

F. MERMET.  
BEAD THREADING MACHINE.

NO MODEL.

APPLICATION FILED JULY 11, 1903.

2 SHEETS—SHEET 1.

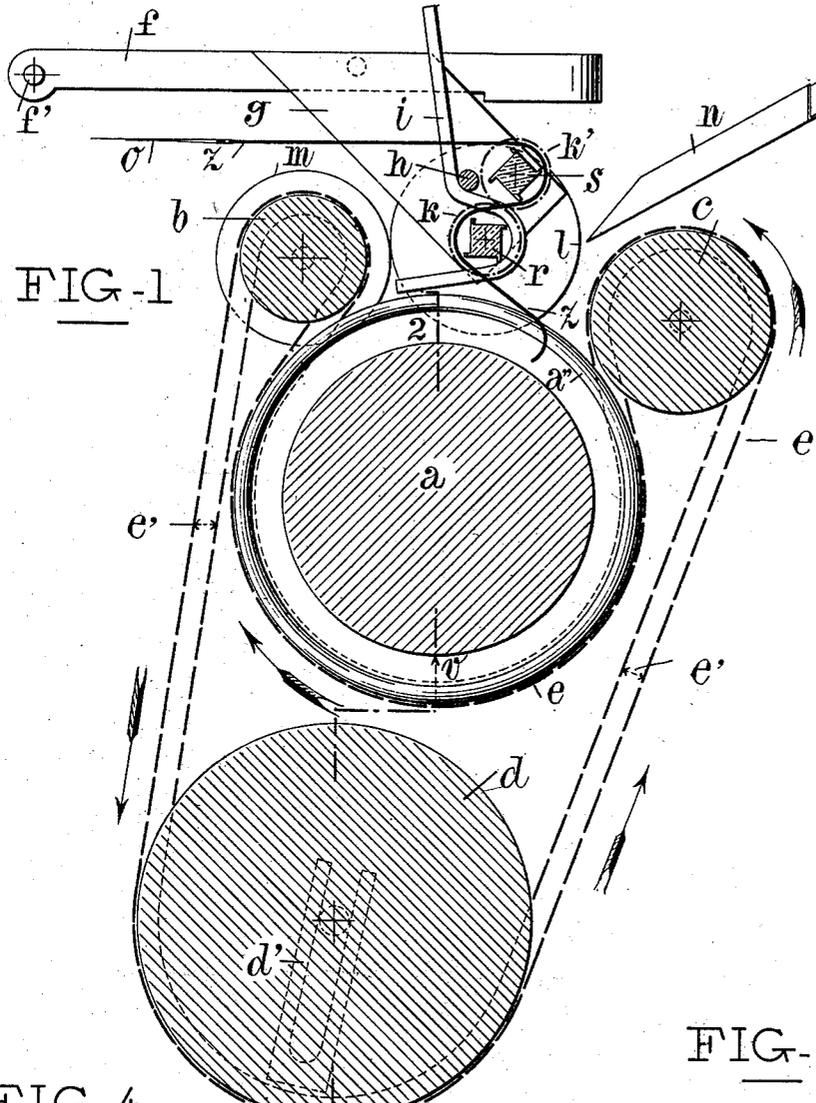


FIG-1

FIG-3

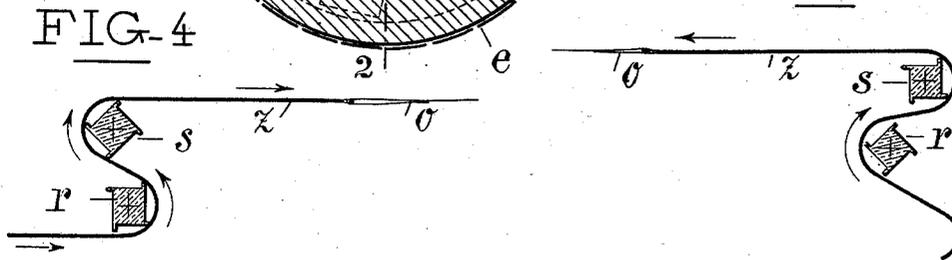
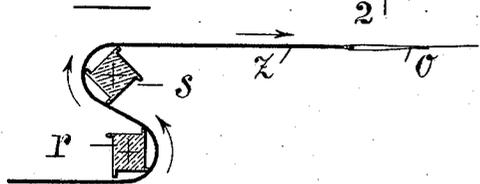


