J. C. BROOKS.

LOOM.

APPLICATION FILED OCT. 4, 1919.

1,426,351.

Patented Aug. 22, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

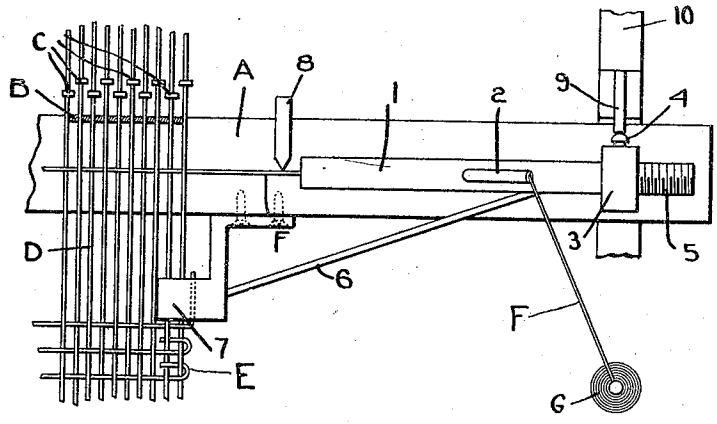
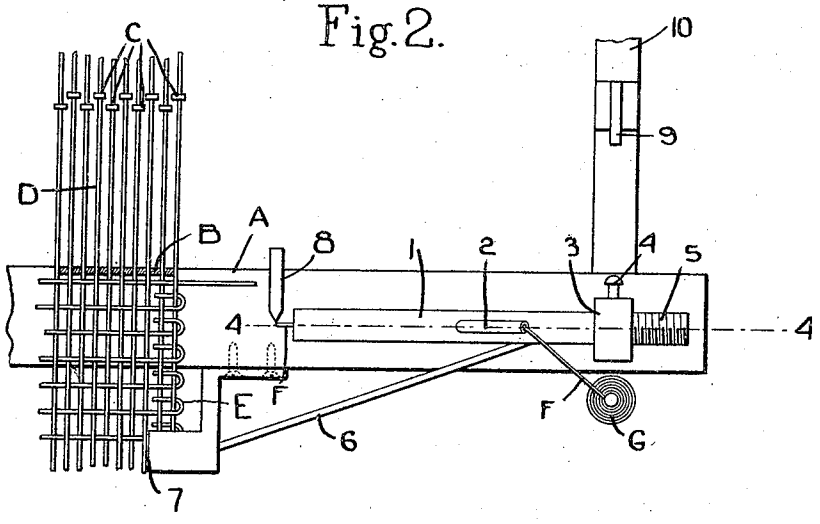


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

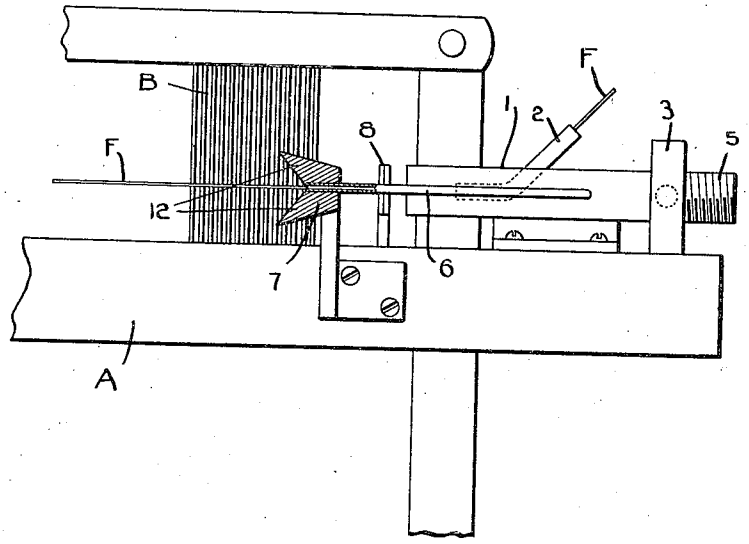
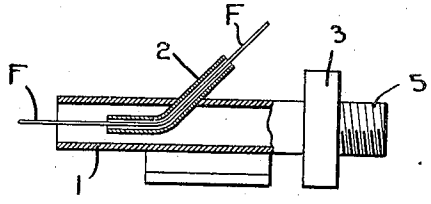


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN C. BROOKS, OF PATERSON, NEW JERSEY.

LOOM.

1,426,351. Specification of Letters Patent. Patented Aug. 22, 1922.

Application filed October 4, 1919. Serial No. 328,364.

To all whom it may concern:

Be it known that I, JOHN C. BROOKS, a citizen of the United States, and residing at Paterson, New Jersey, have invented a new and useful Improvement in Looms, of which the following description, in connection with the drawings, is a specification, like characters on the drawings representing like parts.

My invention relates to a loom of that type which I designate as an air loom, that is, a loom in which the filling is laid in the warp sheds by a blast of air acting directly on the filling.

A loom of this type is illustrated in my Patent No. 1,096,283, dated May 12, 1914.

The present invention relates particularly to a device for forming a selvage edge on the fabric as it is woven.

In the operation of an air loom, such as shown in my above-mentoned patent, each pick of weft thread is blown across the shed and then the weft is cut adjacent the edge of the cloth, thus leaving a cut weft end at the edge of the cloth. My present invention relates to means for folding such cut end of each weft thread back into the shed and around the warp thread at the edge of the cloth thereby to form a firm selvage edge to the cloth.

