May 29, 1951 W. J. CHAPMAN 2,554,897

SWIFT

Filed Dec. 9, 1947 2 Sheets-Sheet 1

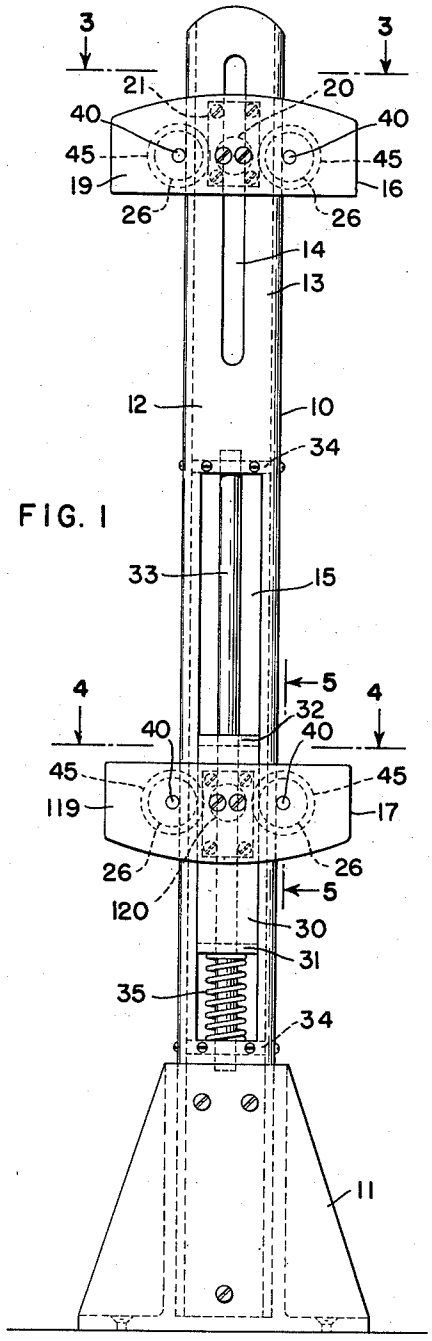


FIG. 1

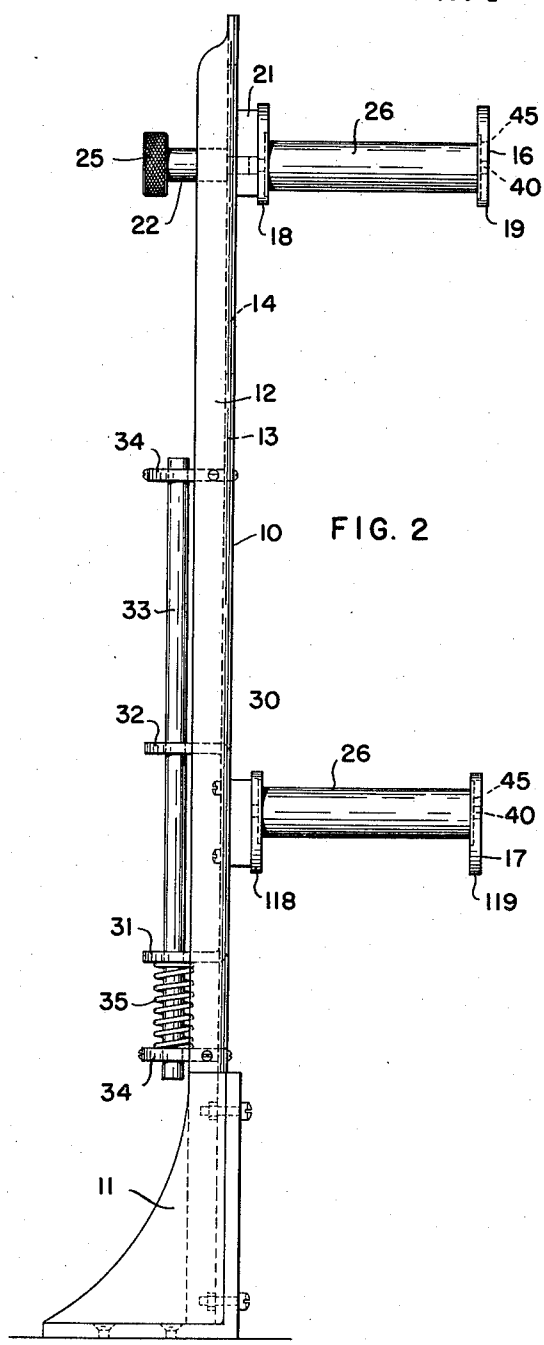


FIG. 2

INVENTOR.
WILLIAM J. CHAPMAN
BY
J. T. Wolcomb 2nd
