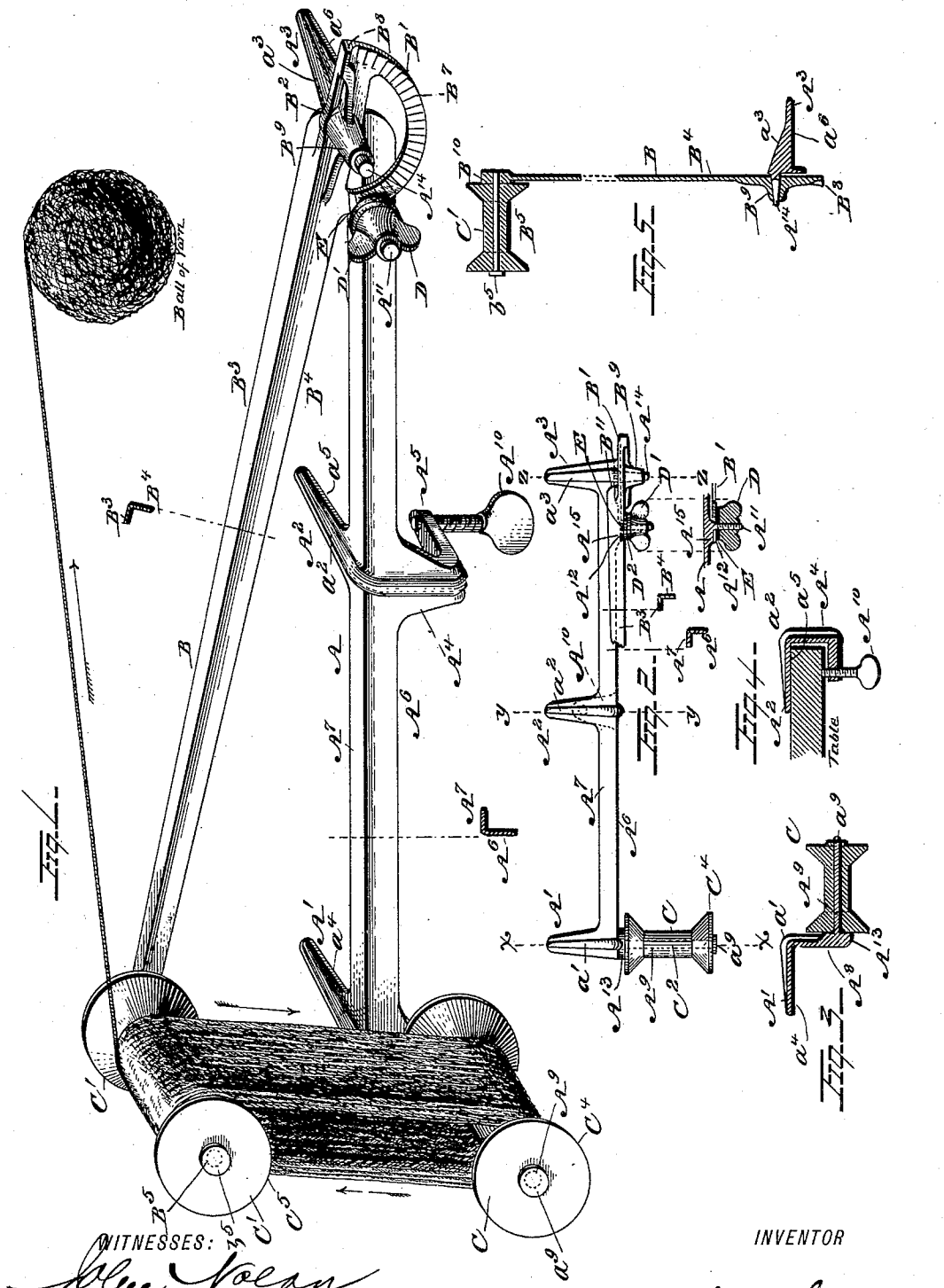
(No Model.)

I. W. HEYSINGER.

SKEIN HOLDER.

No. 405,411. Patented June 18, 1889.



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SKEIN-HOLDER.

