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F. SCHILER

2,066,859

PORTABLE PHONOGRAPH

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Fig. 1

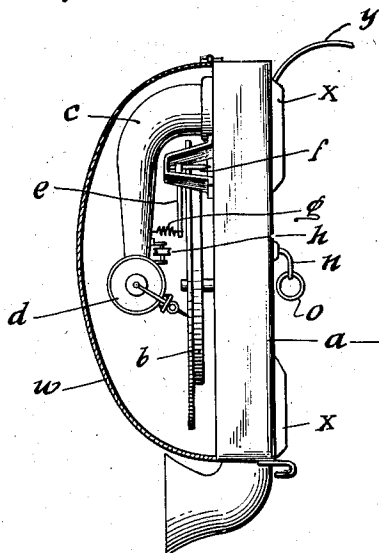


Fig. 2

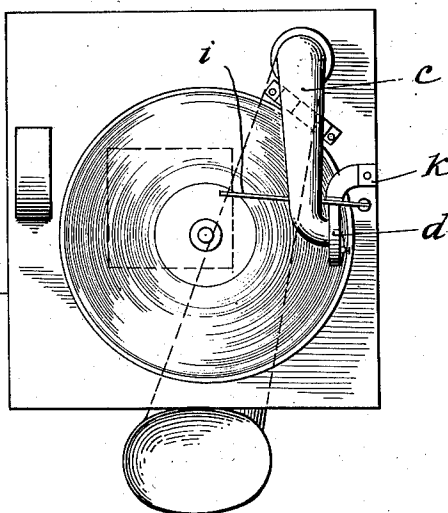


Fig. 3

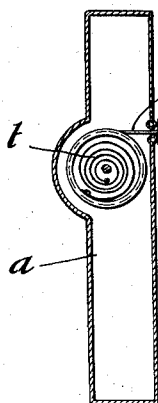


Fig. 4

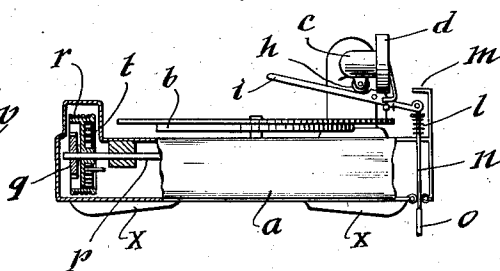
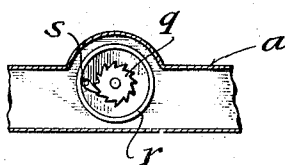


Fig. 5

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PORTABLE PHONOGRAPH

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In Germany March 6, 1933

1 Claim. (Cl. 274-1)

This invention relates to improvements in portable phonographs or the like, and it is the principal object of my invention to provide the phonograph casing with means for conveniently carrying the same, for instance by means of shoulder straps, on the back of the carrier with a suitable knapsack protected against shocks by pads or the like, whereby means are provided to prevent breaking of the record carrying disk due to the motions of the carrier during a march and to avoid distortions of the tune.

Another object of my invention is the provision of a portable phonograph the needle of which is pressed against the record by means of a spring.

Still another object of my invention is the provision of a portable phonograph equipped with means operated from the outside of its casing or knapsack for separating the needle from the record.

A further object of my invention is the provision of a portable phonograph equipped with means operated from the outside of its casing or knapsack for winding the spring of the operating mechanism.

A still further object of my invention is the provision of a portable phonograph which may also conveniently be built into an auto, paddle boat or the like and which is of comparatively simple yet durable construction and highly efficient in its use and operation.

It will be evident that such a music instrument is highly serviceable for boy or girl scouts etc. on the march, replacing a music band, and furnishing by the playing of suitable tunes or pieces of music the necessary incentive for regulating the steps of the marchers.

These and other objects and advantages of my invention will become more fully known as the description thereof proceeds, and will then be specifically defined in the appended claim.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a side elevation of a portable phonograph constructed according to my invention after removing the side wall of the protective cover.

Fig. 2 is a rear view of the phonograph after removal of the protective cover.

Fig. 3 is a detail view of a means to wind the spring of the drive mechanism.

Fig. 4 is a detail side elevation of the mechanism on the outside of the box containing the operating mechanism for the phonograph.

Fig. 5 is a fragmentary detail view of a pulley

and ratchet wheel and pawl connected therewith.

