

(No Model.)

J. VACHER.
JACQUARD CONNECTION FOR LOOMS.

No. 472,513.

Patented Apr. 5, 1892.

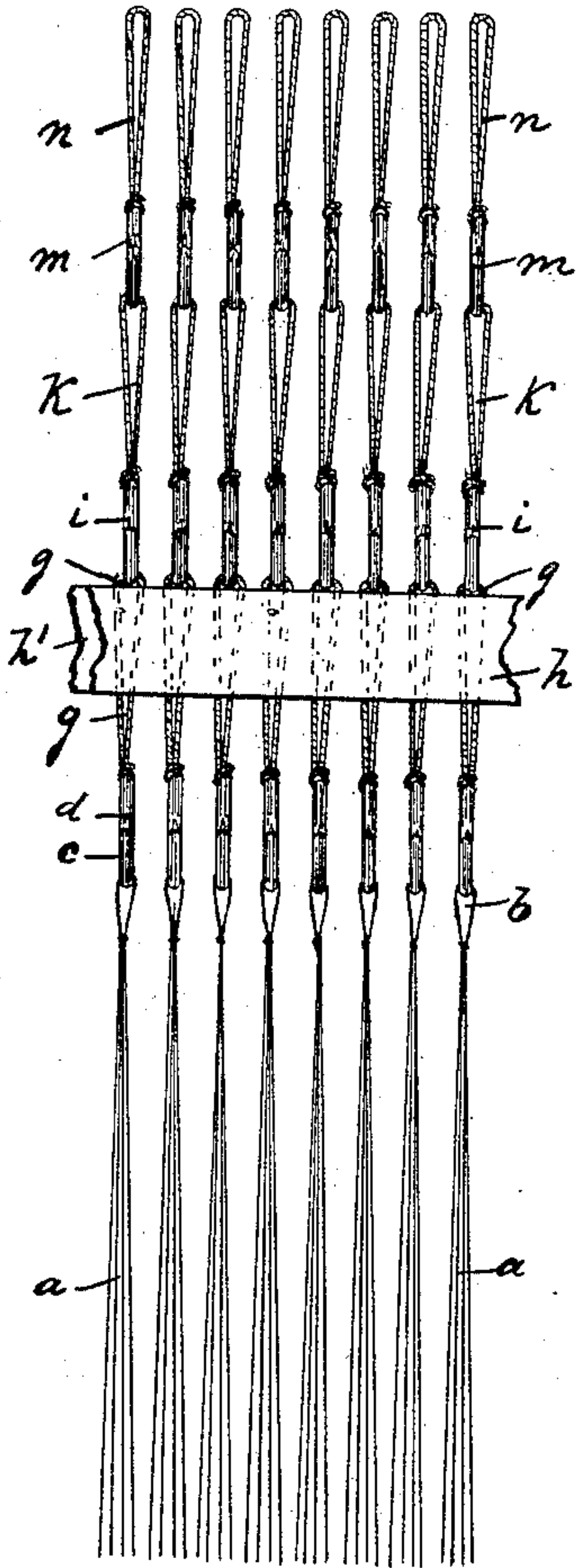


Fig. 1.

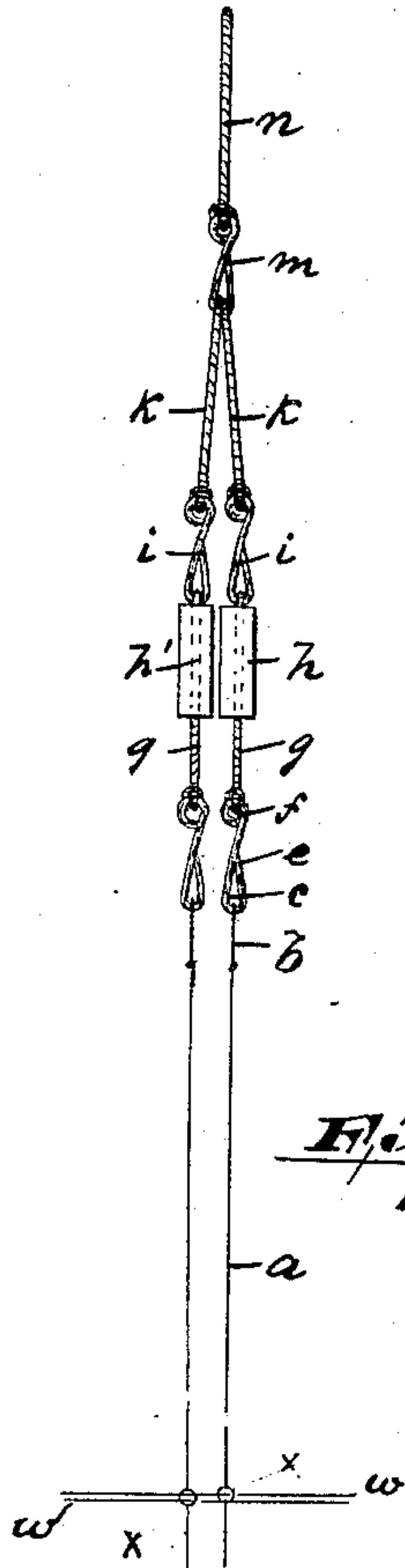


Fig. 2.



Fig. 3.

