V. LAFONT.

SKEIN WINDER.

APPLICATION FILED MAY 6, 1909.

957,427.

Patented May 10, 1910.

2 SHEETS—SHEET 1.

FIG-1

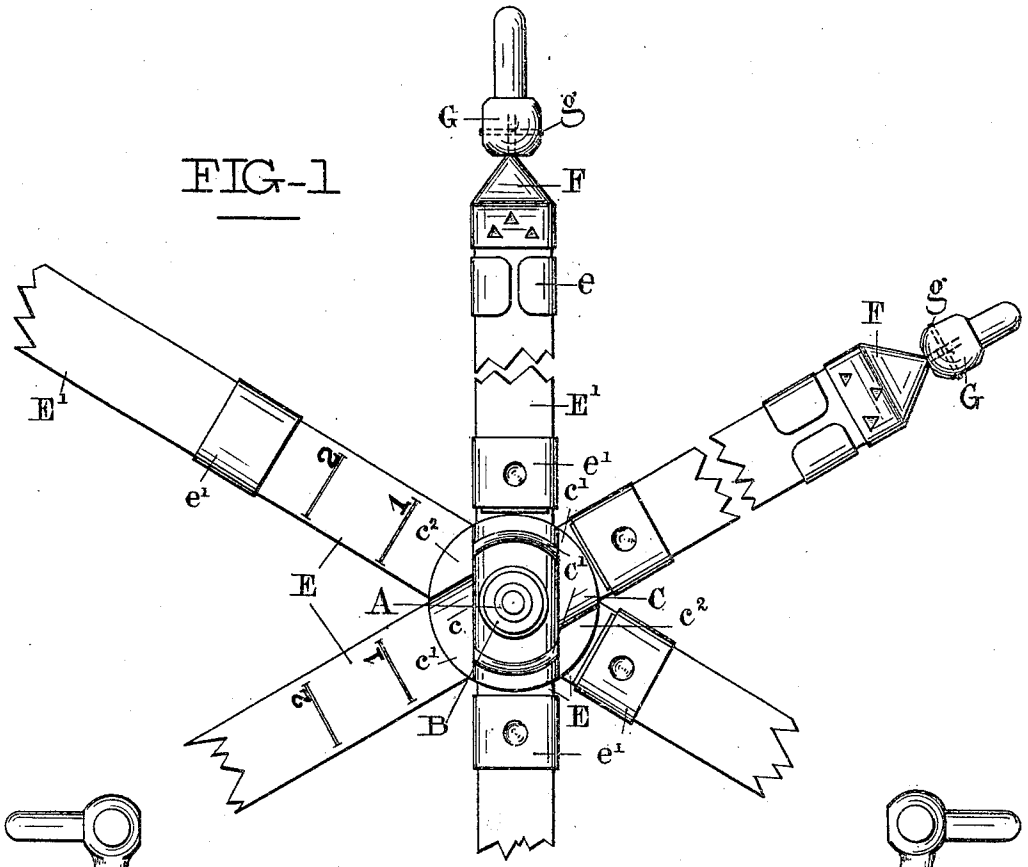
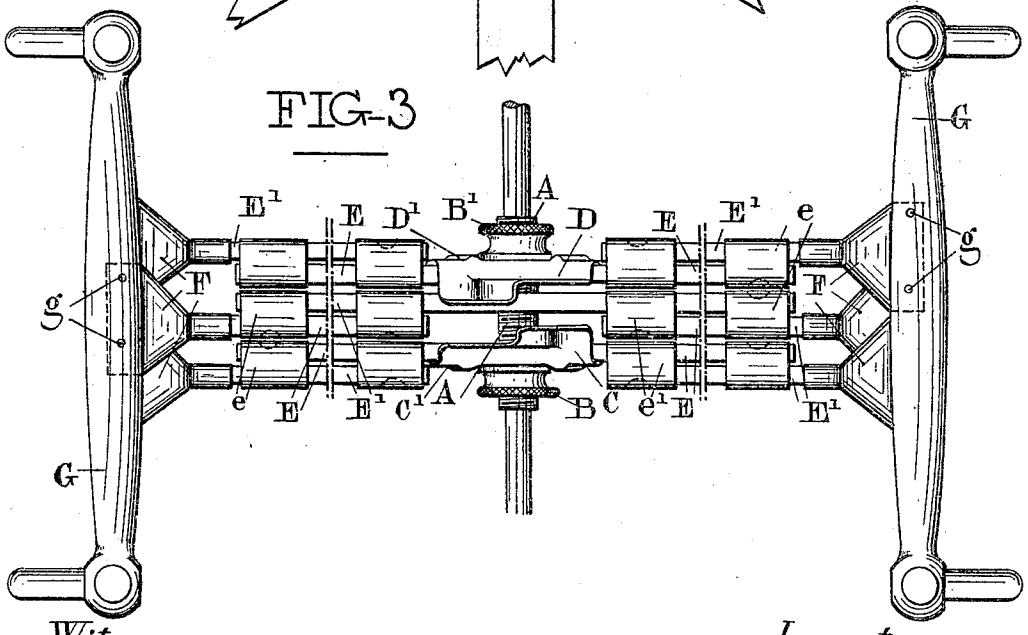


