F. SEELAU.

COMBINED CLOCK AND TALKING MACHINE.

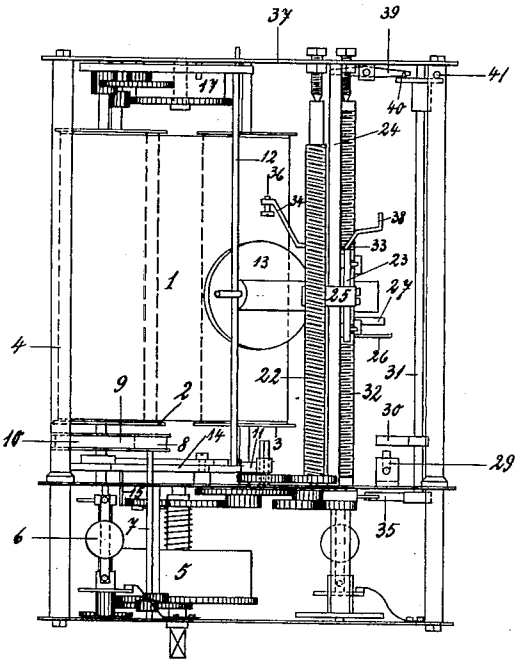
APPLICATION FILED JULY 1, 1909.

1,030,926.

Patented July 2, 1912.

2 SHEETS—SHEET 1.

Fig. 1.



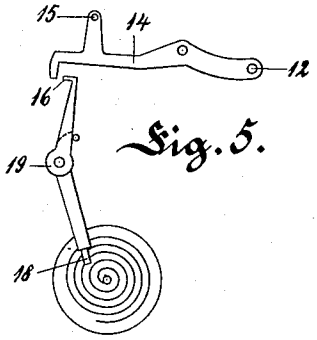


Fig. 5.

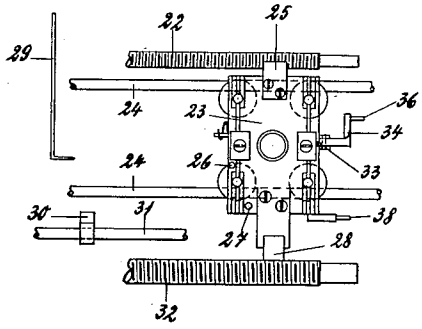


Fig. 4.

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2 SHEETS—SHEET 2.

Fig. 2.

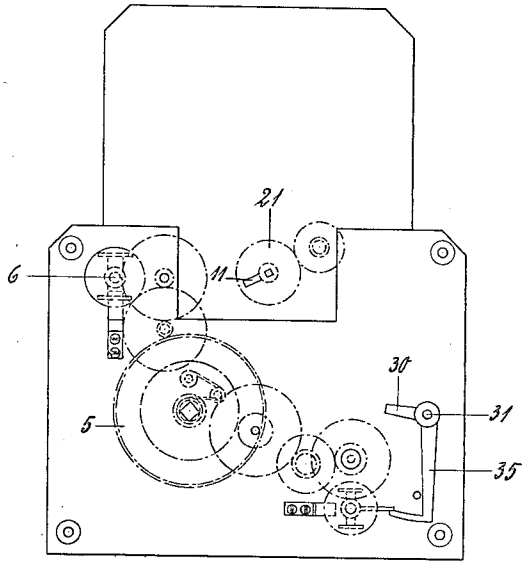
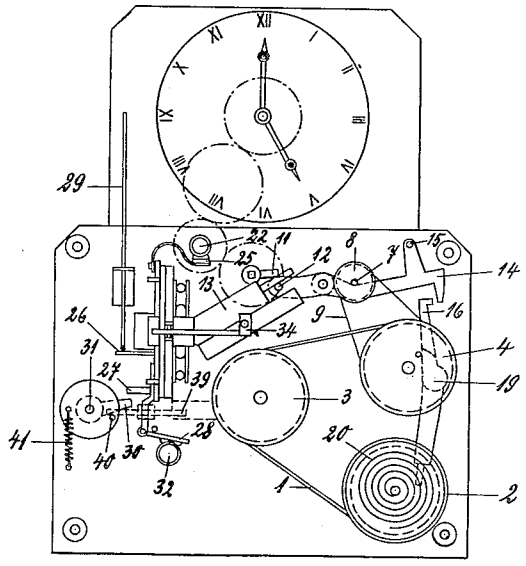


Fig. 3.



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UNITED STATES PATENT OFFICE.

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COMBINED CLOCK AND TALKING-MACHINE.

1,030,926. Specification of Letters Patent. Patented July 2, 1912.

Application filed July 1, 1909. Serial No. 505,471.

To all whom it may concern:

Be it known that I, FRANZ SEELAU, a subject of the German Emperor, and residing at Berlin, Germany, have invented a new and useful Combined Clock and Talking-Machine, of which the following is a specification.

The subject-matter of my invention is a combined clock and talking machine, members releasing the talking machine and is record being coupled with the clock mechanism in such manner that, instead of the striking mechanism of the clock, the talking machine announces the hours or parts of the same. The entire apparatus substantially comprises three groups of mechanism, *i. e.* the clock, driving apparatus for the record, and driving apparatus of the sound-box. The clock does not differ from known non-striking clocks, whereas the other two groups are released by gearing controlled by the pointer wheels, *e. g.* the minute wheel, of the clock.

