T. Clarkson.

Loom.

No. 28,125. Patented May 1, 1860.

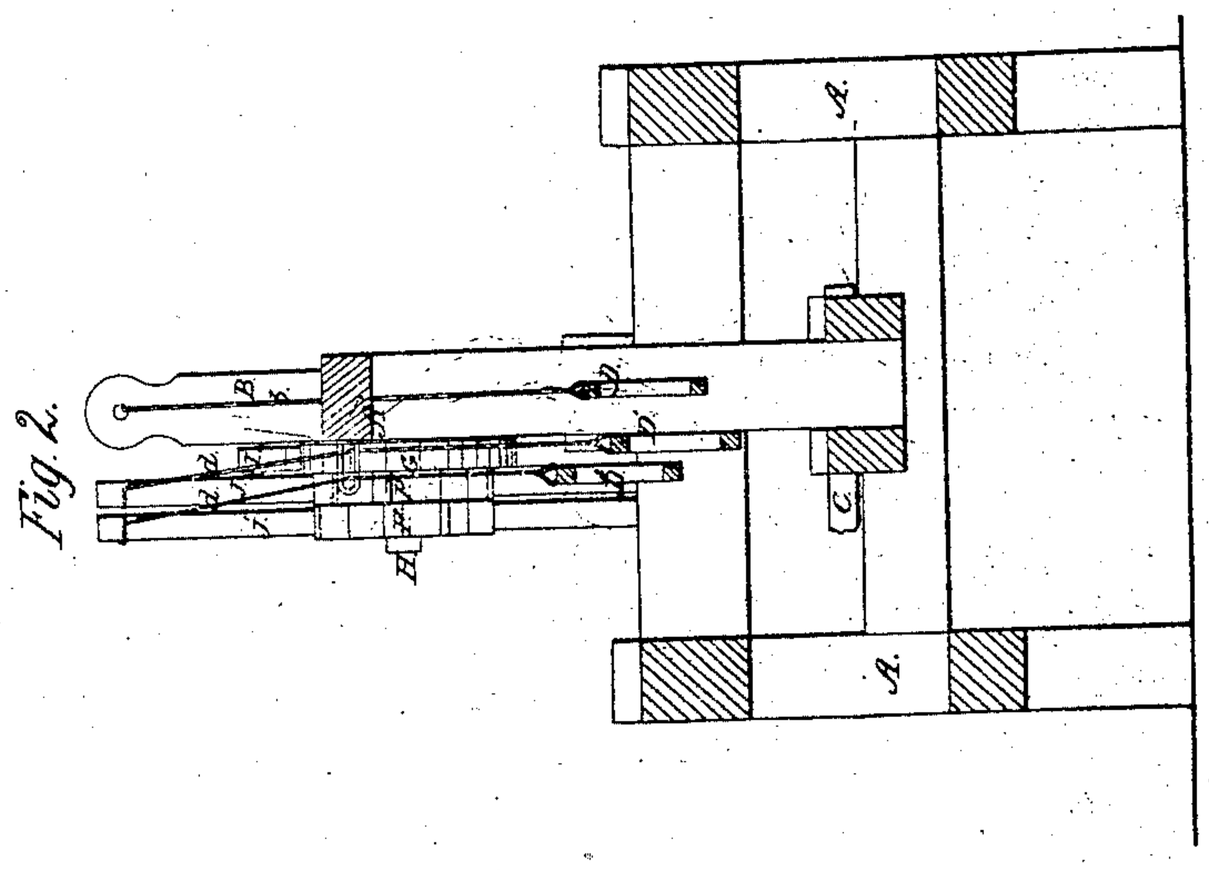

Fig. 2.

