

S. LAPIN.
SOUND EFFECT MACHINE.
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1,100,833.

Patented June 23, 1914.

Fig. 1.

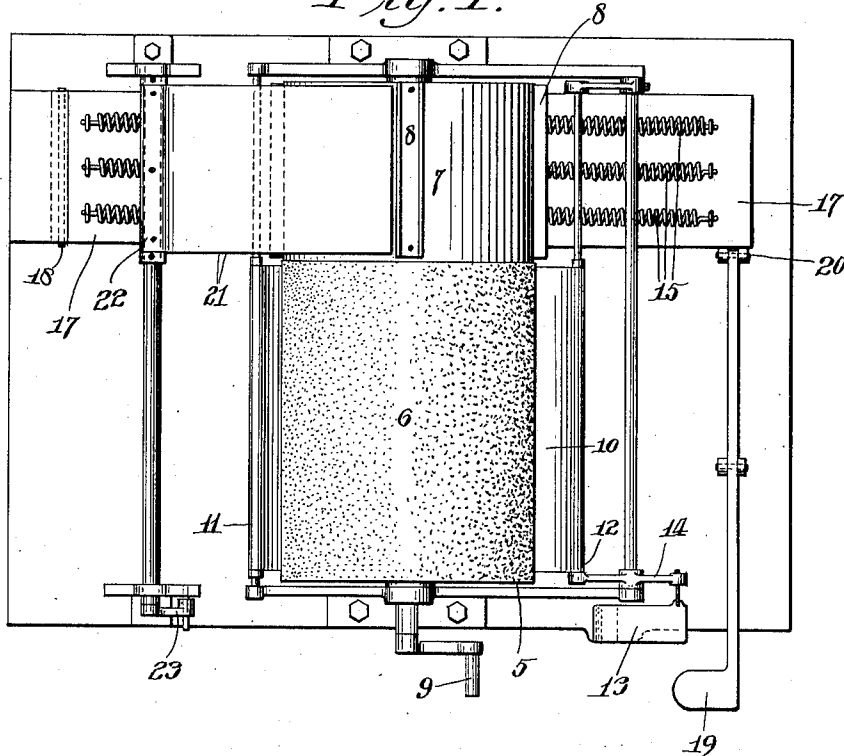
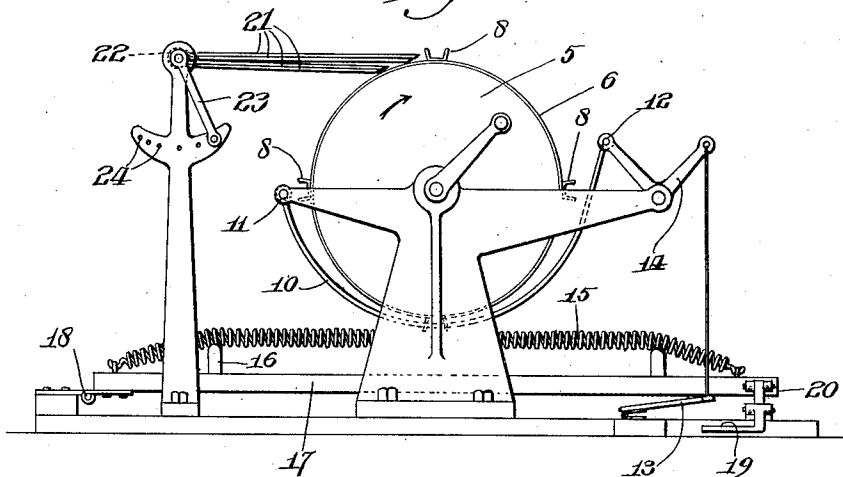


Fig. 2.



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SOUND-EFFECT MACHINE.

1,100,833.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SAMUEL LAPIN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented a new and useful Sound-Effect Machine, of which the following is a specification.

My invention relates to sound effect machines.

The object is to provide improved means for producing a number of different sound effects imitative of familiar sounds, and adapted for use in connection with dramatic productions or moving picture exhibitions.

Referring to the drawings, which illustrate merely by way of example, suitable means for effecting my invention—Figure 1 is a plan view. Fig. 2 is a side elevation.

Similar numerals refer to similar parts throughout the several views.

5 indicates a cylinder or roller. Part 6 of the peripheral surface of this roller 5 is covered with a rough material such for instance as coarse sand paper. Another part 7 of the peripheral extension of the roller is covered with sheet metal, and upon this part of the roller are secured a number of channel irons 8 arranged parallel with the axis of the cylinder. This cylinder roller 5 is suitably mounted and driven by any convenient means such as a handle 9.

The sheet 10, preferably of very heavy canvas is permanently secured at one end, as at 11 and movably secured at the other end, as at 12. The movable end 12 is actuated by any suitable means such for example as the pedal 13 operating through bell lever 14. This sheet 10 surrounds a portion of the periphery of extension 6 of roller 5.

A series of helical springs 15 are suitably mounted and stretched over bridges 16 and secured preferably to a board 17 hinged at one end as at 18 and adapted to be rocked by any suitable means as for example pedal 19 engaging the other end 20 of board 17. This device is placed so that the springs 15 will press against the surface of extension 7 of roller 5.

A brush formed by a series of steel blades 21 suitably mounted as at 22, is adapted to engage the surface of extension 7 of roller 5. The axis 22 of blades 21 may be actuated by a suitable lever 23, which may be maintained in the required position of adjustment by means of a suitable detent, such as

a projection on the free end of lever 23 adapted to engage with any one of a number of apertures 24.

