No. 786,572. PATENTED APR. 4, 1905.

H. E. LEEMAN.

SPOOL STAND.

APPLICATION FILED AUG. 22, 1904.

Fig. 1.

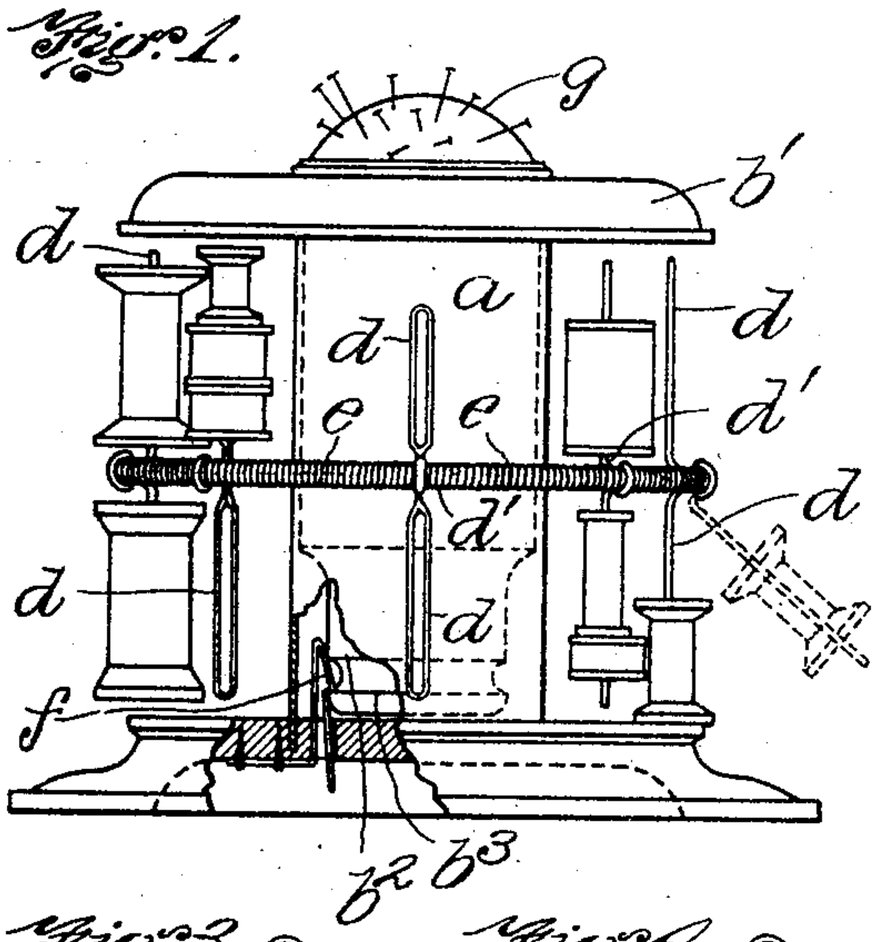


Fig. 2.

