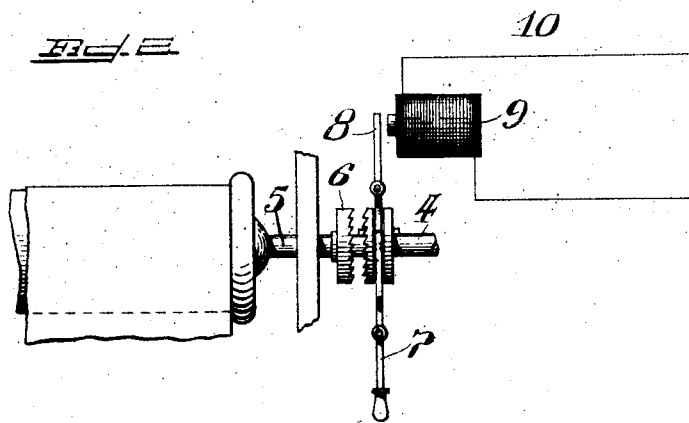
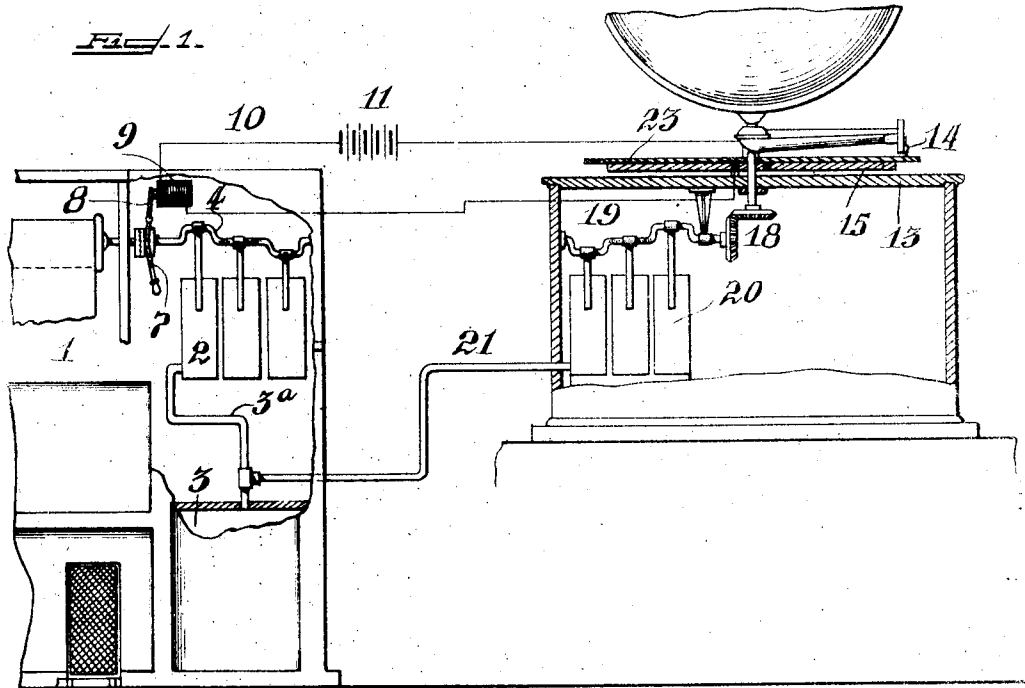


W. M. DAVIS.
 COMBINED PIANO PLAYER AND TALKING MACHINE.
 APPLICATION FILED SEPT. 10, 1909.

958,731.

Patented May 24, 1910.

