

W. B. NICHOLS.
 NEEDLE FOR TALKING MACHINES, &c.
 APPLICATION FILED MAY 28, 1912.

1,045,593.

Patented Nov. 26, 1912.

Fig. 1.



Fig. 2.

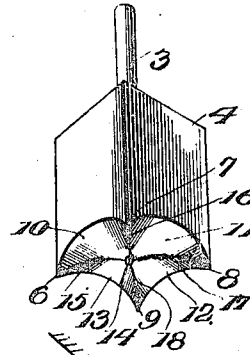


Fig. 3.

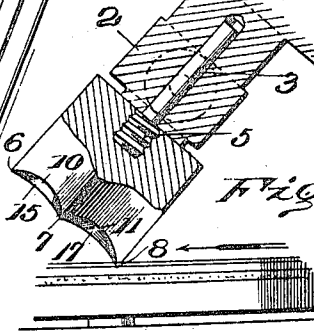
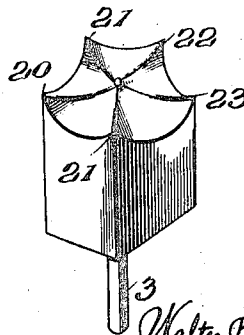


Fig. 4.



Inventor

Walter B. Nichols

Witnesses
 W. A. Williams
 J. J. Keenan.

By Roberton & Johnson

Attorneys

UNITED STATES PATENT OFFICE.

WALTER B. NICHOLS, OF LEXINGTON, KENTUCKY.

NEEDLE FOR TALKING-MACHINES, &c.

1,045,593.

Specification of Letters Patent.

Patented Nov. 26, 1912.

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To all whom it may concern:

Be it known that I, WALTER B. NICHOLS, a citizen of the United States, and a resident of Lexington, in the county of Fayette and State of Kentucky, have invented certain new and useful Improvements in Needles for Talking-Machines, &c., of which the following is a specification.

This invention relates to improvements in needles for use in talking machines, and the object of the invention is to provide a needle which may be made of wood or fibrous material and at the same time have a number of needle points, thereby providing a multiple needle.

In its preferred embodiment my invention has a plurality of individual points connected together by curved surfaces whereby a file or tool of the proper character may be employed to file or grind the curved surfaces so as to renew the needle points when worn.

In the drawings accompanying and forming part hereof: Figure 1 represents part of a talking machine having a needle made in accordance with my invention connected with the sound box thereof. Fig. 2 is a perspective view of the needle detached. Fig. 3 is a view partly in section of my multiple needle in a sound box. Fig. 4 is a view of a modified form.

Referring now to the details of the drawings by numerals: 1 designates a sound box of ordinary construction to the socket 2 of which is secured the shank 3 of my multiple needle. The needle itself is designated by the numeral 4 and in its preferable embodiment consists of a solid piece of box-wood, although other characters of wood may be employed. The shank 3 is of the size adapted to fit into the inner sockets of talking machines and it has an enlarged screw threaded member 5 whereby the shank is secured to the needle 4 as clearly illustrated in Fig. 3. The needle 4, if of square configuration as illustrated in Figs. 1 and 2 is provided with four distinct needle points 6, 7, 8 and 9, each point being connected to its adjacent point by means of the curved surfaces 10, 11, 12 and 13. When these curved surfaces are made of the proper configuration, the points 6, 7, 8 and 9 are formed which are connected to a central point 14 by means of substantially straight portions 15, 16, 17 and 18, these last four portions forming a kind of web which gives strength and backing to the points 6, 7, 8 and 9. If desired, instead of

making a four sided needle the needle may be made with a smaller or larger number of sides and needle points, one modified form being shown in Fig. 4 wherein there are five needle points 20, 21, 22, 23 and 24.

The needle is used in substantially the same way as any other needle in that its shank 3 is inserted in the sound box 2 and secured therein by the set screw in the usual manner, the needle having been first moved to such a position that one of the points will be in just the proper position to enter one of the grooves of the record, as illustrated in Fig. 1. In the practical use of my multiple needle, I have found that I get substantially the same volume from each of the needle points as is usually obtained from the use of steel needles and at the same time I am enabled to provide needle points which give an added brilliancy to all kinds of musical selections, "picking up", as it does, the finer shadings, which with other needles or styli are almost entirely lost. It does not injure records, but eliminates all "scratching" and the metallic blast so common and objectionable in steel needles. Acting as a "buffer", the record is gradually polished and thereby improved, insuring the longest possible life to it. If the wood of which the multiple needle is made is of box-wood or of similar hard wood, the needle points may be used more than once without sharpening. At the same time, one of my multiple needles may be used an enormous number of times by filing and grinding the curved surfaces 10, 11, 12 and 13 with a file or other suitable tool of the proper configuration. Therefore, one or two of my multiple needles and a sharpening tool may be used for a long period of time and the necessity of keeping on hand boxes of needles is thus avoided.

What I claim as my invention is:

1. A needle for talking machines comprising a shank and a body projecting from said shank of relatively large size compared therewith, said body having a plurality of corners on the bottom opposite the shank forming independent reproducing points, and said bottom having a hollow surface forming said points, substantially as described.

2. A needle for talking machines comprising a shank and a body projecting therefrom, said body having a plurality of corners on the bottom of the body opposite the

shank forming independent reproducing points, and said bottom having reëntrant surfaces forming said points, substantially as described.

- 5 3. A needle for talking machines comprising a shank and a wooden or fibrous body projecting from said shank of relatively large size compared therewith, said wooden or fibrous body having a plurality of corners on the bottom opposite the shank forming independent reproducing points, and
10 said bottom having curved surfaces forming said reproducing points, whereby said curved surfaces may be filed or dressed down to renew or sharpen said independent
15 reproducing points, substantially as described.

4. A needle for talking machines comprising a shank and a body provided with a
20 plurality of independent reproducing points connected by reëntrant surfaces disposed at a relatively large angle to the longitudinal axis of the needle, substantially as described.

- 25 5. A needle for talking machines comprising a shank and a wooden or fibrous block of rectangular form, the shank being se-

cured at one end of said block and the bottom of said block opposite said shank having reëntrant surfaces forming a plurality of independent reproducing points at the
30 corners of the block, whereby the reëntrant surfaces forming the bottom of the block may be filed or dressed down to renew or sharpen said independent reproducing
35 points, substantially as described.

6. A needle for graphophones or the like comprising a shank and a wooden or fibrous body projecting therefrom, said fibrous body having a plurality of independent points
40 connected together by curved surfaces whereby said curved surfaces may be filed or dressed down to renew or sharpen said points, and said points being connected together by webs affording a backing for the
45 points, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER B. NICHOLS.

Witnesses:

C. Y. FREEMAN,
W. P. PARRISH.