Sept. 4, 1956 H. DA COSTA 2,761,687

ADAPTOR FOR USE WITH THE TURNTABLE SPINDLE OF A RECORD CHANGING MECHANISM

Filed July 25, 1952

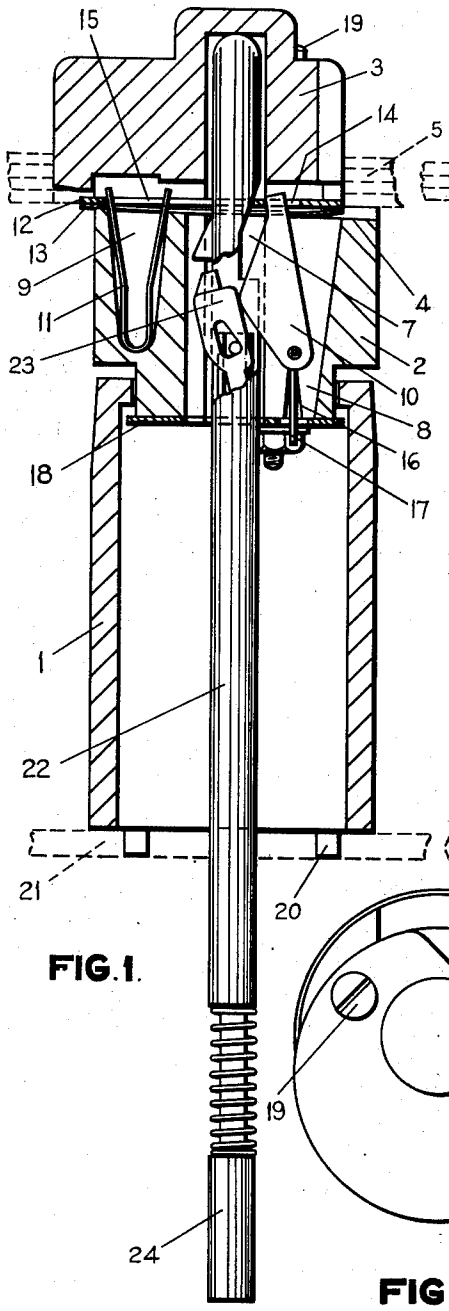


FIG. 1.

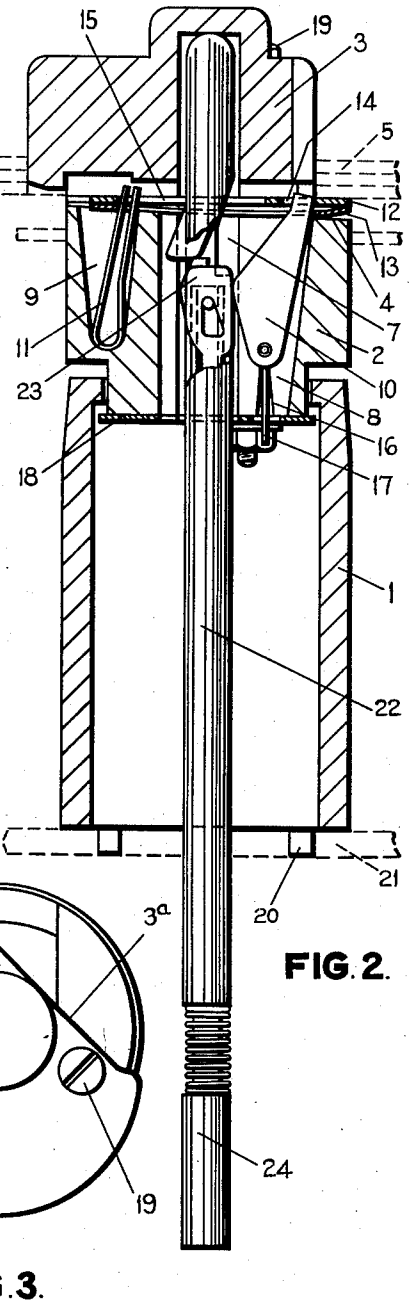


FIG. 2.

FIG. 3.

Inventor
Harry Da Costa
By William C. T. Bagley
Attorney.

United States Patent Office 2,761,687 Patented Sept. 4, 1956

2,761,687

ADAPTOR FOR USE WITH THE TURNTABLE SPINDLE OF A RECORD CHANGING MECHANISM

Harry Da Costa, Snaresbrook, London, England, assignor to The Plessey Company Limited, Ilford, England, a British company

Application July 25, 1952, Serial No. 300,952

1 Claim. (Cl. 274—10)

This invention relates to an adaptor for use with the turntable spindle of a record changing mechanism of the type which contains a pivotal ejector for moving the lowermost record of a stack off a ledge or shelf onto the turntable.

