No. 780,479. PATENTED JAN. 17, 1905.

E. B. CASE.

SPOOL HOLDER.

APPLICATION FILED DEC. 8, 1903.

2 SHEETS—SHEET 1.

Fig. 1.

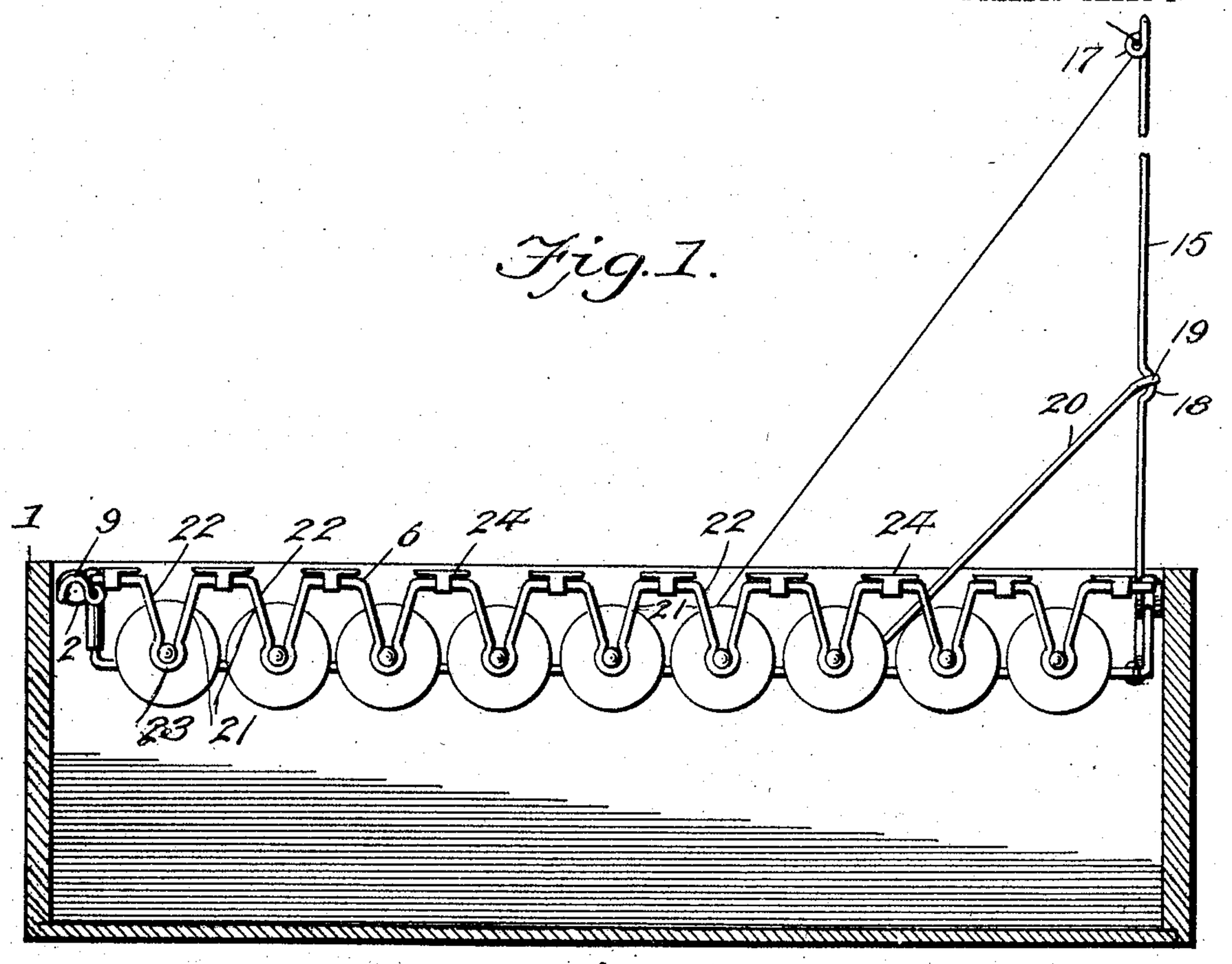
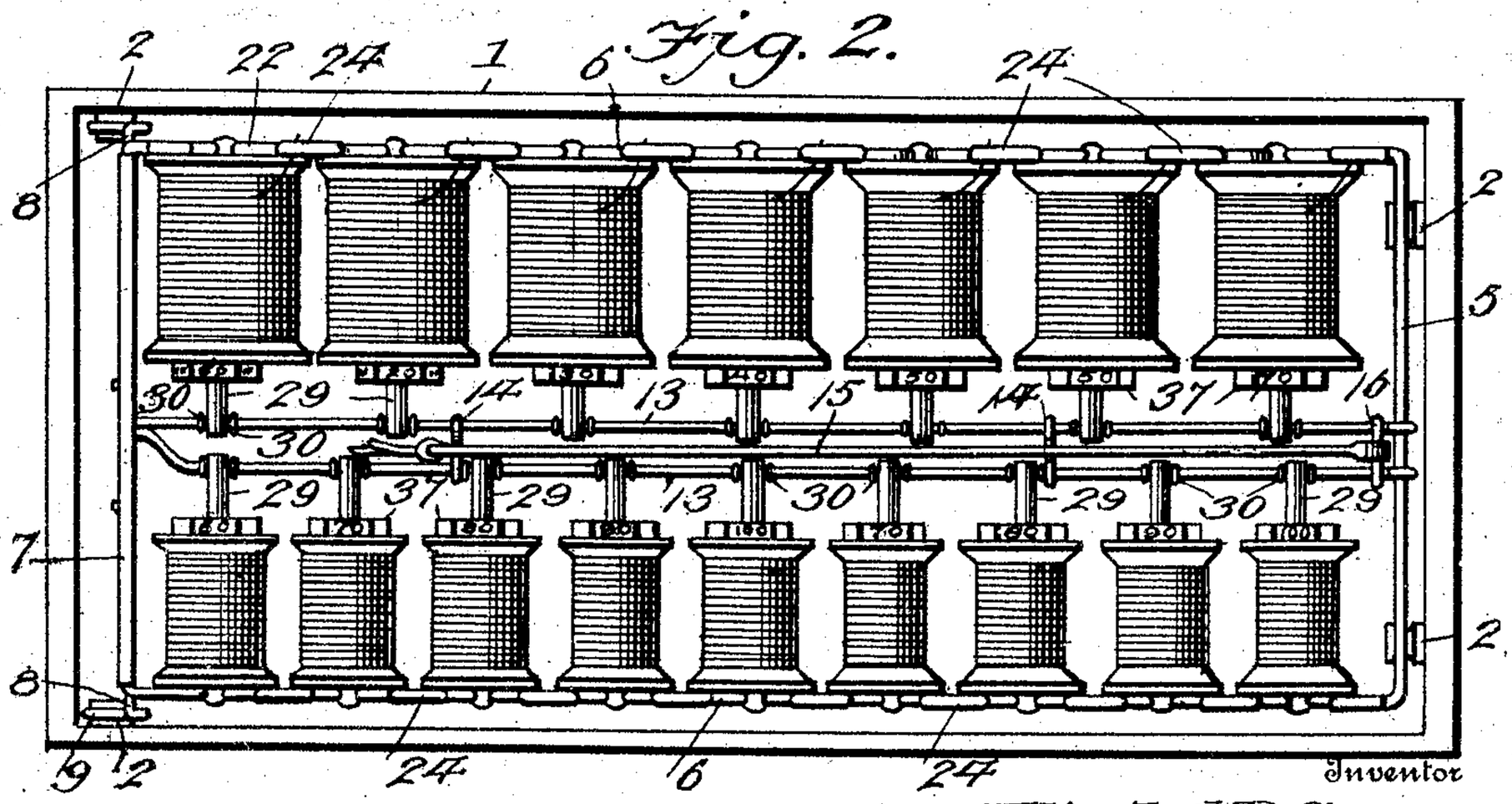