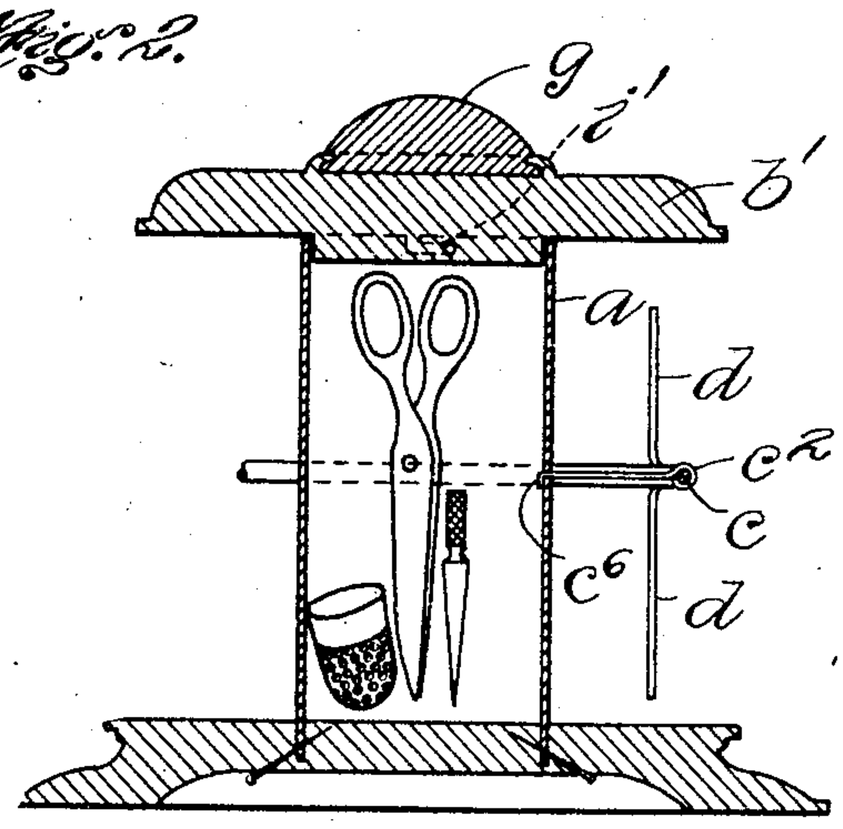


Fig. 3.

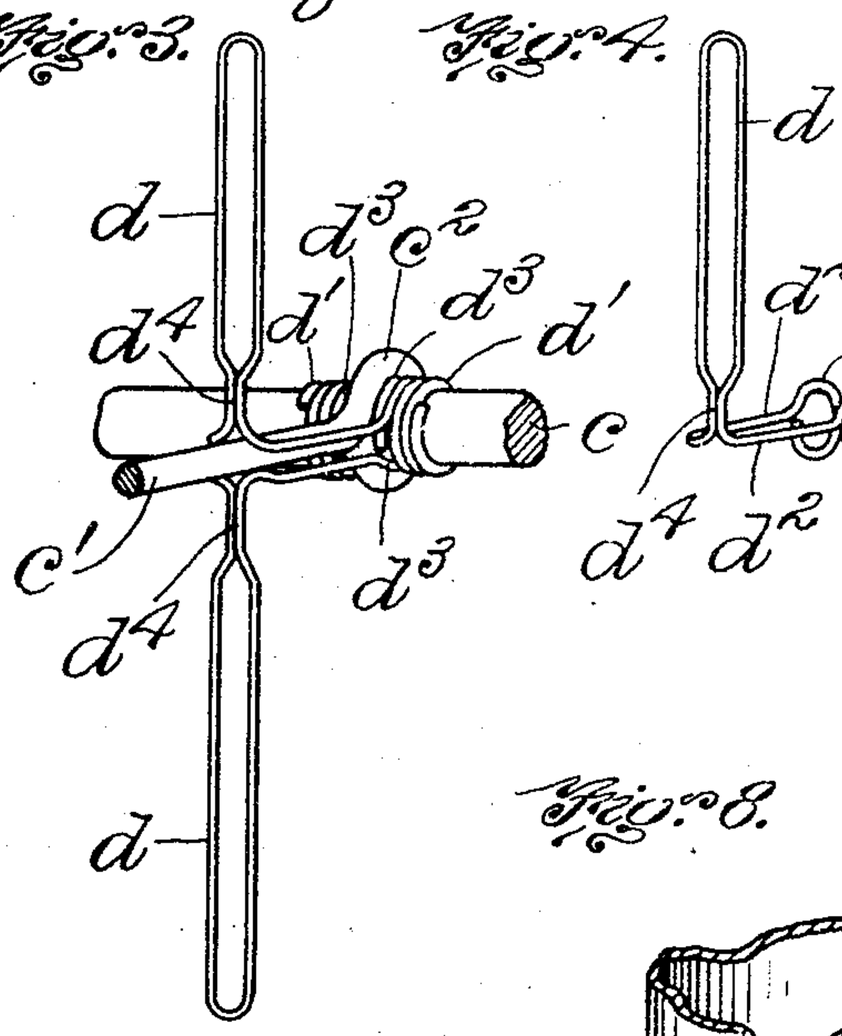


Fig. 4.

Fig. 5.

