W. V. GEE.

Looms.

No. 154,600. Patented Sept. 1, 1874.

Fig. 1

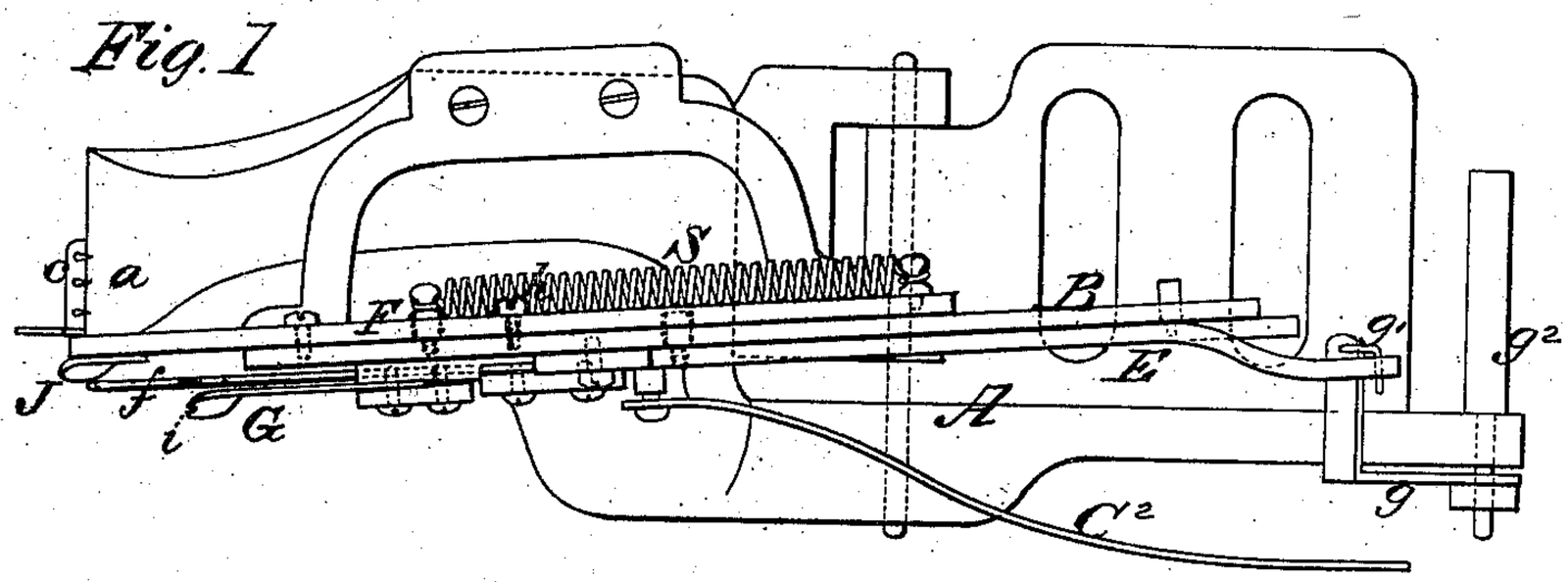
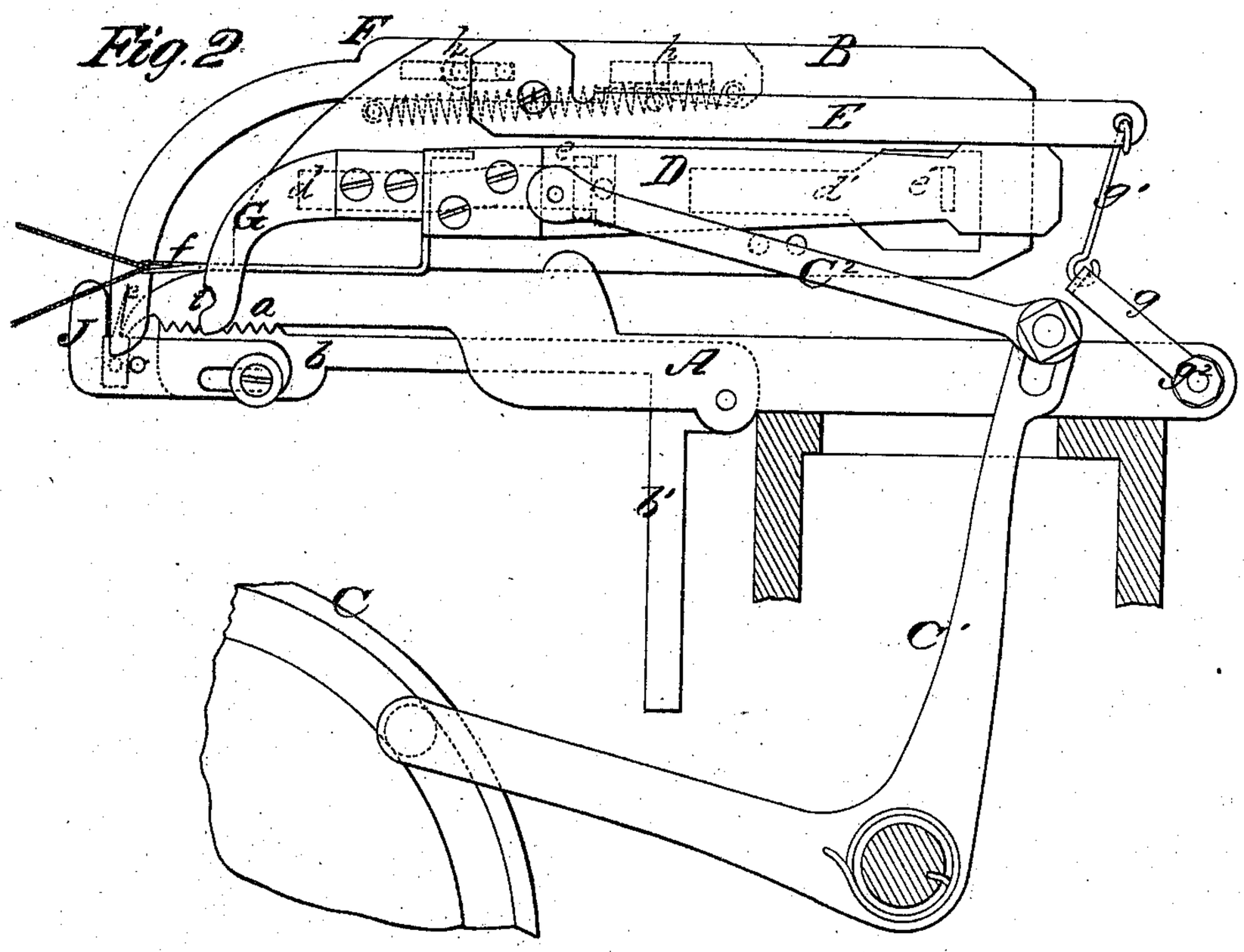