In my arrangement the record in the form of a band must have its sound grooves arranged thereon longitudinally side by side across its breadth, so that I provide that the sound-box which travels in twelve hours across the band returns into its commencing position at the end of this time, and that the band also returns into its commencing position. Further, I provide that the time can be announced by hand in the manner of repeating watches.

In order that my invention may be clearly understood I will now explain the same with reference to the accompanying drawings in which one embodiment is represented by way of example.

In said drawings: Figure 1 is a top plan view of the talking machine mechanism, without the clock, Fig. 2 an end elevation of my apparatus showing the driving mechanism and gearing of the talking machine, whereas Fig. 3 is an elevation of the other end showing the talking machine and clock, the end wall and train of gearing thereon having been removed, and Figs. 4 and 5 are details explained hereinafter.

Referring to the drawing, for driving the record or band 1 three rollers or cylinders 2, 3, 4 are provided, of which the lowest 2 has attached to it one end of the band; this is partially wound around roller 2 and led with the grooves outside over the tensioning roller 3 to the winding-up roller 4 and attached thereon. These rollers are driven by a spring in the barrel 5 which drives a revoluble and axially movable axle 7 carrying the belt-pulley 8 by means of a train of gearing, as clearly shown in Figs. 1 and 2, a governor 6 being driven from the same train. The motion of pulley 8 is imparted by belt 9 to the pulley 10 attached to roller 4 as soon as the sound-box rod 12 is depressed by a pin or nose 11 by the clock mechanism, or in the case of a repeater by hand pressure, whereby, firstly, the axle 7 with its pulley 8 is lifted by lever 14 and belt 9 is tensioned, and, secondly, the nose 15 on lever 14 is lifted and releases the governor and remains lifted until the spring-controlled nose 16 no longer supports it. In this position of the mechanism the band 1 is wound up on roller 4, and the needle of the sound-box 13 enters into the record.

When the band has been unwound a counter-spring in a barrel 17 has become wound up, rotates roller 2 in the direction opposite to that in which it is driven by roller 4, and winds up the band 1 as soon as a nose 18 on the lever 19 reaches the inside end of its path in the spiral 20. The nose 16 is thereby removed from under the nose of the lever 14 and the action of the spring in barrel 5 is stopped, lever 14 lifts the rod 12, and shaft 7 together with pulley 8 descends, the belt 9 is no longer tensioned, and nose 15 locks the governor 6. The sound-box is lifted simultaneously by rod 12.

The sound-box 13 is driven by the minute wheel 21 of the clockwork through the medium of the endless screw 22 which is rotated in such manner that it drives the carriage or slide 23, on which the sound-box is mounted to rock, toward the clockwork, *i. e.* toward nose 11; the said carriage slides on guide-rods 24 and is driven by means of a toothed finger or gripper 25 by the screw 22. If the means for automatically announcing the time are not to be operated, the pin or nose 11 is pushed by hand on its support out of alinement with the lever 14, so that when this nose is depressed it passes by the lever without depressing it.

As soon as the slide 23 has arrived at its end position under the clock mechanism and the twelve hours have passed, the slide must return automatically into its initial position. To this end, a pin 26, a pin 27 and a toothed member 28 are mounted to move vertically on the carriage. In the end position of the

carriage the pin 26 is located under the hook 29 of the clock mechanism and the pin 27 over the nose 30 of the shaft 31. At a definite time the hook 29 is depressed by the clock mechanism and the members 26, 27, 28 are likewise depressed so that, firstly, the arm 30 is rotated, secondly, the toothed member 28 engages the lower endless screw 32 and, thirdly, the toothed member 25, which is connected rigidly with the parts 26, 27, 28 and moves elastically on the main slide, is removed from the upper endless screw 22. The elastically mounted part of the carriage is firmly held in its position by a nose 33 of the lever 34. When the arm 30 is depressed the arm 35 is rotated so that the driving mechanism of the screw 32 is released and rotated by means of a train of gearing by the spring in barrel 5 in such manner that the entire carriage 23 with the sound-box are returned into their initial positions. As soon as the carriage has arrived there, the nose 36 abuts against the wall 37 of the casing, whereby the elastic part of the slide is drawn away from the endless screw 32 and engages again with the endless screw 22. The nose 38 simultaneously hits against lever 39 so that this releases the arm 40, and the spring 41 rotates the shaft 31 back into its original position, so that the arm 35 again locks the driving mechanism of the endless screw 32.

I claim:—

1. The combination, with a clock, of a talking machine comprising a roller, a second roller, a band record wound on the latter and attached to the former roller, a sound-box movable transversely on said band, and spring-driven mechanism controlled by the minute wheel of said clock for driving the former roller and winding up the record thereon; and spring-driven mechanism for automatically driving the second roller and winding up the record thereon after the same has been wound on the former roller.

2. The combination, with a clock, of a talking machine comprising a roller, a second roller, a band record wound on the latter and attached to the former roller, a sound-box movable transversely on said band, and spring-driven mechanism controlled by the minute wheel of said clock for driving the former roller and winding up the record thereon; and spring-driven mechanism for automatically driving the second roller and winding up the record thereon after the same has been wound on the former roller, the latter mechanism being tensioned by the former mechanism when the former roller is being driven and winds up said record.

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

FRANZ SEELAU.

Witnesses:

HENRY HASPER,

WOLDEMAR HAUPT.