

S. HAAS.
SPOOL RACK.

APPLICATION FILED NOV. 10, 1910.

1,022,077.

Patented Apr. 2, 1912.

2 SHEETS-SHEET 1.

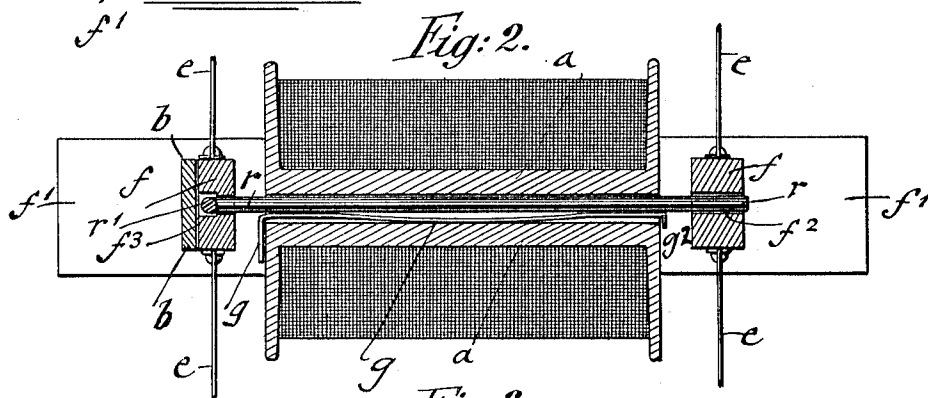
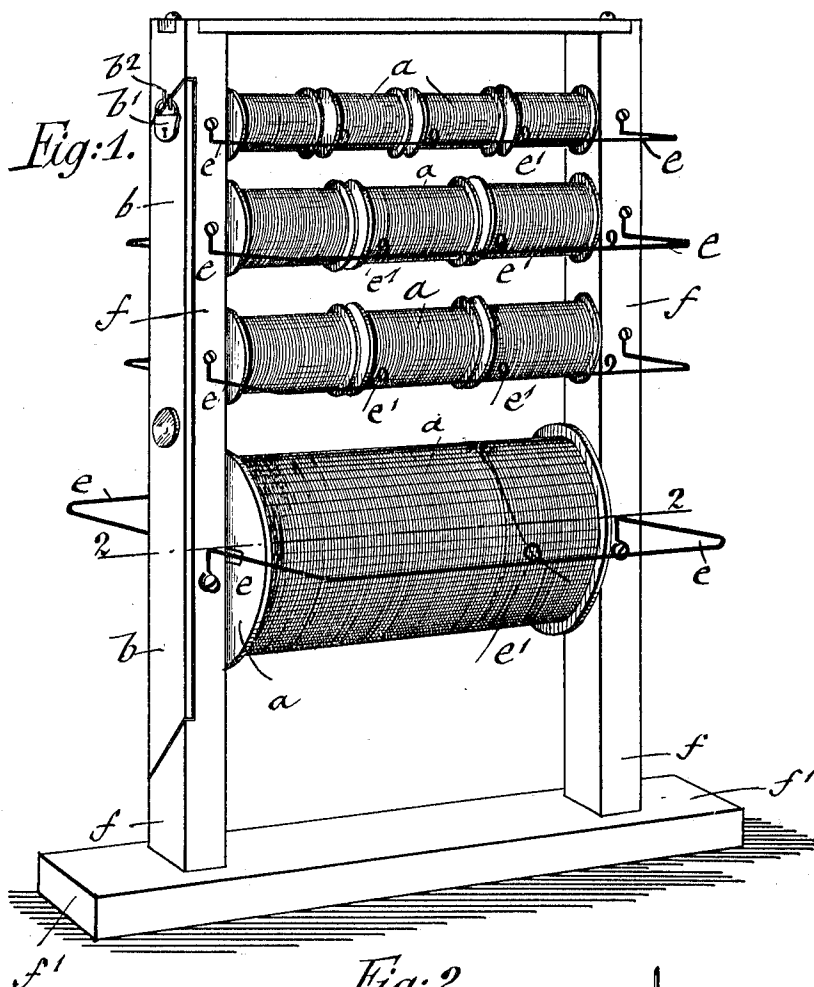


Fig: 3.



