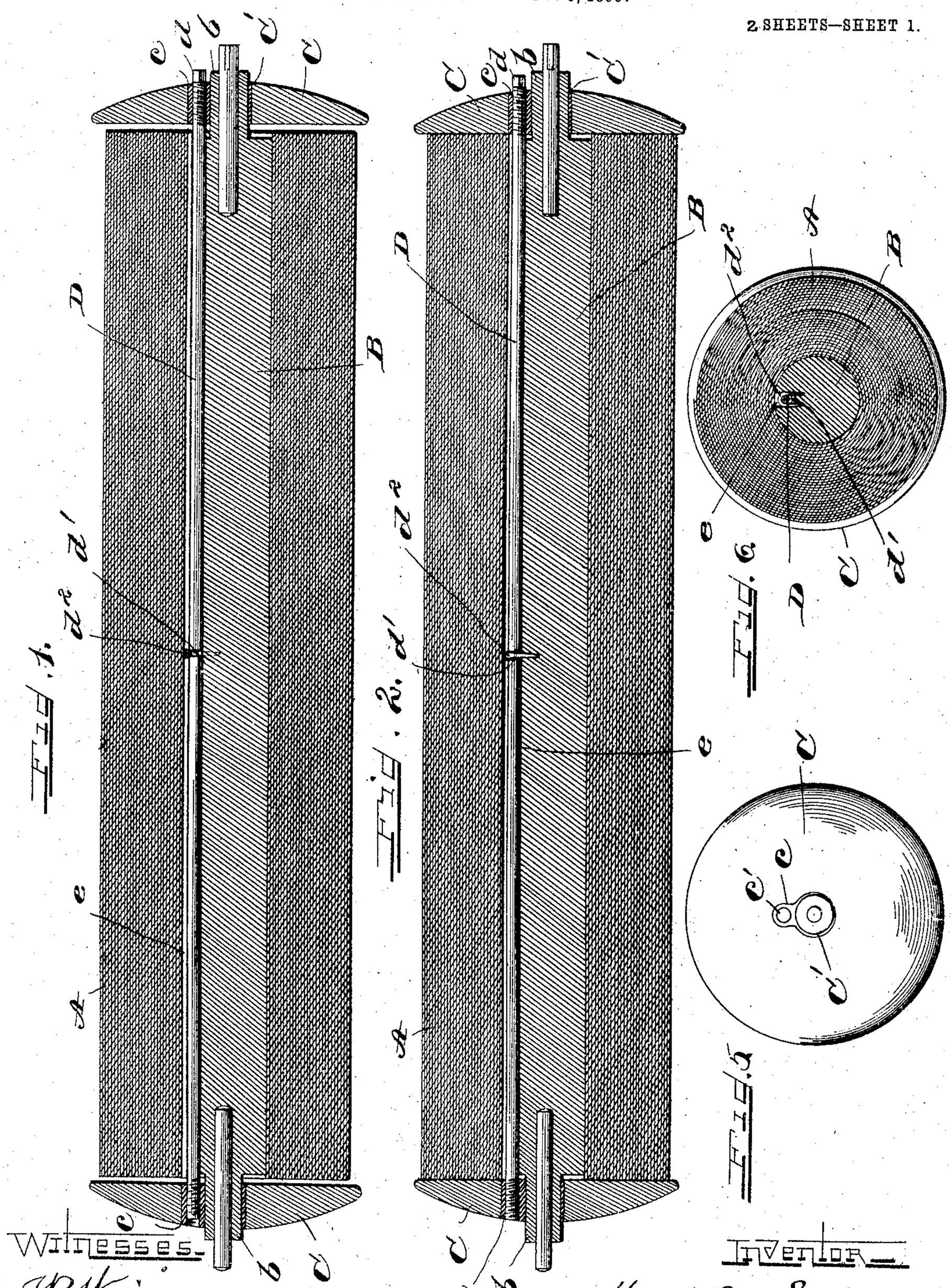
No. 780,689. PATENTED JAN. 24, 1905.

H. M. SMITH.

TRAVELING MUSIC ROLL.

APPLICATION FILED NOV. 6, 1899.

2 SHEETS—SHEET 1.



Witnesses.

J. B. Keir

Ira D. Perry

Inventor

Harry M. Smith

By Chas. C. Bulkley
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2 SHEETS—SHEET 2.

Fig. 3.

