

J. L. VAUGHN.
COMBINATION NEEDLE MAGAZINE FEEDER AND DIRECTOR.
APPLICATION FILED AUG. 7, 1918.

1,316,932.

Patented Sept. 23, 1919.

Fig. 1.

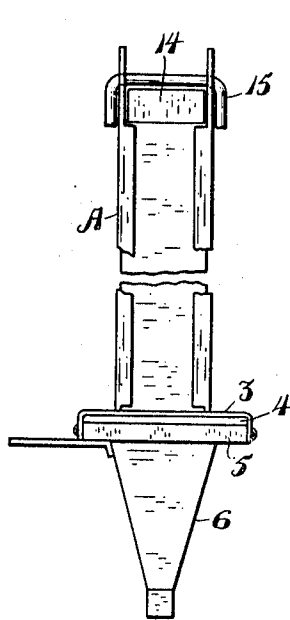


Fig. 2.

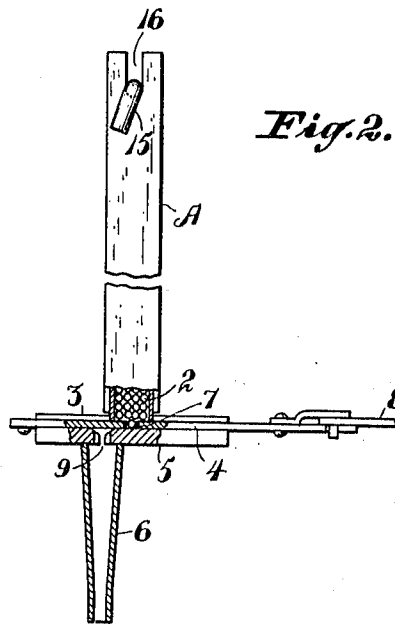
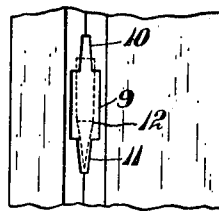


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN L. VAUGHN, OF SAN FRANCISCO, CALIFORNIA.

COMBINATION NEEDLE MAGAZINE FEEDER AND DIRECTOR.

1,316,932.

Specification of Letters Patent.

Patented Sept. 23, 1919.

Application filed August 7, 1918. Serial No. 248,669.

To all whom it may concern:

Be it known that I, JOHN L. VAUGHN, a citizen of the United States, residing at the city and county of San Francisco and State of California, have invented new and useful Improvements in Combination Needle Magazine Feeders and Directors, of which the following is a specification.

The present invention relates to a combination needle magazine, feeder and director, and is shown in my Patent No. 1,274,960, dated August 6, 1918, entitled Automatic talking machine.

One of the objects of the present invention is to provide a needle holder or magazine for the reception of phonograph needles, said magazine being sufficiently large to receive a great quantity of superposed needles, and also permitting indiscriminate placing of the needles therein.

Another object of the invention is to provide means for discharging or removing the needles one by one from the bottom of the magazine, and in conjunction therewith, to provide means for directing the needles so that each needle when removed will be discharged through a chute with the pointed end foremost.

Further objects will hereinafter appear.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings in which—

Figure 1 is a front view of the device.

Fig. 2 is a side elevation of the same partly in section.

Fig. 3 is an enlarged plan view of the slotted plate through which the needles are directed before entering the discharge chute.

Referring to the drawings in detail, A indicates a rectangular shaped casing of suitable height and construction, which, in this instance, serves the function of the magazine or holder for a considerable quantity of phonograph needles such as shown at 2. The magazine is supported on a frame such as shown at 3, and a sliding plate hereinafter to be known as the feed slide shown at 4, forms the bottom for the magazine. The frame also serves as a support for a plate 5 and a discharge chute 6. The feed slide is slotted as shown at 7, said slot being just sufficiently long and narrow to re-

ceive one needle at a time. Any suitable means may be provided for transmitting a reciprocating movement to the feed slide, said means being here indicated by a connecting link 8. Formed in the plate 5 directly above the discharge chute 6 is a slot 9. The ends of this slot are extended as shown at 10 and 11.

By referring to Fig. 3 it will be seen that the extended slot sections 10 and 11 are considerably narrower than the portion 9 and slightly tapered as shown. The slot is provided for the purpose of directing the needles; that is, the needles contained in the magazine A may be indiscriminately placed therein to the extent that the pointed end of each needle may point in one direction or the other. They are received in this condition by the feed slide, and unless a means for directing the needle or changing its position is provided, it can readily be seen that the needles discharging through the chute 6 might alternately present their pointed ends foremost or the head end foremost.

It is one of the objects of the present invention to provide means for obtaining a uniform position of all the needles discharged, that is, it is desired to direct the needles so that each one passing through the chute 6 will present its pointed end foremost. The shape of the standard form of phonograph needle is represented by the dotted lines shown at 12, see Fig. 3. By referring to this figure it will be seen that the main portion of the needle is cylindrical in shape, and that one end only is pointed.

With a reciprocating movement transmitted to the feed slide it can readily be seen that the needles will be removed one by one from the magazine, and delivered to the slot 9 formed in the plate 5. At this point it can be seen that the pointed end of the needle, whether pointing in one direction or the other, will drop through the narrow portions of the slot, for instance, in the present instance, through the slot 11. The pointed end will thus project downwardly and the needle will slide through and pass out through the chute 6 with the pointed end foremost, the same result being always obtained when the needle received by the feed slide is pointing in one direction or the other, as the needle delivered to the plate 5 can only pass

through the slot with the pointed end foremost.

Any suitable form of cover such as shown at 14 may be employed in conjunction with the magazine, and a weighted U-shaped lever 15, to secure the cover thereon, said U-shaped lever being secured by dropping it into slots 16 formed in the sides of the magazine housing.

I similarly wish it understood that the materials and finish of the several parts employed may be such as the judgment and experience of the manufacturer may dictate, and that while the device has been employed for a specific use as described in my copending application previously referred to, I wish it understood that it may be used for any other purpose, and in any other manner desired.

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

1. The combination with a magazine adapted to contain a large quantity of superposed needles indiscriminately placed therein, of a feed sliding plate forming a bottom for the magazine, a frame supporting the magazine, and the feed slide, a discharge chute carried by the frame, said feed slide having a slot formed therein for the reception of one needle, means for transmitting a reciprocating movement to the feed slide to transfer the needles one by one from the magazine to the discharge chute, and a directing plate having a slot formed therein positioned above the discharge chute which is adapted to direct the needles so that each needle when passing through the chute will present its pointed end foremost.

2. The combination with a magazine adapted to contain a large quantity of superposed needles indiscriminately placed therein, of a feed sliding plate forming a bottom for the magazine, a frame supporting the magazine, and the feed slide, a discharge chute carried by the frame, said feed slide having a slot formed therein for the reception of one needle, means for transmitting a reciprocating movement to the feed slide to transfer the needles one by one from the magazine to the discharge chute, means for directing the needles when entering the chute so that each needle when passing through the chute will present its pointed end foremost, said means comprising a plate positioned above the discharge chute, said plate having a slot formed therein substantially as described.

3. The combination with a needle container adapted to contain a large quantity of superposed needles placed therein, of a chute through which the needles are adapted to discharge, said chute being positioned at one side of the bottom of the container, means for removing the needles one by one from the container and delivering the same to the chute, and means for directing the needles in said chute so that they will all discharge with the pointed end foremost through the lower end of the chute.

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

JOHN L. VAUGHN.

Witnesses:

FRANK POWERS,
JAMES D. WELCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."