SPECIFICATION forming part of Letters Patent No. 405,411, dated June 18, 1889.

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To all whom it may concern.

Be it known that I, ISAAC W. HEYSINGER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Skein-Holders, of which the following is a full, clear, and exact description, reference being had to the drawings which accompany and form a part of this specification, in which—

Figure 1 is a perspective view of a skein-holder embodying my invention, showing also a skein of zephyr or the like upon the spools thereof, whence it is being unwound and made into a ball for use in knitting, &c. Fig. 2 is a top view, the radial swinging arm which carries one of the spools being partly removed. Fig. 3 is a cross-section of the bar and spool along the dotted line $x\ x$ of Fig. 2. Fig. 4 is a cross-section along the line $y\ y$ of Fig. 2. Fig. 5 is a cross-section of the bar A along the dotted line $z\ z$ of Fig. 2, showing also the radial swinging arm B and attached spool B^5.

The lettering in all the figures is uniform.

My invention relates to the construction of an implement or device by means of which skeins or hanks of zephyr, worsted, wool, silk, cotton, or the like, of various sizes as found in the markets, may be rapidly unwound without becoming tangled, and rolled upon balls for subsequent use in knitting, crochetting, or the like, or in which the skein may be held while the knitting is in progress, the spools rotating as the thread is consumed in the work.

It consists, as shown in the drawings, of an elongated bar, preferably of metal, attached to the free margin of a table or the like, having a spool attached to one end of said bar and freely rotating upon an axis projecting from said bar. To the opposite end of said fixed bar is pivoted a radial arm adapted to have its free end vibrate in the arc of a circle, and having at its free end a spool substantially similar to that upon the bar and capable, by means of the adjustment of the free end of said radial arm, of being set at a greater or less distance from the spool upon said bar, so as to accommodate skeins or hanks of yarn or thread of different sizes. This radial arm I prefer to make of about the same length as the bar, so that when closed upon each other the two spools will lie in a vertical plane parallel with each other and projecting from the bar and the arm in a horizontal direction. Near the pivot upon which the radial arm is raised or lowered I provide a stop adjustable to various elevations of the arm, so that the same may be fixed at different distances of the spools from each other. I also provide a clamp for the bar, by means of which it is attached to or detached from the free margin of a table or the like, upon which the device is to be used.

The specific construction of the parts will be further illustrated by reference to the figures as lettered in the drawings.

The device is adapted for many uses, and being made compact and in a single construction, it is more easily operated than many others in use, and can be instantly set or adjusted to any spread of skein or hank necessary. I prefer to make the whole of malleable iron, which gives great strength and durability with lightness, and enables the parts to be bent somewhat without danger of breakage. The whole being finished in japan and baked, the surface striped, and the screw-heads, &c., nickel-plated, the implement becomes a desirable and handsome article for the use of ladies and others who desire to do fancy work of the different kinds requiring the use of yarn, &c., in skeins, now so much in vogue.

Referring to the drawings, A is a longitudinal bar of metal, which may be from twelve to eighteen inches in length, sixteen inches giving a capacity suited to nearly all skeins usually sold in the market. This bar A, for lightness and strength, I form with a horizontal upper face A^7 and a vertical lower face A^6, said faces united to form the bar like what is known as "angle-iron." At or near the ends of the bar project backward the supports A′ and A^3, having flat under surfaces a^4 and a^6, Figs. 1, 3, and 5, which in use rest upon the upper surface of the table. (See Fig. 4.)

In the middle of the bar A there is a downward projection A^4 in front, from the lower part of which the support A^5 extends backward under the table-top, and upward through this passes the thumb-screw A^{10}, which detachably secures the device to the table. These supports A′, A^3, A^2, and A^4 are prefer-

ably ribbed upon their outer surfaces, as shown at a' a^2 a^3, to increase their strength and rigidity. At one of the ends of the bar A is a support in front thereof A^8, Figs. 1 and 3, to a stud A^9 of which is attached the spool C', either by a stem cast upon the bar or by a headed shank, Fig. 5, screwed into the support.

