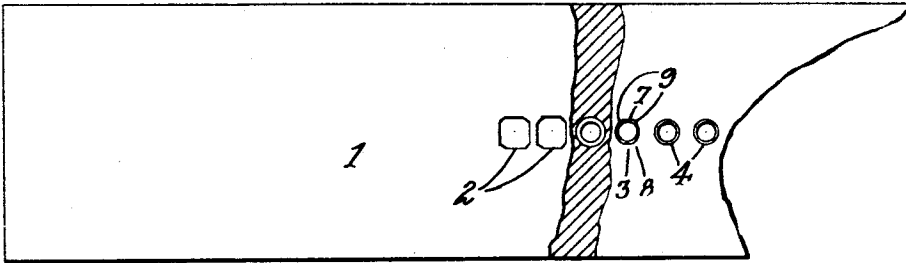


R. A. GALLY.  
MUSIC PLAYER AND OTHER TRACKER BAR.  
APPLICATION FILED APR. 21, 1913.

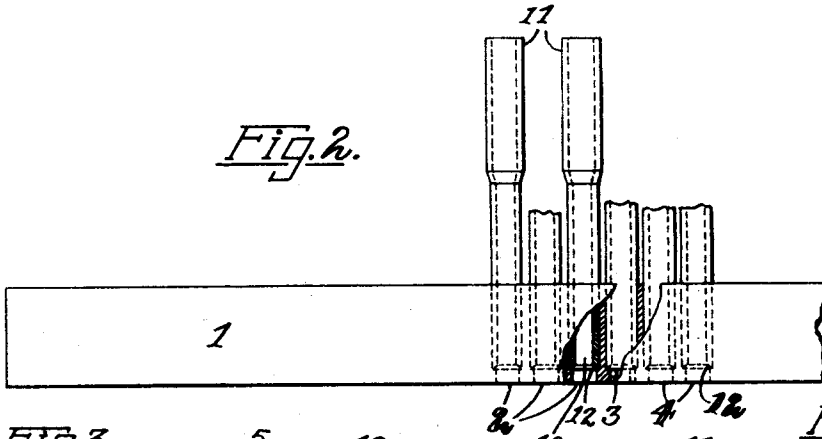
1,108,071.

Patented Aug. 18, 1914.

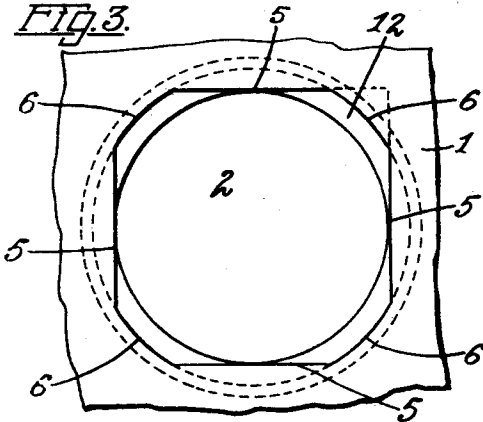
*Fig. 1.*



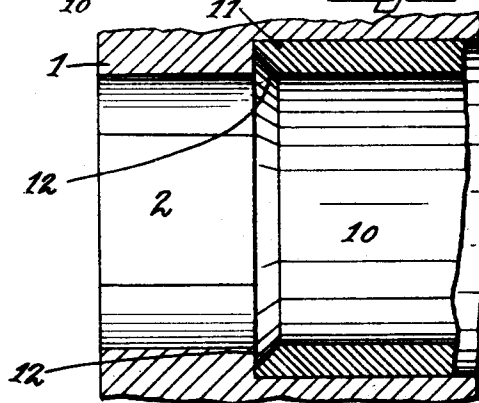
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:  
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Inventor:

*R. A. Gally*

# UNITED STATES PATENT OFFICE.

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## MUSIC-PLAYER AND OTHER TRACKER-BAR.

1,108,071.

Specification of Letters Patent.

Patented Aug. 18, 1914.

Application filed April 21, 1913. Serial No. 762,510.

*To all whom it may concern:*

Be it known that I, ROBERT A. GALLY, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Music-Player and other Tracker-Bars, of which the following is a specification.

