(No Model.) 2 Sheets—Sheet 1.

C. TERROT.

CIRCULAR KNITTING MACHINE.

No. 467,330. Patented Jan. 19, 1892.

Fig. 1.

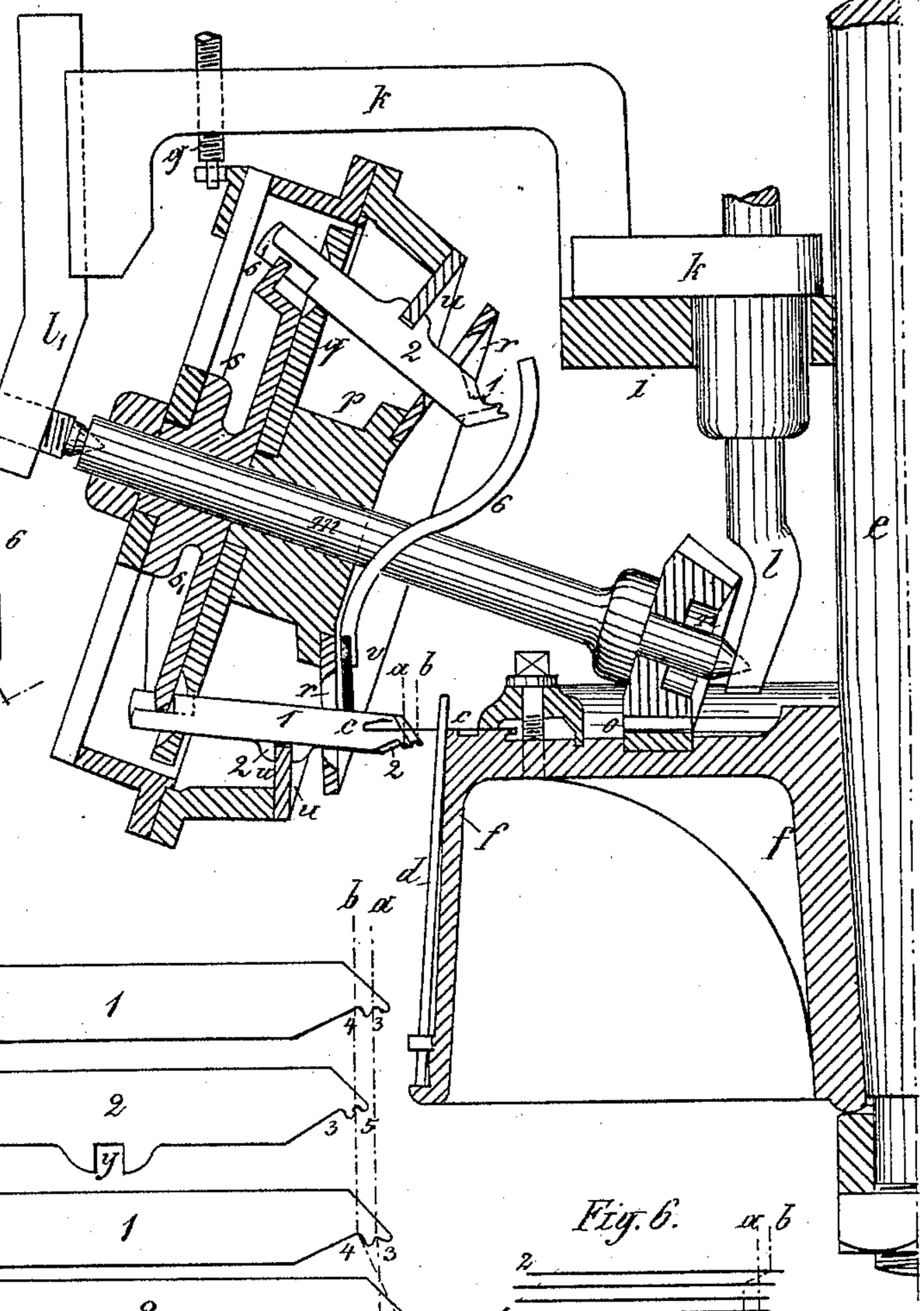


Fig. 2.

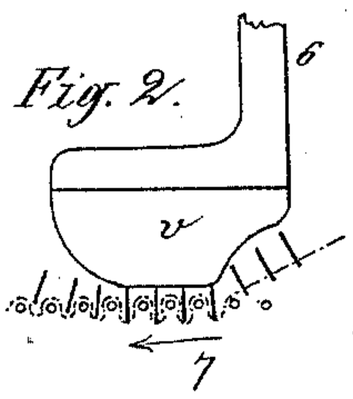


Fig. 3.