Witnesses:
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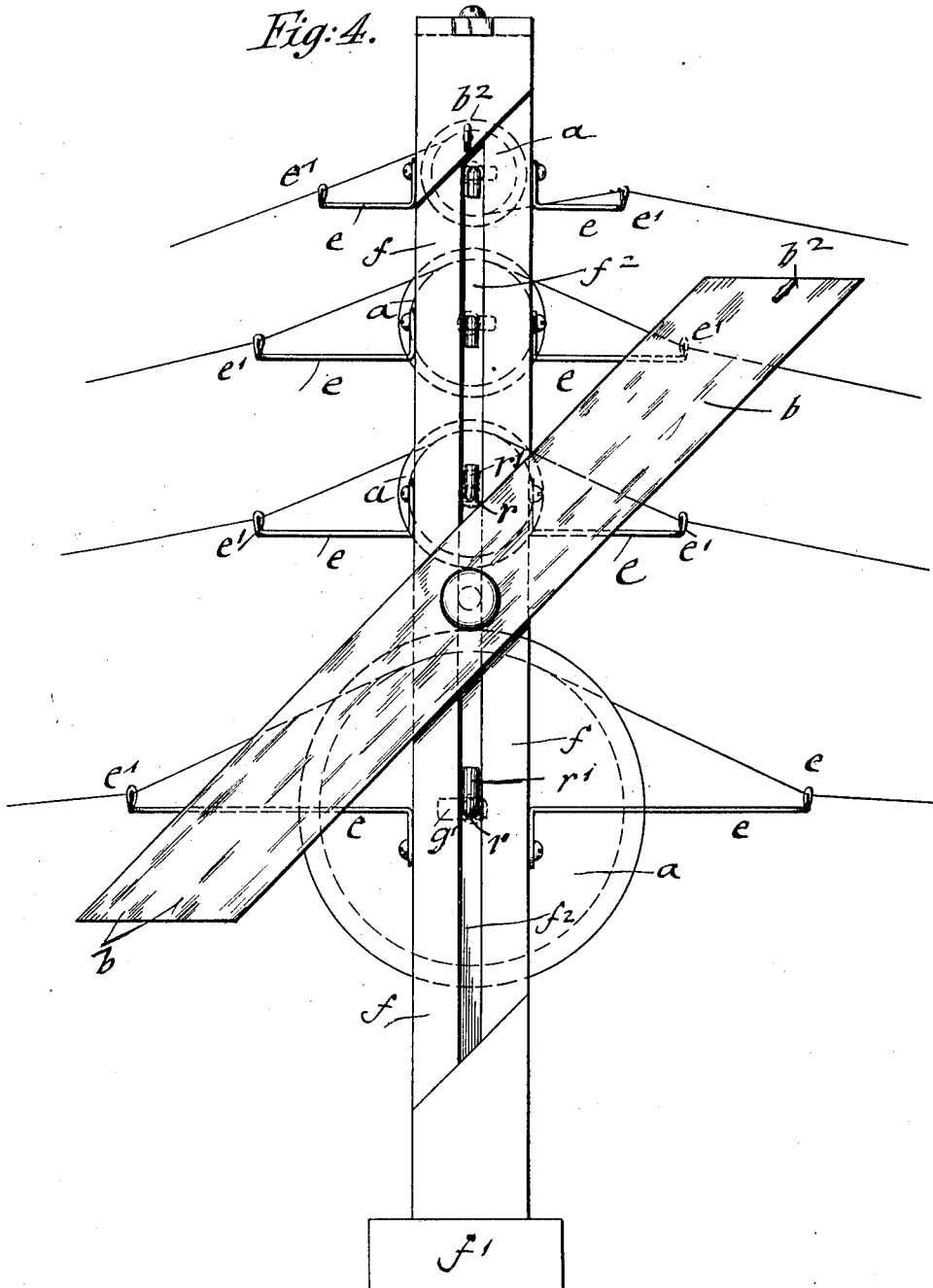
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2 SHEETS-SHEET 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

SAMUEL HAAS, OF NEW YORK, N. Y.

SPOOL-RACK.

1,022,077.

Specification of Letters Patent.

Patented Apr. 2, 1912.

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To all whom it may concern:

Be it known that I, SAMUEL HAAS, a citizen of the United States of America, residing in the city of New York, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Spool-Racks, of which the following is a specification.

This invention relates to an improved spool holding device or rack, which is so arranged that any desired number of spools wound with different kinds of thread are supported on the rack in such a manner that the thread of each spool is suitably guided for preventing the intermingling of the threads, provided with a tension and locked in position so as to prevent the theft of spools by the operators using the threads; and for this purpose, the invention consists of a spool-rack which comprises an upright frame, a plurality of horizontal rods supported by said frame, a plurality of spools of different sizes and for different kinds of thread supported on said rods, thread-guides for the threads of the spools attached to the supporting frame, a tension-device for each individual thread, and means for locking one end of the rods for preventing the removal of the spools.

The invention consists further of certain details of construction by which the spools or rods are locked in position for preventing the unauthorized removal of the spools, as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved spool-rack, showing the same arranged for the different sizes of spools and kinds of threads; Fig. 2 is a horizontal section on line 2, 2, Fig. 1; Fig. 3 is a detail perspective view of tension-spring employed for each spool for retarding the axial motion of the same on its supporting rod, and Fig. 4 is a side-elevation of the spool-rack, showing the locking device for the spools in open position for the removal and inserting of the spools.

Similar letters of reference indicate corresponding parts throughout the several figures.

