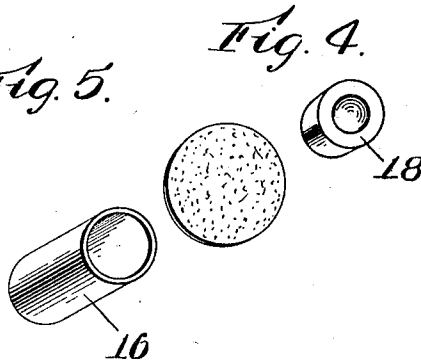
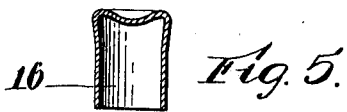
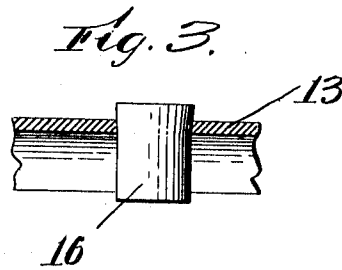
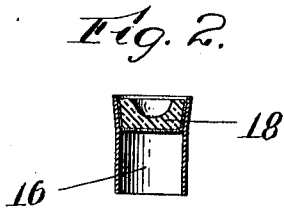
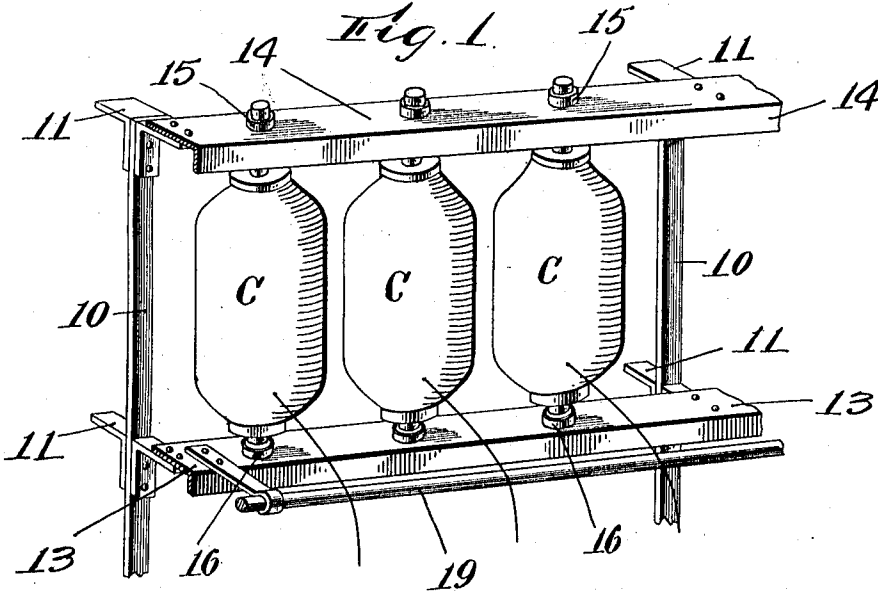


L. T. HOUGHTON.
 CREEL SUPPORTING RAIL FOR SPINNING FRAMES.
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1,022,193.

Patented Apr. 2, 1912.



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UNITED STATES PATENT OFFICE.

LEWIS T. HOUGHTON, OF WORCESTER, MASSACHUSETTS.

CREEL-SUPPORTING RAIL FOR SPINNING-FRAMES.

1,022,193.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed April 27, 1903. Serial No. 154,412.

To all whom it may concern:

Be it known that I, LEWIS T. HOUGHTON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Creel-Supporting Rail for Spinning-Frames, of which the following is a specification.

This invention relates to that class of spinning or twisting machines which draw the materials to be spun or operated upon from vertically journaled creels or spools.

The especial object of this invention is to provide a strong, simple and inexpensive support for the supply spools or creels which will avoid the use of wooden supports, which will provide a construction which may be readily cleaned, and which will have the bearings for the creels or spools so arranged that the spools or creels will not be liable to cramp or bind.