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

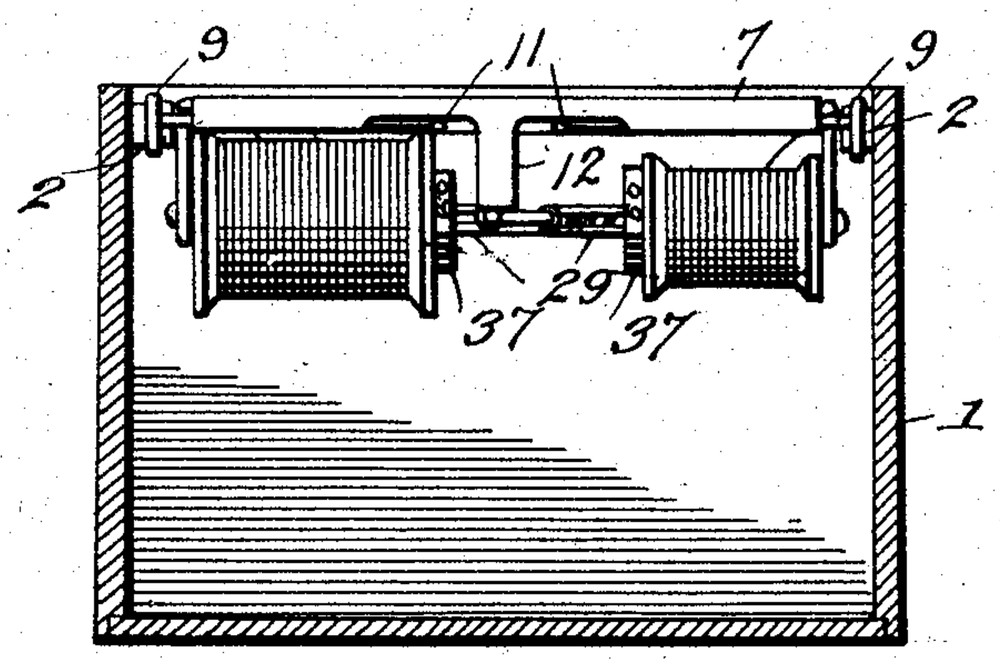


Fig. 4.

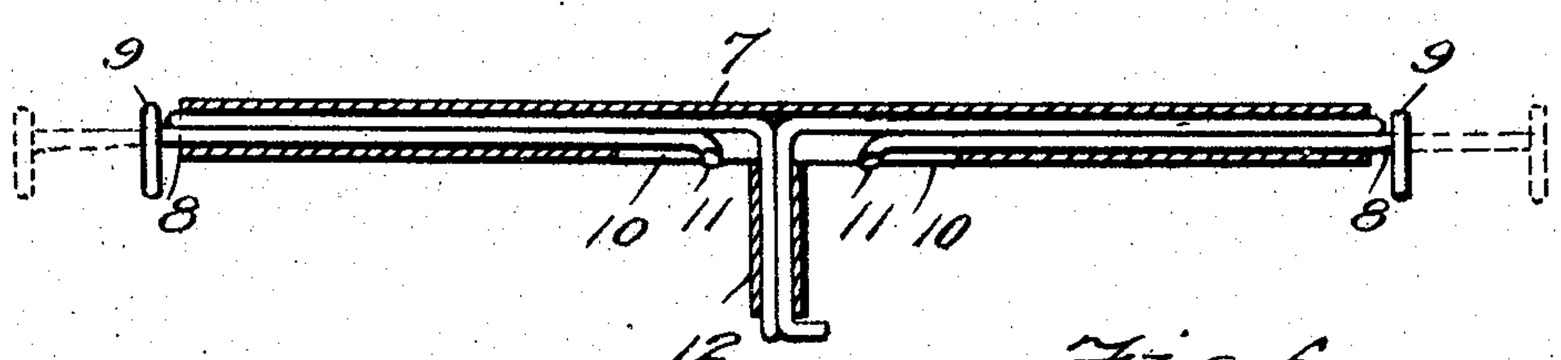


Fig. 5.