2 SHEETS—SHEET 1.



Attest:
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 C. S. Ashley

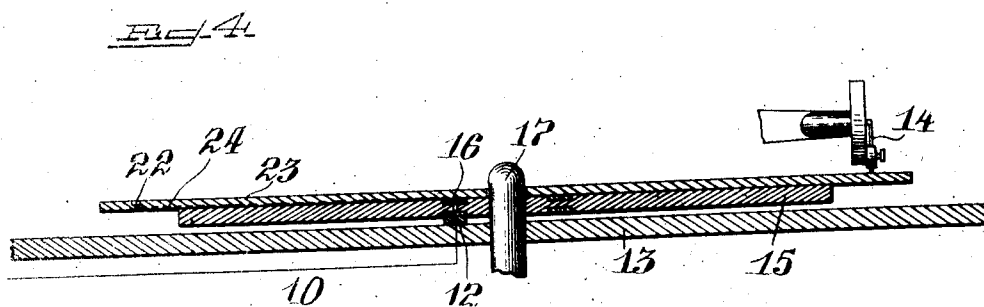
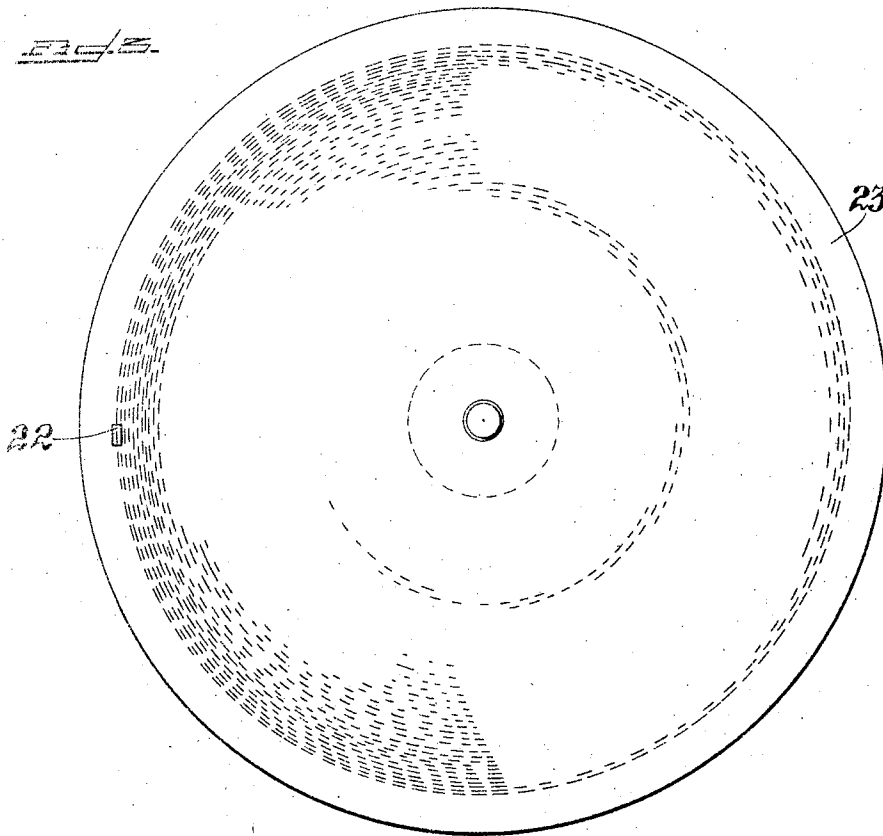
W. M. Davis Inventor:
 by *Wm. F. Gunn* Esq. Atty

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UNITED STATES PATENT OFFICE.

WALTER M. DAVIS, OF NEW YORK, N. Y.

COMBINED PIANO-PLAYER AND TALKING-MACHINE.

958,731.

Specification of Letters Patent.

Patented May 24, 1910.

Application filed September 10, 1909. Serial No. 517,000.

To all whom it may concern:

Be it known that I, WALTER M. DAVIS, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Combined Piano-Players and Talking-Machines, of which the following is a specification.

This invention relates to improvements in combined piano players and talking machines and the object of my invention is to combine the playing device and the talking machine in such a manner that the note sheet moving mechanism of the piano playing device is automatically started from the talking machine correctly and precisely at the proper time.

In the accompanying drawings in which like numerals of reference indicate like parts in all the figures, Figure 1 is an elevation of parts of the piano playing device and the talking machine, parts being shown in section, parts in diagram and others broken away. Fig. 2 is an enlarged detail view of the starting mechanism in the piano playing device. Fig. 3 is a plan view of the talking machine disk. Fig. 4 is a vertical sectional view through the same and its support.

When playing by means of a piano playing mechanism, the piano accompaniment to a musical or like performance, rendered or produced on a talking machine, it is absolutely essential that the piano accompaniment shall begin precisely and exactly at the correct time so that the sounds produced by the talking machine and the piano playing mechanism shall be in perfect unison and harmony, as they were in the original production, by means of the voice or solo instrument and a piano.

The piano playing mechanism and the talking machine are driven from the same source of power, for example, the pumping bellows of the piano playing mechanism, and must be driven at the same relative uniform speed in order to conform to the original production.

As the disk of the talking machine must always be moved a greater or less distance before the sounds begin to be produced, and the note sheet of the piano playing mechanism must not be moved operatively until a certain predetermined spot on the talking machine disk or record has been reached by

the needle or stylus, means are provided to start the note sheet winding mechanism at the proper time.

