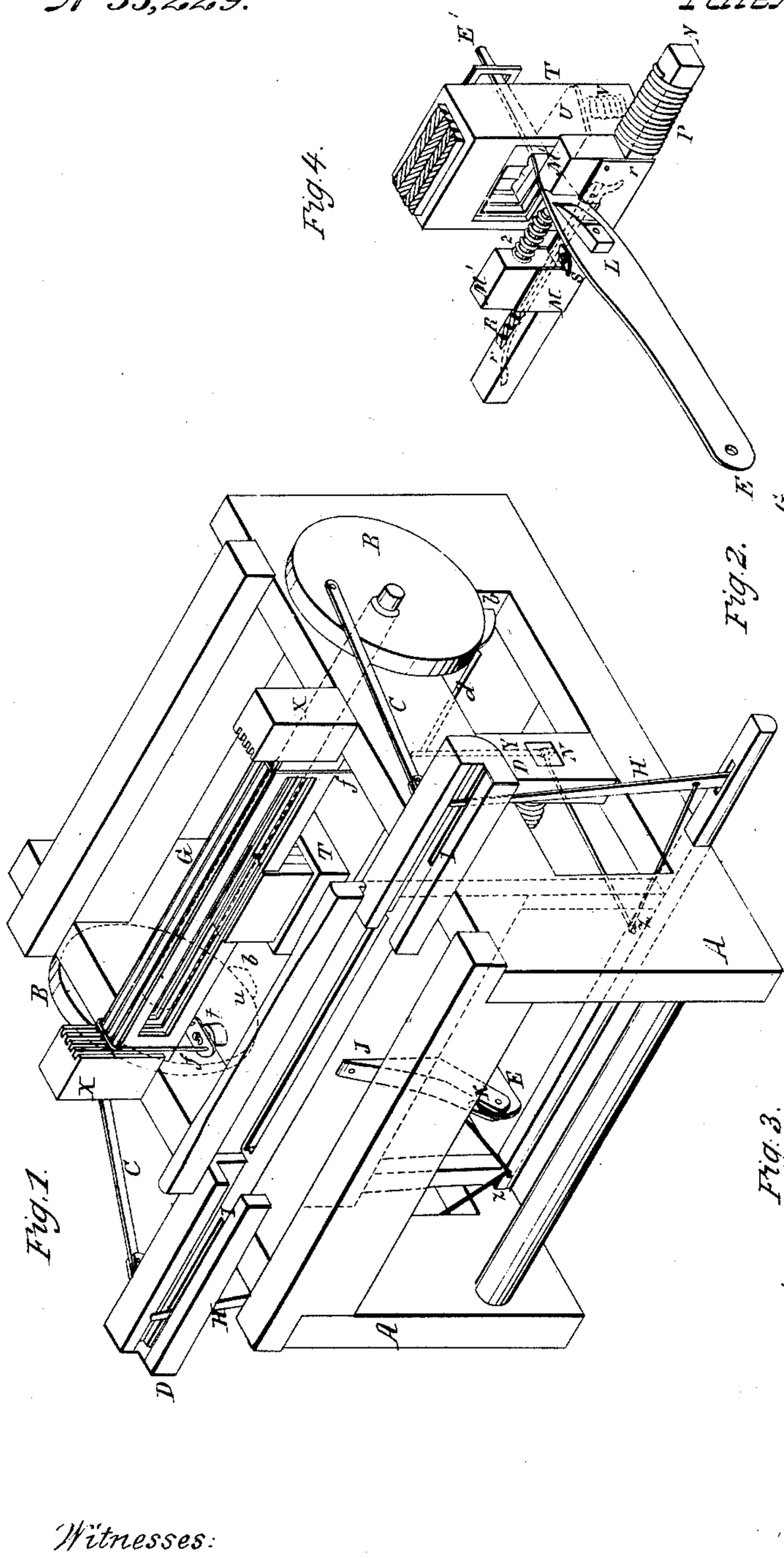

Fig. 1.

Fig. 4.

