No. 757,010. PATENTED APR. 12, 1904.

H. P. BALL.

MUSIC SHEET.

APPLICATION FILED AUG. 18, 1902.

NO MODEL.

FIG. 1.

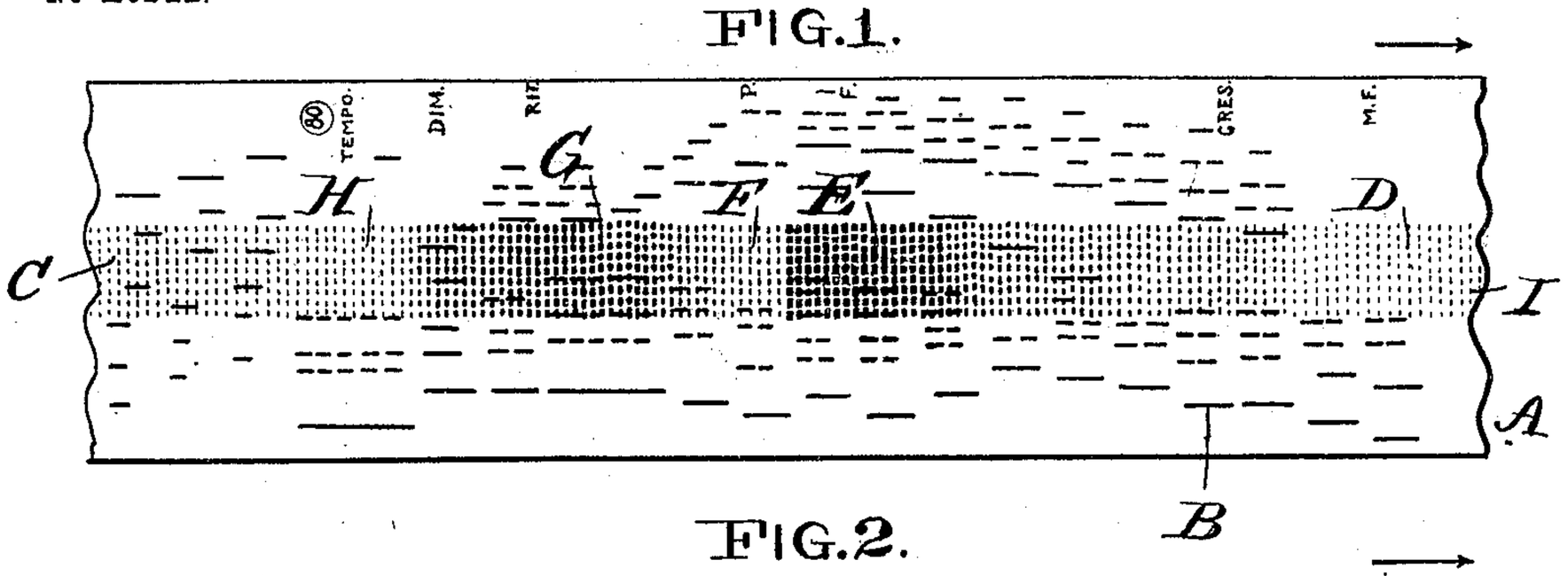



FIG. 2.

