

(No Model.)

O. SORGAN.
MECHANICAL MUSICAL INSTRUMENT.

No. 572,458.

Patented Dec. 1, 1896.

Fig. 1.

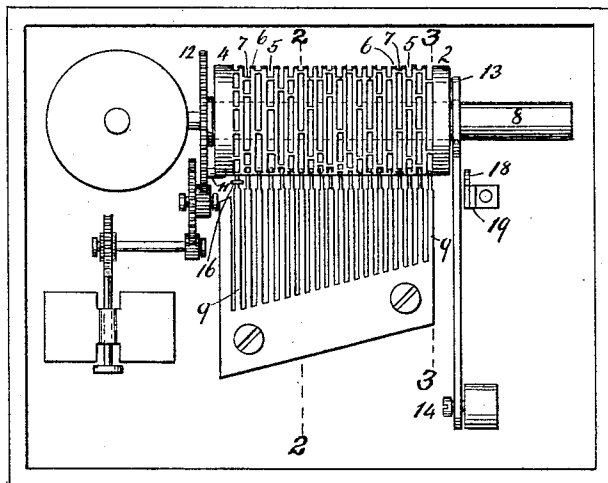


Fig. 5.

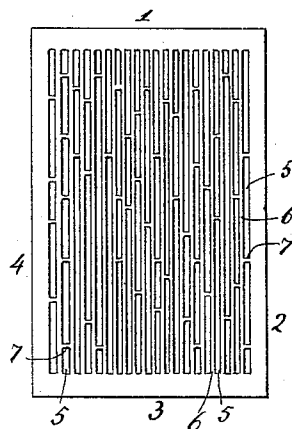


Fig. 2.

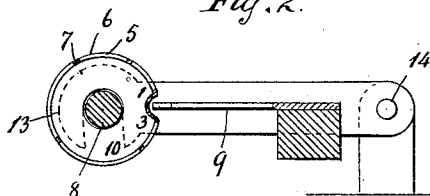


Fig. 4.

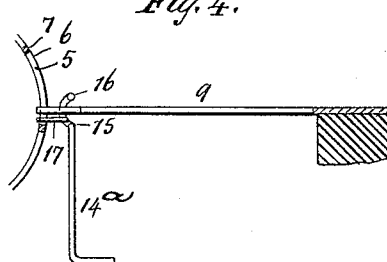


Fig. 3.

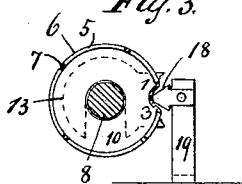


Fig. 6.

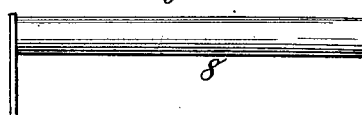
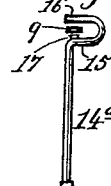


Fig. 7.



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MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 572,458, dated December 1, 1896.

Application filed February 14, 1896. Serial No. 579,307. (No model.)

To all whom it may concern:

Be it known that I, OTTO SORGAN, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Mechanical Musical Instruments, of which the following is a specification.

The object of this invention is to obtain a musical instrument which can be cheaply manufactured and easily manipulated; and the invention resides in the novel features of construction set forth in the following specification and claims, and illustrated in the annexed drawings, in which—

Figure 1 is a plan view of a musical instrument. Fig. 2 is a sectional side elevation of Fig. 1. Fig. 3 is a sectional detail view of parts of Fig. 1. Fig. 4 shows a damper. Fig. 5 shows the manner of making a roller or barrel. Fig. 6 is a detail elevation showing the support for the shaft of the cylindrical music-sheet, and Fig. 7 is an end elevation of a tongue or contactor and a damper.

In the drawings is shown an instrument known generally as a "music-box," in which tongues are caused to sound or vibrate by direct contact with a roller.

The rollers or cylinders for music-boxes and musical instruments when having the pins set in by hand require much labor. This invention does away with such hand-labor.

