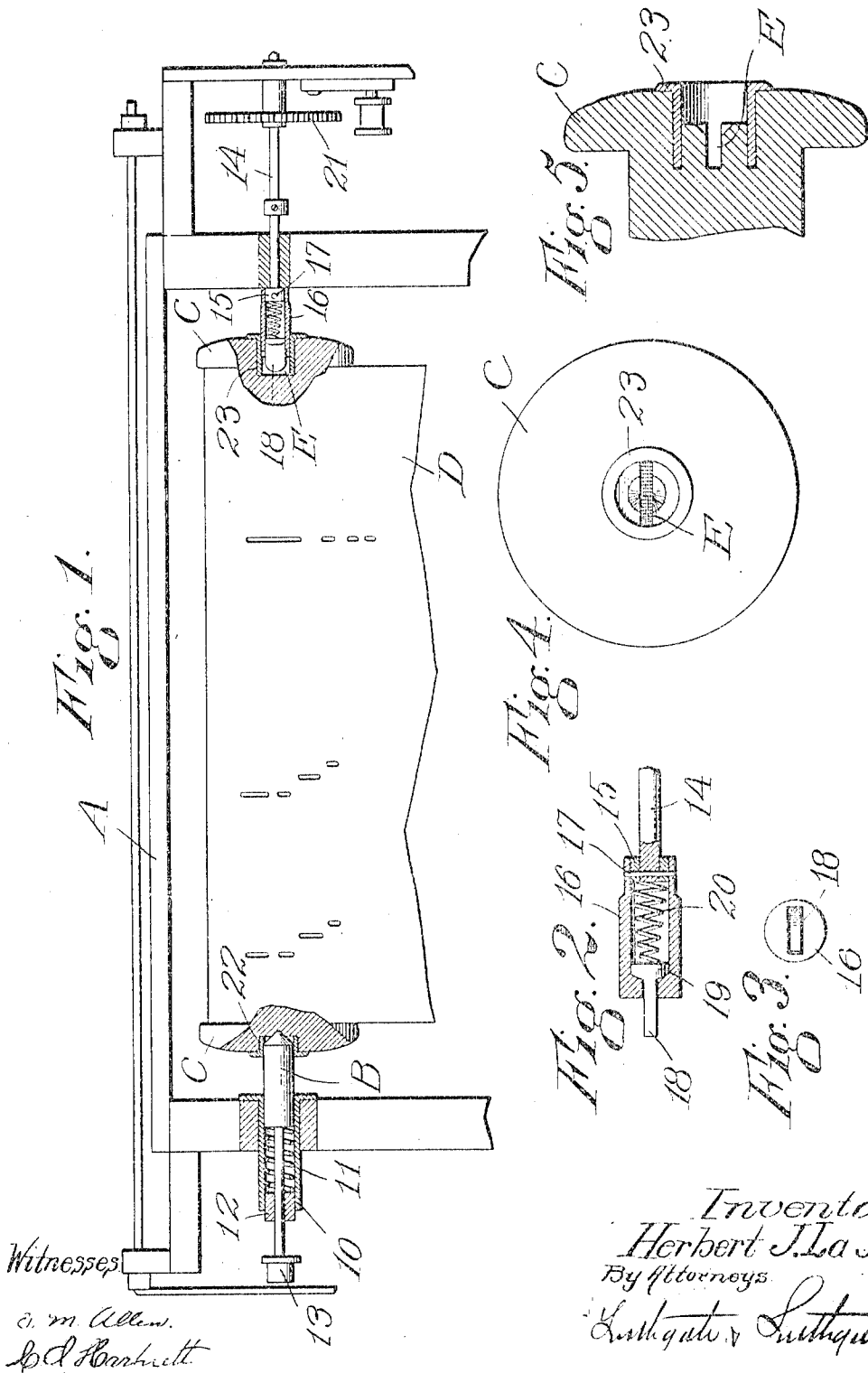


H. J. LA JOIE.
 SPINDLE FOR HOLDING MUSIC SPOOLS.
 APPLICATION FILED NOV. 1, 1911.

1,063,980.

Patented June 10, 1913



UNITED STATES PATENT OFFICE.

HERBERT J. LA JOIE, OF ORANGE, NEW JERSEY, ASSIGNOR TO AUTO PNEUMATIC ACTION COMPANY, A CORPORATION OF NEW YORK.

SPINDLE FOR HOLDING MUSIC-SPOOLS.

1,063,980.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed November 1, 1911. Serial No. 657,997.

To all whom it may concern:

Be it known that I, HERBERT J. LA JOIE, a citizen of the United States, residing at Orange, in the county of Essex and State of New Jersey, have invented a new and useful Spindle for Holding Music-Spools, of which the following is a specification.