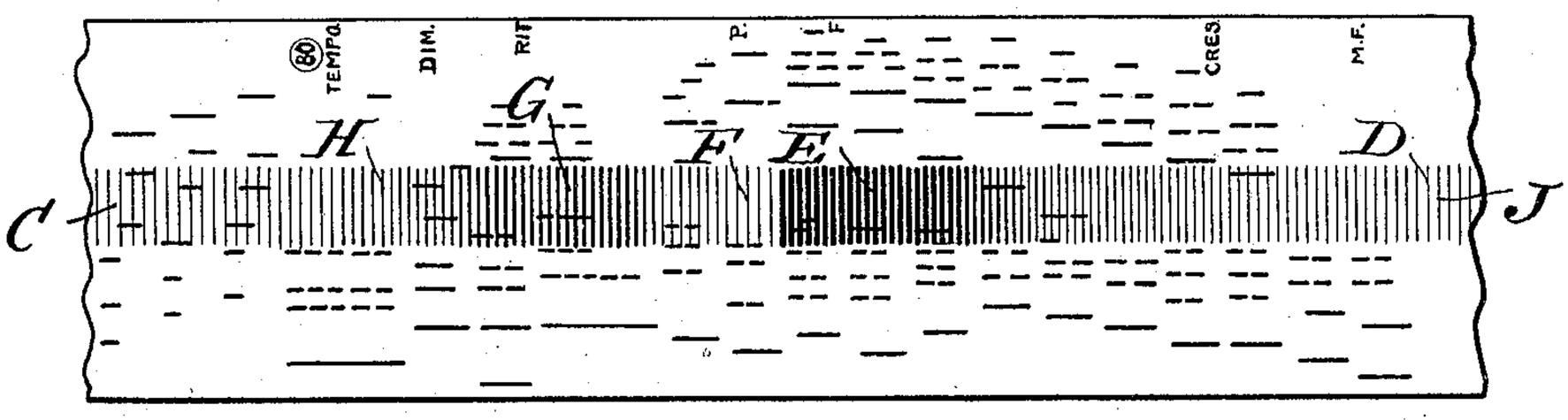



FIG. 3.

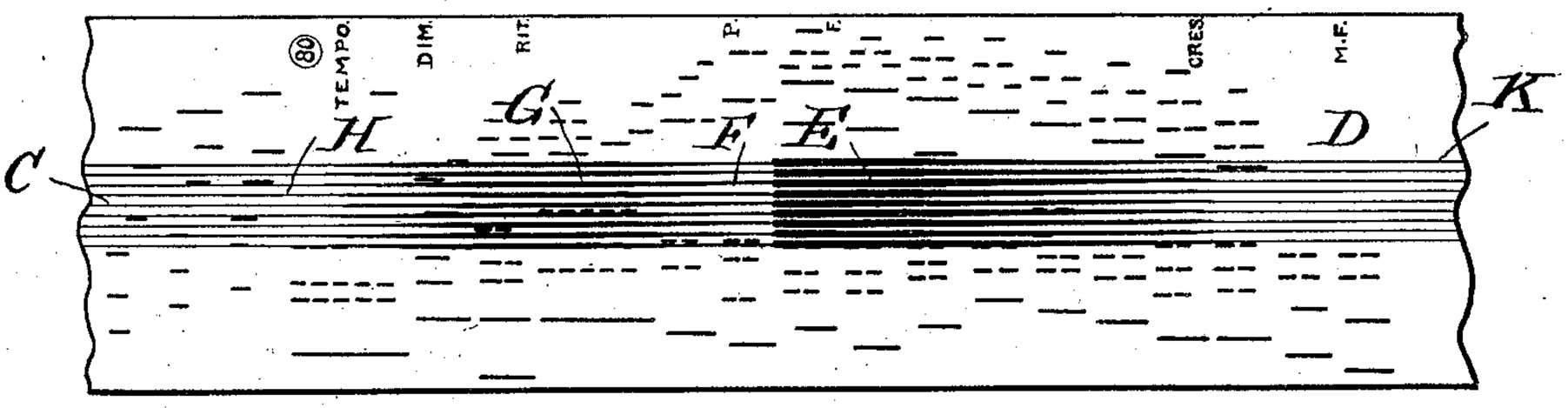
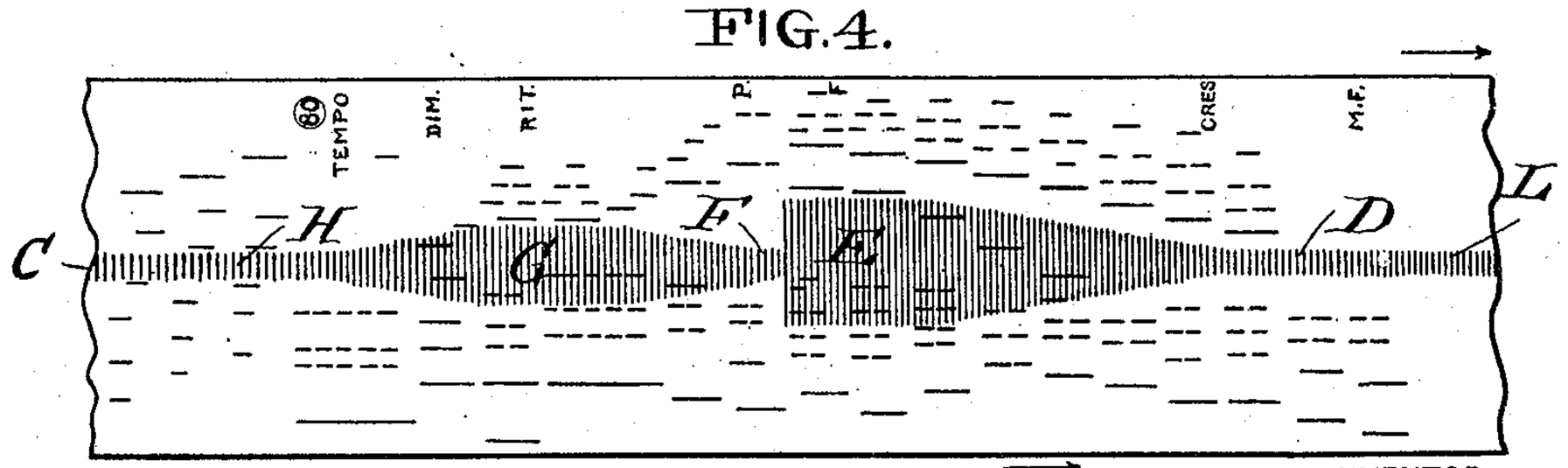