In the middle of the bar A is a rearward support A^2, corresponding to those at the end, but upon a somewhat higher level, for its under surface, so that the two end supports engage with the upper surface of the table first, and this middle one A^2 is only brought down by increased thrust of the thumb-screw A^{10}. By this means the bearings are upon the ends above and at the middle beneath, whereby the bar A is very securely held, notwithstanding its length and the lateral strain of the spools. The middle support A^2 may be dispensed with, as its principal function is to prevent distortion of the bar by too much pressure of the thumb-screw A^{10}; but it serves this useful purpose, and I prefer to use it. At the end of the bar A opposite the spool, as shown in Fig. 2, is a laterally-projecting pin A^{14}, which I prefer to cast with a taper, as shown, but which may be separately inserted, if desired.

At a distance of a couple of inches along the bar from the pin A^{14}, I form another pin A^{11}, which is screw-threaded, as shown in Fig. 2. This may also be a separate insertion, if desired.

The arm B is of a length to correspond substantially to the bar A, and is of a similar cross-section, though it may be made round or oval in section, if desired. In the drawings, B^3 and B^4 represent the angled surfaces. At the free end of the arm B is a stud B^{10}, Figs. 1 and 5, to which is attached a horizontal pin B^5, headed at b^5, as the stem A^9 is at a^9, upon which pin is the spool C', which rotates freely, as does the spool C upon the pin A^9.

Near the rear end of the arm B is a horizontal journal-box B^9, Figs. 1, 2, and 5, which, passing over the pin A^{14} of the bar A, makes a pivot upon which the arm B is centered, its free end carrying the spool C' traveling in the arc of a circle of which the arm B is the radius.

The bar B may be pivoted to the arm A at B^9 A^{14} by a screw or rivet; but the construction shown is cheaper, as the pin A^{14} does not require to be headed up, the arm B being held in place by the clamp, to be hereinafter described. The arm B is somewhat enlarged at the part B^9, as shown at B^2, Fig. 1. It will be seen that by the construction of the bar A and arm B in the angular cross-sectional form shown the horizontal part B^3 of the arm B will, when closed upon A, rest upon the ribbed upper surface of A^7, and the vertical part B^4 lie adjacent to the ribbed front face of A^6, as is clearly illustrated in the sectional view with leading dotted lines in Fig. 2.

Around the bearing B^9 as a center extends the semicircle B', attached to and forming a part of the arm B. The support of this semicircle in rear of the bearing B^9 is not a continuation of B^3; but, as shown in Figs. 2 and 5, B^3 is removed, so as to permit clearance against the front face of A when the arm B is raised and the semicircle B' traverses along the front of A. At the rear end of this semicircle is a stop or stud B^8, Figs. 1, 2, and 5, which, by impinging against the set-screw or nut D, prevents too great movement of the radial arm B. The arc B' may be less than a semicircle, if desired, and may be formed upon the upper side of A, and the set-screw D attached to B, if desired, being an inversion of the form shown; but the device is more compact, and the operation more simple and direct as illustrated in the figures. So, also, the arm B may be made to operate beneath the bar A, instead of above it; but I prefer it as shown. The front face of the semicircle B' is notched radially, and its periphery moves almost in contact with the projecting pin A^{11} of the bar A. This pin is preferably cast upon the said bar, and, while extending directly outward from the face A^6 upon the side facing the semicircle, so as to give free clearance for the said semicircle, upon the opposite side is a raised part A^{15}, Fig. 2, of a height nearly the same as the thickness of B'. The face of this raised part A^{15} is notched or corrugated radially to the pin A^{11} or the bearing A^{14}, the said notches corresponding to the notches B^7, Fig. 1, of the semicircle B'. These notches of A^{15} are shown in Fig. 2 at A^{12}. The pin A^{11} is screw-threaded, and a thumb-screw nut D operates thereupon, having a flat under surface D^2, Fig. 2, and thumb-piece expansions D'. A leather or other washer E is placed upon the pin A^{11} before the thumb-screw is applied, so that the under face of the washer rests against the notched face B^7 of the semicircle B' and at its opposite side against the notched or corrugated surface A^{12} of the raised part A^{15}, Fig. 2. When the thumb-screw D is screwed down, it will compress the washer, so that its under side is indented by the notches B^7 of the semicircle and at the opposite side by the notches or corrugations A^{12}. The tendency of the semicircle B' to rotate the washer in the manner of a spur-wheel is counteracted by the engagement of the notches A^{12}, which are fixed upon the bar A, with the opposite side of the washer, so that a slight turn of the thumb-screw will very securely fix the arm B in any position or will release the same. The washer and under surface of the thumb-screw D, overlapping the margin of the semicircle B', prevents the journal-box B^9 from withdrawal from the journal or pin A^{14}, so that no heading up or other means of securing the same are necessary, while by removing the thumb-screw D the implement may be taken apart.