Fig. 4.

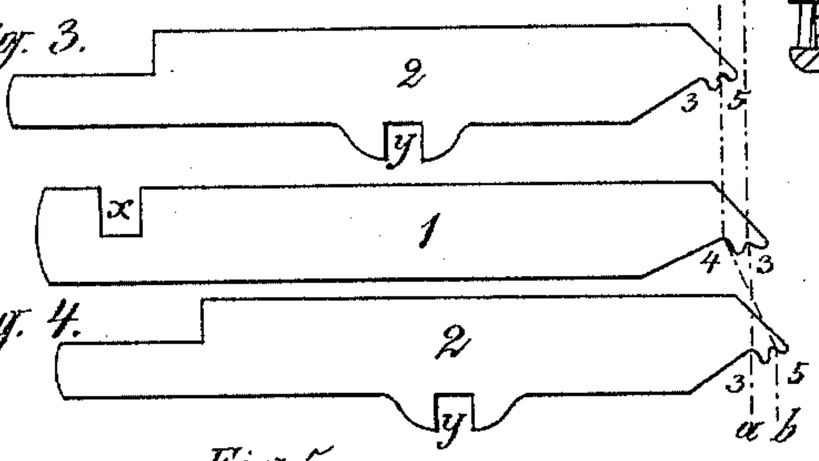


Fig. 5.

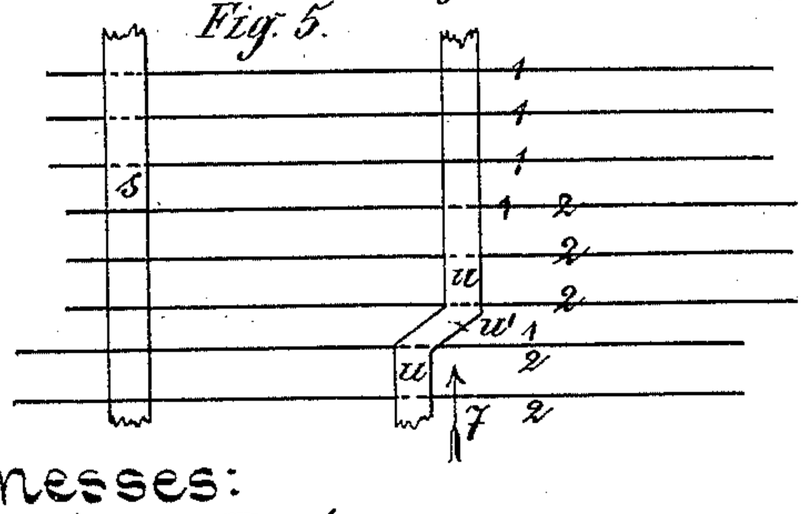
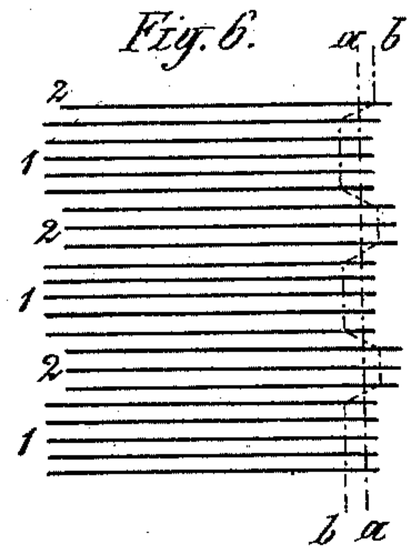


Fig. 6.



Witnesses:
Benj. W. Tucker.
A. Faber du Faur

Inventor:
Charles Terrot,
by A. Faber du Faur.
his Attorney.

(No Model.) 2 Sheets—Sheet 2.

C. TERROT.

CIRCULAR KNITTING MACHINE.

No. 467,330. Patented Jan. 19, 1892.

Fig. 7.

