

J. H. Smith, W. & A. Shedlock, Braiding Machine

No. 81,834.

Patented Sept. 1. 1868.

Fig 1

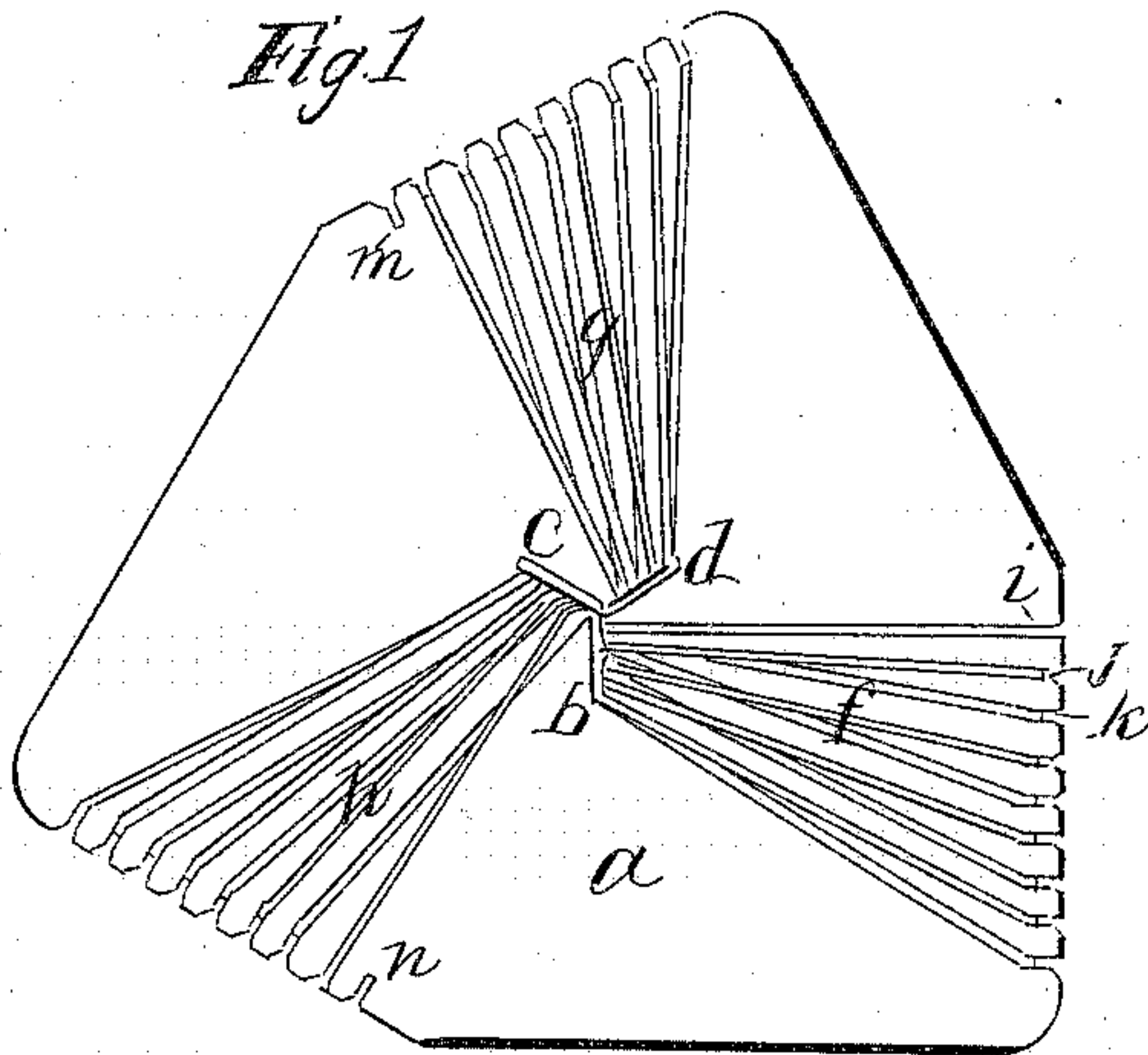


Fig. 2

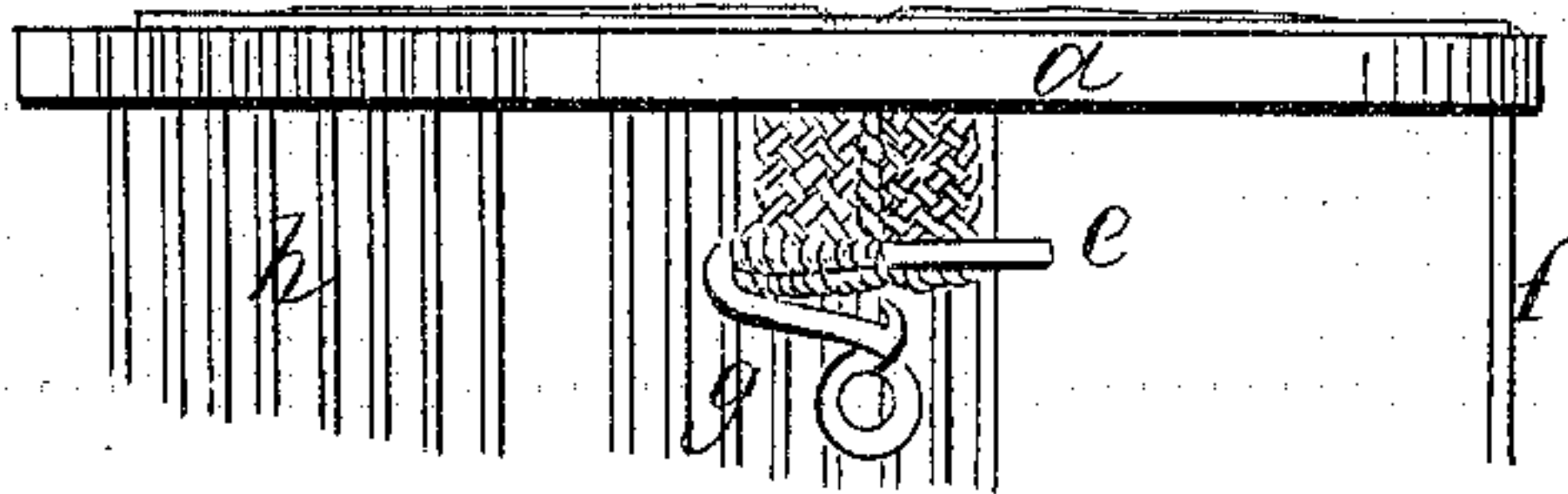


Fig. 3



Fig 5



Fig. 7



Fig. 4



Fig 6



Fig 8



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Patent Att. No. 23

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Letters Patent No. 81,834, dated September 1, 1868.

IMPROVEMENT IN BRAID.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, J. HUNT SMITH, of Norwich, in the county of New London, and State of Connecticut, and WILLIAM SHEDLOCK and ALFRED SHEDLOCK, of the city of New York, and county and State of New York, have invented a new and improved Manufacture of Braid, which we have named Triradiate Braid; and we do hereby declare that the following is a full and correct description thereof, reference being had to the annexed drawings, and to the letters of reference thereon.

Our invention consists in a new and improved braid, composed of three radial members, united to each other by interlocking or interbraiding the strands or threads of the three members of the braid with each other at one edge of each braid, so as to form a "triradiate braid," or braid composed of three members, radiating from a common centre, substantially as hereinafter described.

The drawings annexed illustrate three different modes of making the braid, and a frame, which may be used in making the braid by hand.

Figure 1 is a plan view of the braiding-frame.

Figure 2, a side view of the same.

Figures 3, 4, 5, 6, 7, 8, are plan views and sections of the "triradiate braids."

In carrying out our invention, we use a frame, *a*, of the form shown in figs. 1 and 2, which has in the middle of it a triradiate slot, composed of three radial slots, *b c d*, opening into each other at the common centre. The threads forming the strands for each member of the braid are introduced into these slots, and secured to a triradiate hook, *e*, to which a weight or tension-cord may be attached. The threads of the different members of the braid are thus disposed in three groups, *f g h*, and each thread of each group has an appropriate notch, to hold it in position when at rest. One of the groups has an odd number of threads, that is to say, one more thread than each of the other two, which have an even number of threads. Starting from this point, the "triradiate braid" may be braided in three different ways.

