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F. P. SMITH.

SHEET WINDING MECHANISM FOR PIANO PLAYERS.

APPLICATION FILED AUG. 28, 1905.

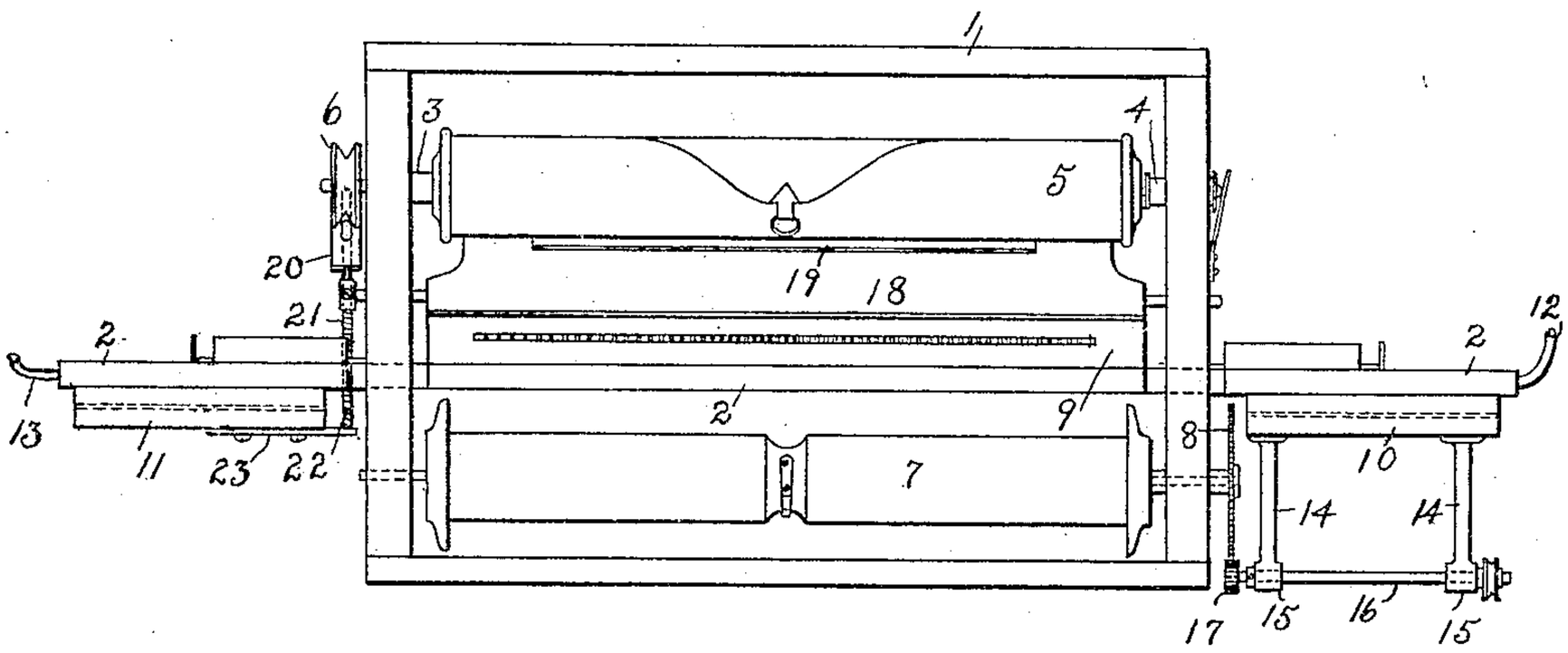

Fig. 1.

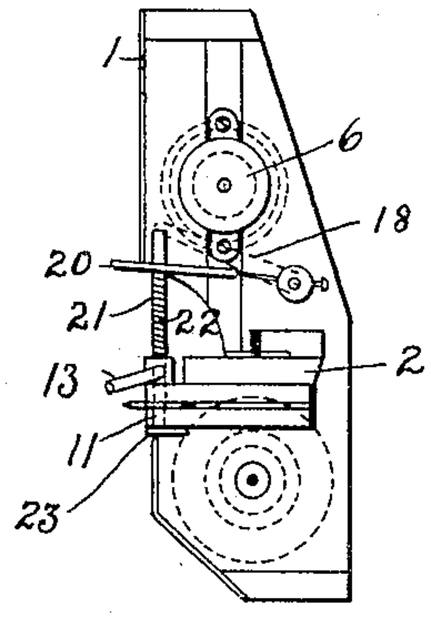

Fig. 2.

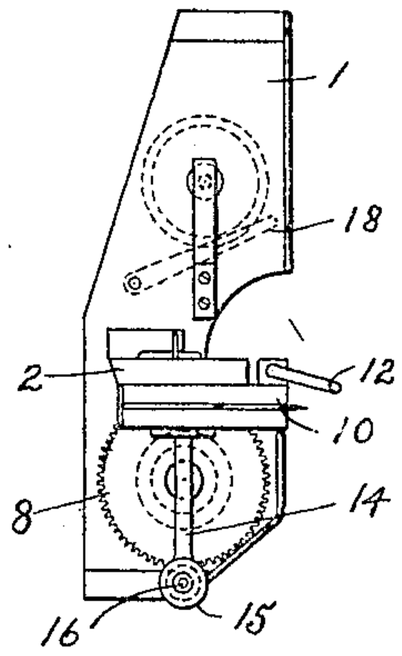

Fig. 3.

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UNITED STATES PATENT OFFICE.

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SHEET-WINDING MECHANISM FOR PIANO-PLAYERS.

No. 840,024. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed August 28, 1905. Serial No. 276,124.