Fig. 2



WITNESSES

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WILLIAM V. GEE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN LOOMS.

Specification forming part of Letters Patent No. **154,600**, dated September 1, 1874; application filed July 11, 1874.

To all whom it may concern:

Be it known that I, WM. V. GEE, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in Loom Attachment; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a top view of my loom attachment. Fig. 2 is a side view of the same.

This invention has relation to looms which are especially designed for weaving carpets, wherein a reciprocating hook and a reciprocating finger are employed, instead of a shuttle, for carrying the filling or weft across the shed, substantially as described in my Letters Patent dated October 31, 1871, and numbered 120,510.

The improvements which I have made consist, mainly, in novel devices for knitting a selvage on one edge of the carpet, and drawing the loops tight, using for this purpose a reciprocating latch-needle; also, a device for casting off the loops, a device for regulating the tension on the loops, and a device for removing the loops from the hook which throws in the filling or weft, as will be hereinafter explained. It also consists in a blade or tongue, which is arranged below the needle, and secured to the lower jaw of the temple, which blade is designed as a means for guiding the outer supporting warp-thread, and keeping it straight, and at the same time holding it firmly while the loops are being formed. It also consists in combining with a reciprocating needle-bar a gravitating-arm, which is connected to a shifting-rod by a crank and link, and which lies upon said needle-bar as long as the selvage knitting proceeds properly, but should a loop break the needle-bar will drop, and cause the loom to stop running, to allow the proper repairs in the fabric to be made.