Tracker bars for self-playing musical instruments, perforating apparatus, type-composing machinery, and other controls of pneumatically actuated apparatus, have heretofore been made with both round and square apertures, but with the present close spaced scale of nine to the inch for music players, it has not been possible to make a perfect joint of a square aperture to the continuing tube at the rear thereof, except such square aperture was less in its diagonal dimension than the outside diameter of such tube, as otherwise the corners of such rectangular apertures would be beyond said outside diameter of the tube (as indicated at upper right hand corner of Fig. 3), and give risk of the solder running into the aperture from the rear, and unless the said diagonal measure were not greater than the inside diameter of said tube, a sharp shoulder or ledge of the exposed end of the tube in the aperture would cause a whistling noise as air passed in, and would cause dust to collect. As some pneumatic actions, particularly those known as "single pneumatic", (*i. e.*, having only one pneumatic and valve between the tracker and the striker or power pneumatic) require more area of aperture and greater duration of opening as the perforations of a controlling sheet pass over the tracker, than can be had from either a rectangular or round aperture less in its greatest dimension than the outer or inner diameter of the continuing duct or tube, such actions have been at a disadvantage. The present invention enables a larger aperture than heretofore practical in the same close spacing of scale, both of round hole form, and of the preferable rectangular form, or straight front aperture, which latter is now perfected in a modified form as to the corners where the side lines of said apertures join, as hereinafter set forth.

In the drawings Figure 1 is a front view of a solid bar tracker, drawn approximately double scale to give a clear view of the form of the apertures; Fig. 2 is a view from up-

per edge of the bar, same scale; Fig. 3 is a diagrammatic front view of an aperture and tube, greatly enlarged, and Fig. 4, a cross section of the same view from the right, and of the same greatly enlarged showing.

A solid bar 1 has a row of apertures 2, 3 and 4, the outlines of 2 and 3 being of peculiar form, the sides being alternately straight, and outwardly curved, style 2 having four straight sides 5 in rectangular relation with outwardly curved lines 6 joining said sides, and style 3 having two parallel straight edges 7 and 8, at top and bottom, joined by sides 9 having outwardly curved lines. Style 4 aperture is of circular form, but larger than possible for perfect structure and results without for the tapered duct or tube connected with it at its rear, which taper avoids the sharp corner or shoulder of the plain end of a tube having a smaller bore than the circular aperture. At the rear of the apertures 2, 3 and 4, are ducts 10 extending to the rear face of the bar 1 and usually contained in nipples or tubes 11 extending rearward of the bar for continuation by flexible or other pipes or tubes not necessary to be shown. These ducts 10 and tubes 11 are each set axially centered with the centers of the apertures 2, 3 and 4, and the front ends of said ducts and tubes are interiorly tapered as at 12, inwardly from their front ends, thus enlarging their inner diameters to enable a larger aperture to exactly or approximately coincide therewith. Aperture of large circular form as 4 coincides with the larger diameter of the tapered part 12 of the corresponding duct 10, such taper 12 enabling a larger round aperture 4 with perfect smooth meeting with its duct 10 than if not tapered. Similar forms of apertures and tapered ducts could be made in a tracker-bar cast from a die-mold, and be subject to the claims hereof, although a hard, solid bar of brass or German silver with inserted tubes is considered better than the softer composition materials necessitated when casting from a mold.

Other modifications may also be made and yet be subject to what I claim as my invention.

Claims.

1. A tracker-bar having apertures in the face thereof, each said aperture having an even number of sides to its outline, said sides being at equal angles one to another, half of

said sides being of convex curvature, and the alternate sides of straight lines.

2. A music-player tracker-bar having apertures in the face thereof with rectangular main outlines to each aperture, said sides being at equal angles one to another and convexly rounded outlines at the joining of the said main lines of each said aperture.

3. A music-player tracker-bar having apertures in the face thereof with straight line main outlines to each aperture and convexly rounded outlines at the joining of the said main lines of each said aperture.

4. A music-player tracker-bar having apertures in the face thereof, each said aperture being of a substantially square outline having convexly rounded corners.

5. A music-player tracker-bar having apertures in the face thereof with rectangular main outlines to each aperture and convexly rounded outlines at the joining of the said main lines of each said aperture, and a circular duct extended rearwardly from said aperture, the circumference of said duct being co-central with the rounded outlines of its corresponding aperture.

6. A music-player tracker-bar having apertures in the face thereof with straight line main outlines to each aperture and convexly rounded outlines at the joining of the said main lines of each said aperture, and a circular duct extended rearwardly from said aperture, the circumference of said duct being co-central with the rounded outlines of its corresponding aperture.

7. A music-player tracker-bar having apertures in the face thereof, each said aperture being of a substantially square outline having convexly rounded corners, and a circular duct extended rearwardly from said aperture, the circumference of said duct being co-central with the rounded outlines of its corresponding aperture.