ATTORNEY.

May 29, 1951 W. J. CHAPMAN 2,554,897

SWIFT

Filed Dec. 9, 1947 2 Sheets-Sheet 2

FIG. 3

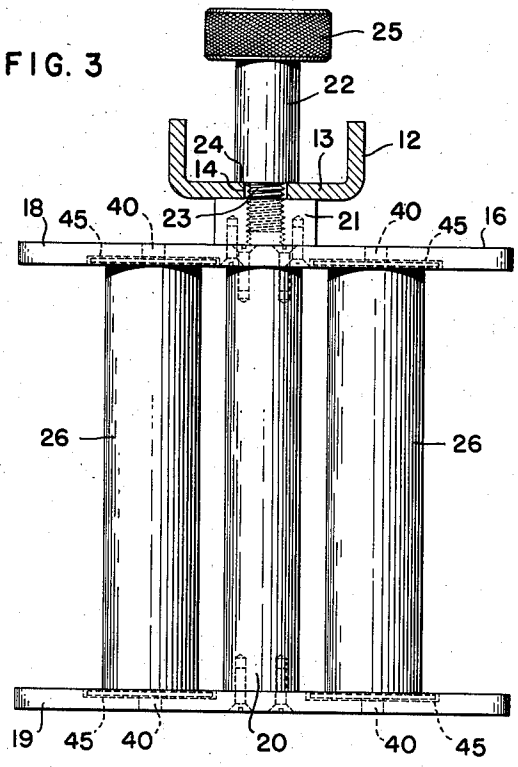


FIG. 5

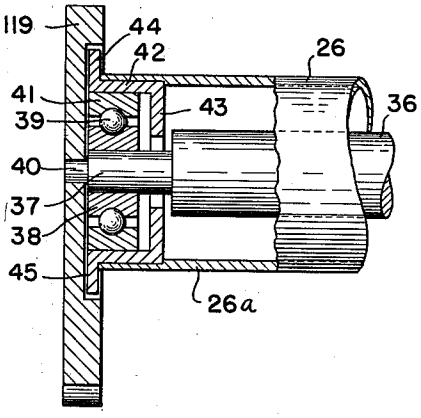
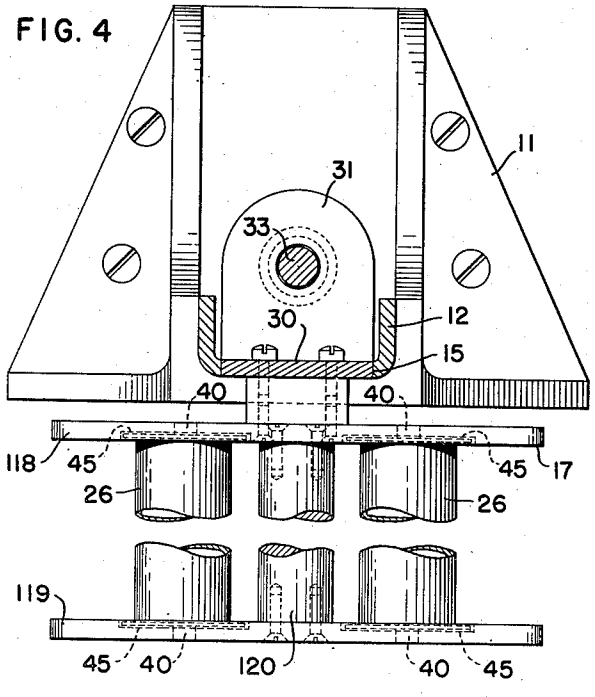