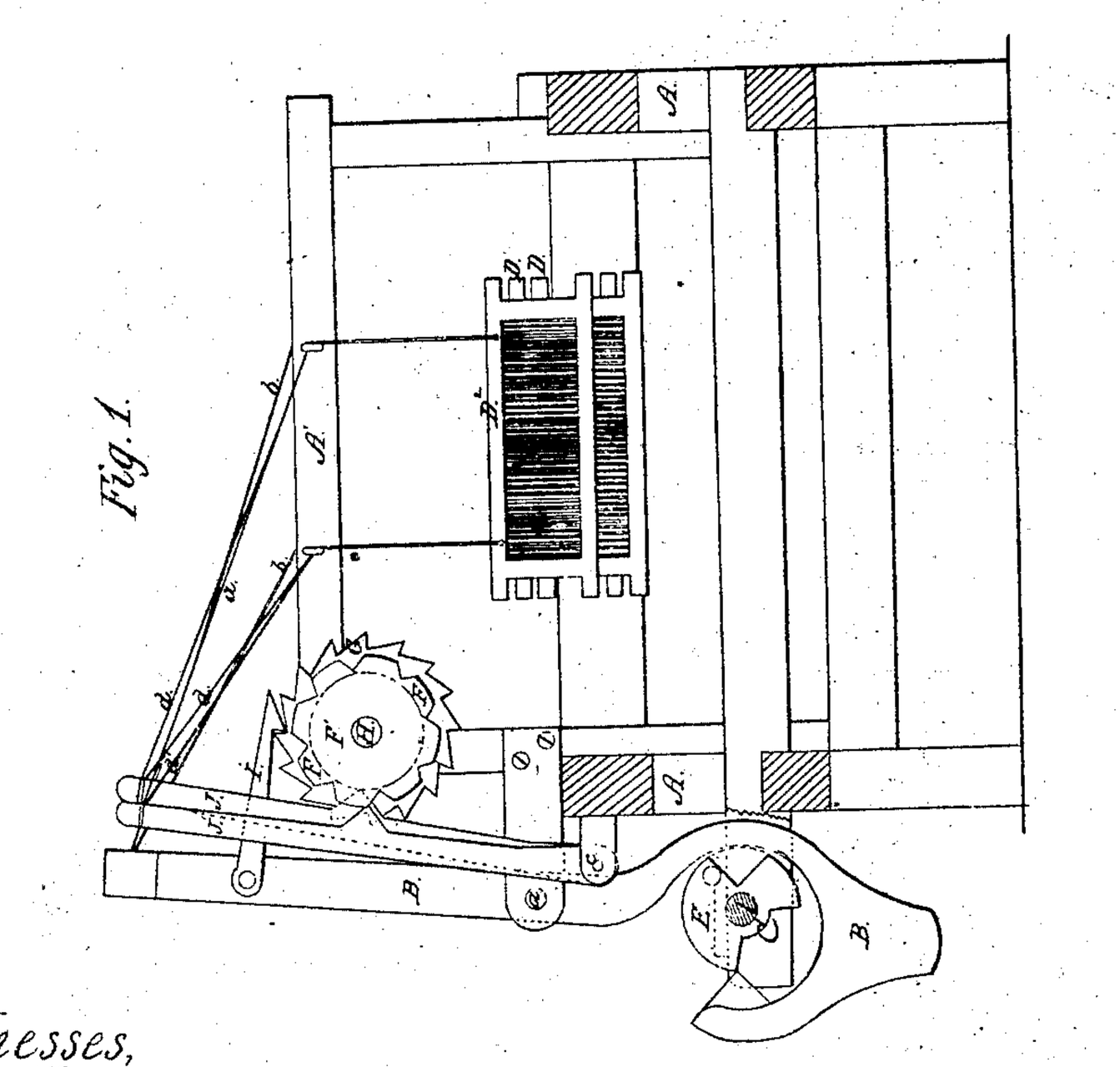

Fig. 1.

Witnesses,
F. A. Leonard
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UNITED STATES PATENT OFFICE.

TILLOTSON CLARKSON, OF SOUTH ADAMS, MASSACHUSETTS, ASSIGNOR TO B. F. PHILLIPS & CO., OF SAME PLACE.

LOOM.

