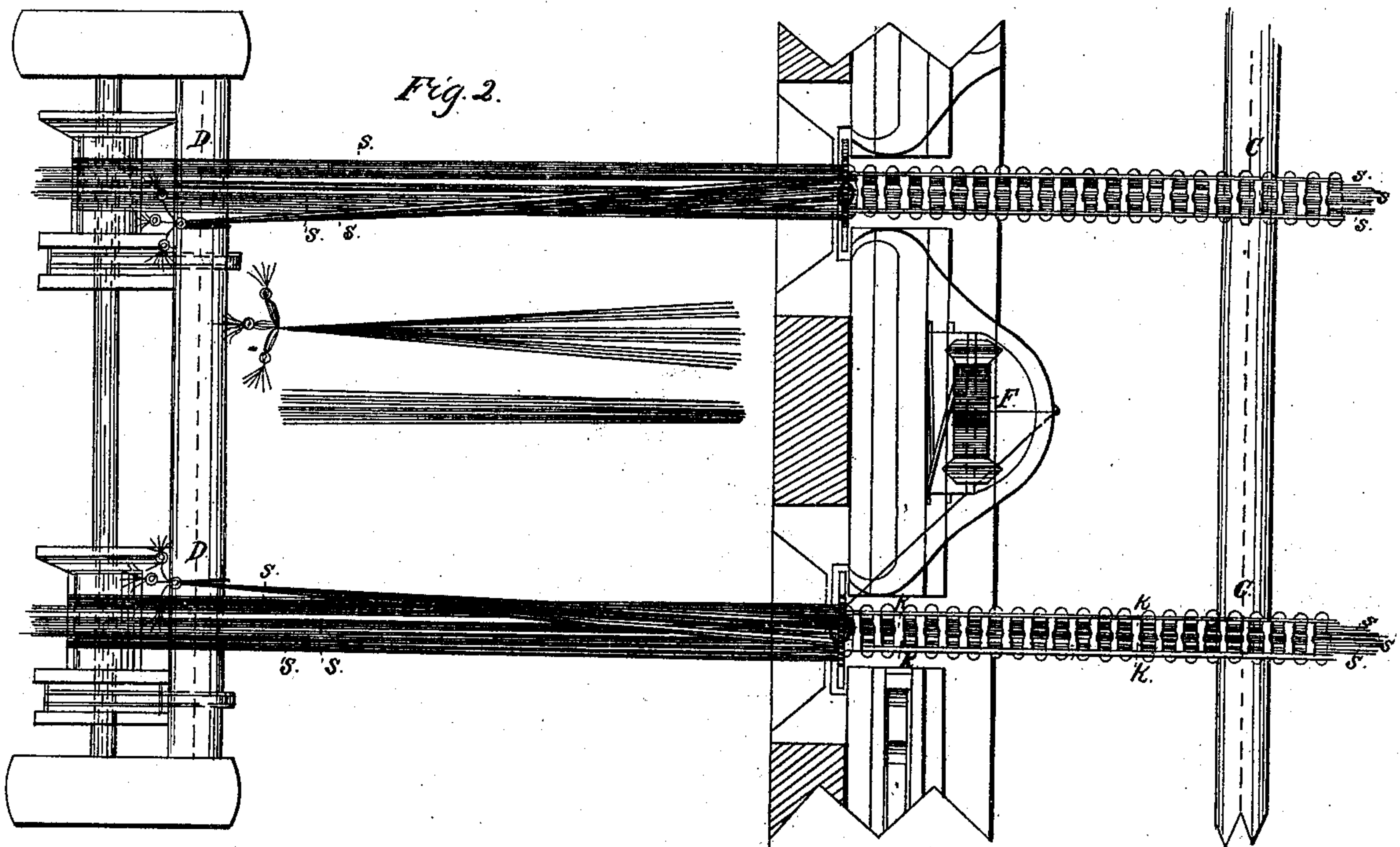
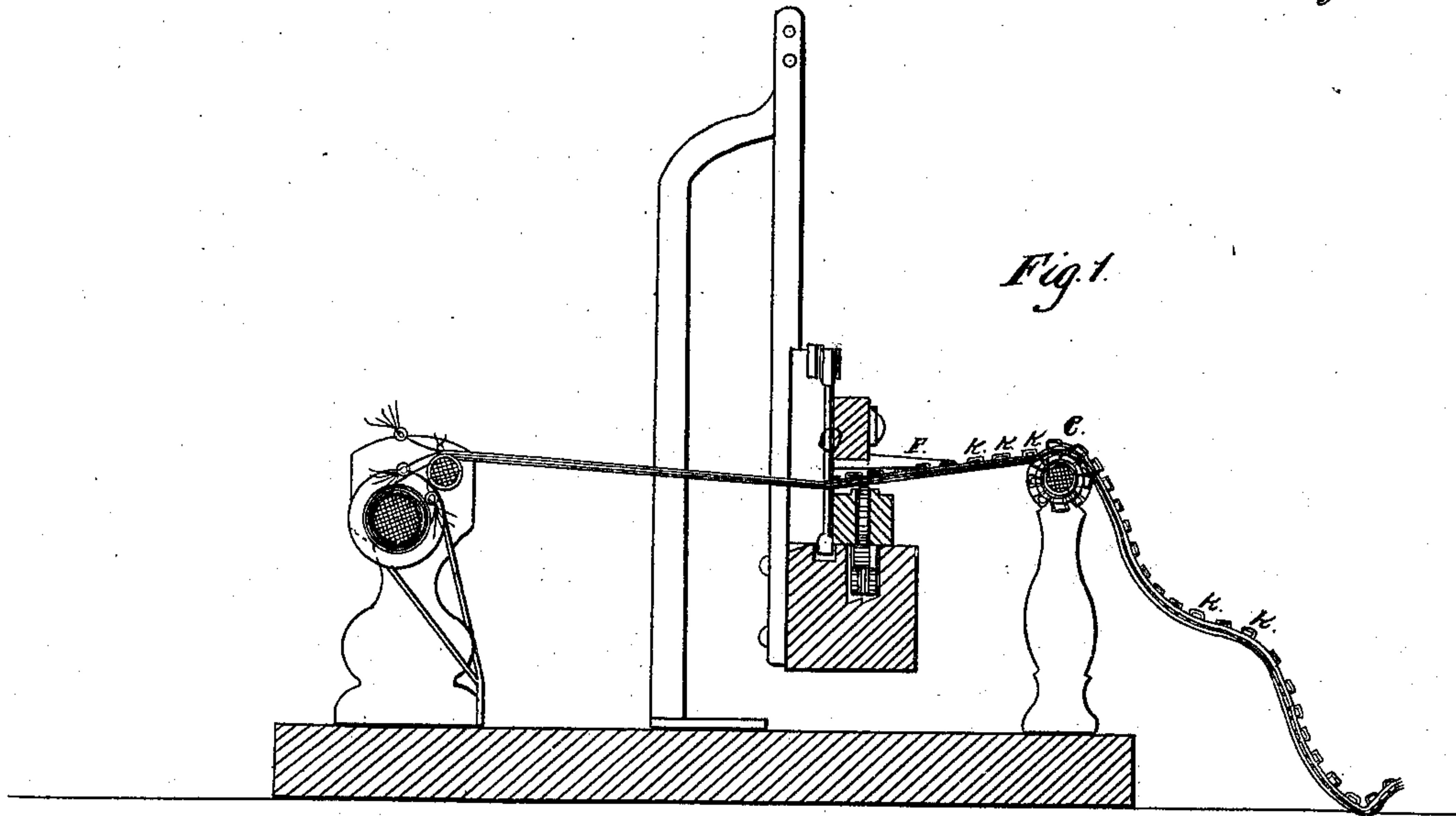