Fig. 6.

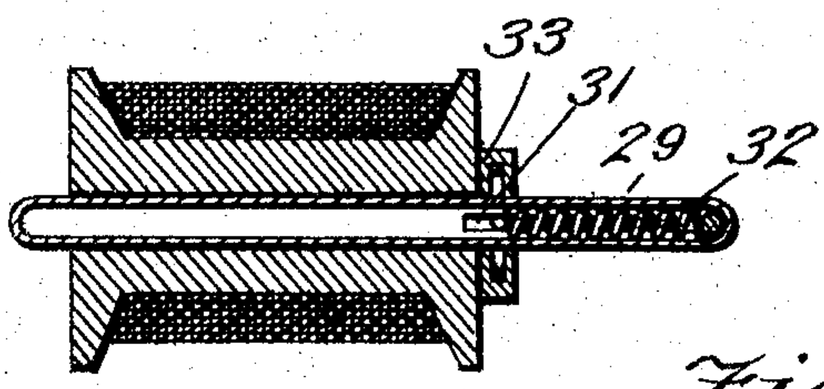


Fig. 7.

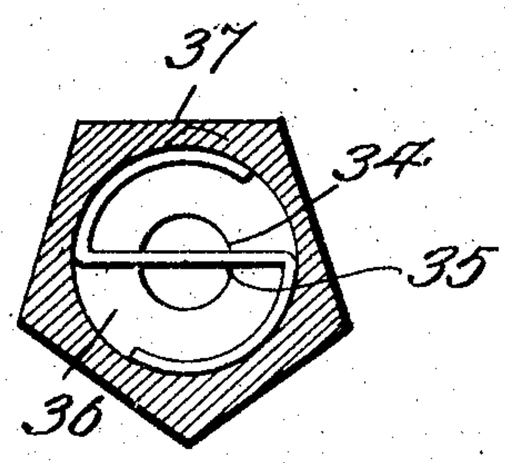
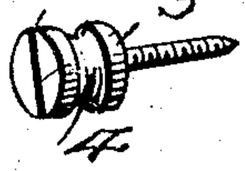
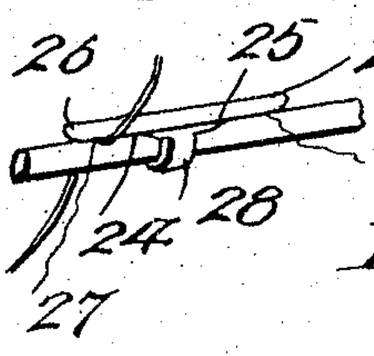


Fig. 8.





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No. 780,479. Patented January 17, 1905.

UNITED STATES PATENT OFFICE.

ELIZABETH B. CASE, OF WALDEN, NORTH PARK, COLORADO.

SPOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 780,479, dated January 17, 1905.

Application filed December 8, 1903. Serial No. 184,305.

To all whom it may concern:

Be it known that I, ELIZABETH B. CASE, a citizen of the United States, residing at Walden, North Park, in the county of Larimer and State of Colorado, have invented new and useful Improvements in Spool-Holders, of which the following is a specification.