Referring to the drawing, f represents an upright frame preferably of rectangular shape, which is supported on a base f' that is attached to a table or other support convenient to the operators using the threads

supplied by the spools on the rack. One upright of the frame f is provided with a number of bearings f^2 for supporting one or more horizontal rods r on which the thread-holding spools a are placed. The opposite upright of the frame f is provided with a vertical groove f^3 into which the bent-up opposite ends r' of the rods r are placed. The groove f^3 and the bent-up ends r' of the rods r are covered by a pivoted bar or plate b that is locked in closed position over the ends of the rods r by means of a small pad-lock b' which engages eyes b^2 on the frame f and upper end of the plate b , to which the superintendent, who supplies the new spools from time to time, has the key. On removing the pad-lock and unlocking the closing plate b , the latter can be moved sidewise on its pivot so that the rods r can be removed from the frame, the empty spools removed and new spools inserted. After the new spools are supplied to the rods and the latter placed in position again in the uprights of the supporting frame f , the covering bar is placed back in position over the bent-up ends of the rods and again locked in position.

To the front and rear side of the uprights of the frame f are attached thread-guides e which are preferably made of wire and provided with eyes e' , one for each spool through which the threads from the spools are passed so as to be conveniently unwound from the spool as required for use. The thread-guides are attached at their ends by screws to the uprights f and permit the guiding of the threads at opposite sides of the frame. To prevent the too quick turning of the spools on the rods when the threads are required, each spool is provided with a tension-spring g , which is made of flat steel, as shown in detail in Fig. 4. This tension spring has a curved or bow-shaped body which is inserted in the bore of the spool between it and the rod on which the spool turns. The lateral tension of the spring creates friction and holds the spool at proper tension. The spring is bent at its ends forming lateral stops g' and g^2 which engage the ends of the spool and retain the spring within the bore thereof. One of these stops g^2 is shorter than the diameter of the bore of the spool so that the spring may be passed thereinto. When the rod is passed through the spool the short stop is sufficient in length to prevent retraction of the spring.

The stop g' is preferably longer, though not necessarily so. The tension-springs are made of flat steel and of varying sizes, according to the size of the spools with which they are to be used, the smaller spools requiring a smaller and the larger spools requiring a larger tension-spring.

My improved spool-racks can be made in a smaller size for sewing machines and in larger sizes for supplying girls working at opposite sides of a table as required by the factory in which the spool-rack is used. The rack shown in the drawing is provided at its upper part with a number of small spools containing silk-thread, while the intermediate spools are larger and may be used for linen-thread, and the still larger spool on the lower rod may be provided with cotton-thread. As all the spools are locked in position, no spool can be removed by the operators, as the superintendent only has access to the same and attends to the supplying of new spools in place of the empty ones.

I am aware the spool-racks have been used heretofore in which spools are locked in position, but I am not aware that spool-racks in which a number of different spools of different sizes and with different threads held at proper tension are supported in a perfectly secured and locking position.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A spool-rack comprising a pair of uprights provided with a plurality of alined transverse bearing-holes, one of the uprights having its outer face provided with an outwardly opening groove communicating with the bearing-holes thereof, rods in said holes and having bent-up ends in said groove, a cover plate movably secured to the grooved upright and covering the groove when in normal position and means for locking the cover plate in normal position.

2. A spool-rack comprising a pair of uprights having alined transverse bearing-holes therein, the outer face of one of said uprights being cut away to form a sunken portion provided with slanting shoulders at

its ends and with an outwardly opening vertical groove communicating with the bearing-holes of said upright, horizontal rods supported in said bearing-holes and provided with bent-up ends located in said groove, a cover-plate pivoted for movement against the face of said sunken portion and adapted to fill the same when in normal position, whereby said groove is closed, and means for locking the cover-plate in normal position.

3. A spool-rack comprising a pair of uprights having alined transverse bearing-holes therein, the outer face of one of said uprights being cut away to form a sunken portion provided with slanting shoulders at its ends and with an outwardly opening vertical groove communicating with the bearing-holes of said upright, horizontal rods supported in said bearing-holes and provided with bent-up ends located in said groove, a cover-plate pivoted for movement against the face of said sunken portion and adapted to fill the same when in normal position, whereby said groove is closed, means for locking the cover-plate in said normal position, spools on said rods, tension springs in the bores of said spools and bearing against said rods and bores and having bent-up ends engaging the ends of the spools, and wire-thread guides secured to the uprights and passing in front of the spools and provided with eyelets for the threads.

4. The combination in a spool rack of a horizontal rod, a spool adapted to turn thereon, and a bow-shaped spring inserted in the bore of the spool between it and said rod and operating to impart a lateral tension on the spool, said spring being bent at its opposite ends forming stops which engage the ends of the spool, one of said stops being shorter than the diameter of the bore of the spool.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

SAMUEL HAAS.

Witnesses:

PAUL GOEPEL,
JOHN MURTAGH.