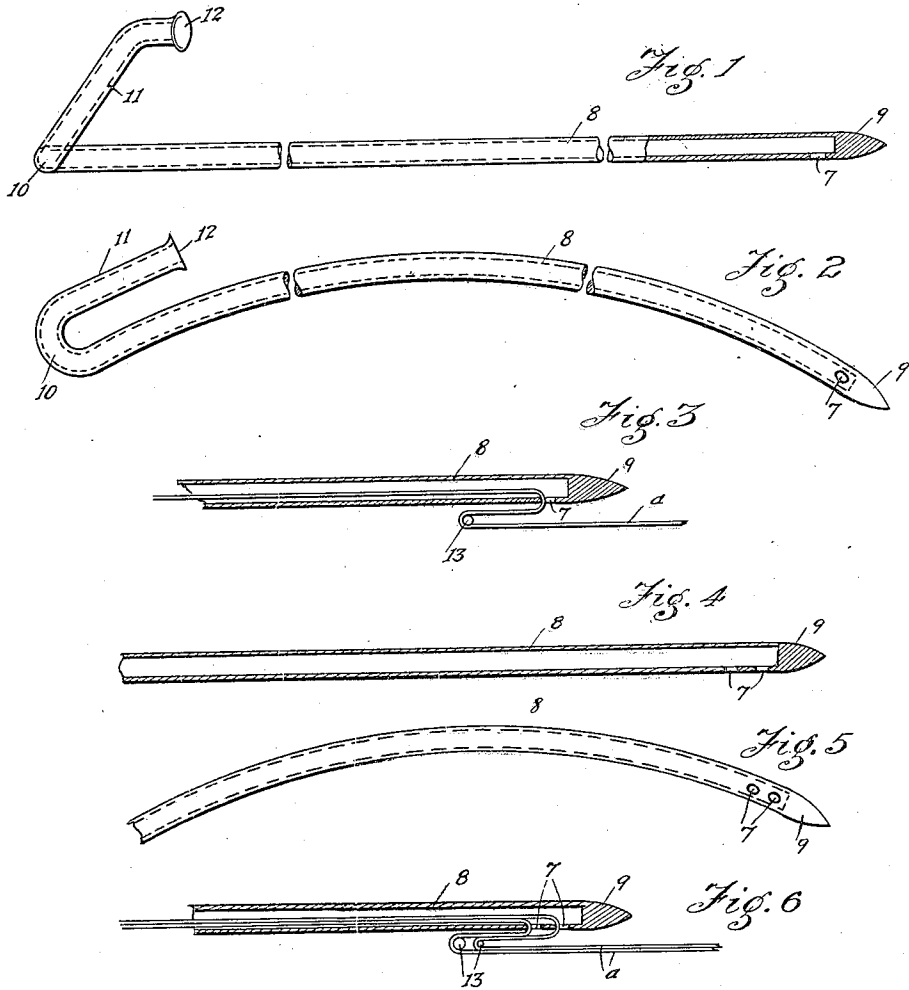


H. I. MORRIS.
 LOOM ELEMENT.
 APPLICATION FILED SEPT. 9, 1916.

1,281,053.

Patented Oct. 8, 1918.



Witnesses;
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UNITED STATES PATENT OFFICE.

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LOOM ELEMENT.

1,281,053.

Specification of Letters Patent.

Patented Oct. 8, 1918.

Application filed September 9, 1916. Serial No. 119,209.

To all whom it may concern:

Be it known that I, HOWARD I. MORRIS, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, having invented new and useful Improvements in Loom Elements, of which the following is a specification.

This invention relates to loom elements, and more particularly to a certain loom element, separately considered, which is disclosed, described and claimed, in its interrelation with other loom elements, in another application for U. S. Letters Patent for looms filed by me September 9, 1916, Serial No. 119,208. Specifically, the present invention relates to what in said above referred to other application I have designated and described as a "shuttle-needle." Such shuttle-needle is organized to operate as does a loom shuttle, in its general function of introducing a weft thread or weft threads to the partially-completed fabric, or in the shed formations of the warp thread units of the partially-completed fabric. Likewise, such shuttle-needle partakes of the character and performance of a needle having a well-defined eye through which the weft thread to produce the weft thread units is emitted adjacent to a well-defined point upon the shuttle-needle. The body of the shuttle-needle is formed tubular or hollow so that the thread is passed to the said eye interiorly of the shuttle-needle body, and such thread eye is perferably formed at one side of the said body, being not a through opening, so that the thread is emitted laterally from the tubular body for disposition in association with the partially-completed fabric. If preferred, in accordance with desired or necessary practice, the shuttle-needle body may be provided with a plurality of such lateral eyes, to emit respectively separate weft threads for the production of multiple weft thread units.