FIG-3



Witnesses

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2 SHEETS—SHEET 2.

FIG-2

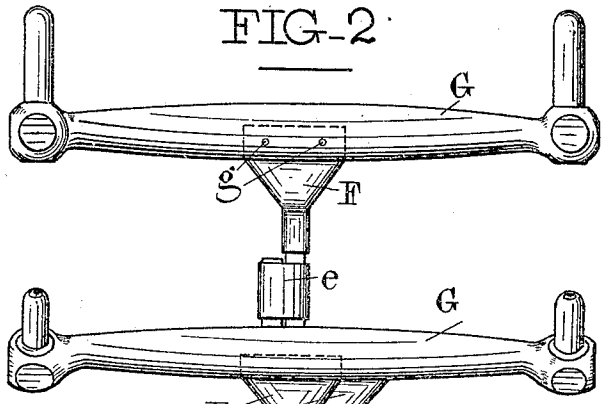


FIG-4

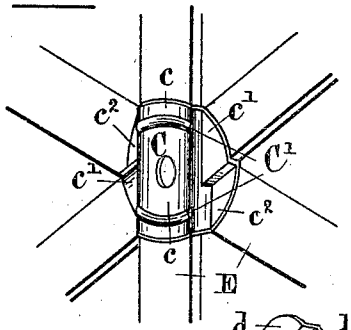


FIG-5

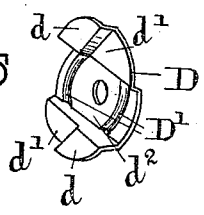
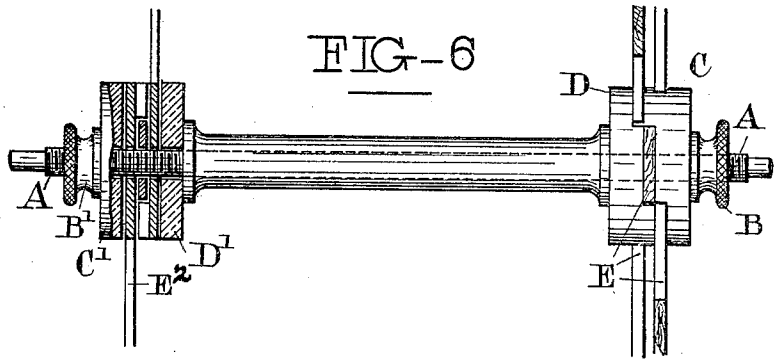


FIG-6



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UNITED STATES PATENT OFFICE.

VALÉRY LAFONT, OF LYON, FRANCE.

SKEIN-WINDER.

957,427. Specification of Letters Patent. Patented May 10, 1910.

Application filed May 6, 1909. Serial No. 494,482.

To all whom it may concern:

Be it known that I, VALÉRY LAFONT, a citizen of the French Republic, residing at Lyon, in France, have invented certain new and useful Improvements in Skein-Winders, of which the following is a specification.

This invention relates to a foldable and extensible winder for use in winding skeins and comprises a device the arms of which are extensible or adjustable as to length to permit of winding skeins of different sizes. Said arms are held between cheeks or plates in such a manner that they can be folded one on the other in order to reduce the space occupied by the winder when not in use.