This invention relates to holders for spools of sewing-thread and the like; and the objects of the same are to provide an economical and convenient device whereby spools may be supported in aggregation in any suitable inclosure, but particularly in the drawer of a sewing-machine, and render different sizes of thread readily accessible for use in filling bobbins of sewing-machines or for other purposes, to prevent a number of thread ends and spools from becoming tangled and mixed or irregularly disposed, and to generally improve such class of devices and adapt them to be conveniently applied and generally facilitate the use of different sizes of thread and to replace the spools when the thread becomes exhausted, and also to have the supporting means for the spools capable of receiving different lengths of spools.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter set forth.

In the drawings, Figure 1 is a longitudinal vertical section through a portion of an inclosure, showing a spool-holder embodying the features of the invention arranged therein. Fig. 2 is a top plan view of the inclosure and spool-holder. Fig. 3 is a transverse vertical section through the same. Fig. 4 is a longitudinal vertical section through one end of the holder. Fig. 5 is a longitudinal vertical section through one of the spool-holding spindles and spool thereon. Fig. 6 is a detail sectional view through one of the adjustable heads or drag-buttons used on the spool-spindles. Fig. 7 is a detail perspective view of a part of a frame of the holder, showing a combined thread-holding clip and cutter secured thereon. Fig. 8 is a detail perspective view of one of the screw-buttons used in operatively supporting the holder within its inclosure.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a receptacle of box-like form, which may be carried from one place to another as the use of the thread may demand, but is preferably a sewing-machine drawer. A reconstruction of any part of a sewing-machine drawer is unnecessary to adapt it to receive the holder, and the only additions which are made thereto consist of headed studs 2, one of which is shown in detail by Fig. 8. A stud 2 is secured to each side of the drawer or inclosure 1, near the upper edge of the latter, close to one end, and two of such studs are also secured to the opposite end of the drawer or inclosure. All of the studs 2 project inwardly an equal distance and are in the same horizontal plane, each button having a head 3 with a groove 4 therein.

The holder consists of a frame constructed of wire of suitable gage, having an end bar 5, side bars 6 for holding spool-supporting means, which will be hereinafter more fully explained, and a tubular sheathing 7, to which the said side bars 6 are terminally attached, said sheathing holding adjustable arms 8, formed with terminal hooks 9 to engage the studs 2 on the sides of the receptacle or drawer. The sheathing 7, including the arms 8, may be termed the "pivot" or "hinge" end of the holder, and permitting the latter to be bodily elevated to permit access to tools or other devices that may be stored in the receptacle or drawer below the holder. It will be understood that the holder, as clearly shown, does not take up the full capacity of the drawer or receptacle, and it is supported near the upper edge of the latter to render the spools carried thereby more quickly accessible. The adjustable arms 8 adapt a holder embodying the features of the invention to be applied to drawers of different widths, and in the lower portion of the sheathing, near the center, slots 10 are formed, through which downwardly project the inner bent ends 11 of the said arms. By this means the arms are prevented from turning, and the hooks 9 will always be in position to engage the upper por-

tions of the studs on the sides of the receptacle. The terminals of the side bars 6 are continued through the sheathing 7, as shown by Fig. 4, and bent downward and passed through a vertical tube or sheathing 12 and then extend longitudinally through the center of the frame and are attached to the bar 5. The two members 13, continued from the tube or sheathing 12 to the bar 5, are spread apart from each other to provide an intermediate support, having cross-wires 14 spaced apart from each other a suitable distance to hold an elongated elevatable guide 15, which is hinged or pivotally connected by a cross-wire 16, located adjacent to the end wire 5. The free end of the elongated guide is bent to form a guide-eye 17, and at an intermediate point the guide is bent to provide a stop 18, with which an eye 19 on the end of a brace or prop 20 coöperates. The opposite end of the brace or prop 20 is pivotally attached to the cross-wire 14 nearest the wire 16, the cross-wire 14, which is closer to the sheathing 7, having such shape as to adapt it to hold the free end of the elongated guide 15 and prevent loose movement of the latter in the support.