The adaptor for use with a phonograph spindle for record changers comprises in combination a casing divided into three sections, the lower section consisting of a hollow tubular element, the intermediate section rotatably mounted upon the lower section has a central bore and two diametrically opposed slots, the upper section being bored and off-set in relation to the intermediate section, thereby forming a shelf on the upper surface of the intermediate section, the three sections constituting as a phonograph spindle, a horizontal ejector plate slidably mounted between the intermediate and upper sections of said casing, said ejector plate having diametrical slots, a bow spring mounted transversely between said ejector plate and upper surface of the intermediate section of said casing thereby reducing surface tension on said ejector, a bifurcated spring within one slot in the intermediate section of said casing has the limbs thereof extending through one slot in said ejector normally retaining the ejector in the retracted position, a vertical cam lever pivotally mounted in the other slot in the intermediate section of said casing has the upper end passing through the other slot in said ejector plate whereby actuation of the cam lever is caused by operation of the ejector mechanism provided in the existing phonograph spindle to impart a transverse movement of said ejector plate against the tension of the bifurcated spring.

The invention will now be described with reference to the accompanying drawing, in which:

Fig. 1 is a section partly in elevation of an adaptor fitted to a record changer spindle in position for supporting a stack of records.

Fig. 2 is a similar view to Fig. 1 showing the position of the mechanism for releasing the lowermost record of the stack.

Fig. 3 is a top view of the spindle of Fig. 1.

Referring to the drawings—

A cylindrical casing of synthetic resin is divided into three separate parts **1**, **2**, **3**. The lower part **1** and intermediate part **2** are co-axial, but the upper portion **3** is off-set and has a cut-away face **3a** in relation to the lower and intermediate parts **1**, **2**, thereby forming a ledge **4** at the top of the intermediate part **2** for receiving and supporting a stack of records **5**.

The intermediate part **2** of the casing has a centre hole **7** and two diametrically opposed slots **8** and **9**. A cam lever **10** is pivotally mounted in the slot **8** and a U-shaped spring **11** is located in the other slot **9**. A slotted ejector plate **12** and bow spring **13** are slidably mounted upon the intermediate part **2** of the casing. The ejector plate **12** has two diametrical slots **14**, **15**. The slot **14** receives the end of the cam lever **10** which moves the ejector plate **12** against the tension of the spring **11** to eject the lowermost record from the stack. The other slot **15** receives the ends of the limbs of spring **11** and

normally retains the ejector plate **12** in a retracted condition, as herein set forth. The purpose of the biassing spring **13** is to reduce the surface area and frictional losses between the top face of the intermediate part **2** and ejector plate **12** to a minimum caused by the weight of records on the ejector during the ejection operation.

The pivot for the cam lever **10** fits into a slot **16** formed on the intermediate part **2** and a latch plate **17** inserts into the slot **16**, which in turn, is held in place by a slotted guide plate **18** inserted into the lower part **1** of the casing and the whole assembly is secured together by screws **19**.

The base of the lower part **1** of the casing is formed with three lugs **20** for positioning the adaptor in coinciding apertures in a phonograph turntable **21** as shown in Figs. 1 and 2 in dotted lines.

In operation, the adaptor is inserted over the record changing spindle **22** and is removably secured to the turntable **21** when the ejector **23** located in the record changer spindle **22** contacts the edge of the cam lever **10**. A stack of records **5** are threaded over the off-set portion **3** when the lowermost record of the stack rests upon the ledge **4**, so that the edge of the ejector plate **12** is in line with the centre hole of said lowermost record. The lower part **1** of the casing revolves with the turntable and the assembly mounted thereon remains stationary. Upward axial movement of the ejector spindle **24** causes the ejector **23** in the record changer spindle **21** to swing in a clockwise direction thereby swinging the cam lever **10** which in turn moves the ejector plate **12** to release the lowermost record of the stack as shown in dotted lines in Fig. 2. Movement of the ejector **23** in a reverse direction enables the ejector plate **12** to retract under the influence of the U-shaped spring **11**, when the next lowest record is brought to rest upon the ledge **4**.

I claim:

In an adaptor for use with a phonograph spindle for record changers comprising in combination a casing divided into three sections, the lower section consisting of a hollow tubular element, the intermediate section rotatably mounted upon the lower section has a central bore and two diametrically opposed slots, the upper section being bored and off-set in relation to the intermediate section thereby forming a shelf on the upper surface of the intermediate section, the three sections constituting a phonograph spindle, a horizontal ejector plate slidably mounted between the intermediate and upper sections of said casing, said ejector plate having diametrical slots, a bow spring mounted transversely between said ejector plate and upper surface of the intermediate section of said casing thereby reducing surface tension on said ejector, a bifurcated spring within one slot in the intermediate section of said casing having the limbs thereof extending through one slot in said ejector normally retaining the ejector in the retracted position, a vertical cam lever pivotally mounted in the other slot in the intermediate section of said casing having the upper end passing through the other slot in said ejector plate whereby actuation of the cam lever imparts a transverse movement of said ejector plate against the tension of the bifurcated spring.

References Cited in the file of this patent

UNITED STATES PATENTS

2,302,503	Proctor	Nov. 17, 1942
2,490,678	Dale	Dec. 6, 1949
2,523,045	Miller et al.	Sept. 19, 1950
2,549,246	Schweitzer	Apr. 17, 1951
2,594,246	Ten Cate	Apr. 22, 1952
2,662,772	Dobrogowski et al.	Dec. 15, 1953
2,666,648	Dale	Jan. 19, 1954