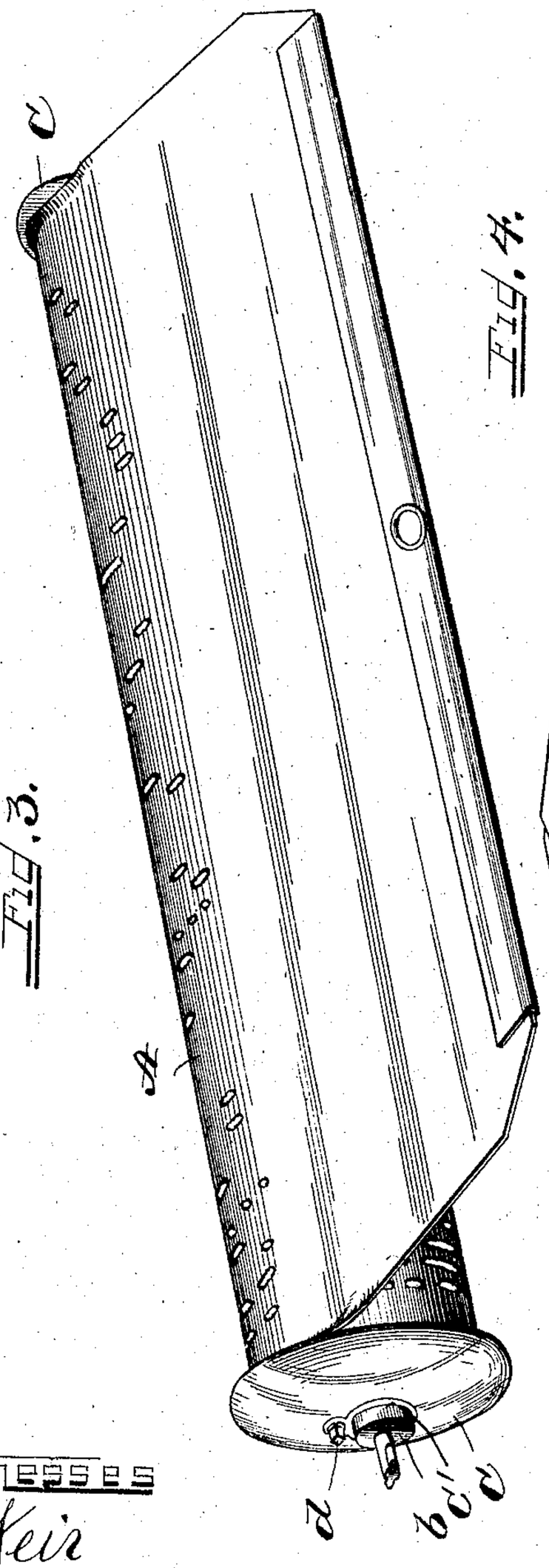

Fig. 4.

