United States Patent

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[72] Inventor **Joseph Law**
Kowloon, Hong Kong

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[73] Assignee **Cragstan Industries, Inc.**
New York, N.Y.

[54] **XYLOPHONE-TYPE TOY**
5 Claims, 8 Drawing Figs.

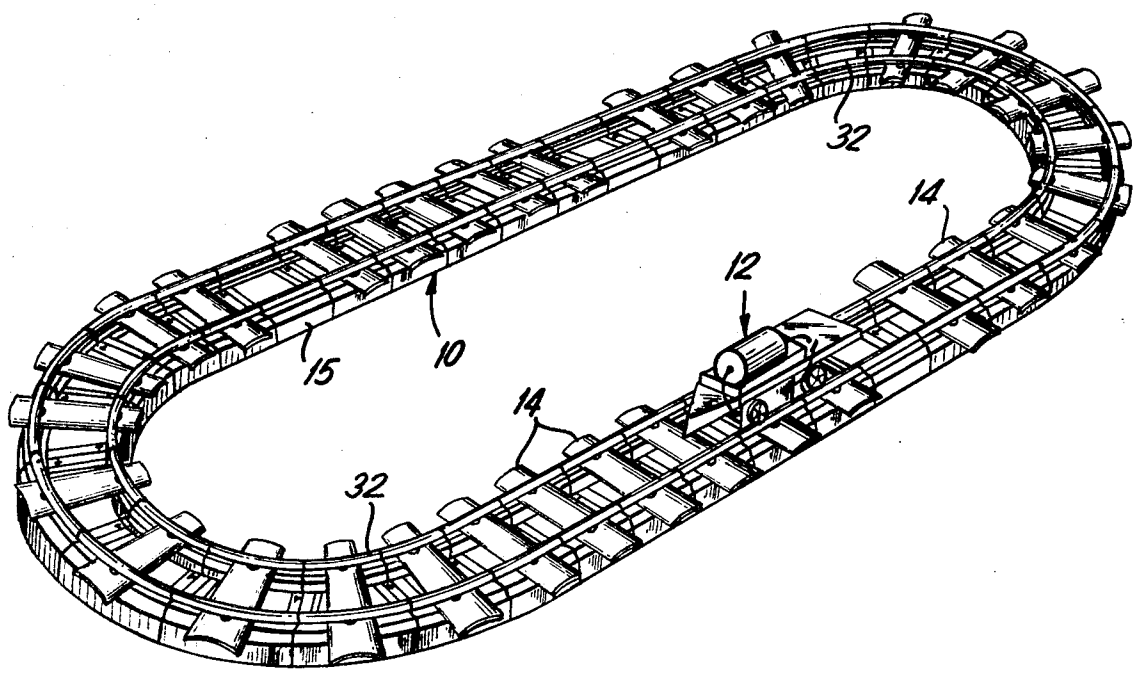
[52] **U.S. Cl.** **84/102,**
84/404, 46/177, 46/216, 104/53
[51] **Int. Cl.** **G10f 1/08**
[50] **Field of Search** 84/102,
402, 403, 404; 104/60, 53; 46/111, 112, 113, 177,
216, 217, 218; 238/2, 6, 10, 11, 12

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Primary Examiner—Richard B. Wilkinson
Assistant Examiner—George H. Miller, Jr.
Attorney—Lilling and Siegel, Esqs.

ABSTRACT: A musical toy railroad comprising a track composed of sound emitting bodies, toy vehicle moving along said track and striking said sound emitting bodies during movement along said track so as to play a tune.



