

J. FREY.
SPOOL HOLDER FOR EMBROIDERY MACHINES.
APPLICATION FILED OCT. 22, 1909.

951,810.

Patented Mar. 15, 1910.

Fig. 1

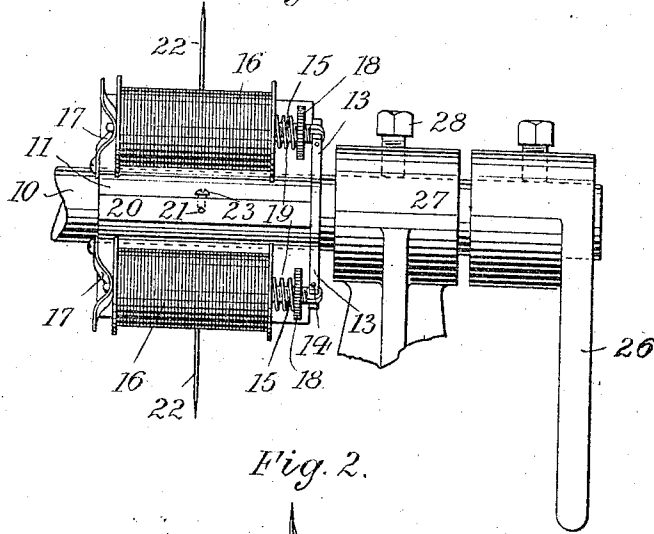


Fig. 2.

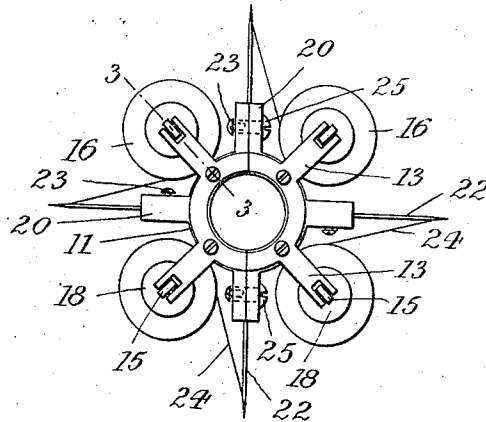
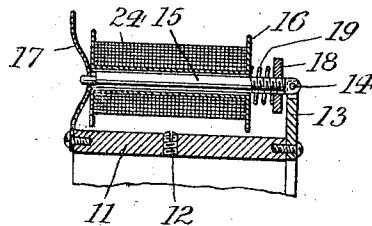


Fig. 3.



Witnesses:
H. R. Schulz
Arthur E. Gump

Jacob Frey Inventor
By his Attorney
Frank B. Briesen

UNITED STATES PATENT OFFICE.

JACOB FREY, OF NEW YORK, N. Y.

SPOOL-HOLDER FOR EMBROIDERY-MACHINES.

951,810.

Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed October 22, 1909. Serial No. 523,975.

To all whom it may concern:

Be it known that I, JACOB FREY, a citizen of Switzerland, residing at New York city, Bronx, county and State of New York, have invented new and useful Improvements in Spool-Holders for Embroidery-Machines, of which the following is a specification.

This invention relates to a spool holder which is adapted to be mounted upon a reciprocative shaft of an embroidery machine, and is provided with a plurality of spools, each having its own needle. The spools are designed to carry threads that differ in thickness, quality or color and thus, by turning the shaft in its bearings, threads of different characteristics may be presented to the work without removing the spools or re-threading the needles.

In the accompanying drawing: Figure 1 is a front view of my improved spool holder, showing it mounted upon the shaft of an embroidery machine; Fig. 2 an end view of the spool holder, and Fig. 3 a section on line 3—3, Fig. 2.

As is well known, an embroidery machine is provided with a large number of thread-carrying needles mounted side by side upon a shaft which is adapted to receive reciprocative movement. The fabric to be embroidered is stretched upon a frame which is adapted to be shifted relatively to the needles in accordance with the particular pattern to be produced. As the needles do not participate in the movement of the fabric, they will, upon being reciprocated, form the pattern desired. As heretofore generally practiced, the spools supplying the needles were removed and replaced, and the needles were re-threaded whenever the quality, thickness or color of the embroidery thread was to be changed, thus entailing considerable labor and loss of time. By my invention this substitution of threads may be effected simultaneously for all the needles in a quick and simple manner and without necessitating the removal of any of the spools or the re-threading of the needles.