The object of this invention is to provide a new and improved spindle for holding the music rolls or spools on which the long perforated note-sheets employed in musical instruments are wound. Music spools of this character as now generally constructed have socket pieces axially fitted into their ends and the right end of each spool is provided with a notch or mortise. The instruments in which such music spools are employed are provided with two spindles, the left-hand spindle being spring-pressed and the right-hand spindle being provided with a tenon or irregularly shaped projection to engage into the mortise or notch in the right-hand end of the spool. The music spool runs idly on said spindles as the note-sheet is drawn therefrom for playing, and power is imparted to the right-hand spindle when the note-sheet is to be rewound on the music spool after playing, the said mortise and tenon forming a connection by which power is imparted to the spool. The spool is inserted in position by placing one of the socket pieces on one of the spindles and then snapping the other socket piece on the other spindle. It happens quite frequently in inserting the spool in position in this manner that the mortise and tenon do not properly register and the music spool is held too far to the left as the note-sheet is unwound therefrom, thus causing a displacement in the note-sheet which does not produce accurate playing. The unwinding of the note-sheet from the music spool does not tend to correct this, as the right-hand spindle turns freely when the note-sheet is unwound. To correct this difficulty I make the tenon or projection of the right-hand spindle relatively movable thereto and provide the same with a light spring tending normally to force the same outward. By this arrangement, when the music spool is placed between the two spindles it will assume its proper position laterally, even if it is not placed in position so that the mortise in the spool matches with the tenon on the right-hand spindle. If the music spool be placed

in position between the spindles without the tenon and mortise matching, just as soon as there is the proper amount of slip between the music spool and the right-hand spindle so that the mortise and tenon will match (which may occur as the music sheet is turned forward, or as the rewinding is commenced), the tenon will spring into the mortise and the spool will be positively engaged with the right-hand spindle so that the power can be imparted thereto for rewinding.

The invention is illustrated in the accompanying drawing, referring to which,

Figure 1 is an elevation partly in section; illustrating the front of the spool box showing how my invention is applied. Fig. 2 is a sectional elevation on an enlarged scale of the right-hand spindle. Fig. 3 is an end elevation thereof. Fig. 4 is an end elevation on an enlarged scale of the end of the music spool, and Fig. 5 is a sectional elevation thereof.

Referring to the drawing and in detail, A designates the frame of a spool box in which the supporting spindles are mounted.

B designates the left-hand spindle. The spindle fits in a casing or tube 10 inserted in the wall of the spool box. The spindle is reduced in diameter and surrounding the same is a spring 11 which tends normally to force the spindle B outwardly. The spring bears at its rear end on a bushing 12 inserted in the tube 10. The reduced portion of the spindle projects outwardly through the bushing and is provided at its end with a cap or nut 13 which limits the outward movement of the spindle. The construction described is one of the ordinary or approved construction of left-hand spindle now employed.

The right-hand spindle in which my invention is embodied comprises a shaft 14 on the end of which is fitted a collar 15, the end of the shaft and the collar being inserted into a bushing 16 and held in place therein by a suitable pin 17. The bushing 16 thus comprises the supporting part of the right-hand spindle. The end of the bushing is provided with an oblong orifice and fitting in the same is a tenon or projection 18. This tenon is provided with a collar 19 on its inside and a light spring 20 is arranged between the end of the shaft 14 and collar 15 and the collar 19 and thus tends

normally to force the tenon outwardly. The shaft 14 is journaled in suitable bearings in the spool box frame A and in a bracket carried thereby and the usual sprocket wheel or gear 21 is arranged thereon so that power can be applied to the shaft 14 to rewind the note-sheet on the music spool.

C designates the music spool on which the perforated note-sheet D is wound. The music spool is provided with recesses axially in its ends, and sockets or rings 22 or 23 are driven therein, the right-hand ring usually being made longer than the left-hand ring. The right-hand end of the music spool is provided with a mortise or an irregularly shaped notch E into which the tenon 18 can fit.

By the arrangements described, the music spool can be snapped into position between the spindles in the ordinary way and will come in proper position laterally, no matter whether the tenon and mortise register with each other, because the spring 11 is more powerful than the spring 20. Then when slippage takes place between the right-hand spindle and the music spool so as to bring the tenon and mortise into register, the tenon will snap into the mortise. This locking will take place automatically and will not cause any disturbance of the lateral position of the music spool. When the parts are locked in this manner, the note-sheet can be rewound on the music spool by the application of power to the sprocket wheel or gear 21.

The details and arrangements herein shown and described, and particularly the shape of the mortise and tenon, can be varied by a skilled mechanic without departing from the scope of my invention as expressed in the claims.

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

1. A spindle for a music spool having in the end thereof a socket and a mortise, comprising a bushing for engaging into the socket to center the spindle and guide it into proper position with respect to the spool,

and a spring-pressed axially moving tenon housed in said bushing.

2. In a spindle for a music spool having a socket and a mortise extending inwardly from the end of the socket comprising a shaft having a bushing on its end for engaging into and fitting the socket, and a spring pressed axially moving tenon housed in said bushing and adapted to be projected beyond it into the mortise.

3. A spindle for a music spool having a socket and a mortise, comprising a bushing for engaging into the socket and having an oblong opening, a tenon projecting through said opening, and a spring for pressing the tenon normally outwardly.

4. A spindle for a music spool having a socket and a mortise, comprising a shaft, a bushing secured on the end thereof for fitting into said socket and having an oblong opening, a tenon projecting through said opening and having a collar, and a spring housed in said bushing and tending normally to force the tenon outwardly.

5. A spindle for a music spool having a socket and a mortise, comprising a spring-pressed spindle for engaging one end of the music spool and a bushing for engaging into the socket at the other end of the spool carrying a spring-pressed tenon for engaging into the mortise, the spring acting on the spindle having a heavier tension than the spring acting on the tenon.

6. The combination of a spool having a fixed head provided with circular sockets and a mortise at the end of one of said sockets, a spring-pressed spindle for engaging the left-hand socket, and a circular bushing for engaging the right-hand socket and carrying a spring-pressed tenon for fitting into the mortise.

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

HERBERT J. LA JOIE.

Witnesses:

HERBERT SIMPSON,
CHAS. L. PACKARD.