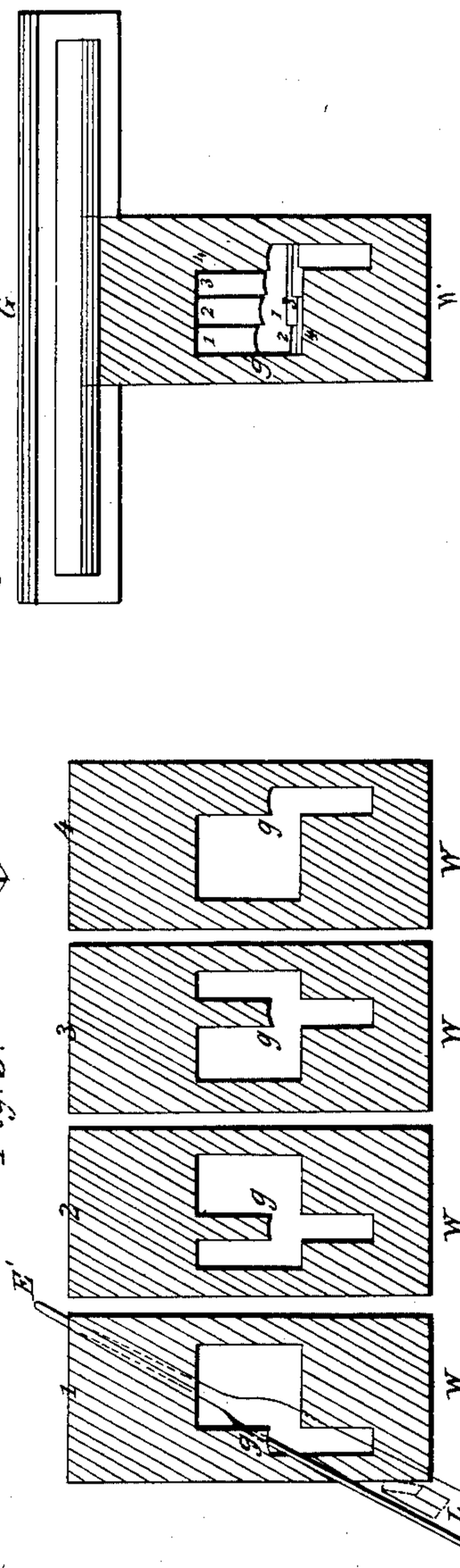

Fig. 2.

Fig. 3.

Witnesses:

Wm. Franklin Reigart.

Lam N. Rosenthal

Inventor.

Joel C. Garretson.

Amos P. Garretson.

UNITED STATES PATENT OFFICE.

JOEL C. GARRETSON AND AMOS P. GARRETSON, OF JACKSON, HENRY COUNTY, IOWA.

IMPROVEMENT IN LOOMS.

Specification forming part of Letters Patent No. **35,229,** dated May 13, 1862.

To all whom it may concern:

Be it known that we, JOEL C. GARRETSON and AMOS P. GARRETSON, of Jackson township, Henry county, and State of Iowa, have invented new and useful Improvements in Looms; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists, first, in the employment of an oblong box with its movable bottom to hold the shedders and in which they operate; second, in the employment of shedders attached to their harness-frames and a shedding-bar to produce a shed in the web; third, in the employment of an incline on one side of shedding-bar, a sliding frame-rack, and dog to vary the shed in the web.

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

A represents the square frame; B B, the driving-wheels; *b b*, the wedge projections on their circumferences.

C C are rods connecting the driving-wheels B B to the lathe D.

J represents an arm in center of lathe D, slatted at its outer end and pivoted at K.

E represents the thin shedding-bar, pivoted at K in slatted J as its fulcrum. This bar E toward the end farthest from its fulcrum has its upper and lower edges beveled nearly to a point, leaving a guide-rod, E′, as its point.

L represents an incline (see Fig. 4) on one side of bar E, its base toward fulcrum K and nearest that point.

M represents a sliding frame having two uprights, M′ M′, the whole sliding upon a center bar, N.

