J. COHN.

UNIVERSAL THREAD STAND.

APPLICATION FILED FEB. 3, 1920.

1,367,685.

Patented Feb. 8, 1921.

2 SHEETS—SHEET 1.

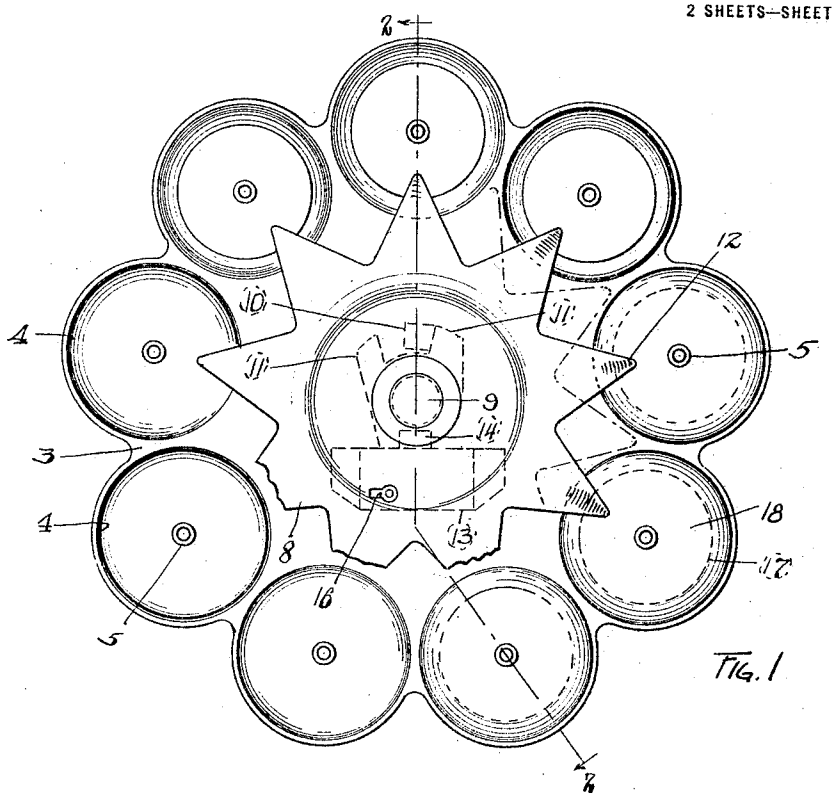


FIG. 1

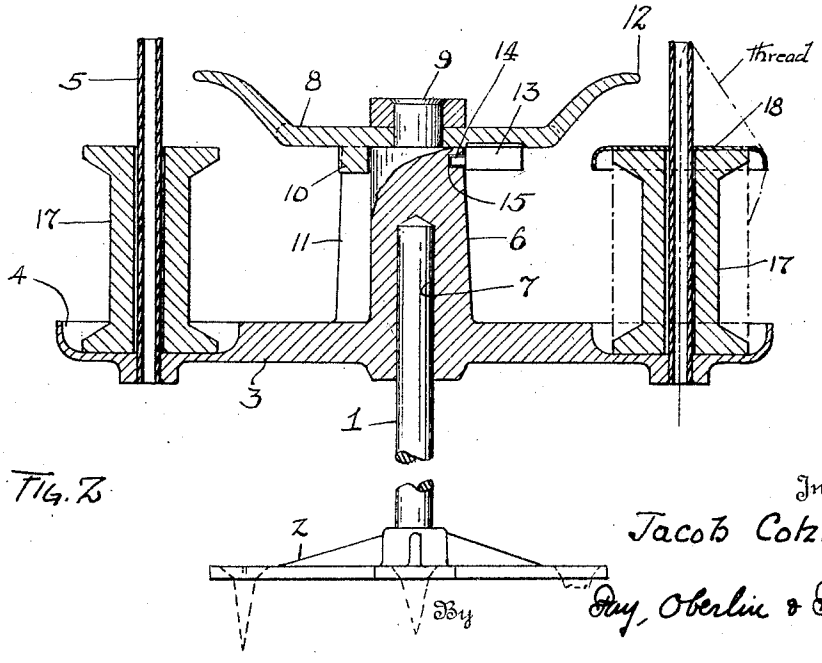


FIG. 2

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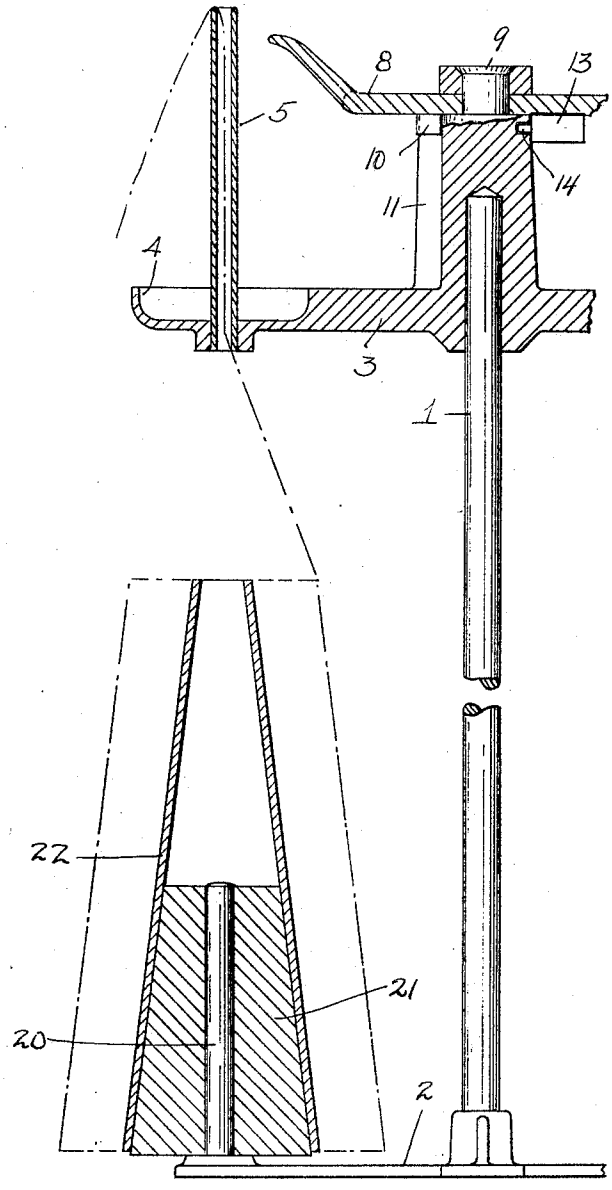


Fig. 3

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UNITED STATES PATENT OFFICE.

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UNIVERSAL THREAD-STAND.

1,367,685. Specification of Letters Patent. Patented Feb. 8, 1921.

Application filed February 3, 1920. Serial No. 356,030.

To all whom it may concern:

Be it known that I, JACOB COHN, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Universal Thread-Stands, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The present improved thread stand is designed for universal use in connection with sewing machines in clothing factories, or in any similar plant, as well as for individual or domestic use, where it is desirable to have a number of spools of thread mounted or supported so as to be instantly available for use. The device comprehends a further feature especially adapting it for factory use, in that provision is made for locking the spools therein so as to prevent their bodily removal.

To the accomplishment of the foregoing and related ends, the invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims, the annexed drawing and the following description setting forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—

Figure 1 is a plan view of my improved universal thread stand, certain parts being broken away more clearly to indicate the structure beneath; Fig. 2 is a central vertical section of the device taken on the angularly related planes indicated by the line 2—2, Fig. 1; and Fig. 3 is a similar section showing a modified construction.