The mode of braiding the triradiate braid, shown in figs. 3 and 4, in which the several threads or strands of each member of the braid run through all the others, as shown by the red line in figs. 3 and 4, is as follows:

Beginning with the group of threads, *f*, the first thread *i* is taken and passed over the next thread, *j*, and secured in the notch occupied by thread *j*, the latter being removed into the notch occupied by the first thread *i*, and this being done to each of the pair of threads succeeding, until the last thread of the group is reached, which is an odd thread, when this process of interlocking the threads by pairs is reversed, beginning with the odd thread, and carried on, pair by pair, until the round is completed, when the first thread *i* will have gone to the notch *k*, and an odd thread will occupy the notch *i*. This latter odd thread, which now occupies the notch *i*, is then transferred to the group *g*, and placed in the notch *m* of that group, which will then have the same number of threads, disposed in the same manner as they were in the group *f*. The braiding by pairs of threads then goes on in the group *g*, in the same manner as before in group *f*, until the round is completed, when the odd strand is transferred to the notch *n* of group *h*, and a round having been braided in the same manner in the group *h*, the last or odd thread is transferred to the first group, and so on, until a sufficient length of braid is braided.

In braiding a triradiate braid in this manner, all the threads of each member of the braid pass into and through the web of each of the other members, as shown by the red lines.

The mode of braiding the triradiate braid, shown in figs. 4 and 5, in which the threads of each member of the braid merely interlock at the edges, and thereby a braid can be made in which the three members are of a different color from each other, is as follows:

Let the three groups of threads be composed of the same number of threads, say eight, or any even number, and, after braiding a round, as before described, on the first group, take the last thread of the round, which is the first thread of the group, from its notch, and interlock it with the first thread of the next group, restor-

ing both threads to their respective notches, in their respective group, then braid a round on the second group, and take the last thread of the round and interlock it with the first thread of the third group, and so on, keeping the threads of each group by themselves, and forming the triradiate braid by simply interlocking the members of the braid at their edges.

The mode of braiding the triradiate braid, shown in figs. 7 and 8, in which the threads of two of the members interbraid or run into each other, but only interlock with the third member, is as follows:

Let the two groups of threads which are to run into or interbraid with each other, be composed of an unequal number of threads, that is to say, one of the two groups have one more thread than the other, as in the groups *f* and *g*, fig. 1, and let these groups be disposed relatively to each other and to the third group, as are the groups *f*, *g*, and *h*, in fig. 1. The third group may be composed of any number of threads desired, or, as shown in figs. 7 and 8, of smaller number of threads than the other groups.

The braiding begins with the group *f* by braiding a round, as before described, and transferring the last thread in the round to the notch *m* in the group *g*, but, in making this transfer, this thread must be interlocked with the first thread in the third group. A round is then braided in the third group, answering to group *h*, in fig. 1, followed by a round in the second group, the last thread of the round being transferred to the notch *i*, in the first group *f*, the series of operations being repeated until a braid of sufficient length is braided.

In the mode of braiding last described, the threads of the groups *f* and *g* may be arranged in one group, in a straight or curved line, as if to make a flat braid, with the threads of the other group in a line, intersecting the middle of the first, but, in that case, the mode of braiding would be the same in substance as the last, because the middle thread of the double or wide group would always interlock at every round with the first thread of the second group.

One of the advantages of our new and improved manufacture of triradiate braid is, that the braid can be more readily applied to the edges of garments, especially when sewing-machines are used, the use of ordinary braid being difficult in binding with a sewing-machine. It has also the advantage of making a flatter and firmer edge when bound on an edge of a garment.

The members of the triradiate braid may be of the same width, or of different widths, and one member may be made thicker than the other two, by using heavier threads and braiding closer.

We have shown different modes of making our triradiate braid, but do not wish to limit ourselves to any special mode of manufacture, or to any kind of material, or color, or combination of colors.

We claim as our invention, the new and improved manufacture herein described of a triradiate braid, or braid composed of three radial members, united to each other by interlocking or interbraiding the threads of the different members with each other, substantially as herein described.

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WILLIAM SHEDLOCK,
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Witnesses as to SMITH:

H. W. McDougall,
C. P. Cogswell.

Witnesses as to the SHEDLOCKS:

F. C. Treadwell, Jr.,
George Owen.