Q represents a small spiral spring around a sliding rod that passes through the left-hand upright M′ of frame M and extending nearly to upright M′ on the right-hand side of the machine.

N represents a square bar fastened in frame A and slatted at one side to receive the half-elliptic spring *r* and rack R. A spiral spring, P, surrounds bar N between slide M and the side framing of the machine, exerting a constant tendency to force said slide to the left.

R represents a rack with teeth on its upper side at one end, and fastened with a screw at the other end in the square bar N.

r represents a half-elliptic spring placed under rack R, and which presses it upward.

S represents a dog, which works on a pivot near its center, and is fastened on top of bar N between the two uprights M′ M′ of frame M, and has the under side of its inner end slightly beveled or bent upward.

T represents an oblong square box secured to the center of cross-pieces *u* of the framing, and having a movable bottom, U, and spiral spring V underneath, and having a square hole through it near its center. This box T contains the shedders W, and in which they operate and rest on the movable bottom U.

t t represent inclosed spiral springs secured near both ends of the upper cross-piece, *u*, of the frame, and from which stirrup-wires *f f* extend over the top of all the harness-frames G.

W, Fig. 2, represents a front view of the shedders when placed together with their harness-frames G attached, as shown in perspective; in box T.

W W W W, Fig. 3, represent the shedders separated and as constructed for producing the various sheds in the web. Diagram 1 of Fig. 3 shows the manner in which shedding-bar E passes through the shedders when at work.

X represents grooved uprights, in which the harness-frames slide to preserve them in their even vertical motion.

Y represents two double-armed pivoted posts, one on each side of frame A near its bottom, having arms Z, which connect with the picker-staves H and projecting arms *d*, which are pressed forward by the wedges *b b* at every revolution of the wheels B, and thus levers H are thrown against the shuttle, producing a quick and regular motion.

As the wheels B revolve, the connecting-rods *c c* operate lathe D, and shedding-bar E is pressed through the shedders. When the bevel-point comes in contact with edge *g* of shedder No. 1, the shedder is elevated and shedders Nos. 2, 3, and 4 are depressed, which

makes one shed. The incline L on bar E having now come in contact with the right-hand upright M′ of frame M, the frame is moved to the right hand over one tooth of the rack R, which is thrown up by the half-elliptic spring *r* underneath it, and the tooth of the rack holds frame M securely to that point. Spiral spring Q causes a constant pressure of its inclosed rod against the left-hand side of shedding-bar E to insure the action of bar E upon the desired shedder. When the lathe D is moved forward, bar E is drawn out of the shedders, releasing them from the action of its beveled edges, but leaving its lengthened end or guiding-rod E′ within the shedders, at which stage bar E is thrown by force of the spiral spring Q from edge *g* of shedder No. 1 to the edge *g* of shedder No. 2, when the backward vibration of the lathe D brings bar E in contact with the edge *g* of No. 2 shedder and elevates it and depresses shedders Nos. 1, 3, and 4, making another shed in the web, and in like manner until all the shedders have been elevated and depressed in their turn. At this period the left-hand upright M′ of frame M comes in contact with the outer end of dog S, which is thereby swung round upon its center, and its inner beveled end thus forced on top of rack R, and so holding it down that at the forward vibration of lathe D the frame M and bar E are released from the action of the rack and at liberty to pass back again. Spiral spring P now comes into action and forces slide M back to place of beginning, when the right-hand upright M′ of frame M comes in contact with dog S and forces it off of rack R, when it is ready for another series. This loom can be worked by hand or other power.

What we claim and desire to secure by Letters Patent is—

1. The oblong box combined with its movable bottom to hold the shedders, and in which they operate, constructed substantially as described, for the purposes set forth.

2. The shedders attached to their harness-frames, combined with the shedding-bar to produce a shed in the web, the same being constructed and operating substantially as described and set forth.

3. Combining the sliding frame with the rack and dog to vary the shed in the web, operating substantially as described and set forth.

JOEL C. GARRETSON.
AMOS P. GARRETSON.

Witnesses:
J. FRANKLIN REIGART,
D. ROWLAND.