In the annexed drawing which illustrates an embodiment of the invention and a modification thereof, Figure 1 is a front elevation partly broken away, of the winder in its extended condition, Fig. 2 is a partial side elevation thereof, Fig. 3 is a plan of the winder in folded condition, Figs. 4 and 5 are detail perspective views of the cheeks or plates for use in assembling and fixing the arms, and Fig. 6 is a detail view of the hub of a modified construction of winder comprising two series of arms.

The winder shown in Figs. 1 to 5 comprises a threaded hub A on which are screwed two milled screws B, B^1 bearing against and holding the plates C and D which are constructed of stamped metal and ribbed as shown at C^1, D^1. The opposing surfaces of said plates are stepped, that is to say are formed in three different planes c c^1 c^2 and d d^1 d^2 if the winder is of hexagonal shape. These surfaces thus formed are adapted to fit into each other but when the winder is folded they are separated to the extent of the thickness of the plate as will be hereinafter explained. The arms E fixed between said plates are preferably in the form of flat bars and are each held between the surfaces c d, c^1 d^1, c^2 d^2 and tightened by the screws B, B^1. It must be understood that there can be any number of arms according to the shape of the winder, said arms corresponding in number to that of the surfaces c c^1 c^2 etc. On the arms E are arranged similar slidable bars or extensions E^1 by which the winder can be extended in diameter. Resilient collars or sleeves e e^1 are fixed to the ends of the arms E and the extensions E^1, and respectively embrace the extensions E^1 and arms E with spring pressure. The pressure exerted by the collars is sufficient to maintain the bars E^1 in any extended position which may be given thereto. The effective length of the extended arms can be controlled and determined by the provision of graduated marks 1, 2 etc. corresponding to different sizes of skeins.

The extensions E^1 are each provided at their outer ends with a flattened tubular member F rigidly connected thereto and the flattened end of which is introduced into a slot formed in the reel G and fixed therein by any suitable means, for example by rivets g.

To fold the winder into the condition shown in Fig. 3 all that is required is to slack off the screws B, B^1 and separate the plates C and D to release the arms E which are then folded all into the same plane whereupon the screws B, B^1 are tightened again to hold said arms in place. To bring the parts into the position shown in Fig. 1 the reverse movements are effected.

The hub A can be of increased length and a pair of plates C, D and C^1, D^1 located at each end thereof as shown in Fig. 6 the said plates securing two parallel series of arms E, E^2 which may be connected by ties (not shown). This construction however has not the advantage of that first described in which the length of the hub is reduced to approximately the total thickness of the different arms in the two positions which the winder can occupy that is to say when unfolded and folded (Figs. 2 and 3). The size of the winder being thus reduced to a minimum when same is not in use.

The extensibility of the arms E, E^1 permits of producing all the intermediate diameters comprised between 47 and 79 centimeters which correspond to the extreme dimensions of silk skeins but obviously these dimensions can be modified according to requirement.

The details of construction of the winder can be varied the essential characteristics viz. the means for assembling and fixing the arms being always the same.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. A skein winder comprising a hub, a plurality of arms loosely mounted thereon, extensible members slidably mounted on said arms, resilient means for holding said extensible members relatively to said arms in various positions imparted to said members,

plates mounted on the hub having stepped opposing surfaces and means for causing said plates to engage and hold the arms in positions radiating from said hub.

2. A skein winder comprising a hub, a plurality of arms mounted thereon, a reel at the end of each arm, flattened tubular members connecting the reels to the arms, plates having stepped opposing surfaces mounted on said hub and means for causing said plates to engage and hold the arms in positions radiating from said hub.

3. A skein winder comprising a screw threaded hub, a plurality of arms loosely mounted thereon, extensions slidably mounted on said arms, a reel carried by the outer end of each extension, flattened tubular members connecting the reels to said extensions, resilient means for holding the extensions relatively to the arms in various positions imparted to said extensions, disks mounted on the hub and having stepped opposing surfaces corresponding in number to that of the arms and screws on the hub adapted to lock the plates with the stepped surfaces thereof in engagement with the arms to hold the latter in positions radiating from said hub substantially as described.

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

VALÉRY LAFONT.

Witnesses:
JEAN GERMAIN,
EMILE CRÉPO.