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SHEET 1 OF 2

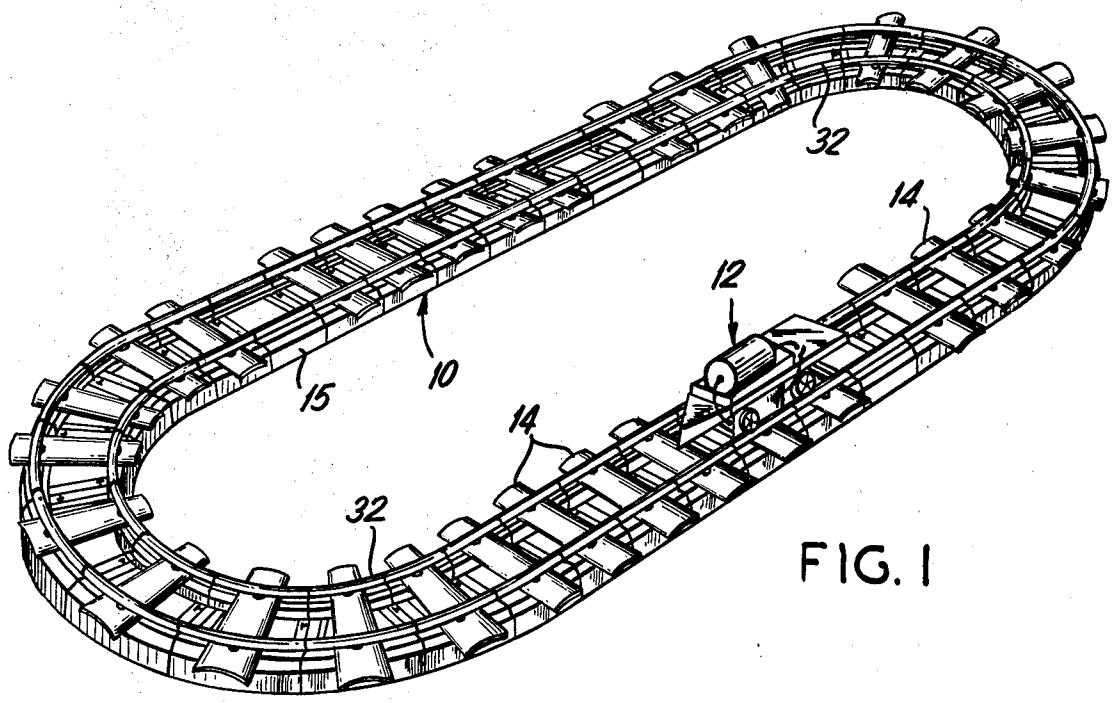


FIG. 1

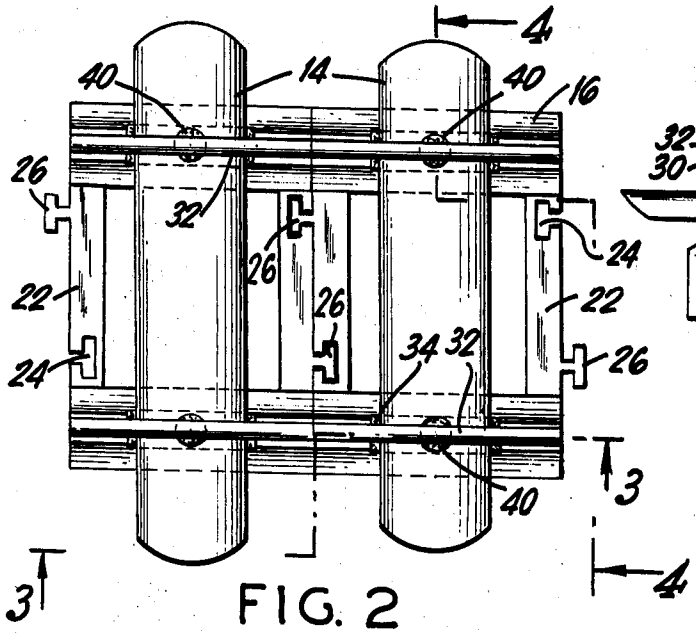


FIG. 2

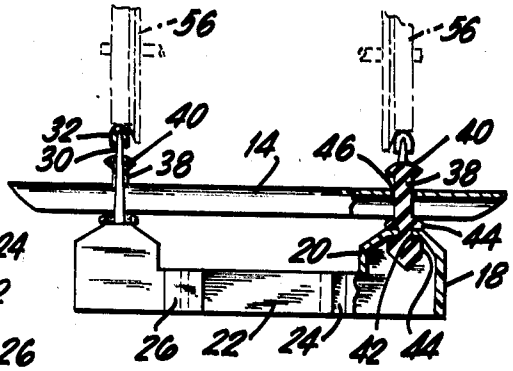


FIG. 4

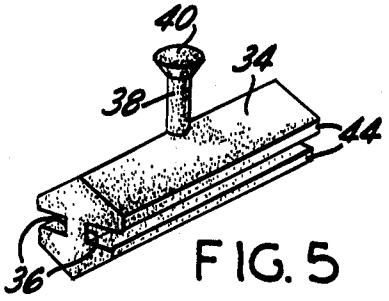


FIG. 5

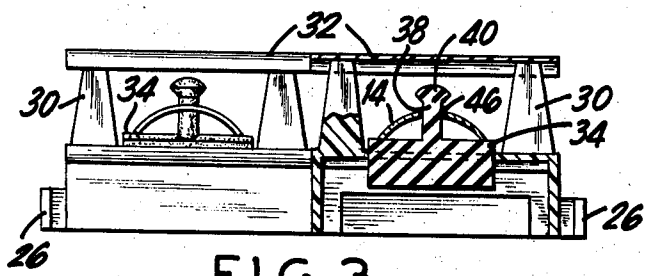


FIG. 3

INVENTOR.
JOSEPH LAW

BY

ATTORNEYS.