The drawing shows a single spool holder mounted upon a reciprocative shaft 10 of the embroidery machine, but it is to be understood that in practice a large number of such holders are mounted side by side upon such shaft. The spool holder is composed of

a tubular sleeve or head 11 encompassing shaft 10 and adapted to be firmly secured thereto by set screw 12 or otherwise. Sleeve 11 is provided at one end with a plurality of radially extending arms 13 to which are fulcrumed at 14 the spindles 15 of the spools 16 which are rotatably mounted on said spindles. The drawing shows four of such spools, each designed to carry a thread of different texture or color, but it is obvious that the number of such spools may be varied at pleasure. The free end of each spindle 15 is supported within an apertured spring bearing 17 secured to sleeve 11 and which, on being swung outward, liberates spindle 15 and permits the latter to be turned on its pivot 14, so that spool 16 may be removed and replaced whenever necessary. The tension of spool 16 may be regulated by means of a nut 18 mounted upon a threaded section of spindle 15 and bearing against one end of a spring 19 coiled upon spindle 15, the other end of such spring engaging one of the heads of spool 16. Intermediate each pair of spools 16, there projects from sleeve 11 a rib needle or holder 20 bored, as at 21, for the reception of a radially extending needle 22 which is clamped to its holder by screw 23. The thread 24 from each spool passes to the eye of its respective needle, so that in this way each needle carries a thread possessing its own individuality. It is preferred to split sleeve 11 longitudinally, its two semi-circular halves being united by screws 25. By this construction each holder may be readily removed from shaft 10, for the purpose of repair and may be re-fitted in position, without interfering with any of the other holders. Shaft 10 carries a handle 26 and is rotatably mounted in swinging bearings 27, to which it may be locked by a set screw 28.

In practice, the sleeves 11 are so positioned on shaft 10 that all those needles 22 which carry the same quality of thread 24 are presented to the fabric. If it is desired to change the embroidery thread, screw 28 is slackened and shaft 10 is so turned by its handle 26, that the needles carrying the selected threads are pointed toward the work, after which the shaft is re-locked to its bearings. In this way the desired exchange of threads is effected in a simple, quick and effi-

cient manner without requiring an interchange of spools or any re-threading of the needles.

I claim:

5 1. A device of the character described, comprising a tubular head, a plurality of spools disposed about said head, means for rotatably securing the spools to the head, and a plurality of needle holders carried by
10 the head and adapted to carry needles arranged radially to the head.

2. A device of the character described, comprising a tubular head, a plurality of spools disposed about the head, means for
15 rotatably securing the spools to the head, and a plurality of tension devices and needle holders being adapted to carry needles arranged radially to the head.

20 3. A device of the character described, comprising a tubular head, a plurality of bearings extending outwardly therefrom in different directions, spools journaled in said bearings, and a plurality of needle holders
25 carried by the head and adapted to carry needles arranged radially to the head, each spool being provided with its cooperating needle holder.

4. A device of the character described,
30 comprising a tubular head, a plurality of bearings projecting radially therefrom,

spools journaled in said bearings, and needle holders carried by the head intermediate the spools and adapted to carry needles arranged radially to the head.

5. A device of the character described, comprising a tubular head, arms projecting
35 radially therefrom, spindles pivoted to the arms, bearings supporting the free ends of the spindles, spools mounted upon the spindles, and needle holders in proximity to the
40 spools and adapted to carry needles arranged radially to the head.

6. A device of the character described, comprising a tubular head, arms projecting
45 radially therefrom, threaded spindles pivoted to the arms, bearings supporting the free ends of the spindles, spools mounted upon the spindles, tension springs encompassing the spindles and engaging the spools,
50 nuts on the spindles that engage the springs, and needle holders in proximity to the spools and adapted to carry needles arranged radially to the head.

Signed by me at New York city, (Man-
hattan,) N. Y., this 21st day of October, 55
1909.

JACOB FREY.

Witnesses:

N. R. SCHULZ,

FRANK V. BRIESEN.