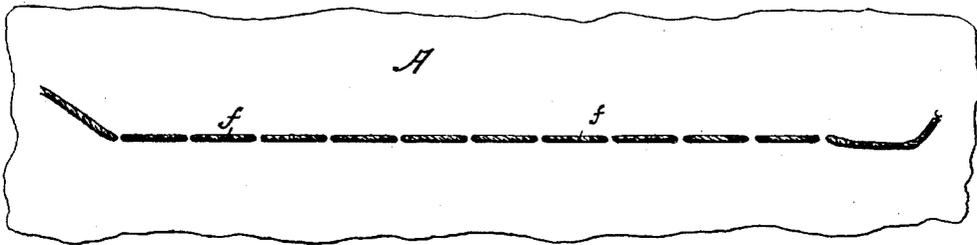


A. F. JOHNSON.  
LOCKED CHAIN STITCH.

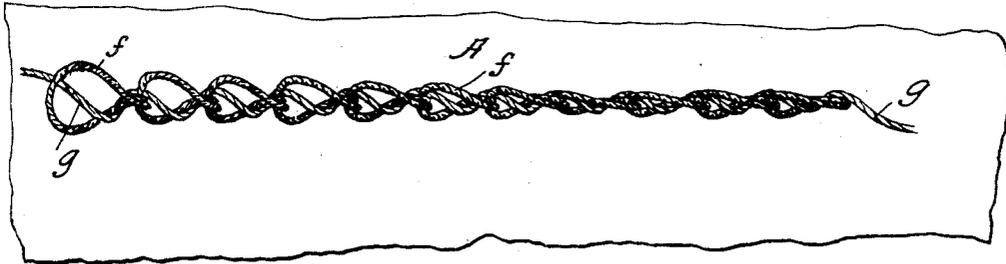
No. 26,906.

Patented Jan. 24, 1860.

*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



# UNITED STATES PATENT OFFICE.

A. F. JOHNSON, OF BOSTON, ASSIGNOR TO ALFRED B. ELY, OF NEWTON,  
MASSACHUSETTS.

## IMPROVED STITCH.

Specification forming part of Letters Patent No. 26,906, dated January 24, 1860.

*To all whom it may concern:*

Be it known that I, A. F. JOHNSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Stitch for Sewing Cloth, Leather, &c., which I term a "Locked Chain-Stitch," and of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of the upper or right side; Fig. 2, a plan of the under side; Fig. 3, a side view.

The stitch which is formed by the combined operation of a needle and shuttle and known as the "shuttle-stitch," while it possesses certain properties of a perfect stitch, has yet others which are objectionable, such as the non-elasticity of the stitch in thin material, by which the thread is rendered liable to be broken by a direct pull or strain upon the cloth in the direction of the seam. A second objection to this stitch for family use arises from the difficulty of adjusting the tension upon the two threads so that they shall be equally drawn into the cloth, in consequence of which one or other of the threads is liable, upon thin material, to lie straight along the seam, in which case it is easily broken by a direct strain, and at each break of this thread several stitches upon each side of it are unraveled. The stitch known as the "chain" or "loop" stitch is not liable to the objection of non-elasticity, and is consequently not so easily broken by a direct strain as the former; but it is open to the objection that it is easily raveled out if the thread be drawn in a particular manner, as is also the double-looped stitch formed by the interlocking of two threads and known as the "Grover & Baker" stitch.

My invention has, for its object to combine the desirable qualities of both the shuttle-stitch and chain-stitch and to avoid the objections to which each of these is liable, and this I accomplish by means of my improved stitch, which consists of a chain-stitch, each loop of which has an auxiliary or locking thread passed through it.

To enable others skilled in the art to under-

stand my invention, I will proceed to describe the manner in which I have carried it out.

In the drawings, A is the cloth; *f*, the upper or needle thread, which is formed into a series of chain-stitches, each loop of which carries a binding-thread, *g*, which is passed through it, and by which it is locked, so that it cannot be raveled or drawn out by pulling upon either thread at any point. The stitch shown in the accompanying drawings is formed by an ordinary chain-stitch needle and single thread and a revolving hook, the operation of which is more fully set forth and described in an application for patent made simultaneously with this. When thus made the binding-thread is passed around, under, and through each loop of the chain-stitch seam, which is twisted half-round, as seen in the drawings. This is the form of my stitch which I prefer, as the binding-thread, being wound partly round the loops of the chain-stitch, is also rendered elastic and not liable to be easily broken. The stitch may, however, be made by passing a shuttle with a binding-thread through each loop of a chain-stitch, which latter may be made with an ordinary needle and vibrating hook, or in any well-known and suitable manner; or the chain-stitch may be formed in the customary manner, and the loops may be passed over the point of a stationary shuttle; or the binding-thread, in lieu of being passed through every loop of the chain-stitch, may be thrown through every second or third loop.

It is obvious that when the chain-stitch is made, as above described, with a reciprocating hook and a stationary or a reciprocating shuttle, the loops will not be twisted, as is the case where the revolving hook is used, and the binding-thread will be straight along the seam without passing around the loops, as before described. When, however, the stitch is made with a revolving hook it will have all the elasticity of the ordinary chain-stitch, together with the properties of a fast or tight stitch, in a far greater degree than they are possessed by the shuttle-stitch, for should either one of the threads of the latter break at any point, several stitches, both before and be-

hind it, will be dropped; but should the binding-thread of the locked chain-stitch be broken no stitches will be dropped unless the thread of the chain-stitch be also broken at the same point.

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

The stitch herein described, consisting of a chain-stitch having a binding-thread passed through its loops, for the purpose described.  
A. F. JOHNSON.

Witnesses:

SAM. COOPER,  
P. E. TESCHEMACHIER.