J. Kemper
Weaving Pile Fabric.

No 93,539.

Patented Aug. 10, 1869.



Witnesses
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JACOB KEMPER, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 93,539, dated August 10, 1869.

IMPROVEMENT IN METHOD OF WEAVING GALLOON.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, JACOB KEMPER, of the city of Philadelphia, in the county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Weaving Galloon; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a transverse section of the loom.

Figure 2, a plan of the loom.

Similar letters of reference indicate corresponding parts in the several figures.

The object of my invention is to produce a new article of manufacture, by raising, on the top of the galloon, pile-loops, formed by laying the weft-threads around strands of horse-hair or equivalent material.

To enable others skilled in the art to make and use my invention, I will proceed to describe its operation.

I construct a jacquard-loom in the usual way, but when I want to weave galloon with raised pile-loops, I use a certain number of strands $S S' S^2$, (see drawings,) composed of horse-hair, or other suitable material, which are so arranged as to pass through the reed O of the loom, and which are fastened in front of the loom to the receiving-roller C , and on the other side of the loom to the feeding-roller D .

At that end these horse-hairs are tied together in the shape of a knot, but toward the front of the loom, they are separated, by the reed O , into a number of strands, as far from each other as the designs of the galloon to be woven will require.

Suppose the design shows three raised loops $K K K$ at the side of each other, across the top of the galloon, and the size of one of these raised loops requires the thickness of ten horse-hairs to form the eye, or the interior of the loop, then thirty horse-hairs have to be used altogether, or, in other words, the number of horse-hairs, or their substitutes, which has to be used, depends upon the size of the pile-loops to be produced, and upon the number of the loops, at the side of each other, on the top of the galloon.

In order to explain thoroughly my new method of weaving galloon with raised pile-loops on the top, I proceed to describe its practical operation. One case will illustrate all others.

When I want to weave a galloon with three loops, I use forty-six threads of fine organzine silk, to form the chain. This chain is divided into twenty-three parts by the reed O , through which it passes.

For better illustration I will suppose that these twenty-three parts of the chain were designated by the numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23, and the horse-hair strands by $S S' S^2$.

First. Chain Nos. 1, 3, 5, and 7, and horse-hair strand S , are lifted up by the jacquard. The shuttle, with a small spool in it filled with sewing-silk, traverses from right to left. The shed is closed, and the shuttle then returns to the right again, passing over the strands and threads, without weaving any part thereof. The chain Nos. 9 and 11 and the horse-hair strands $S S'$ are lifted up by the jacquard-machine, and the shuttle passes from the right to the left. In this manner the first loop is made.

Second. The whole chain, with all the horse-hair strings, is then evened in the regular position by the jacquard, and the shuttle passes from the left to the right above the strands and threads without weaving. Now chain Nos. 13 and 15 and the horse-hair strands $S' S^2$ are lifted up, and the shuttle passes from the right to the left. In this manner the second loop is made.

Third. The whole chain and all the strands are then evened in their regular position, and the shuttle returns from the left to the right over them. Now, chain Nos. 17, 19, 21, and 23, and strand S^2 are lifted up by the jacquard. The shuttle passes from the right to the left. In this manner the third loop is finished.

After this is done, the chain Nos. 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22, and the strands $S S' S^2$ are lifted up by the machine, the chain Nos. 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, and 23 remaining below, or in their regular position. The shuttle then passes through from the left to the right. This is the general binding shoot, which brings the loops formed by the previous operations in one straight line.

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

The method herein described of weaving galloon, and raising thereon pile-loops, formed by laying the weft-threads around strands of horse-hair, or equivalent material, substantially as set forth.

JACOB KEMPER.

Witnesses:

H. O. SCHMITZ,
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