A sheet or plate 1 2 3 4, of metal or the like, is punched or cut so as to have slots or cuts 5, leaving longitudinal bars or uncut portions 6, connected by transverse bars or uncut portions 7. This sheet being then bent into tubular or cylindrical form and caused to rotate about or with shaft 8, the tongues or contactors 9, having their free ends projecting somewhat into slots or cuts 5, will be vibrated or sounded by the transverse parts or picks 7 catching or vibrating said tongues. Said parts 7 form what may be called "interruptions" in the slots 5.

The ends of the hollow barrel 1 2 3 4 are suitably closed by heads or diaphragms 10, perforated for the passage of shaft 8. The joined edges or parts 1 3 of the hollow barrel are somewhat indented or bent inwardly to allow the barrel to be slipped on and off along the shaft 8, while the tongues 9 lie in said cove or bent part 1 3, and said cove 1 3 is also

made to register with a pin 11, projecting from tooth-wheel 12, so that the rotation of wheel 12 is imparted to the barrel. The wheel 12 is driven by clockwork or otherwise, as usual.

When on shaft 8, the roller or cylinder can be there held by any suitable lock or device, as a hook or catch 13, pivoted at 14, and which when released or swung out of the way allows the roller to be slipped on or off the shaft in a longitudinal direction.

A damper suitably applied will prevent improper sounding of a tongue 9. A spring or flexible arm 14^a supports a fork, the tines 15 16 of which lie on opposite sides of the free end portion of a tongue 9, and has an arm 17 extending parallel with tongue 9 into a roller-slot 5 and into the path of picks 7. A pick 7, contacting with tongue 9 or with arm 17, will cause contact between the tongue and between the arm 17 or a tine of fork 15 16, so that the tongue will not speak or will be prevented from speaking until the pick has passed.

Each tongue may have a damper, if seen fit, though generally dampers are found only requisite at bass notes or tongues.

By sliding the roller into and out of place when the tongues 9 lie in the groove or bent part 1 3 the roller thus sliding will not contact with or catch the tongues, so that bending or breaking or injury is avoided. A stop 18, placed so as not to interfere with the rotation of the roller when in action, but to register with or lie in the cove part 1 3 as soon as the roller has been started sliding off its seat or while being slid into place, will prevent rotation of the roller while being mounted or dismounted. This stop 18 can be suitably supported by a foot or arm 19 rising from the base or other part of the instrument.

The shaft 8, by having one end supported or secured in position, while having its other end free, as shown in Fig. 6, will be in position to allow the cylinder to slip on and off the shaft, and after the cylinder is taken off the shaft it can be conveniently and compactly stored, as such dismounted cylinder has no projecting shaft or shaft ends, the shaft, as noted, remaining fixed or secured in the instrument or case.

What I claim as new, and desire to secure by Letters Patent, is—

1. A roller or cylinder combined with
tongues or contactors, said cylinder having
a depression or groove allowing said cylinder
to be moved longitudinally from and into
5 place past the contactors substantially as de-
scribed.

2. A musical instrument having a non-
rotary shaft fixed therein and provided with
a free end portion, and a roller or cylinder
10 adapted to rotate upon said shaft and to slip
onto and off of said shaft while the latter re-
mains in its fixed position in the instrument,
substantially as described.

3. A cylinder having slots or cuts with picks
15 or interruptions, sounding-tongues made to
project into said slots so as to lie in the paths
of the picks, and dampers having arms made
to extend parallel with the tongues into said
slots substantially as described.

20 4. A cylinder having slots or cuts with picks
or interruptions, sounding-tongues made to

project into said slots so as to lie in the paths
of the picks, and dampers having spring-sup-
ported forks made to embrace the tongues,
said dampers having arms made to extend 25
parallel with the tongues into said slots sub-
stantially as described.

5. A cylinder having a coved or depressed
part, and tongues with which the cylinder
can register its coved part in order to be longi- 30
tudinally mounted or dismounted, and a stop
with which the cove part is made to register
during mounting or dismounting substan-
tially as described.

In testimony whereof I have hereunto set 35
my hand in the presence of two subscribing
witnesses.

OTTO SORGAN.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.