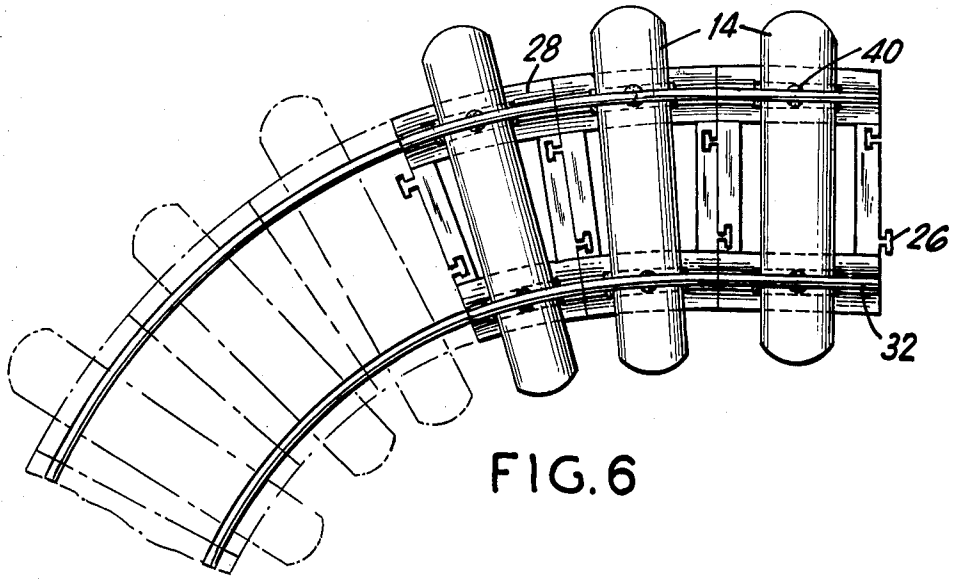


FIG. 6

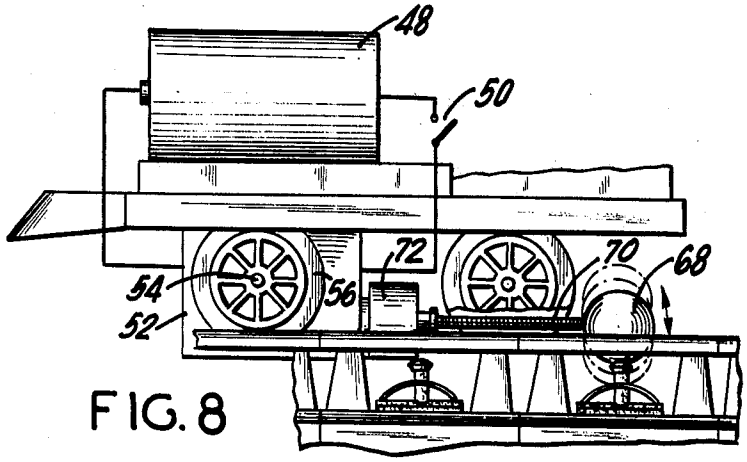


FIG. 8

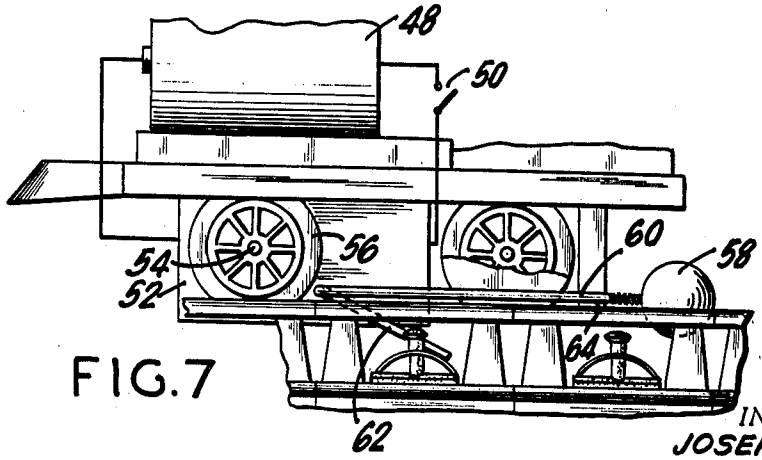


FIG. 7

INVENTOR.
JOSEPH LAW

BY Sandoe, Neill, Schaffhausen & Hesse

ATTORNEYS.

XYLOPHONE-TYPE TOY

This invention relates to toys and, more particularly, relates to an xylophone-type toy in which each xylophone tone bar is mounted in a track section adjustably interconnectable to form a track and which is provided with a wheeled vehicle to travel over the track to strike each tone bar sequentially to play a tune.

It is an object of the present invention to provide an improved toy in which a wheeled vehicle traverses an improved track arrangement having controllably positioned tone bars which are sequentially struck by the wheeled vehicle to provide a tune during the traversement.

It is a further object of the present invention to provide an improved track arrangement for toys of this nature.

It is a still further object of the present invention to provide an xylophone-type toy in which tone bars may be controllably positioned in a sequence by the user so that the user may control the scale provided or may arrange the bars for sequential striking to generate a tune.

In accordance with these objects, there is provided, in a preferred embodiment of this invention, an xylophone-type toy which comprises a track arrangement formed from removably interchangeable track sections. Each section is provided with parallel spaced apart beams. A rail section is carried above each of said beams. Resilient mounting means including a resilient locating stud are provided on the beams of each track section to receive a tone bar extending transversely of the rail. The resilient mounting means mounts the tone bar so that it can vibrate when struck to sound a note. The track sections are provided with different notes so that the user may arrange the track sections in a tone sequence to play tunes. Rests in tunes are provided for by track sections in which the tone bar is omitted or is nonsounding if a bar is required for appearance. The sections interlock to maintain the desired layout selected by the user.

A wheeled vehicle is provided and is adapted to run along the track provided by the coupled track sections. A striking hammer is carried by the wheeled vehicle to sequentially strike the tone bars in the track sections as the vehicle traverses the track arrangement. Since the transverse tone bars resemble the cross ties of a railroad track, the wheeled vehicle is usually designed as a simulated locomotive. The track sections are individually identifiable as to the tone bar and as, for example, by color coding of the tone bar. Thus, the child using the toy may assemble the sections as, for example, by a color coding to provide various tunes. The wheeled vehicle may be run on the assembled track arrangement to sound the tune. Alternately, of course, the tone bars may be struck by an xylophone-type hammer in sequence or the tone bars may be arranged in a conventional scale for use as a typical xylophone arrangement.