In the illustrated form of construction, the spool-holding device proper is shown as mounted on a vertical spindle 1 supported by a base 2 that is adapted to be screwed or otherwise firmly fixed to a table or the like, but it will be understood that any other suitable form of support may be substituted for the one thus shown.

The main member of the device, then, consists of a scalloped disk or plate 3, provided about its periphery with a series of circular depressions or cups 4, from each of which rises centrally to a suitable height a tubular spindle 5, it being noted that the hole through such spindle extends through the bottom of the corresponding depression or cup 4. Disk 3 is formed with an integral boss or hub 6 rising centrally therefrom and provided with a circular aperture 7 adapted to receive the upper end of spindle 1 and thereby rotatably support said disk upon such spindle. Rotatably attached in turn to such boss 6 is a star-shaped member 8 that is held against removal by means of a rivet 9 or other equivalent fastening. The amount of rotative movement which said member 8 may have with respect to boss 6 is furthermore limited by means of a lug 10 on the under side thereof, which fits between two radially projecting stops 11, 11 on the side of the boss. The extent of the rotative movement thus permitted member 9 is that indicated in Fig. 1, viz., from the full line position of the member there shown to the position indicated in dotted outline. In such first mentioned position it will be observed the star-like projections 12 of the member are alined with the several spindles 5, so as to prevent the removal of any spools that may be mounted on the latter; while in the alternative position, said projections lie exactly half way between adjacent spindles so as to clear any spools that may be mounted on the latter, and permit their removal or replacement.

In order to prevent unauthorized removal of spools from the stand, provision is made for locking member 9 with the projections thereof thus in alinement with the several spindles 5. To this end a lock 13 of the bolt type is attached to the under side of the member, the bolt or plunger 14 of said lock being adapted to enter an appropriately located recess 15 in the side of the boss 6 when the member 9 is in proper position. The key opening 16 for the lock conveniently extends to the upper face of member 9, as shown in Fig. 1.

When the device is in use any number of spools 17 are fitted over the tubular spindles 5, as shown in Fig. 2, up to the capacity of the stand, and each such spool is preferably capped with a flanged metal disk 18, as shown at the right of said figure, the flange of such disk being rounded and bent downwardly. The thread from the spool is passed upwardly across the edge of this disk, and thence downwardly through the aperture in the spindle, and is allowed to depend a short

distance below the plate 3. It will accordingly be observed that there is no danger of the threads from adjacent spools becoming entangled with each other, but that each thread hangs freely and in convenient position to be grasped by the operator. It will also be observed that the spool does not rotate as the thread is unwound therefrom, but remains stationary, which is of further advantage, as no tension is placed on the thread incidentally to its removal from the spool. In order to unlock the stand so as to permit a spool to be bodily removed, or a fresh spool to be placed thereon, it is merely necessary to apply a key to the opening 16, whereupon the member 8 is rotated to its alternative position, as determined by stop 10. Following this, such member 9, upon being moved to its former position, may be again locked, and the collection of spools secured to the plate 3. The latter may be lifted bodily from the stand so that one set of spools may be substituted for another at a given machine or sewing station.

In the modified construction shown in Fig. 3, I provide means in the form of a supplemental support for one or more additional spools, specifically conical spools of the kind that frequently require to be used in connection with sewing machines such as are employed in factories. This support consists principally of an upstanding spindle 20 on base 2, such spindle being fitted with a filler member 21 in the shape of a frustum of a cone rotatable upon said spindle and adapted to fit within the conical core 22 of a spool of the type in question. As indicated, one or more such spools may be provided, depending upon the number of spools of this sort that it is found desirable to utilize in connection with a thread stand. Spindle 20 is approximately the same radial distance from the main spindle 1 of the stand as are the tubular spindles 5 on plate 3, with the result that the thread from a spool mounted on spindle 20 may be passed upwardly through a selected tubular spindle on said plate and thence led to the machine. Of course when a tubular spindle is thus employed it cannot at the same time be used with thread from a spool 17, but the normally dangling thread of the latter will serve as a convenient means for passing the thread from the conical spool through the spindle, it being merely necessary to tie the ends of the two threads together and then pull such last mentioned thread up through the tube, after which the knotted ends are severed. When the conical spool is not in use it of course interferes in no wise with the drawing of thread from spool 17 in the manner previously described.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a device of the character described, the combination of a suitable support, a plate rotatably mounted thereon, a series of spool-receiving spindles arranged in spaced circular relation on said plate, a member rotatably attached to said plate and having a corresponding series of upwardly extending projections adapted in one position to coöperate with said spindles to retain spools thereon and in another position to permit removal of such spools, and a lock adapted to secure said member in such first-mentioned position.

