J. BRÜCKNER.

RECORD DISK CLAMP.

APPLICATION FILED MAR. 15, 1916.

1,206,809.

Patented Dec. 5, 1916.

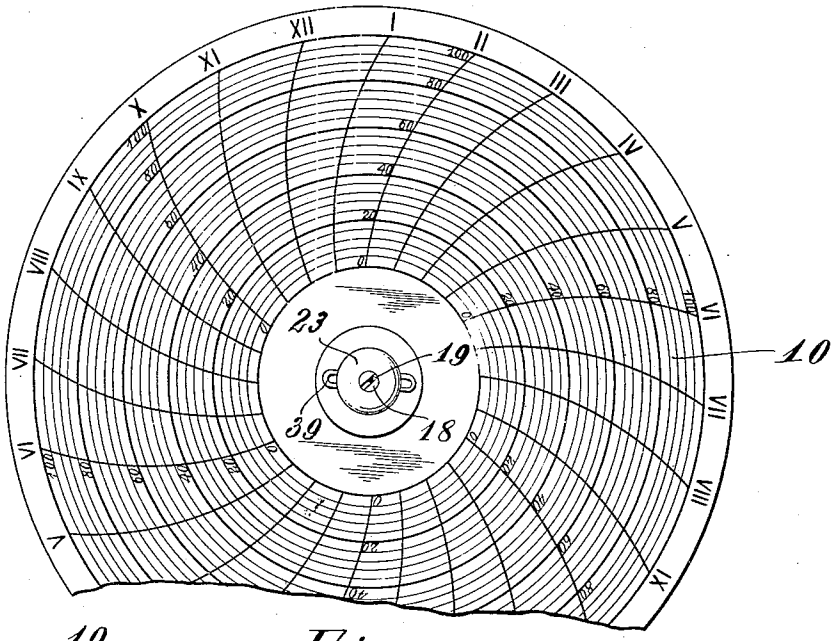

Fig. 1.

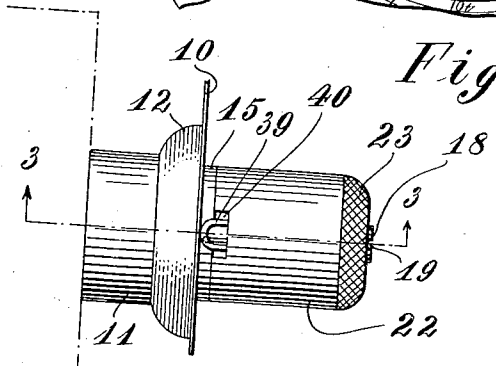

Fig. 2.

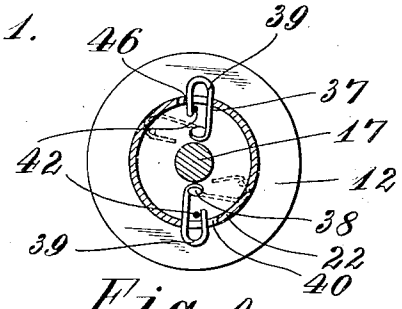

Fig. 4.

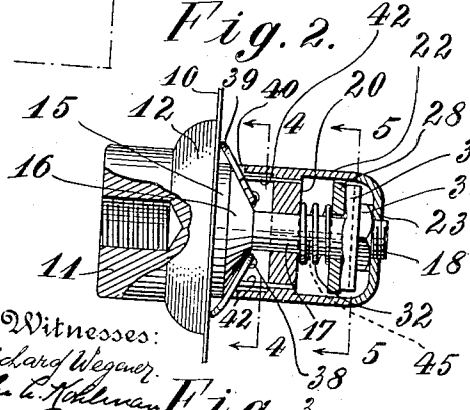

Fig. 3.

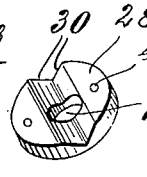

Fig. 6.

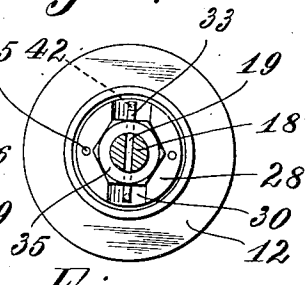

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOSEF BRÜCKNER, OF BROOKLYN, NEW YORK.

RECORD-DISK CLAMP.

1,206,809. Specification of Letters Patent. Patented Dec. 5, 1916.

Application filed March 15, 1916. Serial No. 84,391.

To all whom it may concern:

Be it known that I, JOSEF BRÜCKNER, a subject of the Emperor of Austria-Hungary, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Record-Disk Clamps, of which the following is a specification.

This invention relates to improvements in devices for securing thin, centrally apertured disks or plates upon a shouldered stem and has special reference to card-board record disks, such as are used in recording and indexing mechanisms, in which it is frequently necessary to change the record blanks.

The main object of the invention is to provide an efficient means instantly operable in either clamping or releasing the disk, without the removal or separation of any part to become inadvertently lost.