FIG. 4



INVENTOR.
WILLIAM J. CHAPMAN
BY
Z. T. Wolcott 2nd
ATTORNEY.

Patented May 29, 1951 2,554,897

UNITED STATES PATENT OFFICE

2,554,897

SWIFT

William J. Chapman, Philadelphia, Pa., assignor to A. B. Landis' Sons, Inc., a corporation of Pennsylvania

Application December 9, 1947, Serial No. 790,673

11 Claims. (Cl. 242—127)

1

This invention relates to swifts or skein holders.

In the handling of skeins, and particularly in preparing skeins for dyeing, it has heretofore been customary to mount the skein on a rotatable reel with a block on an auxiliary roller inserted at the lower part of the skein. The yarn is then drawn from the skein as desired. The reels employed are noisy, are burdensome for the operator, frequently permit of catching or snagging of the yarn, require lubrication of a character such that oil may spot the yarn carried thereon, and have other disadvantages.

It is the principal object of the present invention to provide a swift or skein holder which eliminates the objectionable features of the devices for the same purpose heretofore available.

It is a further object of the present invention to provide a swift or skein holder in which the component parts are light in weight, easy of adjustment, and which may be readily accommodated to the lengths of skeins now in use.

It is a further object of the present invention to provide a swift or skein holder in which the drag on the yarn is reduced, thereby permitting starting at greater speeds with reduced breakage, and with reduced power costs and maintenance.

It is a further object of the present invention to provide a swift or skein holder in which the moving parts may be readily stopped by the operator even when travelling at very highest speed without any danger or likelihood of injury to the operator.

It is a further object of the present invention to provide a swift or skein holder with which the skein is opened for withdrawal of the yarn in any improved manner.

Other objects and advantageous features of the invention will be apparent from the specification and claims.

The nature and characteristic features of the invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which:

Figure 1 is a view, in side elevation, of a swift or skein holder in accordance with the present invention;

Fig. 2 is a front view thereof;

Fig. 3 is a horizontal sectional view, enlarged, taken approximately on the line 3—3 of Fig. 1;

Fig. 4 is a horizontal sectional view, enlarged, taken approximately on the line 4—4 of Fig. 1; and

2

Fig. 5 is a fragmentary vertical sectional view, enlarged, taken approximately on the line 5—5 of Fig. 1.

Like numerals refer to like parts throughout the several views.

It should, of course, be understood that the description and drawings herein are illustrative merely, and that various modifications and changes may be made in the structure disclosed without departing from the spirit of the invention.

Referring now more particularly to the drawings, the swift or skein holder, in accordance with the present invention, preferably includes a supporting frame 10, having a base 11 adapted to be secured to the floor or any other desired support. The base 11 has a vertical upright 12 secured thereto. The upright 12 may be of any desired shape, but is preferably C-shaped in horizontal cross section and includes a web portion 13 having an upper vertically extending slot 14 and a lower vertically extending slot 15 therein.

Upper and lower heads 16 and 17 are provided, carried by the upright 12, as hereinafter explained.

The upper head 16 preferably includes a pair of spaced vertical side plates 18 and 19, connected by a central bar 20 to which the side plates 18 and 19 are secured. The side plate 18 has a spacer block 21 secured thereto in alinement with the bar 20 for engagement with the outer face of the web 13. An adjusting stud 22 is provided, having an externally threaded end portion 23 for engagement in complemental threads in the block 21 and having a shoulder 24 for engagement with the inner face of the web 13. The stud 22 has a handle portion 25 for manually clamping the upper head 16 at the elevation desired by the operator.