In the drawings wherein I have illustrated more or less diagrammatically a selected embodiment of my invention, Fig. 1 is a fragmentary view showing in plan view, one end of the lay and also indicating the manner in which the ends of the weft threads are bent back into the fabric.

Fig. 2 is a similar view showing the lay in its vertical position.

Fig. 3 is a front view of the member 7 and weft nozzle.

Fig. 4 is a section through the weft nozzle on the line 4—4, Fig. 2.

Inasmuch as my invention relates simply to the device for manipulating the cut ends of the weft threads, I have deemed it sufficient to illustrate in the drawings simply a portion of the lay with the weft-manipulating attachments thereon.

A indicates the lay, one end only of said lay being shown, and B indicates the reed carried by the lay. D indicates warp threads and C indicates the heddles by which said warp threads are manipulated.

The parts thus far described are, or may be, all as usual in looms and form no part of my present invention. Situated at one end of the lay and suitably mounted thereon, is a weft nozzle 1 having one end 5 thereof threaded to form a connection to some source of air supply, all as shown in my United States Patents No. 1,368,691, Feb. 15, 1921, No. 1,377,390, May 10, 1921 and No. 1,386,550, Aug. 2, 1921.

This nozzle 1 is provided with a tubular member 2 which leads into the side of the nozzle and is bent so that the end thereof which is situated within the nozzle is parallel thereto, said tubular member 2 constituting a weft guide member through which the weft thread F is led into the nozzle, said weft thread being taken from a suitable source of supply G.

The nozzle 1 is provided with a valve 3 of some suitable construction, said valve having a stem 4 by which it may be operated.

The lay also has mounted thereon a weft-cutting knife 8.

The parts thus far described operate in substantially the same way as the similar parts in my said patents. When the lay is at the back limit of its movement as shown in Fig. 1, the valve stem 4 is brought against the bunter 9 which is carried by a suitable support 10, thereby opening the valve and allowing a blast of air to be delivered through the nozzle. This blast of air will blow the weft thread through the open shed as all described in my above-mentioned patents. When the lay moves forward, the reed will beat up the weft thread which has thus been led in the shed, and when the lay reaches the forward limit of its movement, the knife 8 will be brought against and will sever the weft thread as shown in Fig. 2. This knife 8 is situated some distance from the edge of the web of warp threads, so that when the weft thread is severed an end will be left projecting a suitable distance beyond the edge of the nozzle.

My present invention has for its object to provide novel means for manipulating this projecting end of weft thread and bending it around the warp thread at the edge of the fabric and placing it in the shed, thus forming a selvage edge to the fabric. To accomplish this I have provided a filling-manipulating member 7 which is supported by the lay and which is provided with the two jaws 12. This member 7 is placed so that it has constant contact with the edge of the fabric, one jaw being above and the other below the fabric. Since said member is car-

ried by the lay it will move back and forth with the lay and will thus rub back and forth on the edge of the fabric. 6 indicates a pipe which extends through the member 7 and also communicates with the nozzle 1 on the delivery side of the valve 3, so that when said valve is opened, a blast of air will be delivered not only through the nozzle 1 but also through the tube 6. The delivery end of said tube or pipe 6 is at the apex of the notch formed between the jaws 12.

The operation of this member 7 is as follows: When the lay beats up as shown in Fig. 2 and the weft thread is severed, the member 7 will be carried beyond the severed weft thread. When the lay moves backwardly to the back center, the member 7 will engage the projecting end of the last-inserted weft thread and bend the same parallel to the warp thread as shown in Fig. 1 and when the parts are in the position shown in Fig. 1, the valve 3 will be opened, so that the blast of air delivered through the nozzle 1 will blow a pick of weft into the shed. This opening of the valve will also cause a blast of air to be delivered through the pipe 6, and such blast of air will operate to blow the bent end of the weft thread around into the shed so that when the lay beats up again it will beat this bent end of the weft thread into the cloth. By these means a cloth can be produced with a selvage edge, which, of course, is a desirable feature.

I claim.

1. In a loom, the combination with means to place separate picks of weft thread into the shed with the end of each pick projecting beyond the edge of the web or warp threads, of means, including pneumatic devices, to bend each projecting end of weft thread backwardly and insert it into the shed.

2. In a loom, the combination with means for placing in the warp sheds separate picks of weft thread, each having its end projecting beyond the web of warp threads, of means to bend the projecting end of each weft thread parallel to the warp thread and pneumatic means to place said end in the warp shed.

3. In a loom, the combination with a lay, of a weft nozzle thereon by which weft threads are blown into the warp sheds, means to cut each weft thread, and means to bend the projecting end of each weft thread back into the warp shed.

4. In a loom, the combination with a lay, of a weft nozzle thereon by which weft threads are blown into the warp sheds, means to cut each weft thread, so as to leave an end projecting beyond the warp threads, a weft-manipulating member carried by the lay and adapted to engage each projecting end of weft thread as the lay beats back to bend it parallel to the warp threads, and pneumatic means to place said bent end of weft thread into the shed.

5. In a loom, the combination with a lay, of a weft nozzle thereon by which weft threads are blown into the warp sheds, means to cut each weft thread, so as to leave an end projecting beyond the warp threads, a weft-manipulating member carried by the lay and adapted to engage each projecting end of weft thread as the lay beats back to bend it parallel to the warp threads, and a pipe connecting the weft nozzle to said weft manipulating member, whereby the air blast delivered through the weft nozzle will blow the bent end of the weft into the warp shed.

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Witnesses:
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BEULAH LOCKWOOD.