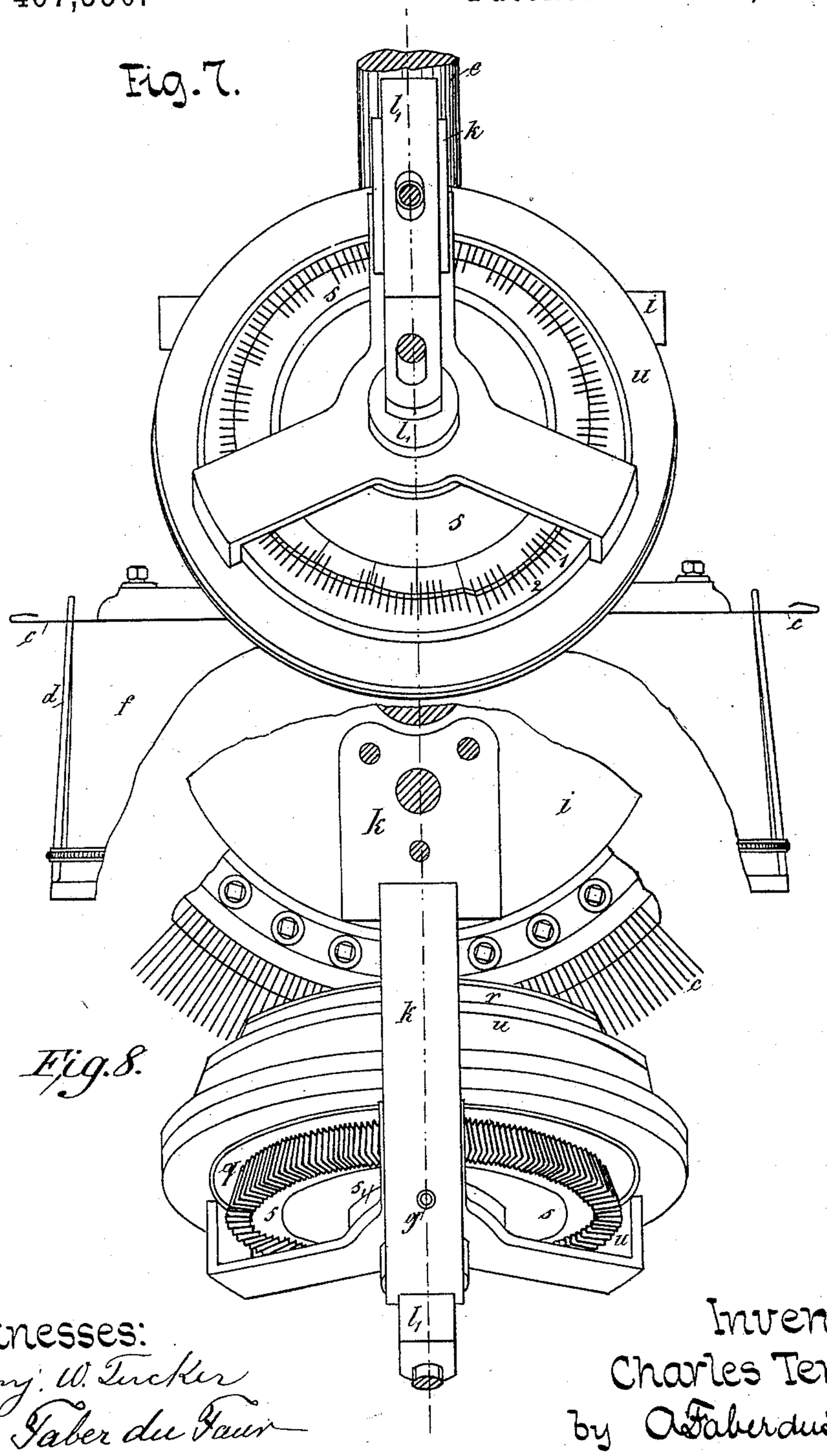


Fig. 8.

Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES TERROT, OF CANNSTADT, GERMANY.

CIRCULAR-KNITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 467,330, dated January 19, 1892.

Application filed April 10, 1891. Serial No. 388,372. (No model.) Patented in Germany August 1, 1890, No. 55,562, and in France February 2, 1891, No. 208,928.

To all whom it may concern:

Be it known that I, CHARLES TERROT, a citizen of the Republic of France, residing at Cannstadt, in the Kingdom of Würtemberg, German Empire, have invented new and useful Improvements in Circular-Knitting Machines, (for which Letters Patent were granted to me in France, No. 208,928, dated February 2, 1891, and in Germany, No. 55,562, dated August 1, 1890,) of which the following is a specification.

My invention has reference to circular-knitting machines using two or more threads of different colors, and has for its object to change the relative position of threads, so as to produce a variegated fabric.

To this end my invention consists, essentially, in a circular-knitting machine having its loop-former provided with means for causing the sinkers to engage the threads and place them in proper order on the needles, all of which is more fully pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical central cross-section of the machine, part being broken away. Fig. 2 is a front view of the sinking-cam. Figs. 3 and 4 are side elevations of the sinkers in different relative positions. Figs. 5 and 6 are diagrams illustrating the operation. Fig. 7 is a front elevation of the machine. Fig. 8 is a plan view of the machine, part being broken away.