It is obvious that the notches upon the semicircle B' may be upon the under side and the washer E be interposed between the same and

the outer face of A, or the washer may be dispensed with and the notches beneath B′ and upon A^6 in such case be made to interlock; but the construction is not so good nor the adjustment so accurate, considering the long leverage of the arm B.

The spools C and C′, I make of any suitable material; but I prefer to use the ordinary light wooden spools in use for some sorts of silk or cord, about three inches in length and two inches in diameter at the heads, having a barrel about one inch in diameter, subject to circumstances, of course.

While I show the device in all its details, I do not rigidly confine myself to the specific construction herein shown and described; but vary the same to suit special requirements, as would be done by any capable mechanic skilled in the art, without departing from the principles of my invention.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. As an article of manufacture, a skein-holder consisting of the detachable bar A, having spool C attached to one end and pivot A^{14} to the other end, and a radial arm B, pivoted to A^{14}, having spool C′ attached to the free end thereof, and a stop-support forming part of a circle concentric with said pivot, together with an adjustable stop adapted to engage with said arc and secure the said radial arm B in various positions of adjustment and set the spools C and C′ at various distances from each other, substantially as described.

2. In combination with the bar A, having supports A′ A^3 at the opposite ends thereof above, and thumb-screw A^{10} at the middle thereof beneath, the spool C, projecting laterally from one end of said bar and adapted to rotate freely upon a bearing, and a radial arm B, pivoted at one end to the opposite end of said bar A, and means for retaining the said bar B in various positions of adjustment thereupon, and the spool C′, projecting laterally from the free end of said arm B and adapted to rotate freely upon a bearing, the whole constructed to operate substantially as and for the purposes described.

3. In combination with the bar A, having rearwardly-projecting end supports A′ A^3 and a middle support A^2 above the horizontal level of the lower surfaces of A′ and A^3, and a thumb-screw acting from beneath against said support A^2 and adapted to cause secure engagement of said bar A to the margin of a table at the ends thereof before engagement of A^2 therewith, the spool C, pivoted arm B, means for fixing the same at various positions of adjustment, and spool C′, substantially as described.

4. In combination with the bar A and rotating spool C at one end thereof, and arm B, with rotating spool C′ at the free end thereof, adapted to operate in connection with said spool C for receiving and holding skeins of yarn and the like, said arm B pivoted to said bar A at the rear end thereof, and having a corrugated arc of a circle B′ concentric with said pivoted support, together with set-nut D, adapted to engage against said arc and secure the said arm B to the said bar A in various positions of adjustment, substantially as described.

5. In combination with the spool C, spool-support A^9, attached to bar A, longitudinal bar A, having clamp-supports above and set-screw A^{10} beneath, and journal A^{14}, projecting horizontally to the front from the rear end thereof, and threaded pin A^{11}, and the radial arm B, having spool-support B^5 at the free end thereof, and the spool C′ and journal-box B^9 near the opposite end, said journal-box fitted over said pin A^{14} and forming a pivoted bearing for said arm B, and semicircle B′, attached to said arm B concentric with journal-box B^9, and having a corrugated outer surface B^7, together with washer E, surrounding pin A^{11}, said pin screw-threaded, and thumb-nut D, having flat under surface D^2, adapted to compress said washer against the corrugations B^7 of said semicircle B′ and securely fix the arm B in various radial positions of adjustment, substantially as described.