Specification of Letters Patent No. 28,125, dated May 1, 1860.

To all whom it may concern:

Be it known that I, TILLOTSON CLARKSON, of South Adams, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in the Harness-Motion of 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 drawing, forming part of this specification, in which—

Figure 1, is a vertical section of a power loom in front of the harness and parallel with the front of the loom. Fig. 2 is a section at right angles to Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

My invention consists simply in the arrangement, relatively to each other and for united operation, of cams, a ratchet wheel, a pawl, auxiliary treadles, a main actuating treadle and the harness in the manner hereinafter described.

My arrangement is superior to any other arrangement with which I am familiar for producing harness motion, 1st. on account of its simplicity, 2nd. because it works with but little friction, 3rd. because it can readily be applied to almost any kind of loom and when it is applied, the figure or pattern of the goods may be diversified to almost any extent, even in a Stafford loom, which ordinarily will only weave plain cloth, 4th. because it will render cheaply constructed looms capable of performing work which heretofore could only be woven on expensively constructed looms, such as the "Crompton," 5th. because when used in combination with R. W. Andrews loom, attachment patented in 1853 or any other cheap loom, a more diversified figure may be produced in the goods.

To enable others to make and use my invention I will proceed to describe its construction and operation.

A, is the main framing of the loom, and A′, the top framing.

B, is an upright treadle similar to those employed on the loom well known as the Stafford loom, swinging at one side of the framing on a fulcrum *a*, and having its upper end connected by cords *b*, *b*, with one leaf D, of the harness.

C, is the principal harness shaft arranged in bearings at the side of the loom and deriving a continuous rotary motion through the agency of gearing from the main or other shaft of the loom in a well known manner.

E, is the cam on the shaft C, for working the treadle B, and operating the leaf of harness D.

F, F′, are two pattern cams secured firmly together, and to a ratchet wheel G, and all fitted to turn on the same fixed horizontal shaft H, which is carried by the top framing A′, near the same side of the loom where the treadle B, is situated. The said cams and ratchet may however be fast upon the said shaft, and the shaft fitted to rotate in suitable bearings.

I, is a hooked pawl attached to the treadle B, and engaging with the ratchet wheel G, for the purpose of moving the said wheel one tooth at every operation of the treadle B, and so turning the two pattern cams.

J, J′, are two treadles working on a fulcrum pin *c*, at the same side of the loom as the treadle B, and arranged so that each is operated upon by one of the two cams J, J′. These treadles are connected each with one of the two leaves of harness D′, D², by cords *d*, *d*, *d′*, *d′*, passing over guide pulleys *e*, *e*, on the upper framing of the loom.

The two leaves of harness D′ and D², are operated by the cams F, F′, through the agency of the treadles J, J′, and under the influence of the treadle B, pawl I, and ratchet wheel G, the arrangement of the projections and recesses on the cams F, F′, controlling the pattern. Any number of such cams and corresponding treadles like F, F′, may be employed, according to the pattern to be produced the whole being operated by the single treadle B, pawl I, and ratchet wheel G; or instead of a number of cams a studded barrel such as is used in many looms may be employed such barrel constituting the equivalent of the cams.

I do not claim operating the harness of looms by means of cams worked by a ratchet and pawl applied otherwise than substantially as herein described.

I do not claim the arrangement for producing harness motion patented by R. W. Andrews January 18, 1853, nor that patented by Messrs. Smith and Skinner Nov. 11, 1856, nor do I claim anything exhibited in the loom patented by B. F. Rice October 18, 1853 or in the rejected loom of Wm. Tal-

bot July 22, 1851, as my invention is only designed to act as an auxiliary to the two former, and to provide a simple, convenient and more useful substitute for the two latter, but

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

The arrangement, relatively to one another and for united operation, of the auxiliary treadles J, J′, pawl I, main treadle B, ratchet wheel G, cams F, F, and harness D′, D^2, in the manner and for the purpose herein described.

TILLOTSON CLARKSON.

Witnesses:
F. M. LEONARD,
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