FIG-4



Witnesses

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Inventor

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by *R. J. Hudson*

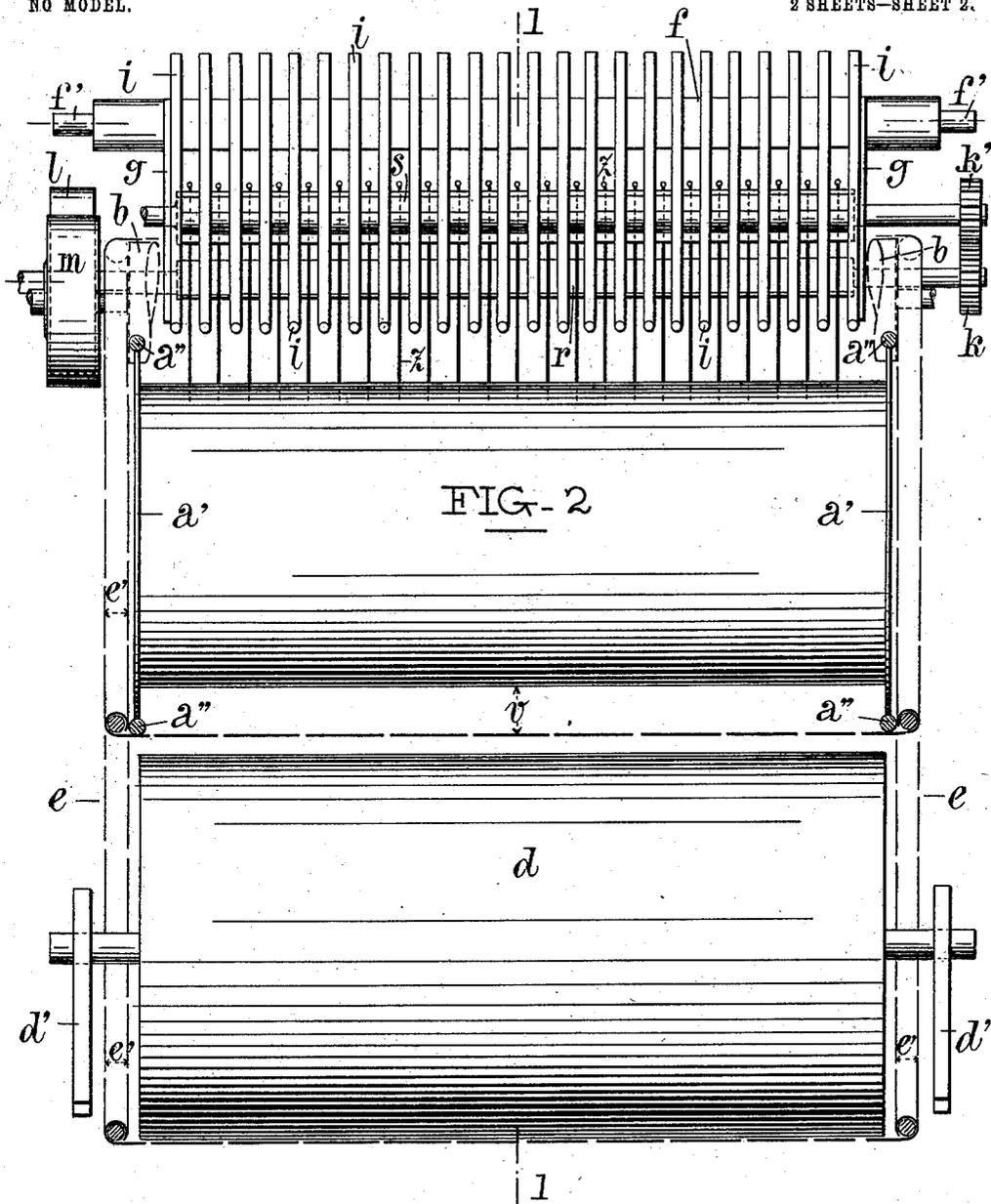
*Attorney*

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2 SHEETS—SHEET 2.



Witnesses

*R. J. Haddan*  
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Inventor

*Francis Mermet*  
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# UNITED STATES PATENT OFFICE.

FRANÇOIS MERMET, OF LYONS, FRANCE.

## BEAD-THREADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 747,995, dated December 29, 1903.

Application filed July 11, 1903. Serial No. 165,182. (No model.)

*To all whom it may concern:*

Be it known that I, FRANÇOIS MERMET, a citizen of the French Republic, and a resident of Lyons, France, have invented certain new and useful Improvements in Bead-Threading Machines, of which the following is a specification.