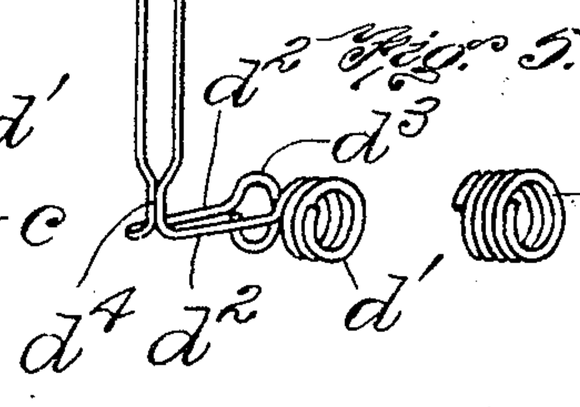


Fig. 6.

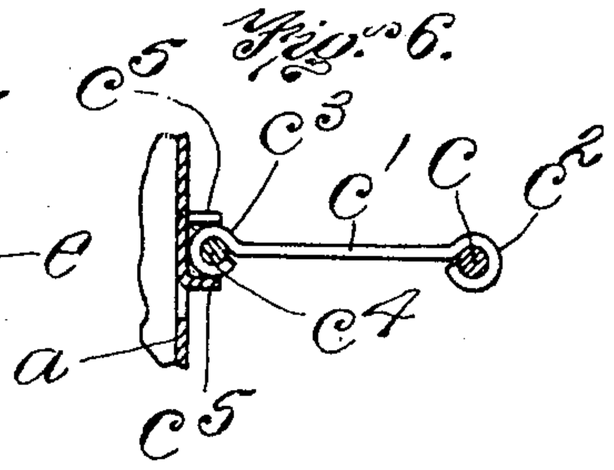


Fig. 7.

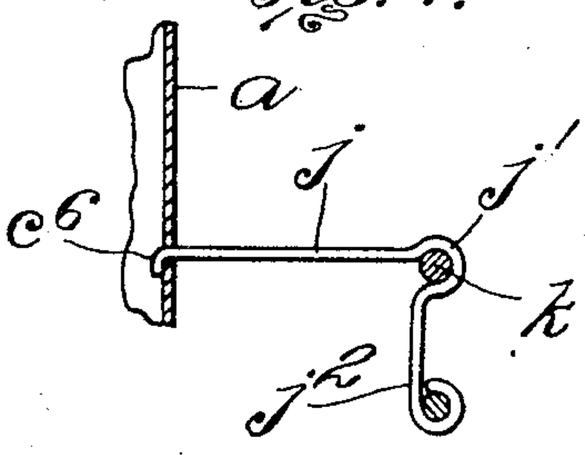
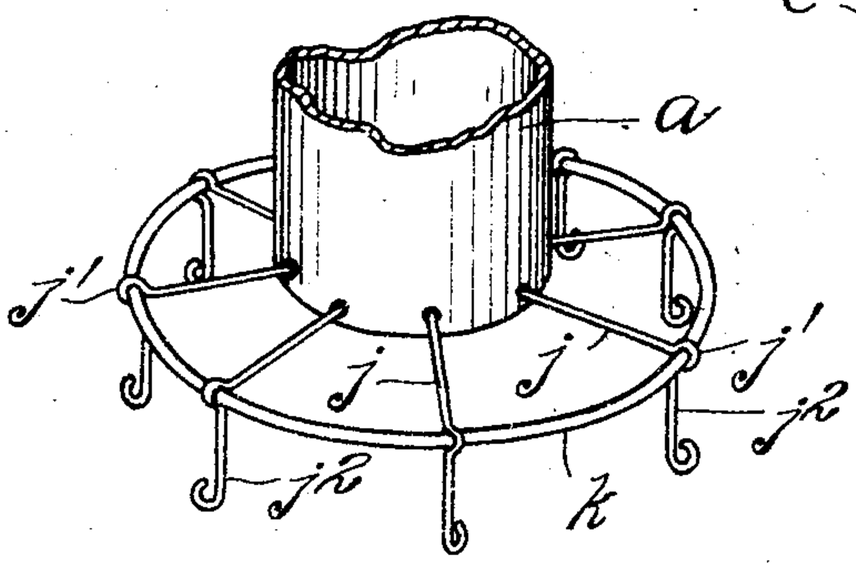


Fig. 8.



