P. B. HOYT.

SHEETS FOR AUTOMATIC MUSICAL INSTRUMENTS.

No. 187,860. Patented Feb. 27, 1877.

Fig. 1.

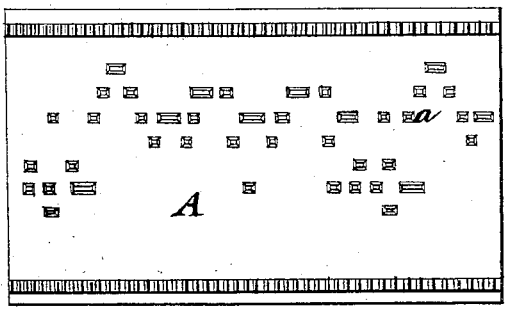


Fig. 2.

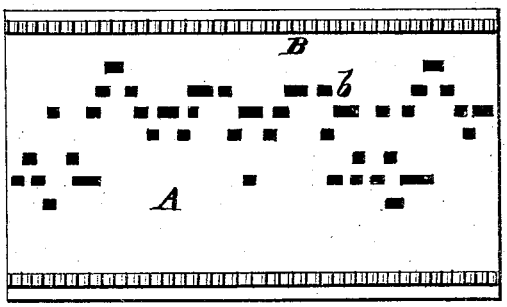
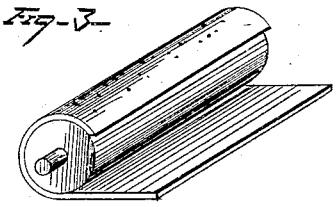


Fig. 3.



WITNESSES

Ed. L. Nottingham

Albert N. Bright.

INVENTOR

Purdy B. Hoyt.

By H. A. Seymour.

ATTORNEY

UNITED STATES PATENT OFFICE.

PURDY B. HOYT, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SHEETS FOR AUTOMATIC MUSICAL INSTRUMENTS.

Specification forming part of Letters Patent No. **187,860**, dated February 27, 1877; application filed September 21, 1876.

To all whom it may concern:

Be it known that I, PURDY B. HOYT, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Music-Sheets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to music to be used in musical instruments of any suitable character, in which the execution is automatically performed by trip-hammers or tappet-valves. The style of the instrument is immaterial, since the music, as prepared, may be applied to various and different instruments.

My invention consists in a flexible music-sheet provided with projections or studs, which serve as cams to actuate the different hammers or valves of the musical instrument to which said sheet is applied.

In the drawings, Figure 1 represents a flexible sheet having projections or studs. Fig. 2 shows a flexible sheet formed with slots or depressed openings, and provided with serrated edges. Fig. 3 represents the sheet partially rolled together.

A is the body material of the sheet, of immaterial size and thickness, but in any instance adapted to the instrument with which it is to be used and operated upon. Its material or composition is the main feature, and same may be of any yielding character suitable to being readily rolled upon itself or the cylinder about which it may be wrapped in operation. I have found that paper is peculiarly adapted to such a purpose, and that the flexible texture of its composition easily allows of just such a conformity in a plane curved line to the form of any substructure to which it may be attached. While I thus consider paper as specially suited to this use, I do not confine myself to same, but may employ rubber or any substance in this respect analogous to paper.

Fig. 1 shows the upper or face surface of the sheet, provided with cams or raised projections *a*. These latter are of different lengths, corresponding to the notes in the piece to be played. These projections or studs *a* are arranged in position upon the sheet, in proper relation, and have intervening spaces upon all sides corresponding to the music of the piece, as is well known in the art.

In Fig. 2 the flexible sheet is shown as formed with slots or depressed openings *b* and serrated or cogged edges B, the latter adapted to mesh with the pinion of the instrument to be revolved thereby. These sheets may be struck off in numbers, rolled up, and introduced to the trade the same as printed music; and as any tune is desired the sheet provided with same may be used by applying it to the instrument in any one of several different ways.

The idea of the invention is to emboss the music from a prepared plate or roll, on paper or other suitable material, so the same can be duplicated indefinitely at a trifling cost, and applied to any musical instrument, either reeds, pipes, strings, or bells. The elevations on the papers or other material can be made hard enough to trip a valve or hammer, as well as if it were steel driven in a barrel, and, when so embossed and fastened around a barrel, will answer the purpose of steel; or the same effect can be produced in a flat form, by moving the sheet over the valves between friction-rollers; or cogs may be embossed on the edge of the music to fit in a wheel that gives the same motion, the bed-piece being grooved to preserve the elevations on the sheet of music, and to take the pressure of the roller above, which keeps the music down to its work. These cogs B upon either longitudinal edge of the sheet, in combination with any suitable actuating cog mechanism meshing with same, serve to feed forward the sheet automatically; and this may be so connected with the remaining parts of the instrument as to feed the sheet fast or slowly, in accordance with the tune to be played.

My primary idea is to make music for toy instruments principally, and furnish any number of tunes which any one can play by merely turning a crank, or set going by clock-work. The music, of course, is not limited to any number of keys, but can be made to take up the whole range of octaves, or of opening or closing stops on organs.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A music-sheet for use in automatic musical instruments, made of paper or other flexible material, and provided with projections or studs *a*, substantially as and for the purpose set forth.

2. An automatic music-sheet made of paper or other flexible material, and constructed with serrated or cogged edges, adapted to be fed forward by suitable actuating mechanism, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of September, 1876.

PURDY B. HOYT.

Witnesses:
G. HOYT,
W. G. SHANK.