To these ends, this invention consists of a metallic construction for supporting the supply spools or creels of a spinning or twisting machine, of a special construction for securing the porcelain or similar bearings therein, and of the combinations of parts as hereinafter described and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawing, Figure 1 is a perspective view of sufficient parts of a spinning or twisting machine to illustrate the application of my invention thereto. Fig. 2 is an enlarged sectional view of one of the step-bushings with the porcelain bearing-piece packed therein. Fig. 3 is a fragmentary view showing one of the step-bushings forced into place in the step-rail. Fig. 4 is a perspective view of the parts illustrated in Fig. 2, and Fig. 5 is a sectional view of a modified form of bearing.

In that class of machines to which this invention relates, the supply spools or creels have heretofore been secured between shelves formed by wooden planks or boards. The use of these wooden creel-boards I have found to be objectionable, as it is difficult to keep the wood-work clean after the same has become saturated or filled with oil; while in many cases, the creel-boards are liable to warp or twist, so that the creels may be cramped or restricted in their bearings. In some of the machines of this class the steps or pivots for the creel-spindles are made of porcelain or similar material.

These porcelain bearing pieces have ordinarily been simply fitted into place in the wooden creel-boards, and in practice, I have found that the shrinkage of the wooden creel-boards frequently permits the porcelain bearing-pieces to be loosened and displaced. To overcome these objections I have provided an entirely metallic creel-supporting construction for machines of the class referred to, in which instead of employing wooden creel-boards, I employ comparatively narrow metallic step-rails, each of which is preferably of an angular or flanged construction, and I have also provided improved means for fastening porcelain or similar bearing pieces in place in the step-rail.

Referring to the accompanying drawing for a detail description of a construction embodying my invention, 10 designates metallic uprights which extend up at intervals from the frame of an ordinary spinning or twisting machine. Riveted on the uprights are angles 11 which form the cross ties for supporting the perforated creel boards or creel-rails 13 and 14. Each of the rails 13 and 14 is preferably of a reinforced or flanged construction in order that comparatively thin stock may be employed. In the present instance, the rails 13 and 14 are substantially L-shaped in cross-section, although, if desired, other cross-sections of railing may be employed, it simply being advisable that the rails have flat sections for receiving the bearings and one or more stiffening flanges. Pressed into place in the upper rail 14 are bushings or tubes 15 which receive the upper ends of the spindles of the creels C. The parts which form the steps or bearings in the step-rail 13 are combined in such a manner as to efficiently fasten the porcelain step-pieces in place. In order to accomplish this purpose for the lower end of each creel spindle, I employ a metallic bushing or tubular member 16 which is preferably of slightly tapering form, and I fit into the barrel wall of the upper end of the bushing or holder 16 a porcelain bearing piece or skewer step 18 which is surrounded by a yielding lining or packing 26 of blotting-paper, leather or other compressible material. These bushings are inserted in skewer step perforations in the lower creel rail.

The parts are assembled as illustrated in Fig. 2 before the bushing is forced into place

in the step-rail, and the parts are so proportioned that when the metallic bushing is forced into its bearing in the step-rail 13, as shown in Fig. 3, it will be contracted, exerting a substantially uniform pressure upon the porcelain step-piece to efficiently fasten the same in place.

In practice I have found that when it is attempted to apply pressure to a porcelain step-piece from one side that the porcelain is liable to crush or be fractured, but when a porcelain bearing-piece is fitted into a holder or bushing, the bushing may be contracted to exert heavy pressure around the entire periphery of the porcelain bearing-piece without the liability of crushing or breaking the same. I regard this as a particularly important feature of my invention, as by assembling the parts in this manner, I have provided means for fastening or locking the porcelain step-piece securely in position. Where several tiers of creels are used, as is sometimes the practice in machines of this class, the lower ends or depending tubular parts of the bushings will form bearings, chambers, or top holders of reduced internal diameter for receiving the upper ends of the next lower series of creels. Supported from the step-rail 13, I may provide the ordinary guide-rod 19 over which the threads are drawn.