Having briefly described this invention, it will be described in greater detail along with other objects and advantages in the following portions of the specification, which may best be understood by reference to the accompanying drawings, of which:

FIG. 1 is a perspective view of an xylophone type toy according to the present invention;

FIG. 2 is a plan view of the track sections used in the arrangement of FIG. 1;

FIG. 3 is a partially sectioned elevation view taken on lines 3–3 of FIG. 2;

FIG. 4 is a partially sectioned view taken on lines 4–4 of FIG. 2;

FIG. 5 is a perspective view of the resilient support used in FIG. 1;

FIG. 6 is a partial plan view of another track section used in FIG. 1;

FIG. 7 is a partial elevation of a wheeled vehicle used in the arrangement of FIG. 1; and

FIG. 8 is a partial elevation of another wheeled vehicle used in the arrangement of FIG. 1.

In the figures, there is shown an xylophone-type toy consisting of track sections **10** which are assembled together to form a track arrangement over which a wheeled vehicle **12** runs. Only the chassis of the vehicle is shown since the body outline can be changed for various embodiments. In general, the body of the wheeled vehicle will resemble a locomotive since the track sections are assembled together in simulation of a railroad track arrangement in which the tone bars **14** simulate cross ties. As the wheeled vehicle travels along the track, it will sequentially strike each of the tone bars thereby to play a tune. In this manner, the toy is appealing to a variety of ages since it not only provides movement but also plays musical tunes.

The track sections are identifiable as, for example, by color coding of the tone bar or by a numerical code stamped thereon or both so that tune arrangements may be reproduced from color coded charts by the child using the toy. Spaces as, for example, pauses in the tune may be provided by the blank track sections **15** which carry no tone bar or which, if the illusion of cross ties is to be preserved, carries a simulation of a tone bar which will not sound a note upon being struck.

Each track section consists of spaced apart beam members **16**, each member of which consists of a substantially U-shaped channel section having an outer sidewall **18**, an inner sidewall **20** and connecting web members **22** at each end thereof. Each web member is formed with a dovetail slot **24** and a protruding dovetail **26**. The dovetail slot **24** and the protruding dovetail **26** are provided to receive the corresponding members of the adjacent section, thereby to releasably secure together adjacent track sections in a continuous track arrangement. To permit construction of curved track arrangements, wedge shaped sections **28** are provided which are secured together to form a continuous curve. The wedge shaped sections and the straight sided sections may be joined together in a continuous track arrangement as is shown in FIGS. **1** and **6**.

Extending upwardly from each of the beam members is a track support member **30** which supportably receives the rail sections **32**. Each of the rail sections consists of a U-shaped section which is bonded at the top end of the track supports **30**.

It will be noted that each track section is fabricated in such manner that it can be produced by simple die-casting techniques. It is, for this reason, that the rail sections are applied to and bonded to the tops of the track support members **30**. Although the rail sections could be cast in place, it is normally found that such construction is uneconomical because of the need for expensive movable element molds.

Between each track support member, there is provided a resilient support for the tone bar. The resilient support **34** is preferably molded from soft rubber and is provided with channels **36**, the length of the support and with a vertically extending resilient locating post **38** having an enlarged head **40** on the top thereof. The resilient support is inserted within a slot **42** in the top of the rail section. The slot is cast during molding of the track section and is at least as long as the resilient member **34** between the track support members **30**. The resilient insert is merely pressed into the slot. During insertion, the flanges **44** deform and subsequently expand with the channel **36** engaging the edges of the slot **42**. Each tone bar is provided with an aperture **46** which is inserted over the vertically extending pin **38**. The head **40** deforms during the insertion and resumes its original shape to hold the tone bar **14** thereon. As illustrated, the tone bars are preferably curved so that the edges rest on the resilient pad **34**, permitting the tone bar to vibrate and sound a note when struck.

