

(No Model.)

C. W. EVILSIZOR.
HAND LOOM FOR CARPET WEAVING.

No. 578,225.

Patented Mar. 2, 1897.

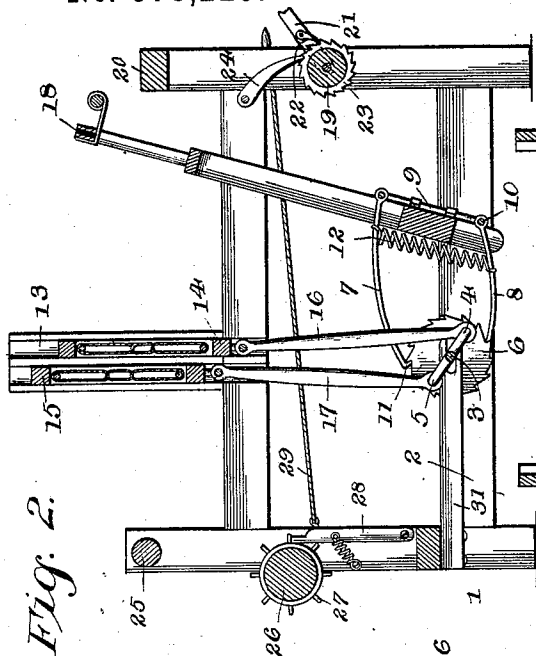


Fig. 2.

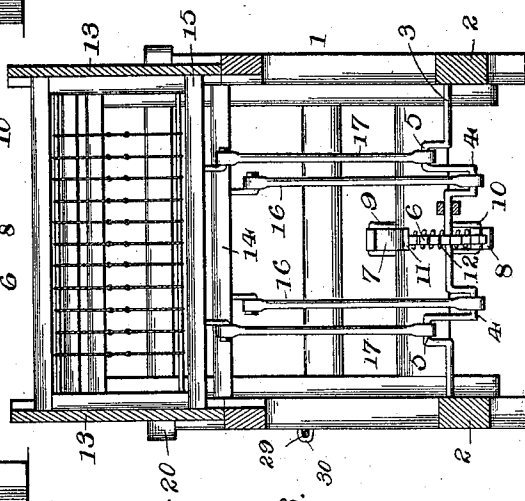
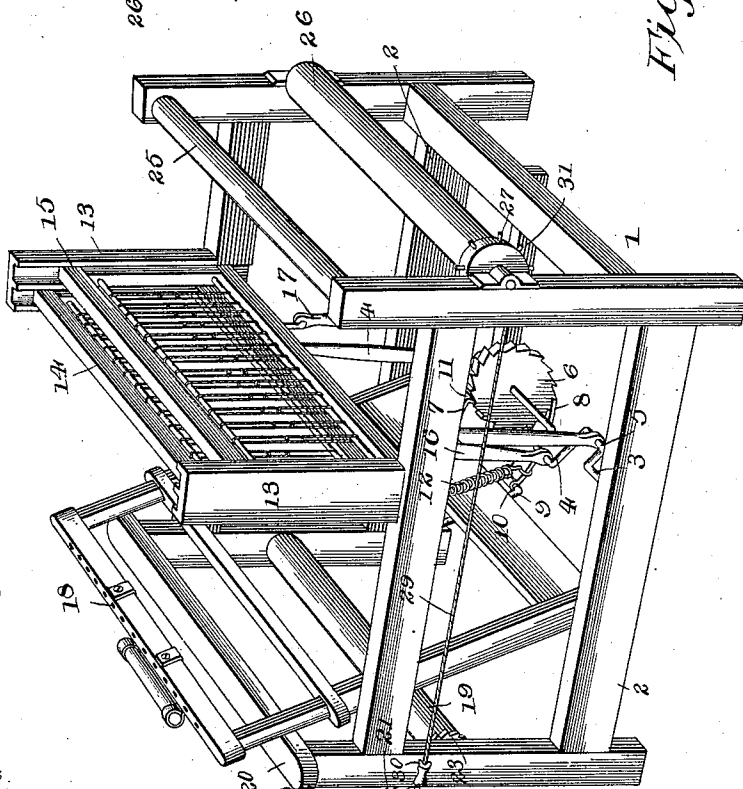


Fig. 3.

Fig. 1.



Inventor

Witnesses.

Charles W. Ford.

[Signature]

By his Attorneys.

Charles W. Evilsizor,

[Signature]

UNITED STATES PATENT OFFICE.