In Fig. 5 I have illustrated a modified step or bearing piece in which the upper end of the tapering bushing 16 is closed and is slightly depressed or dished down. When this form of step is used, I preferably form the same from sheet steel, and I harden the bearing surface or upper part of the bushing so that the same will not speedily wear out, although in practice, I prefer to use the composite bearing in which the porcelain step piece is inclosed within the sheet metal bushing.

I am aware that numerous changes may be made in practicing my invention by those who are skilled in the art without departing from the scope thereof as expressed in the claims. I do not wish, therefore, to be limited to the construction I have herein shown and described, but

What I do claim and desire to secure by Letters Patent of the United States is:—

1. In a spinning or twisting machine, the combination of a creel rail having perforations, a tubular bushing having an outwardly tapering upper portion secured in each of said perforations and held therein by friction, and a step-piece held by friction in each of said bushings.

2. In a spinning or twisting machine, the combination of supports or uprights, a creel-rail mounted thereon and having perforations, and a tubular member having an outwardly tapering upper portion secured in one of said perforations by being forced

longitudinally into place therein and being of sufficient size to cause the same to be held solely by the friction produced when it is forced into said perforation, said tubular member having a rigid bearing thereon.

3. In a spinning or twisting machine, the combination of a creel-rail, metallic bushings, a step-piece of porcelain or similar material fitting into each bushing, and held in place therein by the pressure of the bushing caused by forcing the same into place in the rail.

4. In a spinning or twisting machine, the combination of a metallic creel-rail, metallic bushings, a step-piece of porcelain or similar material, and a packing fitting into each bushing, said packing and step-piece being secured in place by the compression of the bushing caused by forcing the bushing into the rail.

5. In a spinning or twisting machine, the combination of end supports or uprights, a lower creel rail consisting entirely of metal carried by said supports or uprights and having perforations extending entirely therethrough, and metallic tubular members flared outwardly at their upper ends, each extending through one of said perforations projecting above and below the metallic rail and frictionally secured therein, and each having a fixed bearing at the top for a creel spindle.

6. In a spinning or twisting machine, the combination of end supports or uprights, a lower creel rail consisting entirely of metal carried by said supports or uprights and having perforations extending entirely therethrough, and metallic tubular members flared outwardly at their upper ends, each extending through one of said perforations projecting above and below the metallic rail and frictionally secured therein, each having a bearing at the top for a creel spindle, an upper all-metal rail carried by said end supports or uprights independently of the lower rail and having perforations therethrough, and metallic tubular members in the last named perforations for the upper ends of the creel spindles.

7. The combination with a metallic creel-rail provided with a skewer-step perforation, of a yielding lining under pressure in said perforation and a skewer-step frictionally held by said lining.

8. The combination with a sheet-metal creel-rail, perforated to receive a skewer-step, of a holder having means for securing the same within said perforation and having its barrel wall inclined relatively to the skewer-step therein so as to produce frictional engagement therebetween.

9. In a creel, the combination of a perforated creel-board, a holder for a skewer-step co-axially mounted with respect to a perforation thereof and provided with a depend-

ing tubular part forming a top-holder for the top of a lower skewer.

10. In a creel, the combination of a perforated creel-board, a skewer-step holder
5 secured within a perforation thereof and having a part depending co-axially below the said perforation and forming a top-holder for a lower skewer.

11. In a creel, the combination of a per-
10 forated sheet-metal creel-board, a skewer-step in a perforation thereof and a tubular

holder for said skewer-step having an extension providing a chamber of reduced internal diameter depending below said creel-board.

In testimony whereof I have hereunto set
my hand, in the presence of two subscribing
witnesses.

LEWIS T. HOUGHTON.

Witnesses:

LOUIS W. SOUTHGATE,
PHILIP W. SOUTHGATE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."