When the roller 5 is rotated with surface 6 in engagement with sheet 10, a number of sound effects may be produced such as that of running water, escaping steam, the exhaust of an engine and the like. The various sounds depend upon the rapidity and the periodicity of the roller's rotation and also upon the tension or pressure of the sheet 10 against the surface 6. This pressure of engagement is controlled by the pedal 13. It will also be noted that by increasing the tension between sheet and roller the sound can be greatly augmented and by reducing such tension the sound can be diminished or greatly modified.

The helical springs 15 are adapted to be brought into contact with the surface 7 and also with the cross-pieces 8, and according to the pressure between the springs and the surface 7, and the speed and periodicity of rotation of the cylinder or roller 5, a number of different sound effects may be produced, corresponding to the steam engine exhaust, the rush of a train over the rails, together with the noise of the engine or the increasing noise of the engine in the train shed, all of which sounds can be made to sound either distant or near, loud or subdued, in accordance with the variations or combinations of speed and periodicity of rotation, and of pressure or tension of engagement between the springs and the surface 7.

A series of metal plates or leaves 21 are also suitably mounted on shaft 22 so that the free ends will engage with surface 7 and the cross-pieces 8. These leaves may be shifted into and out of engagement with 7, by means of the lever 23 which is connected with shaft 22, and the tension between the ends of the sheets 21 and surface 7 may be varied in the same way. The lever 23 is held in the desired position of adjustment by suitable detent as above described.

The effects produced by the engagement of the leaf elements 21, with the surface 7 and the cross-pieces 8 are similar to the various noises produced by the motor of an automobile.

An extremely realistic sound effect is produced by the combined effects of element 10 and surface 6 and element 15 and surface 7

and cross-pieces 8 whereby the rumble of the train may be imitated with the continual blowing off of steam or the exhaust of the engine. These sounds can be still further
5 modified or intensified by the engagement of elements 21 with the rotating surface 7 and cross-pieces 8.

What I claim is:—

1. A sound effect machine comprising a
10 rotatable element provided with a peripheral surface having areas differing in character, means for rotating said element and a plurality of contacting elements, and independently operable means for bringing
15 said elements into and out of engagement with the surface areas of the rotatable element.

2. A sound effect machine comprising a rotatable element provided with a peripheral surface having areas differing in character, means for rotating said element, a plurality of contacting elements of different materials, and independently operable means for bringing said elements into and
25 out of engagement with the surface areas of the rotatable element.

3. A sound effect machine comprising a rotatable element provided with a peripheral surface having areas differing in material, means for rotating said element at any desired speed or periodicity, a plurality of contacting elements, and independently operable means for bringing said elements into and out of engagement with the surface
35 areas of the rotatable element.

4. A sound effect machine comprising a rotatable element provided with a peripheral surface having areas differing in character, means for rotating said element, a plurality of contacting elements, and independently operable means for bringing said elements into and out of engagement with the surface areas of the rotatable element and for varying the pressure of the
45 contacting surfaces with said areas.

5. A sound effect machine comprising a rotatable element having a peripheral contact surface of sand paper, manually operative means for rotating said element, a flexible fabric having a friction relationship with said peripheral contact surface, supporting means therefor and pedal-actuated means for actuating the supporting means for moving the fabric into and out of said
50 friction relationship and for varying the tension thereof.

6. A sound effect machine comprising a rotatable element having a metal peripheral surface with channels parallel with the
60 axis of rotation, means for rotating said element, a resilient metal brush adapted to engage with said peripheral surface and

means for arbitrarily moving said brush for causing and varying the tension of said engagement.

7. A sound effect machine comprising a rotatable element having an area comprising a metal peripheral surface, and an area comprising a roughened peripheral surface, means for rotating said element, resilient
70 metallic devices for engaging said metal peripheral surface, a sheet for engaging said roughened peripheral surface, and means for adjusting the tension of said peripheral surface engaging means.

8. A sound effect machine comprising a rotatable element having a metal peripheral surface with projections from said surface, means for rotating said element, resilient metallic devices adapted to have frictional relationship with said projections and with said peripheral surface between said projections and means for arbitrarily moving said devices for causing and varying the tension of said frictional relationship.

9. A sound effect machine comprising a rotatable element having a metal peripheral surface with channel irons projecting from said peripheral surface and extending parallel with the axis of rotation, means for
90 rotating said element, resilient metallic devices adapted to have frictional relationship with said peripheral surface, and means for arbitrarily moving said devices for causing and varying the tension of said frictional relationship.

10. A sound effect machine comprising a rotatable element having a plurality of metal strips projecting from its peripheral surface, and a helical spring adapted to
100 have frictional relationship with said strips.

11. A sound effect machine comprising a rotatable element having a roughened peripheral surface and a metal peripheral surface with projections therefrom, a sheet for
105 engaging the roughened peripheral surface, and a plurality of resilient metallic devices including a helical spring, for engaging the metal peripheral surface simultaneously with the engagement by the sheet with the roughened peripheral surface.

12. A sound effect machine comprising a rotatable element having a roughened peripheral surface and a metal peripheral surface with projections therefrom, a sheet for
115 engaging the roughened peripheral surface, a plurality of metal strips and helical springs for engaging the metal peripheral surface, and means for actuating sheet, strips and springs simultaneously.

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Witnesses:

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