The side bars 6 are bent at intervals to provide a series of bearing-hangers 21 having downwardly-converging throats 22 leading to the lower bearing-eyes 23, the said throats adjacent to the eyes being contracted to render the width thereof at said points less than the inner diameter of the eyes 23, so that the devices that are forced into the latter will have to be sprung past the minimum contracted portions of the throats to lock such devices against accidental disengagement in relation to the eyes. On the horizontal portions of the bars 6 between the throats 22 combined thread-holding and cutting clips 24 are secured, and, as clearly shown by Fig. 7, each consists of an upper spring-metal strip 25, having upwardly-flared ends 26, an outer cutting edge 27, and a depending securing-loop 28 at the center. The throats 22 and eyes 23 are engaged by spindles 29 for holding spools of thread, said spindles being hollow and having their inner ends pivotally held on the members 13 of the intermediate support, the said members passing through the inner ends of the spindles and the latter held in position by stop means 30, secured to said members 13 at opposite sides of the spindle ends. The stop means 30, as shown, consists of wires which are bent around and secured to the members 13; but it will be understood that it is intended to employ any equivalent structure. Horizontal slots 31 are formed in the spindles 29 (see Fig. 5) near the inner hinged ends of said spindles, and between said slots and the inner connected ends of the spindles springs 32 are inserted in the latter, one in each spindle. Adjustably mounted on each spindle is a polygonal adjusting-head 33, having a central opening 34 of slightly greater diameter than the diameter of the spindle to which it is applied and also provided with a holding element or bar 35, extending diametrically across said opening through the slot 31. The spring 32 bears against the holding element or bar 35 and tends to force the head 33 toward the outer end of the spindle. The purpose of this adjusting-head is to adapt each spindle to contain spools of different sizes and also to create sufficient tension on the spool engaged thereby to prevent slack unwinding of the thread with obvious advantages, particularly in filling a bobbin, and to prevent the thread being used from becoming entangled or caught on any part of the holder. The element or bar 35 can be applied to the head 33 in any suitable manner; but it is preferred that the head be formed with an interior circular chamber 36, as clearly shown by Fig. 6, and that the extremities of the bar be bent in segmental form and held by a spring action against the wall of said chamber. The edges or faces 37 of each head are wide enough to have numbers applied thereto and corresponding to the number of the thread disposed on each spindle. By having each head carry a plurality of numbers economy in the construction of the holder will result in view of the fact that one head may be adapted for use with a number of spools carrying different grades of thread to extend the scope of use of the holder and to bring up the edge of each head, so that it may be readily inspected from the top of the drawer or inclosure. It can be rotated on the curved extremities of the bar or element 35 and permit the latter to remain in horizontal position in relation to the slot 31 in the spindle. The resistance against loose movement of each head in relation to the bar or element 35 is such that the rotation of the spool with which it coöperates will not change its position after manual adjustment thereof has been made. The outer ends of the several spindles 29 are of slightly greater diameter than the restricted portions of the throats 22, and hence when the said spindle ends are forced into the bearing-eyes 23 the restricted parts of the throats spring back into normal position and form locks above the several spindles to prevent the latter from accidentally rising.

The spindles connected to one member 13 and located on one side of the center of the holder are adapted to hold spools containing thread varying in number—for instance, from 10 to 50—and the opposite spindles are intended to hold spools having thread thereon of finer grades. Each thread end after the spools are arranged on the spindles is drawn upwardly and caught under the combined holding-clip and cutter 25 corresponding thereto, and when it is desired to use a cer-