6. In a skein-holding device, in combination with bar A, spool C, arm B, and spool C′, said arm radially pivoted at one end thereof to one end of said bar A and having corrugated semicircle C′ B^7 concentric with said pivot and operating against the front face of said bar A, the raised part A^{15}, having corrugations A^{12}, corresponding to corrugations of the semicircle B^7, and screw-threaded pin A^{11} adjacent to the free margin of said semicircle, together with the compressing thumb-screw D, and the washer E interposed between the under face of said thumb-screw D^2 and the upper face of the corrugations B^7 of said semicircle B′, and the corrugations A^{12} of said raised part A^{15} and adapted to engage simultaneously with the corrugations B^7 and A^{12}, substantially as and for the purposes described.

7. In a skein-holder, the detachable bar A, having spool C supported thereupon and adapted to rotate at one end thereof, and the pivoted arm B, having spool C′ supported thereupon and adapted to rotate at the free end thereof opposite and in connection with said spool C, the said arm B overlapping the said bar A when closed upon said pivot, the upper surface of said arm B removed, as shown at B^{11}, in rear of pivoted support B^9 A^{14}, and the semicircle B′, and a stop to engage with said semicircle and fix the arm B in various positions of adjustment, said semicircle B′ in rear of said support A^{14} B^9 occupying a plane vertical and in front of said bar A adapted to give clearance to said semicircle in adjusting the arm B at various heights, substantially as described.

8. In a skein-holder, the bar A, formed of

angle-iron, having flat top A^7 and vertical front A^6, supports A' A^3, and thumb-screw A^{10} beneath, and radial arm B, pivoted to one end of said bar A and adapted to be raised or lowered upon said pivot, together with spool C, supported upon pin A^9 at the free end of said bar A, and spool C′, supported upon pin B^5 at the free end of said arm B, said spools adapted to rotate freely upon said pins A^9 and B^5, and means for fixing the said arm B, with said spools C and C′ parallel with each other and at various distances apart upon said pivoted support of said arm B, substantially as described.

9. In a skein-holder, the arm A, supporting horizontal and forwardly-projecting spool C at one end thereof, and arm B, supporting horizontal and forwardly-projecting spool C′ at one end thereof opposite to and parallel with said spool C, said arm B pivoted at its rear end by a horizontal pivot A^{14} B^9 to the rear end of said bar A, and means for retaining the said arm B in various positions of adjustment upon said pivot, said arm B and said bar A having an angular form in cross-section, the horizontal part B^3 of the arm B overlapping the horizontal part A^7 of the bar A when closed and the vertical part B^4 of said arm B adjacent to the vertical part A^6 of said bar A, substantially as described.

10. As an article of manufacture, a skein-holder consisting of the bar A, formed of cast metal having supports A' A^2 A^3, lug A^5, pins A^{14} and A^{11}, formed integral therewith, and radial bar B, formed of cast metal, having journal-box B^9 and semicircle B' formed integral therewith, and the rotating spools C and C′, attached to said bar and said arm, said arm pivoted to said bar at A^{14} B^9, and the thumb-nut D, operating against said semicircle, substantially as described.

11. In a skein-holder, in combination with spool C, pin A^9, and bar A, the pivoted arm B, having pin B^5, and spool C′, adapted to rotate thereupon and having pivoted attachment A^{14} B^9 to the rear end of said bar A at the rear end of said arm B, and corrugated semicircle B' B^7, concentric with said pivot, said semicircle having raised stop B^8 and thumb-screw D, adapted to engage with said semicircle and fix the same at various points of adjustment, said stop B^8 adapted to engage with said thumb-screw D and arrest the movement of said semicircle prior to disengagement thereof with said thumb-screw, substantially as described.

12. As an article of manufacture, the skein-holder consisting of cast-metal bar A, having spool-support A^8 A^{13}, one or more supports A' A^2 A^3, lug A^5, pins A^{14} and A^{11}, formed integral therewith, and pivoted arm B, having spool-support B^{10}, journal-box B^9, and corrugated semicircle B' B^7, formed integral therewith, and a thumb-nut D, adjustably secured upon the threaded pin A^{11} and overlapping the front face of said semicircle B′, adapted, when in place, to prevent the escape of said journal-box B^9 from said pin A^{14} without heading or otherwise securing the same, substantially as described.

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Witnesses:
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