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No. 786,572. Patented April 4, 1905.

UNITED STATES PATENT OFFICE.

HORACE E. LEEMAN, OF LYNN, MASSACHUSETTS.

SPOOL-STAND.

SPECIFICATION forming part of Letters Patent No. 786,572, dated April 4, 1905.

Application filed August 22, 1904. Serial No. 221,700.

To all whom it may concern:

Be it known that I, HORACE E. LEEMAN, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Holders for Spools, &c., of which the following is a specification.

This invention relates to holders for spools and other articles used in connection with needle-work; and it has for its object to provide a simple and convenient appliance for holding a considerable number of spools and, if desired, other articles, such as scissors, thimbles, pins, &c.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation, partly in section, of an appliance embodying my invention. Fig. 2 represents a fragmentary sectional view showing parts of my improved appliance. Figs. 3, 4, and 5 represent perspective views of details. Figs. 6 and 7 represent sectional elevations of other details. Fig. 8 represents a perspective view of the lower portion of the standard, showing the same provided with a wire base.

The same reference characters indicate the same parts in all the figures.

In the drawings, *a* represents a supporting-standard affixed to a suitable base *b*. The standard is or may be a sheet-metal tube or cylinder, and the base may be a wooden disk into which one end of the standard is inserted.

c represents a ring which surrounds the standard *a* and is connected therewith by any suitable means, such as wire arms *c'*, secured at their outer ends to the ring and at their inner ends to the standard. The arms *c'* may have eyes c^2 at their outer ends embracing the ring, and eyes c^3 at their inner ends engaging a ring or band c^4, which surrounds the standard *a* and is secured thereto by means of ears c^5, bent outwardly from the standard above and below the ring c^4, as shown in Fig. 6.

Upon the ring *c* are mounted a series of spool-supporting fingers, each of which is preferably made of wire and comprises a looped spool-engaging portion or member *d*, a helically-coiled ring-engaging member or eye *d'*, and an arm d^2, connecting the eye *d'* with the member *d*. In practice I provide an additional eye d^3, which is preferably a single coil of wire, constituting the opposite end of the length of wire from that which forms the eye *d'*, the said eye d^3 being connected with the member *d* by an arm d^2. The said eyes embrace and are adapted to turn on the ring *c*. The inner portion of each of the looped members *d* is contracted at d^4, so that the inner end of each looped member is adapted to bear upon one of the arms *c'*, as shown in Fig. 3. The adaptability of the eyes to turn on the ring enables each finger to be swung outwardly, as indicated by dotted lines in Fig. 1, to enable a spool to be conveniently applied to or removed from the finger. The fingers are normally held yieldingly, as hereinafter described, in vertical positions, and when so held they are guarded by the base *b* and by a cap *b'*, affixed to the upper portion of the standard, the said base and cap preventing the removal of the spools from the fingers when the latter are in their normal positions. There are two series of fingers, one series projecting downwardly and the other upwardly from the ring. The fingers are held in their normal position by means of helical wire springs *e*, which are mounted upon the ring *c*, between the fingers. The ends of the springs *e* abut against the ends of the coils forming the eyes *d'*, so that the springs *e* exert by torsion a constant pressure against the eyes *d'* in the direction required to hold the fingers on which said eyes are formed against the arm *c'*, thus yieldingly maintaining the fingers in their normal or vertical positions. It will be seen, therefore, that either of the fingers may be swung outwardly to expose its outer portion and permit the application or removal of a spool, the finger when released being swung inwardly to its normal position by the action of the spring *e* engaged with its eye *d'*. The looped form of the spool-engaging portions or members of the fingers enables said portions to bear yieldingly on the bore of a spool, so that the fingers exert a sufficient frictional hold on the spool to prevent the spools on the lower fingers from slipping downwardly.