The following is a description of my improvements:

In the annexed drawings, A designates the frame of a loom-temple, the broad portion of which is rigidly but adjustably bolted upon the breast-beam, and the narrower portion of which has a raised serrated jaw, *a*, formed on it, which serves, in connection with a pivoted spring-jaw, *b*, to hold the carpet under proper tension on one side of the loom. The jaw *b* is pivoted to the frame A, and constructed with an arm, *b'*, depending from its hinged end, which arm is struck by the lay when moved back. The lower jaw of this temple is held up against the upper jaw by means of a spring, (not shown in the drawings,) and this lower jaw is provided with holding-spurs *c*, which serve as an additional security in holding the carpet. B designates a plate, which is perpendicular to the plane of the frame A, and which is rigidly secured to this frame a little oblique to its length. This plate B is constructed with two slots, *d d'*, through it, in which work two guides, *e e'*, that are fixed into one side of a needle-bar, D, carrying on one end a latch-needle, *f*, such as is commonly used in knitting-frames. The slot *d* is slightly curved, so as to give a dipping motion to the needle as it advances to receive the weft-loop, and a rising motion as it recedes to form the loop. The rear end of the rear slot *d'* is made quite broad vertically, for the purpose of allowing the rear end of the needle-bar to drop should a loop break or the needle fail to take a looped end of the weft. The needle-bar D receives a reciprocating motion from a cam, C, acting through the medium of an angular lever, C^1, and a connecting rod, C^2. (Shown in Fig. 2.) Above the needle-bar D, and pivoted to the plate B, is an arm, E, the free end of which rests upon the bar D, and is held up thereby as long as the needle *f* is looping properly; but should a loop break the outer end of the bar D will drop, and cause the free end of arm E also to drop. Arm E is connected to a crank, *g*, by means of a link, g^1, which crank is fast on one end of a rock-shaft, g^2, suitably connected to a belt-shipper for a main driving-pulley. Now, it will be seen that when arm E drops the shaft g^2 will receive a motion about its axis, thereby shifting the belt and stopping the loom. Any other suit-

able device may be employed in connection with my new stop-motion. F designates a slotted bar, which is connected to the inner side of the plate B by means of guides *h h*, and which is held against a fixed stud by means of a spring S, which spring will allow said bar F to yield backward during the formation of the loops by the latch-needle *f*. The front end of the bar F is curved downward past the upper jaw of the temple, and on the outer side thereof, so as to extend a little in advance of the needle, when the latter has been drawn fully back. It is around the curved end of the bar F that the loops are drawn tight, during which operation the spring S will allow the bar to yield more or less, so as to form a tight selvage. The front end of the needle-bar D has secured to it a curved loop-stripper, G, which does not extend as far forward as the hook of the needle *f*, but which does extend below this needle, and is notched at *i* to allow free play to a reciprocating hook, as shown in my patent above referred to, which takes the weft from the reciprocating finger, and carries it across the shed. The object of said stripper G is to strip the loops of the weft from said hook after the latter has terminated its outer stroke. J designates a guide, which is made of thin metal, and secured to the outer side of the lower or movable temple-jaw. This guide J is thin enough to pass through the reeds while beating up the weft, and the front end of this guide rises above the plane of the lower jaw, so that it (the guide) receives on its outer side the outer supporting warp-thread, and serves to firmly hold the same while forming the loops and beating up the weft. Guide J will thus enable me to make a straight knitted edge, and to draw the loops tightly.

What I claim as new, and desire to secure by Letters Patent, is—

1. The latch-needle *f* on reciprocating bar D, in combination with, and carried upon, a loom-temple, substantially as described.

2. The gravitating-arm E upon the slotted plate B, in combination with the needle-bar D and the rock-shaft g^2 of the belt-shipping mechanism, as described.

3. The loop-stripper G, carried on and operating with the needle-bar D, substantially as and for the purposes set forth.

4. The spring yielding bar F for holding the loop, curved as described, and operating in combination with the needle *f*, substantially as described.

5. The guide J upon the temple-jaw *b*, arranged and combined with the selvage-forming needle *f*, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM V. GEE.

Witnesses:

WM. NEILL,

H. DIENELT.