2. In a device of the character described, the combination of a suitable support, a plate rotatably mounted thereon, a series of tubular combined thread guides and spool-receiving spindles arranged in spaced circular relation on said plate, a member rotatably attached to said plate and having a corresponding series of upwardly extending projections adapted in one position to cooperate with said spindles to retain spools thereon and in another position to permit removal of such spools, stop-means limiting rotation of said member to movement between such two positions, and a lock adapted to secure said member in such first-mentioned position.

3. In a device of the character described, the combination of a suitable support, a plate rotatably mounted thereon and having a central upstanding boss of approximately the height of the spools to be used, a series of spool-receiving spindles arranged in spaced circular relation on said plate about such boss, a member rotatably attached to such boss and having a corresponding series of upwardly extending projections adapted in one position to coöperate with said spindles to retain spools thereon and in another position to permit removal of such spools, and a lock adapted to secure said member in such first-mentioned position.

4. In a device of the character described, the combination of a suitable support, a plate rotatably mounted thereon, a series of tubular spool-receiving spindles arranged in spaced circular relation on said plate, the apertures in said spindles extending through said plate, means adapted to secure spools against removal from said spindles, and downwardly flanged disks adapted to fit over said spindles and rest upon the spools thereon.

5. In a device of the character described, the combination of a suitable support, a plate rotatably mounted thereon and having a series of cup-like depressions arranged in

spaced circular relation about its periphery, a corresponding series of tubular spool-receiving spindles rising centrally from such depressions, the apertures in said spindles extending through said plate, and downwardly flanged disks adapted to fit over said spindles and rest upon the spools thereon.

6. In a device of the character described, the combination of a suitable support, a plate rotatably mounted thereon, a series of tubular spool-receiving spindles arranged in spaced circular relation on said plate, the apertures in said spindles extending through said plate whereby the thread from each spool may be passed downwardly through the corresponding spindle, and another spool-receiving spindle located adjacent said support but below said plate, whereby the thread from a spool thereon may be passed upwardly through a selected tubular spindle on said plate.

7. In a device of the character described, the combination of a suitable support, a plate rotatably mounted thereon, a series of tubular spool-receiving spindles arranged in spaced circular relation on said plate, the apertures in said spindles extending through said plate whereby the thread from each spool may be passed downwardly through the corresponding spindle, and another spindle located adjacent said support but below said plate and adapted to receive a conical spool, whereby the thread from a spool thereon may be passed upwardly through a selected tubular spindle on said plate.

8. In a device of the character decribed, the combination of a suitable support, a plate rotatably mounted thereon, a series of tubular spool-receiving spindles arranged in spaced circular relation on said plate, the apertures in said spindles extending through said plate whereby the thread from each spool may be passed downwardly through the corresponding spindle, and downwardly flanged disks adapted to fit over said spindles and rest upon the spools thereon.

9. In a device of the character described, the combination of a suitable support, a series of spindles mounted on said support carrying spools, a plate mounted upon the upper portion of said support, tubular members forming combined thread guides and spool spindles mounted in said plate, said thread guides being adapted to selectively coact with the thread on either set of spools.

Signed by me, this 29th day of January, 1920.

JACOB COHN.