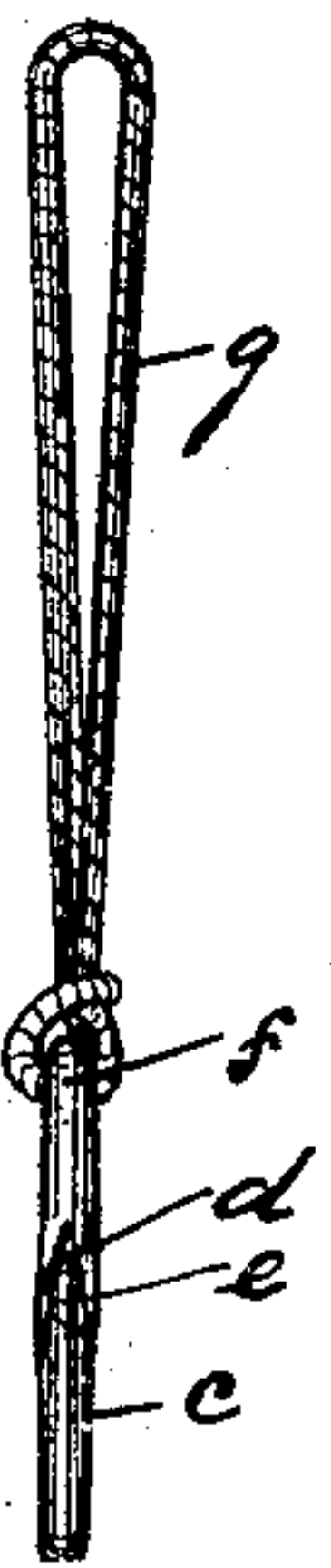


Fig. 4.



Fig. 5.

WITNESSES:

E. L. Sherman
Wm. D. Bell.

INVENTOR:

Jerome Vacher
BY
Partner & Co
ATTORNEYS

UNITED STATES PATENT OFFICE.

JEROME VACHER, OF PATERSON, NEW JERSEY.

JACQUARD CONNECTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 472,513, dated April 5, 1892.

Application filed June 18, 1891. Serial No. 396,669. (No model.)

To all whom it may concern:

Be it known that I, JEROME VACHER, a citizen of the United States, residing at Paterson, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in Jacquard Connections for Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide an easy, ready, and reliable means for attaching and connecting a loom-harness to the hooks of a Jacquard mechanism as a substitute for the knots and stops now in use, and also permit the ready removal of any portion of the harness and replace it without removing the whole of the harness, and which economical in construction and not liable to get out of order.

The invention consists in the improved collet or snap-hook attachments and its arrangement and combination with a loom-harness and its supporting connections to the hooks of the Jacquard mechanism, substantially as will be hereinafter more fully set forth, and finally embodied in the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a front elevation showing a portion of the harness with its collet or snap-hook connection. Fig. 2 is an end view showing the two frames and the collet attached to only one set of harness. Fig. 3 is an enlarged side view of a collet or hook as shown in Fig. 2. Fig. 4 is a front view of the same, and Fig. 5 is a front view of the collet or hook with the snap portion turned to one side to open it.

In said drawings, *a* represents a set of loom-harness cords provided at their upper ends with loops *b*, in which is passed a series of collets or snap-hooks *c*, as shown in Fig. 1. These collets are provided with slots or inside depressions *d*, (shown in Figs. 4 and 5,) in which the end *e* of the collet rests and is

secured. The upper part of the collet is provided with an eye *f*, in which are tied or secured the two ends of a series of looped hangers or supporting-cords *g*. (Shown more clearly in Fig. 4.) These hangers pass through openings in the frames *h h'*, according to their respective series, as shown in dotted lines in Figs. 1 and 2. The looped upper ends of the hangers above the frame are secured in another series of collets or hooks *i* of the same length and constructed in the same manner as the collets or hooks *c* below the frame *h*. In the upper eyes of this series of collets *i* is secured another series of supporting-cords *k* in the same manner and of the same length as the hangers *g*. The looped ends of the corresponding front and back cords of each of the series *k* are secured in one collet or hook *m* of another series of collets, as shown in Figs. 1 and 2. In the eyes of the upper part of this series *m* of collets are tied or secured the lower ends of cords *n*, the upper looped ends of said cords *n* being connected to the hooks of the Jacquard mechanism. (Not shown in the drawings.)

By the system now in use for connection the harness was tied to a supporting-string and knots made in these strings above and below the frame to regulate the distance of motion, and great care was necessary to have the distance between these knots the same on each string. The same knotting and exactness of distance is required in connection with the Jacquard or pattern frame. Moreover, when any of these connections are broken or required to be replaced, much time is required to properly adjust the knots so that the distance of movement shall be the same with all the others.

By my improved device the collets or hooks of all of the series are made of one uniform length, and the series of hangers and cords *g*, *k*, and *n* are also made of one uniform length between the looped end and its attachment to the collet or hook. By this construction a section of the harness or any one of the supporting cords or hangers can be at once removed or replaced by means of the collet or snap-hook.

In operation the frames *h* and *h'*, carrying

the looped cords *g*, and their respective collets *c*, to which the harness-cords *a a* are attached, are raised and lowered alternately, thereby raising and lowering the warp-threads *w*,
5 passing through the heddle-eyes *x* of said harness-cords, thus allowing the shuttles to be thrown between said warp-threads.

The above mechanism is applicable to Jacquards generally, and is especially used in
10 silk-weaving.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

15 In a loom, the combination, with the parallel frames *h h'* and the harness-cords *a*, of a double series of loops and hooks below the frames, which hooks are connected to the said cords and which loops pass through the

said frames, a second double series of loops and hooks above the frames, to which hooks 20 are attached the loops of the lower series passing through the frames, thereby forming stops limiting the downward movement of the harness-cords, and a single series of loops 25 and hooks connecting the upper series of loops and hooks with the hooks of a Jacquard mechanism, the whole being arranged so as to permit the ready removal of any of the parts, substantially as described.

In testimony that I claim the foregoing I 30 have hereunto set my hand this 5th day of June, 1891.

JEROME VACHER.

Witnesses:

ALFRED GARTNER,
E. L. SHERMAN.