In addition to the above considerations and aspects and objects, the invention has for its object the provision of a novel shuttle-needle which, as compared with other devices and elements aiming at the performance of similar or corresponding functions, will be superior in point of relative simplicity and inexpensiveness of formation and organization, durability, freedom from requirement of care or attention, speed and positiveness in operation, and adaptability to

varying conditions of service and use, and which will be generally superior in efficiency and serviceability.

The invention consists in the novel and useful provision, formation, construction, combination, association and interrelation of parts, members and features, all as hereinafter described, shown in the drawing and finally pointed out in claims.

In the drawing:

Figure 1 is a top plan view of a shuttle-needle, formed and organized in accordance with the invention and partially broken away and sectioned for clearness of illustration;

Fig. 2 is a side view of the same;

Fig. 3 is a fragmentary longitudinal and transverse sectional view of a portion of said shuttle-needle;

Fig. 4 is a fragmentary view similar to Fig. 1 of a modified form of construction;

Fig. 5 is a fragmentary view similar to Fig. 2 of said modified form of construction; and

Fig. 6 is a fragmentary view similar to Fig. 3 of said modified form of construction.

Corresponding parts in all the figures are designated by the same reference characters.

Referring with particularity to the drawing, the improved shuttle-needle is disclosed therein in Figs. 1, 2 and 3 in the one case, and Figs. 4, 5 and 6 in the other case, as of identical construction and formation, with the exception of the provision in Figs. 4, 5 and 6 of a plurality of eyes or openings 7, specifically two, whereas in Figs. 1, 2 and 3 only a single eye or opening 7 is disclosed. Such eyes or openings in each instance are not through openings, that is, do not extend entirely through the tubular body 8 of the shuttle-needle, but only through one side wall thereof, so as to communicate with the interior of such tubular body; and such eyes or openings are produced laterally in the body 8 and slightly rearwardly of the outer or leading rounded and tapered or pointed nose or end portion 9 of the shuttle-needle body. Such shuttle-needle body is shown as longitudinally bowed or curved or arcuate in form, in order that it may execute a path in an arc, or curved path, in case it is designed and required to introduce thread units to a partially-completed fabric which is supplied in a transversely curved path, as indicated in the application for U. S. Letters Patent for looms hereinabove

identified. However, this longitudinal curvature is not essential to the other general aspects of the shuttle-needle. Likewise, in order that the thread may be supplied to the tubular shuttle-needle body at one side of the plane in which such shuttle-needle body operates, as for instance, over a thread guide (not shown) as and for the purposes disclosed in said other application hereinabove identified, the tubular shuttle-needle body is bent as at 10, and deflected upwardly and laterally, as at 11, and developed into a rearward or following end or terminal portion having a flaring or trumpet-shaped mouth 12 to receive the thread which is passed lengthwise through the shuttle-needle and the tubular body thereof and exits therefrom through the opening or openings or eye or eyes 7.

In Fig. 6 there is an indication of temporary retaining means comprising pins or the like 13, one such pin 13 likewise being shown in Fig. 3, and the shuttle-needle being adapted to cooperate with such temporary retaining pins to the end that the thread or threads α issuing from the eye or eyes or opening or openings 7 may be engaged with or looped about such pin or pins to conserve the thread unit introduced by the shuttle-needle upon its reciprocation, until such thread unit has been produced in condition to be finally associated with the remaining portions of the fabric, or has been so associated therewith, in such manner, for instance, as set forth and disclosed in the said other application for U. S. patent hereinabove identified.

It will be understood that any suitable means may be employed for reciprocating the shuttle-needle or imparting to it its generally endwise movement so that it may produce its excursions comprising insertion and withdrawal strokes, such not being concerned in the present invention, but in an exemplary organization being disclosed in said other executed application. Likewise, the shuttle-needle of the present invention may be associated with a wide range of varying features and elements of various

loom constructions with which it may be adapted to cooperate in the performance of its functions; and it is further manifest that many variations may be made with respect to the provision, formation, conformation, association and inter-relation of parts, members and features of the improved shuttle-needle, all as with respect to the disclosure herein, and in adapting the invention to varying conditions of use and service, still not departing from the true spirit of the invention and a fair interpretation thereof.

Having thus disclosed my invention, I claim and desire to secure by Letters Patent:

1. A loom element of the character disclosed, comprising a tubular body through which thread is adapted to be passed and applied, said tubular body being provided with a thread outlet adjacent to one end thereof; said tubular body being provided with an off-set terminal portion at its other end through which the thread is introduced.

2. A loom element of the character disclosed comprising a tubular body through which thread is adapted to be passed and applied, said body being offset at one end and open at said offset end to receive thread, said body being closed at its other end and tapered and further provided with a lateral thread outlet formed through one wall thereof at a point adjacent to its closed end.

3. A loom element of the character disclosed, comprising a longitudinally curved tubular body through which thread is adapted to be passed and applied, said tubular body being provided with a thread outlet adjacent to one end thereof and having its other end off-set and open for the introduction of thread into the body.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HOWARD I. MORRIS.

Witnesses:

C. P. TURNER,
CLAUS SPRECKEL.