Dec. 18, 1923. 1,478,115

A. GILLIER

RECTILINEAR KNITTING FRAME FOR THE PRODUCTION OF OPENWORK SINKER WALES

Filed April 11, 1921

Fig. 1.

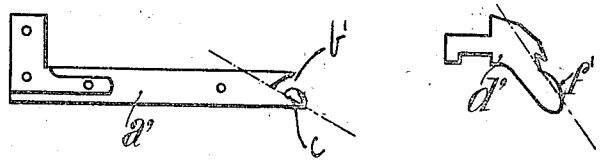


Fig. 2.

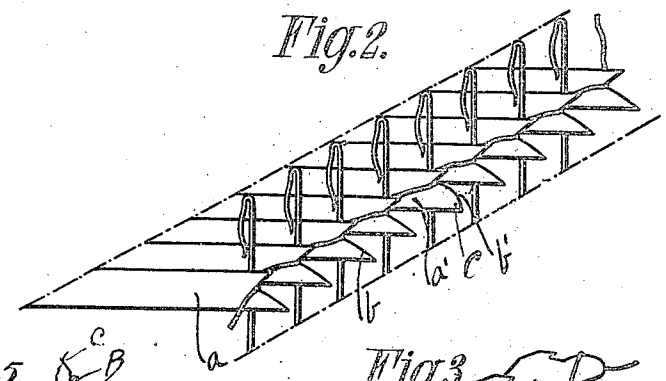


Fig. 5.

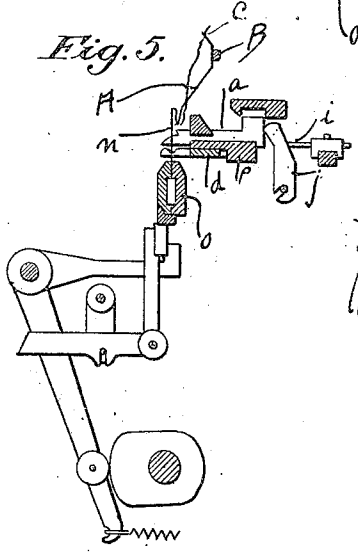


Fig. 3.

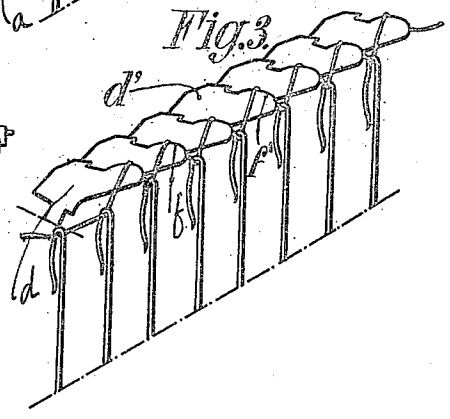
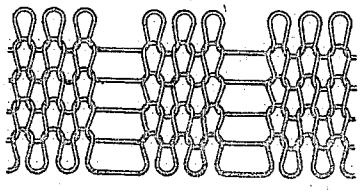


Fig. 4.



Inventor:
A. Gillier,
By Lawrence Langner
Atty

Patented Dec. 18, 1923. 1,478,115

UNITED STATES PATENT OFFICE.

ANDRÉ GILLIER, OF TROYES, FRANCE.

RECTILINEAR KNITTING FRAME FOR THE PRODUCTION OF OPENWORK SINKER WALES.

Application filed April 11, 1921. Serial No. 460,413.

To all whom it may concern:

Be it known that I, ANDRÉ GILLIER, citizen of the French Republic, residing at Troyes, Aube, France, have invented new and useful Improvements in Rectilinear Knitting Frames for the Production of Openwork Sinker Wales, of which the following is a specification.

It is known that, in order to obtain on rectilinear knitting frames fabric having rows of open-work sinker wales at regular intervals throughout its width, it has been customary to remove, at regular intervals, needles from the needle bed and substitute therefor sinker bars giving out less thread.

The present invention has for its object to provide means for obtaining a result similar to the above without the removal of any needles from the needle bed. To this end, the ordinary sinkers and throwing-off plates are replaced at regular intervals by sinkers and throwing-off plates, the nose or thread-engaging portion of each of which is raised so that these special sinkers maintain a longer thread than is maintained by the usual sinkers, which, on the special throwing-off plates, form open-work sinker wales wider than the ordinary open-work sinker wales.

The invention is illustrated by way of example, in the accompanying drawing, in which—

Fig. 1 shows a sinker and throwing-off plate constructed according to my invention.

Figs. 2 and 3 show a portion of the needle bed of the rectilinear frame during the phases of catching the thread and forming the sinker wales.

Fig. 4 illustrates the fabric obtained.

Fig. 5 shows a sectional view of the knitting frame.

Referring to the drawings, for obtaining the open-work mesh, the ordinary sinker *a* is removed at the place where the said mesh is to be formed, and is replaced by another sinker *a'*, the nose *c* of which has an engaging surface *b'* which is raised with respect to the engaging surface *b* of the ordinary sinker *a*. As the nose *c* of this special sinker *a'* is higher than that of the ordinary sinker *a* at each side thereof, it will take and maintain a longer portion of thread than the sinkers *a*.

With regard to the throwing-off plates, the ordinary throwing-off plate *d* will be replaced by a special throwing-off plate *d'* to co-operate with the special sinker *a'*. The nose of this special throwing-off plate has an engaging surface *f'* which is raised with respect to the engaging surface *f* of the ordinary throwing-off plate *d*. It follows that at the throwing-off operation the longer thread which has been taken by the special sinker *a'* will be cast off on the special throwing-off plate *d'*. The latter will prevent the thread from being divided between the two needles on opposite sides thereof. As these two needles have formed their wales, it results that a sinker wale wider than those formed by the ordinary sinkers and throwing-off plate is obtained owing to the fact that a greater length of thread forming on said wale is taken and this sinker wale is wider than that obtained by the known process described above.

In order to facilitate a clear understanding of the invention, reference is had to Fig. 5 which shows a rectangular frame, such as shown and described, for example, in the British Patent No. 1126, January 18, 1893, James Heath and Walter Heath. Needles *n* are arranged side by side on a horizontal needle-bar *o*. These needles are vertically arranged and receive four kinds of movement, namely, forward, backward, upward and downward. The sinkers *a—a'* and throwing-off plates *d—d'* are arranged on the head bar *p*. Above the frame is disposed a rail B upon which is supported the thread-guide A for guiding the thread C under the hooks of the needles *n*.

The operation is as follows:

The thread C is cast by the guide A upon the sinker *a* or *a'* which is moved forward as the result of the displacement of the member *i* which acts upon the sinker through the intermediary of the pivoted lever *j*. The needles *n* are lowered and form bights or loops between the sinkers *a—a'* and throwing-off plates *d—d'*. The throwing-off plates *d—d'* are advanced while the sinkers *a—a'* are retracted, which casts the thread on the throwing-off plates *d—d'*. The needle bar *o* descends, the throwing-off plates push forward the course of formed wales, and the sinkers move forward at the same time that the needle bar *o* moves upward for the formation of a new course of sinkers.

Having now described my invention, what

I claim and desire to secure by Letters Patent is:

In a rectangular knitting frame, the bed of which comprises all the needles corresponding to the width of the fabric to be produced, means for gathering a thread longer than that forming the ordinary sinker wale, comprising special sinkers each having a nose higher than that of the ordinary sinker and special throwing-off plates co-operating with said special sinkers, and each having a nose higher than that of the ordinary throwing-off plate.

In testimony whereof I have signed my name to this specification.

ANDRÉ GILLIER.