On opposite sides of the central bar 20, and extending between the side plates 18 and 19, a pair of freely rotatable rollers 26 are provided with their longitudinal axes spaced and parallel and preferably in the same horizontal plane, and supported as hereinafter explained.

The lower head 17 preferably includes a pair of spaced vertical side plates 118 and 119, connected by a central bar 120 to which the side plates 118 and 119 are secured, the construction being similar to that of the upper head 16. On opposite sides of the central bar 120 and extending between the side plates 118 and 119, a pair of freely rotatable rollers 26 are provided with their

longitudinal axes spaced and parallel and preferably in the same horizontal plane, and supported as hereinafter explained.

The lower head 17 preferably includes a slide block 30 secured to the side plate 118 and movable in the slot 15, guide brackets 31 and 32 being provided for engagement with a vertical guide rod 33 secured to the upright 12 by brackets 34 at its upper and lower ends. The lower head 17 is freely movable vertically and a spring 35 is provided on the lower part of the guide rod 33 and supported by the lower bracket 34 for engagement by the lower bracket 32 for absorbing any shocks, if the lower head 17 is permitted to move downwardly without any restraint.

The mounting of rollers 26 is shown in detail in Fig. 5, the side plate 119 being selected as illustrative of the other side plates.

Extending between each of the side plates 18 and 19 and 118 and 119, for each roller 26, a rod 36 is provided, having a portion 37 of reduced diameter at each end, with which the inner race 38 of ball bearings 39 is in engagement, and terminal end portions 40 of reduced diameter for tight engagement in the side plates. The outer races 41 of ball bearings 39 each has a collar 42 secured thereto. The collars 42 each have an inwardly extending flange 43 and an outwardly extending flange 44 which is disposed within recesses 45 in the side plates.

The collars 42 have extending therebetween and in engagement therewith lengths of tubing 26a movable therewith to provide the roller 26. The outer surface of the roller 26 is preferably polished to eliminate adherence of the yarn thereto. The side plates 18 and 19 of the upper head 16 and the side plates 118 and 119 of the lower head prevent sidewise displacement of the skein.

The upper head 16 and the lower head 17 are preferably made as light in weight as possible, consistent with adequate strength, and for this purpose the parts thereof, with the exception of the bearings 39 and the races 38 and 41, are preferably made of aluminum. This not only facilitates adjustment and handling of the heads 16 and 17 by the operator but also reduces the inertia or flywheel effect of the rollers 26 so that they may be readily rotated upon starting up and may be readily stopped by the frictional engagement of the hand of the operator.

The mode of use will, it is thought, be clear from the foregoing, but it may be noted that the upper head 16 may be adjusted at the desired elevation in accordance with the desire of the operator. A skein is then hung over the rollers 26 of the upper head 16. The lower head 17 is then moved upwardly and the skein positioned so that the roller 26 thereof are in engagement therewith, the lower head 17 being supported by the skein and the skein being in opened condition. The yarn may readily be withdrawn from the skein which rotates on the rollers 26 of the upper and lower heads 16 and 17. The skein is thus maintained in an open condition during the withdrawal of the yarn. When all the yarn of the skein has been removed, the lower head 17 will tend to fall by its own weight, the shock thereof being taken up by the spring 35. Another skein may then be mounted as before.

I claim:

1. In a skein holder, a frame having an upright, vertically spaced upper and lower heads extending outwardly from said upright, one of said heads being adjustably mounted on said upright and the other head being slidably mounted with respect thereto, each of said heads having fixed inner and outer mounting plates, and each of said heads having a plurality of spaced elongated tubular rollers rotatably mounted thereon between said plates for the reception of a skein.