tain number or grade of thread inspection of the series of spools in the holder will quickly bring to view the desired number, and the thread therefrom may be drawn outwardly and separated in such lengths as may be necessary, the loose end of the thread being retained under the clip. If it is desired to hold thread at an elevation above the receptacle or drawer in which the holder may be disposed, the elongated guide 15 is elevated, as shown by Fig. 1, and held in immovable position by the brace 20, and the thread desired for use is drawn through the eye 17 and applied to a bobbin or any other device. This guide is especially effective when the holder is disposed in the drawer of a sewing-machine, as it elevates the thread above the table of the latter and prevents injury to or scratching of the surface of the same. When it is no longer desired to use the guide, it may be folded downwardly, as shown by Fig. 2. by first disengaging the eye 19 of the brace 20 from the stop-bend 18 to permit the said eye to move longitudinally on the guide toward the free end of the latter and be folded close under said guide in horizontal position. When the thread on any one of the spools becomes exhausted, the spindle thereof can be readily elevated and the empty spool removed and replaced by another spool carrying the same or any other grade of thread.

The holder may be made in different sizes to receive different numbers of spools, and by forming the same mainly of wire an economy as well as expedition in the manufacture results. The wire used in the construction of the holder will be of such gage as to render the same practically effective, and the side bars particularly will have sufficient inherent resiliency to permit the hangers to spring and lock the spool-spindles. It is also proposed to use non-corrosive wire or to treat the same in such manner as to prevent rusting. By locating the holder in the upper part of the receptacle or drawer the several spools are rendered more conveniently accessible.

The proportions and dimensions of the holder may be varied at will, aside from the changes heretofore noted, without departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. A spool-holder, comprising a receptacle having studs at one end and at the sides thereof near its opposite end, and a frame having end members and side members, one of said end members being supported by the end studs, and the other having devices associated therewith which are adjustable toward and away from the sides of the receptacle, said devices being supported by said side studs, and said side members being provided with hangers for supporting spool-holding spindles.

2. A spool-holder, comprising a receptacle having studs at one end and at the sides thereof near its opposite end, a frame having end members and side members, one of said end members being supported by the end studs, and the other provided with a sheathing having longitudinal slots therein, and bars slidable in said sheathing with their inner ends entering said slots, the outer ends of said bars being supported by said side studs, and said side members being provided with hangers for supporting spool-holding spindles.

3. A spool-holder, comprising a receptacle having studs at one end and at the sides thereof near its opposite end, a frame bent to form end members and side members, and having portions thereof bent downwardly from one end member, thence spread apart and returned and secured to the other end member, the side members being provided with hangers, and spool-holding spindles hinged at one of their ends to each of said returned portions, with their opposite ends supported in the hangers.

4. A spool-holder, comprising a frame having side members provided with hangers, and also having parallel members intermediate of the side members, spool-holding spindles hinged at their inner ends to the intermediate members, and having their outer ends supported in the hangers, each of said spindles having a slot near its inner end, and provided with a spring between the slot and said end, and a head mounted on each spindle and provided with an opening of greater diameter than the spindle, and also with a circular side chamber, said head carrying a holding element extending across said opening and through said slot, and having its extremities bent against the walls of the said chamber.

5. A spool-holder having a frame with a bar movably connected thereto at one end, and extensible hook-arms at the opposite end, and means in the holder for supporting spools of thread.

6. In a spool-holder, a frame having side bars with depending bearing means at intervals therein, an intermediate support, a plurality of spool-holding spindles movably attached to said support at their inner ends and adapted to have their outer ends engage said bearing means, the outer portions of the spindles being movable vertically with relation to the said bearing means and combined thread-holding clips and cutters held between the said bearing means.

7. In a spool-holding means, a receptacle having headed studs at one end and at opposite sides adjacent to the opposite end, and spool-holding means having one extremity movably connected to the receptacle and the opposite extremity provided with devices for removably engaging the studs.

8. A device of the class set forth, consist-

ing of a receptacle having headed studs projecting inwardly from one end and similar studs at the sides adjacent to the opposite end, and a spool-holding frame having an end bar detachably supported on the end studs and adjustable arms having hook-terminals to removably engage the said studs.

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

ELIZABETH B. CASE.

Witnesses:
LAURA FLINIAN,
CLARA F. PENCE.