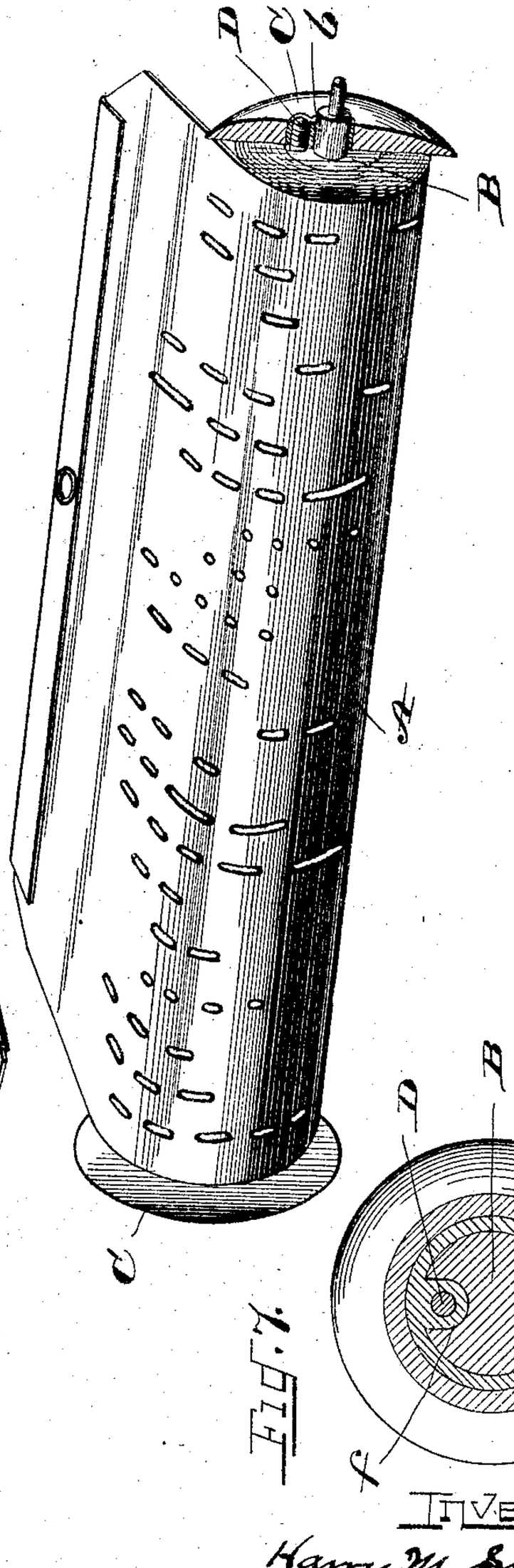

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

HARRY M. SMITH, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE AEOLIAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF CONNECTICUT.

TRAVELING MUSIC-ROLL.

SPECIFICATION forming part of Letters Patent No. 780,689, dated January 24, 1905.

Application filed November 6, 1899. Serial No. 736,072.

To all whom it may concern:

Be it known that I, HARRY M. SMITH, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Traveling Music-Rolls, of which the following is a specification.

Heretofore it has been customary to form the spools or reels upon which tracker-sheets are wound in rolls with cheeks rigidly and immovably affixed to the spindle with just sufficient space between them to wind the sheet snugly. Atmospheric humidity, however, often causes the porous roll or sheet to swell, when it becomes wedged between the cheeks or slightly ridged at the edges, causing it to pull off unevenly, resulting in defective execution. This cannot be remedied by placing the cheeks originally at such distance apart as to allow for the expansion of the sheet, due to the absorption of moisture, since the sheet being unconfined would not be wound evenly or even if evenly wound would have no lateral support when absolutely dry, and thereupon might be drawn off irregularly. These objections I propose to overcome by making the cheeks concurrently adjustable toward and from each other, so that they may be separated to compensate for expansion of the roll or approximated to fit it snugly when dry; and my invention therefore consists in combining with a tracker-sheet music-roll a longitudinally-grooved reel-spindle upon which it is wound, movable cheeks mounted on the end of said spindle, a revoluble screw-rod independent of the gugdeons laid in the longitudinal groove of said spindle and reversely threaded at its ends to engage with said cheeks, and in such other features and details are hereinafter described and claimed.

In the drawings, Figure 1 is a central longitudinal section through a music-roll and reel embodying my invention, showing the reel-cheeks set out from the edges of the roll; Fig. 2, a like longitudinal section showing the cheeks adjusted snugly up against the edges of the roll; Fig. 3, a perspective view of a roll and its reel, illustrating the effects of humidity in jamming the edges of the roll against the cheeks; Fig. 4, also a perspective view, with one reel-cheek broken away, representing the roll properly between the cheeks; Fig. 5, an end elevation of the reel; Fig. 6, a transverse section through roll and reel, showing particularly means for anchoring or staying the adjusting-rod against endwise displacement; and Fig. 7, a modification.

A designates the music-roll or convoluted tracker-sheet, and B is the reel-spindle, upon which it is wound. Upon the ends *b* of this spindle, which for such purpose may be turned down or reduced, as shown, are supported the cheeks C, intended to confine the edges of the roll and insure its paying off evenly and accurately. Were these cheeks permanently fixed in position and abutting snugly against the roll, as in Fig. 2, under normal atmospheric conditions the tracker-sheet would pull off evenly so long as such conditions were maintained; but should there be an increase in humidity the sheet would swell and the edges of the roll jam and curl up against the cheeks, and thereafter the paying off would be uncertain and irregular. As already stated, these difficulties are avoided in my invention by making the reel-cheeks adjustable toward and away from each other. There are many ways in which this can be done; but that which at the present time appears to me the simplest and most effective is as follows: The cheeks, which may be of wood, have metal hubs C′, with radial offsets *c*, serving to lock the wooden disks thereon and provided, respectively, with right and left screw-threaded bores *c*′, as shown. The hubs are mounted to slide freely on the reduced ends of the spindle, and a rod D, having right and left threads at its respective ends and a squared head *d* for the action of the key, is passed longitudinally of the spindle and engaged with the reversely-threaded bores of the cheek-carrying hubs, so that by turning the rod the cheeks may be approximated or spread apart and fixed in any given adjustment to conform to the condition of the roll. It will be noticed that this rod is distinct from the gudgeons of the spindle, so that no torsional strain comes upon it as the latter is rotated, tending to disturb the adjustment.