The wheeled vehicle may, as previously explained, have differing outline configurations dependent on the design effect provided. In addition, the wheeled vehicle may take several mechanical forms. For example, the wheeled vehicle may be electrically driven by a battery **48** carried on the chassis and controlled by an electric switch **50**. The electrical energy is applied to a drive motor in the drive case **52** which drives shaft **54** and the flanged wheels **56** mounted thereon. The chassis may also carry flanged idler wheels in a different plane from

the drive wheels for stability. A striker hammer **58** is provided on the wheeled vehicle to strike the tone bar as the vehicle traverses the track. The striker hammer may be mechanically actuated as in the vehicle shown in FIG. **7** in which the hammer is carried on a striker arm **60**. The striker arm is pivotably mounted to the chassis and is coupled to a downwardly extending trip lever **62**, which may, preferably, be integrally formed therewith. As the trip hammer encounters a tone arm, it will elevate the striker arm and the hammer. When the trip lever clears the tone bar, it will permit the striker arm to drop and the hammer carried, thereby to strike a tone bar sounding a single note. The hammer may be resiliently coupled to the striker arm and the downward excursion of the striker arm limited by a stop **64** so that a single note is struck.

In many applications, it is desired to repetitively strike each of the tone bars as the vehicle passes thereover, in which case the vehicle shown in FIG. **8** may be employed.

In FIG. **8**, there is shown a vehicle similar in construction to that of FIG. **7** and in which like parts are numbered identically. The striker hammer **68** is, however, a vibratory hammer so as to strike a plurality of times on each tone bar as the vehicle passes thereover, thereby to sound a series of notes of each tone. While different vibratory drives may be utilized, it is preferred to use a rotating eccentric drive as is more specifically set forth in application Ser. No. 519,507, filed Jan. 10, 1966 by Frank Stanton for Wheeled Vehicle with a Vibratory Hammer, now U.S. Pat. No. 3,433,110. Briefly, in such a drive, the hammer **68** is eccentrically mounted on a resilient shaft **70** rotatably driven by motor **72**. The eccentricity of the hammer **68** deflects the shaft and the hammer **68** describes a circular path striking the bar a plurality of times as it rotates. Although the toy has been described with a vehicle, the arrangement of sections with specific tone bars makes the toy useful for manual playing of tunes by arranging the notes in a scale or tune arrangement and striking the bars manually.

This invention may be variously modified and embodied within the scope of the subjoined claims.

I claim:

1. An xylophone toy comprising a track, said track comprising first and second mounting beams extending in parallel disposition, and a plurality of track sections releasably coupled together to form said track, each of said track sections comprises said first and second mounting beams, a web interconnecting the ends of said mounting beams, each of said webs including a dovetail element protruding from the face thereof and a dovetail recess therein so that each section may be releasably coupled to an adjacent section, pins located along said mounting beams to receive tone bars positioned thereon so that said tone bars extend substantially transversely of said track, being positioned under said tracks, a resilient member extending along said beams upon which at least the edges of said tone bars rest for separation of said tone bars from said mounting beams, a wheeled vehicle adapted to run along said tracks, and a striking hammer carried by said wheeled vehicle to sequentially strike said tone bars as said wheeled vehicle progresses along said track.

2. An xylophone toy in accordance with claim **1** in which said webs are disposed at an angle so that assembled sections will form a curved track.

3. An xylophone toy in accordance with claim **1** in which each of said mounting beams is provided with a slot in the top surface thereof and in which said resilient member comprises an insert of resilient material insertable into said slot.

4. An xylophone toy in accordance with claim **1** in which said insert includes an upstanding locating stud and in which each of said tone bars is provided with an aperture positionable over said stud.

5. An xylophone-type toy comprising a plurality of sections, each of said sections comprising a first and second spaced apart mounting beam, a first and second web member connecting the respective ends of said first and second mounting beams, each of said web members having a dovetail element extending from and a dovetail slot provided in the outer face thereof, said element and slot being positioned and dimensioned so that each section can be releasably interconnected with an adjacent section, a resilient member extending along the top of each beam and having an upstanding stud extending therefrom, a tone bar carried on said resilient member and having apertures through which said studs protrude for locating said bar, and a rail section carried above each beam and positioned to be aligned with the rails on the adjacent section coupled thereto.