In the specific embodiment of my invention illustrated in the drawings the piano playing mechanism 1 of conventional construction is provided with a conventional wind motor 2 deriving its wind from the windchest 3 through the pipe 3*. The crank shaft 4 of the wind motor 2 drives the music roll shaft 5 by means of a suitable clutch 6 of conventional construction and which can be shifted manually by means of a suitable lever 7. This clutch is also engaged by a lever 8 at one end of which the armature of an electromagnet 9 is formed, this magnet being in a circuit 10, including a source of electricity such as for example a battery 11. One end or terminal of the electric circuit 10 is connected with a brush or wiping contact 12 on the talking machine frame 13 and the other terminal of this contact is suitably connected with the needle or stylus 14 or its holder of the talking machine.

The rotating support 15 for the talking machine record or disk is provided with the annular electric contact 16 appearing on the upper and lower surfaces of the support 15 and in contact with the brush or wiping contact 12. The rotating support 15 is secured on the shaft 17 driven by suitable gearing 18 or power transmitting devices from the crank shaft 19 of a wind motor 20 of the same dimension and construction as the wind motor in the piano player 1 and deriving its motive wind from the windchest 3 of the piano player through a branch pipe 21.

A contact piece 22 of metal or carbon is embedded in the upper surface of the record disk 23 near the rim and in flush with the upper surface or substantially so and this contact piece 22 is electrically connected with an embedded wire or strip 24 extending to near the center of the disk 23, its free inner end being exposed on the underside of the disk so that when the disk 23 is placed upon the support 15, the inner end of this wire 24 contacts with the upper surface of the annular contact 16 embedded in the support 15. The contact 22 must be so embedded in the disk 23 that the stylus or needle 14 contacts with it at the precise moment when the piano playing mechanism is to begin playing the piano accompaniment. This may be at the precise

moment when the disk begins to produce sounds or it may be a greater or less time before, as it frequently and in fact generally is the case that the accompanist plays one or more bars before the solo performance, either vocal or instrumental, begins.

The disk 23 is placed upon the support 15 in the conventional manner and the needle or stylus 14 placed upon the upper surface of the disk 23. The clutch 6 is opened manually in case it is closed and the pumping bellows of the piano player are operated in the usual manner and both wind motors 2 and 20 are thus operated and the disk 23 is rotated, but the perforated music sheet, which has been previously properly adjusted on the tracker remains motionless. When the needle or stylus 14 comes in contact with the contact 22 on the disk 23 the electric circuit is closed and the electromagnet 9 attracts the upper end of the lever 8 and thereby closes the clutch 6 and the note sheet begins to move and continues to move in exact harmony or unison with the disk 23.

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

1. The combination with a piano playing mechanism, making use of a perforated note sheet, and a motor means, in said mechanism, for moving the note sheet controlling the playing mechanism of said piano player, and a talking machine, of means for automatically throwing the paper moving mechanism of the piano player into gear with the motor for operating it and means on the talking machine for inaugurating the actuation of the means for throwing the paper moving mechanism of the piano player into gear with the said motor, substantially as set forth.

2. The combination with a piano playing mechanism, of a music roll, a motor, a clutch for throwing the motor into gear with the music roll, means for operating the clutch, a talking machine and means for controlling the clutch operating means by the talking machine, substantially as set forth.

3. The combination with a piano playing mechanism, of a music roll, a motor and means for operatively connecting the roll with the motor, an electric device for adjusting said means, a talking machine and means on the talking machine for closing the circuit of the electric device, substantially as set forth.

4. The combination with a piano playing mechanism, of a music roll, a motor, a clutch, an electromagnet for operating the clutch, an electric circuit, a talking machine, and means for closing the electric circuit by means of the talking machine disk and stylus, substantially as set forth.

5. The combination with a piano playing mechanism, of a music roll, a motor, means for connecting the music roll with the motor, an electromagnet for operating such means, an electric circuit, a talking machine, a record disk having an electrical contact in its record surface and connections for conducting electricity from the contact piece in the record to the electromagnet aforesaid and connections for transmitting the electric current through the needle or stylus of the talking machine, substantially as set forth.

Signed at New York city, in the county of New York, and State of New York this 4th day of August A. D. 1909.

WALTER M. DAVIS.

Witnesses:

R. G. BREEN,
E. D. MITCHELL.