Similar letters and figures indicate corresponding parts throughout the several views.

So-called "striped looped fabric" is produced, as is well known, by leading to the needles of a knitting-frame two threads arranged side by side, the sinkers forming two loops of the threads, the inner one of which will appear on the outside of the fabric, which is turned inside out after completion, the goods then showing the color of the inner loop on the outside.

If it is desired to produce a variegated design, the relative position of the threads on the needles must be varied accordingly. This variation of the relative position of the threads and the production of a variegated design are effected automatically in my improved machine by the sinkers of the loop-former, (mailleuse.)

In Figs. 1 and 7, *f* represents the frame of a circular-knitting machine; *e*, the shaft; *c*, the needles; *o*, the rack, and *n* the pinion for rotating the loop-former. *i* is a support forming a guide for shaft *e*, and *l*, *l'*, and *k* the several parts for supporting the shaft *m* of the loop-former, all as usual in a well-known type of knitting-machine.

For the production of variegated designs I have changed the construction of the loop-former by providing it, in addition to the usual body *p*, fastened to the shaft *m*, its two guide-disks *q* and *r*, in the radial slots of which the sinkers 1 and 2 move, and the stationary guide-disk *s*, with an additional stationary guide-disk *u* for displacing the sinkers 2 in a longitudinal direction. The disks *s* and *u* are firmly connected to each other and to the hub *s'*, which is loose on the shaft *m*, the said disks being prevented from rotating by the screw *q* on the fixed arm *k*. A number of the sinkers (marked 1) are moved in longitudinal direction by recesses *x*, Figs. 3 and 4, engaged by the disk *s*, while others (marked 2) are moved by recesses *y*, engaged by the disk *u*. The sinkers are provided with noses 3 4 and 5 3, Figs. 3 and 4, and while moving in the direction indicated by the arrow 7 in Fig. 5 they catch the threads *a b* before entering the needle-range in the following manner: The sinkers 1 always catch both threads *a* and *b* with both noses 3 and 4, respectively, and form loops therefrom in such a manner that the thread *a* is to the right of the thread *b*, Figs. 3 and 4, whereby the thread *a* will appear on the outside of the finished fabric. Immediately before being sunk between the needles and while sunk the sinkers are held against the edge of the guide *u* by a sinking-cam *v*, secured to a fixed part of the machine by a bracket 6. The sinkers 2, moved in a longitudinal direction by the edge of the stationary disk *u*, engaging grooves *y*, before entering the needle-range, catch only the front thread *b*, as shown in Fig. 3; but the edge of *u* has at this place a bent portion *u'*, as shown

in Fig. 5, whereby all the sinkers 2, moving in the direction of the arrow 7, Fig. 5, are suddenly moved a certain distance toward the axis of the circular frame and above the needles, so as to carry the thread *b*, caught by the nose 5, beyond the thread *a* before reaching the needle-circles. The sinkers are then depressed by passing the sinking-cam *v*, Figs. 1 and 2, during which operation the nose 3 of sinker 2 catches the thread *a*. Reference being had to Fig. 6, the meshes placed upon the needles by the sinkers 2 thus have the thread *b* to the right of thread *a*, and said thread *b* will appear on the outside of the fabric, while the meshes placed by the sinkers 1 will have the thread *b* to the left of thread *a*.

According to the distribution of the sinkers 1 and 2, different patterns will be produced, the simplest form being longitudinal colored stripes, as in the case of using but one loop-former, the number of needles being a multiple of the number of sinkers.

It is evident that different designs may be produced by proportioning properly the numbers of needles and sinkers 1 2 in the same manner as designs of tuck-stitches are produced by varying the number of needles and sinkers in a tuck-stitch wheel.

Since loop-formers may be used of a diameter much larger than that of a tuck-stitch wheel, the variety and size of these striped patterns is much greater than that of the usual tuck-stitches.

What I claim as my invention is—

1. A loop-former for circular-knitting machines, having sinkers 1 2 and guide-disks *s u*, whereby of the two threads conducted to the machine one is from time to time placed in front of and in rear of the other upon the needles, substantially as described.

2. In a circular-knitting machine, a loop-former having two series of sinkers, combined with means for causing the sinkers to engage the threads and place them in proper order on the needles, substantially as described.

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

CHARLES TERROT.

Witnesses:
ALBERT HIRTH.
HERMANN BAUDER.