This invention relates to a machine for threading beads and having a special arrangement hereinafter described with reference to the annexed drawings, in which—

Figure 1 is a cross-section of the machine; Fig. 2, a front view, partly in section; and Fig. 3, a detail view. Fig. 4 illustrates a modification.

The machine essentially comprises four rollers *a b c d*, over which passes an endless cloth *e*, with ridges or the like *e'* at its edges to prevent the falling off of the beads. The roller *d* serves as a tensioning-roller, and its journals can be adjusted in the guides *d'*. The rollers *b* and *c* are mounted in fixed bearings and have only a rotatory movement. The axle of the roller *c* is extended at one end and carries a loose and fast pulley. The roller *c* is the driving-roller. The roller *a* has no bearings, but is supported by the vertical tension of the cloth. To prevent the lateral displacement of this roller, its ends abut against metal plates fixed to the frame. The purpose of this arrangement is to prevent the jamming of the roller *a* with the tangent-rollers *b c*, while allowing the said roller a moderate amount of play. The roller *a* is provided at each end with a cheek or plate *a'* of larger diameter, having round its circumference a thick iron wire *a''* to reduce the wear and tear of the cloth which passes over said cheeks or plates. Between the body of the roller of drum *a* and the cloth an empty space *V* is thus formed, into which are placed the beads to be threaded. The roller *a*, rotated by the cloth, revolves in the direction indicated by the arrow, so that said cloth while holding the beads acts in the manner of a driving-belt. The beads move exactly as if they formed an integral part of the roller *a* and are threaded at the upper part of the latter by means of needles *z*, carried by a frame *f*, adapted to rock on pivots *f'*. Plates *g*, connected to each other by a rod *h*, are mounted at the sides of the frame, and fixed to the said

rod *h* is a variable number of spacing or dividing rods *i*. Rotatably arranged at the sides of the said rods *i* are drivers *r s*, each of which consists of a reglet, preferably of square section and provided with projections. The purpose of these drivers is to drive and push the beads on the needles *z* as they arrive. The shape of the said drivers can, however, vary according to the size of the beads. The drivers are operated by toothed wheels *k k'*, driven by rollers *l* and *m*, the former fixed to the axle of one of said drivers and the latter to the axle of the wheel *b*. The needles *z* can have the shape shown in Fig. 3 or that shown in Fig. 4. In either case they are freely mounted between each spacing-rod *i* and simply rest on the drivers *r s*. The beads are fed onto the endless cloth *e* through the chute *n* and fill the space *v*, from which they are thrown against the needles *z*, which extend into the mass of beads carried to them. The rotation of the drum *a* causes beads to be placed on the ends of the needles, and the beads placed thereon are first forced along by beads placed on behind them until they reach the revolving drivers, which convey them along the needles. If threads *o* are connected to the ends of the latter, the beads will be automatically threaded thereon without external intervention.

I declare that what I claim is—

1. In a bead-threading machine, the combination of an endless band, means for supporting and driving the latter, a roller rotated and freely supported by said band, means on the roller for forming the space between the latter and the band for reception of the beads, means for tensioning the band and a threading device onto which the beads are thrown from the band, substantially as described.

2. In a bead-threading machine, the combination of an endless band, means for supporting and driving the latter, a roller rotated and freely supported by said band, means on the roller for forming a space between the latter and the band for reception of the beads, means for tensioning said band, needles extending into the beads between the band and roller aforesaid and onto which the beads are thrown from the band, means for supporting said needles and means for

conveying the beads along the needle substantially as described.

3. In a bead-threading machine, the combination of an endless band, a pair of rollers adapted to support and drive said band, a roller rotated and freely supported by said band and having flanges to form a space between the band and the circumference of said roller for reception of the beads, a freely-journaled roller adapted to tension said band, needles extending into the beads between the band and roller aforesaid and onto which the beads are thrown from the band, means for supporting said needles and means for conveying the beads along the needle substantially as described.

4. In a bead-threading machine, the combination of an endless band having thickened edges, a pair of rollers adapted to support and drive said band, a roller rotated and freely supported by said band and having

flanges to form a space between the band and the circumference of the roller for reception of the beads, a freely-journaled roller adapted to tension said band and a threading device comprising an articulated frame, end plates connected to said frame, a rod connecting said end plates, spacing-rods fixed to said rod, drivers rotatably mounted between said spacing-rods, means for operating said drivers, and needles supported by said drivers and extending into the beads between the band and roller aforesaid, onto which needles the beads are thrown from the band substantially as described.

In witness whereof I have signed this specification in the presence of two witnesses.

FRANÇOIS MERMET.

Witnesses:

JEAN GERMAIN,  
GUILLAUME PIOCHE.