Another object is to provide a clamp that does not obscure or obstruct the face of the disk and which cannot injure or tear it.

These and like objects are attained by the novel design, construction and combination of parts hereafter described and shown in the accompanying drawing, forming part of this disclosure, and in which:—

Figure 1 is a broken plan view of a common form of record disk, illustrating the application of the clamp. Fig. 2 is a side elevation of the disk support and clamp. Fig. 3 is a partial side elevational and sectional view of the same, the section being taken on line 3—3 of Fig. 2. Fig. 4 is a transverse sectional view, taken on line 4—4 of Fig. 3. Fig. 5 is a similar view, the section being taken on line 5—5 of Fig. 3, and Fig. 6 is a perspective view showing a detail of construction.

In the drawings, the record disk, shown to illustrate the application of the invention, is indicated by the numeral 10 and may be of any material and size compatible with its purpose, having on its face such lines or rulings as may be required.

A hub 11, adapted to be slowly rotated by clockwork or other means not necessary to describe, is formed with an annular collar 12, having a flat face against which the disk is to be clamped; from this face extends a short cylindrical projection 15, suited in diameter to the opening in the disk 10 which is neatly and accurately centered thereon. The end of the projection is beveled, forming a cone 16, from which extends a stem 17 terminating in a screw-threaded end 18, containing an open slot 19 extending from the end downward into the stem.

Revolubly mounted on the stem 17 is a collar 20 having formed with it a hollow cylindrical casing 22, the outer diameter of which coincides with that of the projection 15 so that the exterior walls register, allowing the disk opening to be readily placed in operative position or removed from it. The outer end of the casing is covered by a cap 23 screw-threaded to fit the stem and knurled for convenience in operation.

A washer 28, having a central hole 29 suited to the stem 17, and a V shaped transverse recess 30 formed across its face, is used to compress the coiled spring 32, the inner end of which abuts against the collar 20, pressing the casing toward the disk. A flat bar 33, passes freely through the slot 19 in the stem, being normally pressed into the groove 30 in the washer 28, by the adjusting nut 35 on the stem. Thus means are provided for pressing the casing resiliently under an adjustable tension against the cone 16, which latter element has secured upon its surface, on opposite sides, round wire loops 37, pivoted at 38, close to the stem 17, and having a reëntrantly turned portion 39 arranged to extend outwardly through open slots 40 formed in the end of the casing 22, as clearly shown in Figs. 2 and 3. In order to actuate these loops, pins 42 are rigidly fixed in the collar 20, their ends engaging within the loops 37 in such manner that when the casing 22 is partially rotated, the loops are caused to turn upon their pivots, being raised by reason of the conical surface upon which they are secured, and at the same time caused to recede into the casing, as indicated by the broken lines in Fig. 4, presenting no impediment to the removal of the disk.

Another pair of pins 45 are rigidly fixed in the collar 20, their outer ends passing through the small openings 46 in the washer 28, so that as the casing 22 is rotated the washer is also turned with it, forcing the bar 33 to engage with the sides of the angular recess 30; as the bar cannot move outward, by reason of its opposite edge engaging with the nut 35, the washer 28 is pressed down against the spring 32

thereby increasing its tension and through it the pressure of the casing toward the cone 16.

Obviously turning the casing in a reverse direction moves the loops outward and downward through the openings 40, the rear wall of which presses against their upper surfaces, so as to tightly clamp the disk against the backing collar 12, and as the ends of the loops are smoothly rounded they will not mar or damage the surface against which they contact.

While the foregoing description pertains to the preferred form of construction, it is manifest that minor changes may be made in the details without departing from the scope of the claims hereto appended, and which are thought to cover a structure highly practical as well as entirely novel.

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

1. In a device of the class described, a support and a backing therefor, a sleeve mounted revolubly at its front end, a plurality of smoothly rounded clamp elements adapted to contact with said backing, means for projecting said clamps outwardly against said backing and means for retracting said clamps within said sleeve.

2. In a device of the class described, the combination with a rigid cylindrical support having a clamping seat, of a conical frustum formed with said support, a stem engaged therewith, a sleeve revolubly mounted on said stem, oppositely disposed, wire clamps pivoted on said conical frustums at their inner ends, their outer looped ends extending through openings in the end of said sleeve, a collar rotatable on said stem within said sleeve, a spring interposed between said collar and said sleeve, means combined with said stem adapted to increase the pressure on said spring when said sleeve is revolved and means carried by said sleeve for operating said clamps.

3. In a device of the class described, the combination with a shouldered support, a beveled extension formed with said support, a stem leading from said extension, a sleeve revoluble on said stem, the diameter of said sleeve and said support being uniform, a plurality of clamp elements pivotally mounted on said beveled extension, and means combined with said support whereby said clamps may be extended or retracted.

Signed at New York, in the county of New York and State of New York, this 4th day of March, 1916.

JOSEF BRÜCKNER.