In Fig. 1 I have shown the cap *b'* affixed to

a shank b^2, which is adapted to enter the hollow standard a and is provided with a notch b^3, engaged by a spring-catch f, secured to the base b, said catch being removable to disengage it from the shank b^2, and thus permit the removal of the shank and cap. The upper end of the shank is provided in this case with a pin-cushion g.

In Fig. 2 I show the cap b' provided with a stud i, which constitutes a member of a lantern or bayonet joint, the other member of which is an angular slot i formed on the standard a. When the cap is removed from the standard, the interior of the latter is exposed and may be utilized as a receptacle for various articles used in needle-work, as indicated in Fig. 2. The cap b' may be provided with a pin-cushion g'.

In Fig. 2 I show the ring-supporting arms c' inserted in orifices formed in the standard a and provided with hooks or lugs c^6, which bear upon the inner surface of the standard a and hold the arms in engagement with the standard.

In Fig. 8 I show a base constructed of wire and composed of a series of radiating arms j, engaged at their inner ends with the lower portion of the standard a and bent at or near their central portions to form loops or eyes j'', engaging a horizontal ring k, which surrounds the lower portion of the standard, the said arms being continued downwardly from the ring k and forming legs j^2. When the base is constructed as last described, the greater part of the appliance is composed of wire, so that the cost and weight of the appliance is reduced to the minimum. The fingers of both series are alike in construction, so that the helical eye d' of each upwardly-projecting finger is at one side of the arm c', while the helical eye d' of the corresponding downwardly-projecting finger is at the opposite side of said arm, as shown in Fig. 3. The ends of the said coils are therefore in position to abut against the adjacent ends of two of the springs e.

The cap may be constructed of wire arms and a wire ring, substantially like the arms j and ring k, the legs j^2 being omitted.

I claim—

1. A spool-stand comprising a standard, a ring surrounding the standard, radial arms affixed to the standard and supporting the ring, fingers pivotally engaged with the ring, and means for yieldingly holding the fingers against the arms.

2. A spool-stand comprising a standard having an outwardly-projecting cap, a ring surrounding the standard, radial arms connecting the ring with the standard, movable fingers pivotally engaged with the ring, and means for yieldingly holding the fingers against the arms, in position to be guarded by the cap.

3. A spool-stand comprising a standard having a base, an outwardly-projecting cap above the base, a ring supported by the standard between the base and cap, two series of fingers movably engaged with said ring, one series projecting upwardly and the other downwardly from the ring, and means for yieldingly holding the fingers in position to be guarded by the base and cap.

4. A spool-stand comprising a standard, a ring surrounding the standard and supported thereby, spool-holding fingers each having a ring-engaging eye adapted to turn on the ring, and helical springs mounted on the ring and each yieldingly engaged at its ends with the ring-engaging eyes of two adjacent fingers.

5. A spool-stand comprising a standard, a ring surrounding the standard and supported thereby, spool-holding fingers each having a helically-coiled wire-engaging eye adapted to turn on the ring, and helical springs mounted on the ring, the ends of each spring abutting against the ends of the helically-coiled eyes of two adjacent fingers.

6. A spool-stand comprising a standard, a ring surrounding the standard, radial arms connecting the ring with the standard, wire fingers each having a looped spool-engaging member contracted at its inner portion to bear on one of said arms, two ring-engaging members or eyes, one of which is helically coiled, and arms connecting said eyes with the looped member, and helical springs mounted on the ring, the ends of each spring abutting against the ends of the helically-coiled eyes of two adjacent fingers.

7. A spool-stand comprising a hollow standard adapted to serve as a receptacle and provided with an outwardly-projecting base, a removable cap formed to cover the interior of the standard and projecting outwardly over the base, and spool-holding fingers grouped about the standard and supported thereby between the cap and base, said fingers being guarded by the removable cap and exposed when the cap is removed.

8. A spool-stand comprising a standard, and a base comprising wire arms radiating from and secured to the lower portion of the standard, said arms being bent to form eyes and legs, and a ring surrounding the lower portion of the standard and engaged with said eyes.

In testimony whereof I have affixed my signature in presence of two witnesses.

HORACE E. LEEMAN.

Witnesses:
GEO. R. PEASE,
TIMOTHY A. O'LEARY.