FIG. 4.




WITNESSES:

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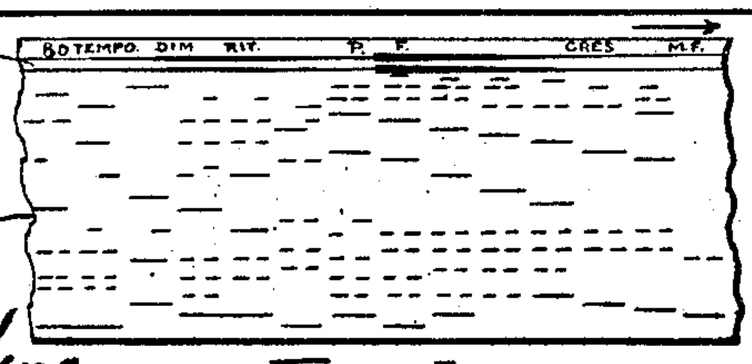


FIG. 5.

INVENTOR

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No. 757,010. Patented April 12, 1904.

# UNITED STATES PATENT OFFICE.

HENRY PRICE BALL, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO SAMUEL INSULL, OF CHICAGO, ILLINOIS.

## MUSIC-SHEET.

SPECIFICATION forming part of Letters Patent No. 757,010, dated April 12, 1904.

Application filed August 18, 1902. Serial No. 119,985. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY PRICE BALL, a citizen of the United States, residing at New York city, county and State of New York, have invented certain new and useful Improvements in Music-Sheets, of which the following is a specification.

My invention relates to the means employed for indicating upon a music-sheet the characteristics or expression to be given to the compositions to be played—as, for instance, to visibly indicate that the composition at the moment is to be played at the natural tone of the instrument, softer, or louder, as the case may be.

My invention consists in forming upon a music-sheet in the direction of its length a series of color effects, which may be produced through the instrumentality of groups of dots, lines, or other marks of the same or different size or width, whereby forms or shaded bodies are created, or by means of applied pigment colors or shades of color, the essential characteristic of the expression indications, however produced, being that each indication shall visibly convey to the user of the music-sheet the characteristic as to sound to be given to the notes arranged transversely in any particular location across the music-sheet.

The object of my invention is to provide means which of itself will indicate to the player without any explanation the characteristics to be given to the notes to be played.

The accompanying drawings will serve to illustrate my invention. The views are intended to illustrate perforated music-sheets arranged transversely and which have formed thereon definite color effects.

Figure 1 shows a music-sheet with the color effect formed by a series of longitudinally and transversely arranged parallel lines of dots of different thickness. Fig. 2 shows the color effect formed of a series of transverse parallel lines of different thickness. Fig. 3 shows the color effect formed of a series of longitudinal parallel lines of varying thickness in the direction of their length. Fig. 4 shows the color effects formed of transverse parallel lines of different length, but of the same thickness. Fig. 5 shows the color effect formed of two parallel lines varying in thickness in the direction of their length.