8. A music-player tracker-bar having apertures in the face thereof with rectangular main outlines to each aperture and convexly rounded outlines at the joining of the said main lines of each said aperture, and a circular duct extended rearwardly from said aperture, the circumference of said duct being co-central with the rounded outlines of its corresponding aperture, said circumference of said duct not exceeding in diameter the distance from one said rounded outline to the opposite one.

9. A music-player tracker-bar having apertures in the face thereof with straight line main outlines to each aperture and convexly rounded outlines at the joining of the said main lines of each said aperture, and a circular duct extended rearwardly from said aperture, the circumference of said duct being co-central with the rounded outlines of its corresponding aperture, said circumference of said duct not exceeding in diameter

the distance from one said rounded outline to the opposite one.

10. A music-player tracker-bar having apertures in the face thereof, each said aperture being of a substantially square outline having convexly rounded corners, and a circular duct extended rearwardly from said aperture, the circumference of said duct being co-central with the rounded outlines of its corresponding aperture, said circumference of said duct not exceeding in diameter the distance from one said rounded outline to the opposite one.

11. A music-player tracker-bar having apertures in the face thereof with rectangular main outlines to each aperture and convexly rounded outlines at the joining of the said main lines of each said aperture, and a circular duct extended rearwardly from said aperture, the circumference of said duct being co-central with the rounded outlines of its corresponding aperture, said circumference of said duct not exceeding in diameter the distance from one said rounded outline to the opposite one, said duct being tapered rearwardly from its said circumference to a smaller circumference at its rear part.

12. A music-player tracker-bar having apertures in the face thereof with straight line main outlines to each aperture and convexly rounded outlines at the joining of the said main lines of each said aperture, and a circular duct extended rearwardly from said aperture, the circumference of said duct being co-central with the rounded outlines of its corresponding aperture, said circumference of said duct not exceeding in diameter the distance from one said rounded outline to the opposite one, said duct being tapered rearwardly from its said circumference to a smaller circumference at its rear part.

13. A music-player tracker-bar having apertures in the face thereof, each said aperture being of a substantially square outline having convexly rounded corners, and a circular duct extended rearwardly from said aperture, the circumference of said duct being co-central with the rounded outlines of its corresponding aperture, said circumference of said duct not exceeding in diameter the distance from one said rounded outline to the opposite one, said duct being tapered rearwardly from its said circumference to a smaller circumference at its rear part.

14. A tracker-bar having apertures in the face thereof, a tube for each aperture inserted in the rear of said bar, central with and connected to its corresponding aperture, the front of the inside of said tube being of tapered form increasing in size toward its said aperture, the extreme diameter of said aperture being greater than the lesser diameter of said tube.

15. A tracker-bar having apertures in the face thereof, a tube for each aperture insert-

ed in the rear of said bar, central with and connected to its corresponding aperture, each said aperture having a convex curve in its outline, the front of the inside of said tube being of tapered form increasing in size toward its said aperture, the largest circumference of said taper being substantially coincident with said curve.

16. A tracker-bar having apertures in the face thereof, a tube for each aperture inserted in the rear of said bar, central with and connected to its corresponding aperture, each said aperture having a convex curve in its outline, the front of the inside of said tube being of tapered form increasing in size toward its said aperture, the largest circumference of said taper being no greater than the outline of said curve.

17. A tracker-bar having apertures in the face thereof, a tube for each aperture inserted in the rear of said bar, central with and connected to its corresponding aperture, each said aperture having a convex curve in its outline, the front of the inside of said tube being of tapered form increasing in size toward its said aperture, the largest circumference of said taper being substantially coincident with said curve, and the outer diameter of said tube being greater than any dimensions across said aperture.

18. A tracker-bar having apertures in the face thereof, a tube for each aperture inserted in the rear of said bar, central with and

connected to its corresponding aperture, each said aperture having a convex curve in its outline, the front of the inside of said tube being of tapered form increasing in size toward its said aperture, the largest circumference of said taper being no greater than the outline of said curve, and the outer diameter of said tube being greater than any dimension across said aperture.

19. A tracker having apertures in its face part, corresponding ducts in said bar each directly rearward of and connected with its aperture, the front end of each said duct of tapered form increasing in size toward said aperture and terminating at a material distance rearward of the front opening of said aperture, the extreme diameter of said aperture being greater than the lesser diameter of said tube.

20. A tracker having apertures in its face part, corresponding tubes in said bar each directly rearward of and connected with its aperture, the bore of the front end of each said tube of tapered form increasing in size toward said aperture and terminating at a material distance rearward of the front opening of said aperture, the extreme diameter of said aperture being greater than the lesser diameter of said tube.

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Witnesses:

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