As illustrated, within a flat box *a* having substantially the shape of a knapsack, is arranged the well known operating mechanism for the rotating plate carrier disc *b* of a phonograph of suitable construction, the disc being preferably made of wood, fibre or similar very light material.

The tone arm *c* made of thin sheet metal or the like has attached thereto the sound box *d* made of very light material.

An arm *e* is provided below the tone arm and is readily movable about an axle *f* mounted between two pointed studs. To the outer end of the arm is attached one end of a light spring *g* or rubber band, the other end of which is secured to the tone arm *c*.

Furthermore, the tone arm *c* carries a small roller *h* mounted on its axle for somewhat lateral play. Below this roller *h* a two-armed lever *i* is mounted, the pivot point of which is carried by an arm secured to the box *a*.

At the end of the shorter arm of lever *i* a small spiral spring *l* is arranged which has the tendency to press the arm against the top pin *m*.

A pull rod *n* is guided from the end of the lever *i* through the box *a* and carries at its outer end a ring *o* or other suitable handle. Within a suitable compartment of the box *a* the front end of the winding spindle *p* for the operating mechanism of the phonograph carries firmly secured thereto a ratchet wheel *q* and behind the same the spindle *p* carries a pulley *r* the pawl *s* of which engages the ratchet wheel *q*.

The rear face of the pulley has built into the same a spiral spring *t* one end of which is attached to the pulley *r* and the other to the compartment wall.

A pull rope *u* is guided about the pulley and secured thereto at one end while its other end is guided from the box and carries outside thereof a handle *v*.

The spindle *p* is forwardly extended so that it can also be operated by means of the customary crank.

In order to protect the mechanism on the outside of box *a* the same is equipped with a cover *w* hinged thereto at one end.

For holding the box *a* securely on the back of a carrier the box is provided with the pads *x* and the suspended bands *y* are provided to attach the instrument to the shoulders of the person carrying the same.

In operation the extremely light construction

of the phonograph and its parts will greatly facilitate its carrying on a march.

The needle is not pressed against the record as in the stationary phonographs by gravity but
5 by spring power.

If a record has been played a pull on ring *o* will effect a lifting of the lever *i* and will lift the tone arm and the needle from the record. The lever *i* in this position will act as an inclined plane for the spring pressed tone arm, so
10 that it will slide down this plane with its roller *h* until the roller strikes against the stop pin *m* located in front of its pivot point.

If now the pull on ring is released, the spring *l* will carry the lever back into its former position, the tone arm will be lowered again and the needle again will engage the record plate and between lever *i* and the roller *h* will exist a certain play.

It will be clear that the tone arm may also be returned into its position by automatically acting means or it may, as well as the device for pressing the needle against the record, be arranged within the box.

The winding of the drive or operating spring is effected by a repeated pull on handle *v* so that the rope *u* is unwound from its pulley *r*, and the same will turn in forward direction and carry along the ratchet wheel *q* and spindle *p* whereby
30 the spiral spring *t* within the pulley will be tensioned. When the handle *v* is then released, the pulley will be turned backwards by the action of spring *t* while its pawl *s* slides along the ratchet wheel *q*.

If the instrument is to be used when built into automobiles, canoes, paddle boats etc., it is preferably elastically arranged within a specially constructed frame.

It will be understood that I have described and
40 shown the preferred form of my invention as

one example only of the many possible ways to practically construct the same, and that I may make such changes in its general arrangement and in the construction of its minor details as come within the scope of the appended claim
5 without departure from the spirit of my invention and the principles involved.

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

In a portable phonograph, particularly to be carried in vertical position during marching and including its operating mechanism, winding spindle, tone arm, sound box and its record engaging needle, an arm turnable about its axle,
10 a spring attached to said arm and to the tone arm to hold the needle against the record during the march ensuring an uninterrupted reproduction of the record, a roller carried by said tone arm having lateral play, a two-armed lever, one
20 of its arms constituting an inclined plane engaged by said roller, a spring wound about the other arm of said lever extending to the outside of the phonograph and having a handle for lifting the needle from the record to allow said roller
25 to slide down said inclined plane for returning the tone arm into its original position during marching, a stop pin in front of the apex of said two-armed lever to be engaged by said roller
30 when reaching the end of said inclined plane to allow the spring wound about the arm of said two-armed lever to again engage the needle with the record, a pulley on said winding spindle, a spring within said pulley and a rope attached to said pulley and extending to the outside of the
35 phonograph and having a handle to wind said spring and the operating mechanism of the phonograph while the same is carried.

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