In the drawings, A indicates a music-sheet; B, perforations such as are usually found in commercial sheets; C, color effects which form what may be termed the "expression-line." The color effects in Figs. 1, 2, 3, and 5 correspond. The color effect is shown as light at D, gradually darker until E is reached, darkest at E, suddenly lighter at F, then growing darker to G, and lighter to and through H. In Fig. 1 the color effects are produced by a series of dots I of different thickness, in Fig. 2 of a series of lines J of different thickness, in Fig. 3 of a series of lines K varying in thickness along their length. In Fig. 4 a series of lines L of the same thickness are employed, but differing in length, the difference in length of line corresponding to the difference in depth of color of the dots and lines shown in Figs. 1, 2, and 3. In each case, however, a substantially similar color indication is the result.

The color effects of Figs. 1, 2, 3, 4, and 5 are intended to indicate at D and H the natural tone (mezzo-forte) produced in the musical instrument by the perforations of the music-sheet arranged transversely in a line therewith, which tone by succeeding perforations is gradually increased to the maximum at E, suddenly dropped at F, and increased at G, but not to the maximum of E.

I wish it understood that I do not limit myself to the sound indication by color effects as represented in the drawings. Instead of applying the color effects to the paper in the form of a line I may cover the whole or any part of the surface of the paper, and I may alter the degrees of color effect to represent different volumes of sound, &c.—that is, I may employ the color of the paper itself to indicate a very soft note and a very loud note by a solid color, or the width of the lines may be varied, as shown in Fig. 4, the degree or character of the color effects, however produced, being entirely immaterial so long as

the color effects as a whole indicate the result to be produced by the operator.

There are also indicated in the drawings, at the right of the music-sheet in the direction of its length, the usual marks found upon a commercial music-sheet—as, for instance, "Tempo, Dim., Rit., P., F., Cres., M. F."—which marks indicate to the operator of the mechanical musical instrument on which the music-sheet is used certain changes which it is desired shall take place either in the tempo or volume of sound to be given to the musical composition and through mechanical devices under the control of the operator. These marks may be considered as supplemental to the color indications, and, it will be understood, will be be altered for different compositions, or they may be wholly or in part omitted.

In Figs. 1 to 4 the color indications which form an expression-line are shown as carried longitudinally through the center of the sheet and in Fig. 5 at the side of the sheet.

The color indications may be applied to the music-sheet in any suitable way, as by stencil, printing, lithographing, painting, or otherwise.

Having thus described my invention, I claim—

1. A music-sheet having color indications applied thereon in the direction of its length as a line of definite width, said indications produced by a single color varied in depth in accordance with the expression to be given to the musical notes to be produced.

2. A music-sheet provided with an expression body shaded to represent different degrees of intensity of color.

3. A music-sheet provided with an expression body shaded in the direction of its length and formed of a series of marks of variable thickness, assembled to indicate different shades of color.

4. A music-sheet having color indications in the form of a continuous line, varying in depth of color applied along one side of the music-sheet.

5. A music-sheet having color indications in the form of a continuous line arranged along a music-sheet and varying in depth of color, together with printed words indicative of acts to be performed by the operator of the musical instrument upon which the music-sheet is used.

6. A music-sheet having arranged along the sheet, a line of definite color but varying in depth of shade in accordance with the sound characteristics to be given to the notes to be produced on the musical instrument through which such music-sheet is passed.

7. A music-sheet having sound perforations therein, and color indications thereon, said color indications of the same color but varying in shade in accordance with the characteristics which it is desired shall be imparted to the musical sounds indicated by the sound perforations.

8. A perforated music-sheet having an expression indication, consisting of a shaded marking of uniform width across the sheet.

9. A perforated music-sheet having an expression indication, consisting of an aggregation of markings of uniform length and various widths.

10. A music-sheet having perforations therein representing the notes to be played, and an expression indication corresponding in position on the sheet longitudinally with said perforations, consisting of a colored zone or area running longitudinally on the sheet and shaded in intensity of color.

11. A music-sheet having its entire surface colored in various shades of the same color.

12. A music-sheet having a zone of its surface colored in various shades of the same color.

13. A music-sheet having a continuous zone of its surface colored in various shades of the same color.

14. A music-sheet having its entire surface colored in various shades of the same color, and perforations in said sheet at those places where the shade changes.

15. A music-sheet having a zone of its surface colored in various shades of the same color and perforations in said sheet at those places where the shade changes.

In testimony whereof I affix my signature in the presence of two witnesses.

HENRY PRICE BALL.

Witnesses:
J. B. COWEN,
LOUIS WINTNER.