2. In a skein holder, a frame, spaced heads extending outwardly from said frame, one of said heads being adjustably mounted on said frame and the other head being slidably mounted with respect thereto, each of said heads having fixed inner and outer mounting plates and each of said heads having a plurality of spaced elongated tubular rollers rotatably mounted thereon between said plates for the reception of a skein.

3. In a skein holder, a frame having an upright, vertically spaced upper and lower heads on said upright, one of said heads being adjustably mounted on said upright and the other head being slidably mounted with respect thereto, each of said heads having fixed inner and outer mounting plates, and each of said heads having a plurality of horizontally spaced rollers rotatably mounted thereon between said plates for the reception of a skein.

4. In a skein holder, a frame, spaced heads extending outwardly from said frame, one of said heads being adjustably mounted on said frame and the other of said heads being slidably mounted with respect thereto, each of said heads having fixed inner and outer mounting plates, and each of said heads having spaced parallel rollers rotatably mounted thereon between said plates for the reception of a skein.

5. In a skein holder, a frame having an upright, vertically spaced upper and lower heads extending outwardly from said upright, the lower head being slidably mounted with respect to said upright, each of said heads having fixed inner and outer mounting plates, and at least one of said heads having a pair of spaced parallel rollers rotatably mounted thereon between said plates for the reception of a skein.

6. In a skein holder, a frame having an upright, vertically spaced upper and lower heads extending outwardly from said upright, the lower head being slidably mounted with respect to said upright, each of said heads having fixed inner and outer mounting plates, at least one of said heads having a pair of horizontally spaced parallel rollers rotatably mounted thereon between said plates for the reception of a skein, and a resilient shock absorbing member carried by the frame for engagement by said lower head upon downward movement thereof.

7. In a skein holder, a frame having an upright, vertically spaced upper and lower heads extending outwardly from said upright, the upper head being adjustably mounted on said upright and the lower head being slidably mounted with respect thereto, each of said heads having fixed inner and outer mounting plates, each of said heads having a pair of horizontally spaced rollers rotatably mounted thereon between said plates for the reception of a skein, and a resilient shock absorbing member carried by the frame for engagement by said lower head upon downward movement thereof.

8. In a skein holder, a frame, a pair of spaced heads, mounting members for mounting one of said heads on said frame, slidable mounting members for mounting the other of said heads on said frame, each of said heads having fixed inner and outer mounting plates, at least one of said heads having a pair of laterally spaced paral-

lel freely rotatable skein engaging rollers and the other of said heads having at least one skein engaging roller, said rollers being interposed between said plates.

9. In a skein holder, a frame having an upright, a pair of spaced heads, mounting members for mounting one of said heads on said upright, slidable mounting members for mounting the other of said heads on said upright for vertical movement, each of said heads having fixed inner and outer mounting plates, at least one of said heads having a pair of laterally spaced parallel freely rotatable skein engaging rollers and the other of said heads having at least one skein engaging roller parallel to said pair of rollers, said rollers being interposed between said plates.

10. In a skein holder, a frame, spaced heads carried by said frame, at least one of said heads comprising spaced fixedly mounted plates, a spacing member interposed between said plates, and parallel tubular rotatable rollers extending between said plates.

11. In a skein holder, a frame having an upright, vertically spaced upper and lower heads extending outwardly from said frame, at least one of said heads comprising spaced fixedly mounted plates, a spacing member for said plates, and parallel tubular rotatable rollers extending between and supported by said plates.

WILLIAM J. CHAPMAN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
63,438	Haskell	Sept. 3, 1867
1,417,484	Baker	May 30, 1922
1,490,349	Stromberg	Apr. 15, 1924
1,663,751	Fathauer	Mar. 27, 1928

FOREIGN PATENTS

Number	Country	Date
305	Great Britain	Feb. 2, 1859
277,971	Italy	Sept. 26, 1930
544,141	France	June 15, 1922