CHARLES W. EVILSIZOR, OF ST. PARIS, OHIO.

HAND-LOOM FOR CARPET-WEAVING.

SPECIFICATION forming part of Letters Patent No. 578,225, dated March 2, 1897.

Application filed December 26, 1895. Serial No. 573,359. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. EVILSIZOR, a citizen of the United States, residing at St. Paris, in the county of Champaign and State of Ohio, have invented a new and useful Hand-Loom for Carpet-Weaving, of which the following is a specification.

My invention relates to hand-loom adapted for carpet-weaving; and it has for its object to provide simple and improved means for operating the heddle-frames, whereby the warp is opened and closed by successive movements or "beats" of the lay-frame.

Further objects and advantages of this invention will appear in the following description and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of a loom constructed in accordance with my invention. Fig. 2 is a vertical central section of the same. Fig. 3 is a transverse vertical section.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a frame in the horizontal side bars 2 of which are mounted the extremities of a double crank-shaft 3, forming the tapet-shaft and having cranks 4 and 5 extending in diametrically opposite directions. Secured to this shaft at an intermediate point is a ratchet-wheel 6, with which engage pawls 7 and 8, carried by a lay-frame 9. The lower pawl 8 is fulcrumed to a loop 10, approximately in the line of the fulcrum of the lay-frame, whereby it has comparatively little or no longitudinal movement, whereas the pawl 7 is provided with a rearwardly-deflected tooth 11, adapted to engage the ratchet-teeth upon the return movement of the lay-frame or its movement toward the contiguous end of the frame. The pawls are connected by an actuating-spring 12 to hold their extremities in contact with the periphery of the ratchet-wheel.

Mounted in parallel vertical guides 13, rising from the main frame, are the vertically-reciprocable heddle-frames 14 and 15, the former of which is connected by pitmen 16 with the cranks 4, and the latter of which is connected by pitmen 17 with the cranks 5, where-

by the rotary movement of the crank-shaft imparts an opposite vertical reciprocation to the heddle-frames for a purpose well-known in the art. The lay-frame carries the usual lay 18. A fabric-drum 19 is mounted in suitable bearings at one end of the main frame below the breast-bar 20, said roll being actuated by means of a lever 21, having a pawl 22 to engage a ratchet-wheel 23, and a second pawl 24 being employed to prevent backward rotation of the fabric-roll. At the opposite end of the frame is mounted a guide-roll 25 and below the same a yarn-roll 26, provided at one end with stop-pins 27 for engagement by a spring-actuated pawl 28, an operating-cord 29, attached to said pawl, passing through a guide-eye 30, adjacent to the fabric roll or drum. In order to brace the intermediate portion of the crank-shaft, I employ a brace-bar 31, secured to one end of the main frame and slotted to receive the crank-shaft, said bar being arranged contiguous to the plane of the ratchet-wheel to resist the thrust of the pawls.

In operation the lay-frame is oscillated in the usual manner by means of a handhold arranged near its top, and the upper or operating pawl 7 is upon each rearward stroke engaged with a tooth of the ratchet-wheel to impart a step-by-step movement to the crank-shaft, the stationary or holding pawl 8 serving to prevent return movement of the ratchet-wheel. Contiguous to the same end of the frame as the lay-frame, and hence within reach of the operator manipulating said lay-frame, are the free ends of the operating-lever 21 for the fabric-drum 19 and the free end of the operating-cord 29, which is employed for releasing the roll 26.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

In a hand-loom, the combination with the main frame having fixed vertical guides, and the swinging lay-frame pivotally supported within the main frame at one side of said guides; of a pair of vertically-reciprocatory heddle-frames mounted in said fixed guides,

a single transverse shaft mounted in the lower part of the main frame and having at each side of its center a pair of oppositely-extending cranks, a pair of pitmen pivotally connected at their upper ends to each heddle-frame and at their lower ends to correspondingly-disposed cranks of the crank-shaft, a ratchet-wheel secured fast on the shaft intermediate of its ends, a pair of pawls disposed respectively above and below the ratchet-wheel and pivotally connected at one end with the lay-frame, the lower of said pawls being connected with the lay-frame approximately in line with the pivot or fulcrum

thereof so as to have substantially no longitudinal movement, and the upper of said pawls being provided at its free end with a rearwardly-deflected tooth adapted to engage the teeth of the ratchet-wheel, and a single spring arranged between and connected with the pawls, substantially as set forth. 15 20

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES W. EVILSIZOR.

Witnesses:

J. T. DERR,
W. A. GIBBS.