In order to anchor the adjusting-rod against

lengthwise displacement, it is provided about midway of its length with an annular groove d', which is saddled by a staple d^2 driven into the substance of the spindle and serving as a yoke, in conjunction with the annular groove, to hold the rod against movement other than that of rotation. It is not, however, strictly necessary to anchor the rod; but it is better, as it insures positive concurrent movement of both cheeks. The rod should be carried through the spindle beneath the contact of the tracker-sheet therewith, and conveniently this is done by grooving the spindle, as at e, to a depth equalling or quite exceeding the diameter of the rod and laying the rod in such groove.

Instead of reducing the ends of the reel-spindle and placing the cheeks on these reduced ends the spindle may be of the same diameter throughout, as in Fig. 7, and the longitudinal groove therein for the reception of the adjusting-rod may be made of sufficient depth to receive a reëntering bored and screw-threaded offset f from the metal hub of each cheek for engagement with said adjusting-rod. Such construction has this advantage, that the roll can never expand beyond the supporting-surface of the spindle.

I claim—

1. The combination of a suitable spindle, a roll of perforated music wound upon said spindle, metal collars or rings mounted upon reduced end portions of said spindle, cheek-plates secured to said collars or rings, a longitudinally-extending rod having right and left threaded end portions engaging threaded sockets in said rings or collars, said rod having a polygonal end adapted to receive a key, and a staple driven into the spindle and engaging a groove in said rod, so as to hold the latter against endwise movement.

2. The combination of a suitable spindle, a roll of perforated music mounted upon said spindle, metal collars mounted upon the end portions of said spindle, a rod lying in a longitudinal groove in said spindle and having right and left threaded end portions engaging threaded openings in said metal collars, and wooden cheek-plates secured to said collars, said rod being rotatable for the purpose of simultaneously adjusting said cheek-plates toward and away from the terminals of said music-roll.

3. The combination of a wooden spindle, having reduced end portions, metal pins driven into the ends of said spindle and having projecting end portions, metal rings or collars slidably mounted upon reduced end portions of the spindle, wooden cheek-plates secured to said rings or collars, a roll of perforated music wound upon the spindle between the cheek-plates, a longitudinally-extending rod laid in a groove in said spindle, said rod having right and left threaded end portions extending through threaded openings in said rings or collars, and an anchor for preventing endwise shifting on the part of the rod, said rod having a polygonal end portion adapted to receive a key.

4. The combination of a suitable spindle, a roll of perforated music mounted upon said spindle, cheek-plates slidably mounted upon the reduced end portions of said spindle, and a longitudinally-extending rod having right and left threads engaging threaded portions of the said cheek-plates, said rod being rotatable for the purpose of simultaneously adjusting the cheek-plates toward and away from the ends of the music-roll, and said rod having a polygonal end adapted to receive a key.

5. The combination of a spindle, a sheet of perforated music wound upon said spindle, cheek-plates mounted upon reduced end portions of said spindle and arranged to oppose each other at opposite ends of the roll of music and a longitudinally-extending rod having right and left threads engaging threaded portions of the said cheek-plates, said rod being rotatable for the purpose of simultaneously adjusting the said cheek-plates toward and away from the ends of said roll of music.

6. The improved music-roll, comprising a spindle with reduced end portions, metal rings mounted on said reduced end portions and provided with lateral projections having threaded openings, cheek-plates secured to said rings, the spindle being provided with a longitudinally-extending groove, a right-and-left screw engaging the openings in the projections on said rings, and a staple driven into said spindle and applied to the middle portion of said screw to keep the latter from shifting endwise.

Signed by me at Chicago, Cook county, Illinois, this 20th day of October, 1899.

HARRY M. SMITH.

Witnesses:

CHAS. C. BULKLEY,

JOSEPH G. PARKINSON.