To all whom it may concern:

Be it known that I, FRANK P. SMITH, a citizen of the United States, residing at Hanover, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in Sheet-Winding Mechanism for Piano-Players, of which the following is a specification.

This invention relates to improvements in sheet-winding mechanism for piano-players.

The object of the invention is to provide a brake which is automatically operated against the music-sheet to hold the sheet taut as it is being wound from the music-roll onto the take-up roller, and especially in the early part of the winding process; also, to provide means operated automatically and simultaneously with the said brake for connecting the take-up roller with its source of propulsion.

Other features of my invention will be fully set forth in the following specification and pointed out in the claims.

Referring to the drawings, Figure 1 is a front elevation of my invention, showing the parts in the position they occupy when in operation. Fig. 2 is an end view of Fig. 1 looking from the left. Fig. 3 is also an end view looking from the right.

Referring to the accompanying drawings, forming part of this specification, and in which like reference-numerals designate like parts, 1 designates the frame, secured to the supporting-bar 2. In the sides of the frame 1 are the bearings 3 and 4 for the music-roll 5. The bearing 3 has a pulley 6 on the outside of the frame for a belt (not shown) to rewind the music from the take-up roller after being played. The take-up roller 7 has a shaft at each end projecting through the sides of the frame 1 and is provided on one end with a gear-wheel 8, to which power is transmitted to drive the take-up roller.

The tracker 9 is secured to the supporting-bar 2 between the music-roll and the take-up roller and is provided with the usual air-apertures and air-ducts leading to the pneumatic-board.

Secured to the under surface of the supporting-bar 2, just outside the frame 1, are the pneumatics 10 and 11, having air-ducts 12 and 13, respectively, leading therefrom to the pneumatic-board, and both of said pneumatics are operative simultaneously. The pneumatic 10 is provided with rods 14 14, hung from the bottom thereof and having bearings 15 15 on their lower ends. Mounted in the bearings 15 15 is a shaft 16, having a small gear-wheel 17 on one end, which is adapted to mesh with the gear-wheel 8 on the take-up roller. This shaft 16 is driven from a suitable source of power, and when the air is exhausted from the pneumatic 10 the bottom of the latter will move up, carrying with it the rods 14 14 and shaft 16, and throw the gear-wheel 17 into mesh with the gear-wheel 8 and start the take-up roller. (See Figs. 1 and 3.

Within the frame 1, just below the music-roll, is a brake 18, constructed of a flat piece of wood or other suitable material, having its ends journaled in opposite sides of the frame and provided with a strip of felt 19 on its upper surface where it contacts with the music-roll.

Secured to the outer end of the brake 18 is a lever 20, having an aperture in one end through which the post 21 projects, the said post being surrounded by a coiled spring 22, upon the upper end of which the free end of the lever 20 rests. This spring 22 governs the pressure of the brake against the music-roll. The post 21 is secured at its lower end to a stud 23, which latter is in turn secured to the lower surface of the pneumatic 11. As the air is exhausted from the pneumatic 11 through the air-duct 13 the bottom of the said pneumatic will move up, carrying with it the post 21, which latter lifts the end of the lever 20, causing the brake 18 to revolve sufficiently to throw the felt-covered surface into contact with the music-roll and hold the sheet taut as it is being wound from the music-roll onto the take-up roller, especially in the early part of the winding process.

The pneumatics 10 and 11 being operated simultaneously, the brake will be operated against the music-roll at the same time the take-up roller is connected to its source of propulsion.

Having thus described my invention, what I claim is—

1. The combination of the frame, the music-roll journaled in the frame, the take-up roller, and a brake arranged parallel with the music-roll and having its ends journaled in

the opposite sides of the said frame and adapted to be thrown in and out of contact with the music-sheet on the music-roll.

2. The combination of the frame, the music-roll journaled in the frame, the take-up roller, means for automatically connecting the take-up roller with its source of propulsion, a brake arranged parallel with the music-roll and having its ends journaled in the opposite sides of the said frame, and means to throw the said brake into contact with the music-roll at the same time the take-up roller is connected with its source of propulsion.

3. The combination with the frame, the music-roll journaled in the frame, a brake arranged parallel with the music-roll and having its ends journaled in the opposite sides of the said frame, a pneumatic having connection with a suitable source of air-exhaust and adapted to operate the said brake to throw it into contact with the music-sheet on the music-roll.

4. The combination of the frame, a music-roll journaled in the frame, a brake arranged parallel with the music-roll and having its ends journaled in the opposite sides of the said frame, a pneumatic connected with a suitable source of air-exhaust, a post connected to the said pneumatic, and a lever connecting the said post and brake, whereby when the air is exhausted from the pneumatic the brake will be thrown into contact with the music-sheet on the music-roll.

5. The combination of the frame, the music-roll journaled in the frame, and a brake arranged parallel with the music-roll and having its ends journaled in the opposite sides of said frame and adapted to be thrown in and out of contact with the music-sheet on the music-roll.

6. The combination of the music-roll, the take-up roller having a gear-wheel on one end, a pneumatic having connection with a suitable source of air-exhaust, and a shaft suspended from said pneumatic and having a gear-wheel on one end whereby when the air in the pneumatic is exhausted the gear-wheel on said shaft will be thrown into mesh with the gear-wheel on the take-up roller to drive the latter.

7. The combination of the music-roll, the take-up roller having a gear-wheel on one end, a pneumatic, a shaft suspended from said pneumatic and having a gear-wheel on one end, a brake adapted to be thrown into contact with the music-roll, and a pneumatic having means connected therewith to automatically operate the brake and throw the latter into contact with the music-roll at the same time the take-up roller is connected to its source of propulsion.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK P. SMITH.

Witnesses:

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