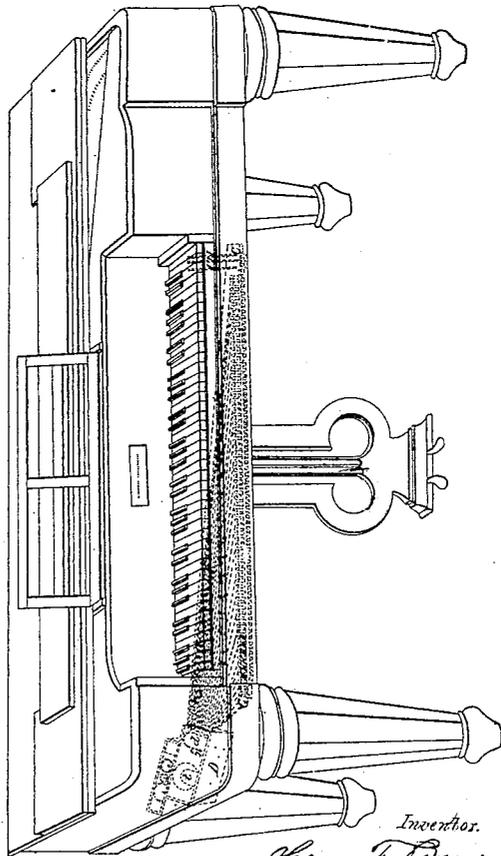
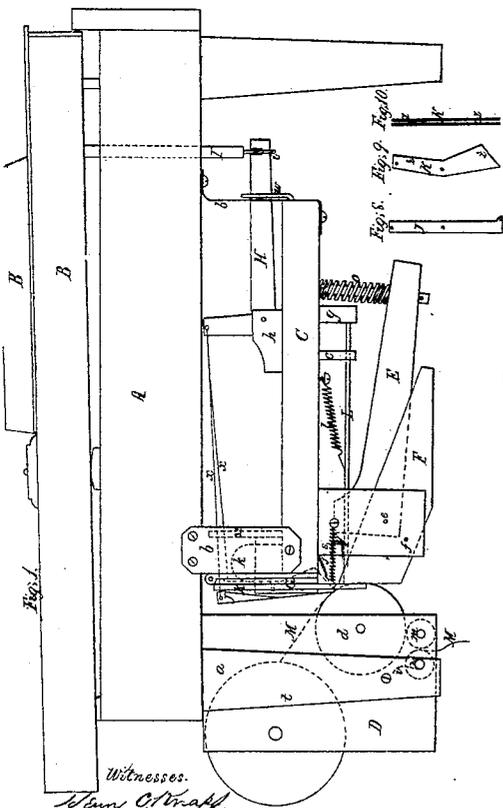
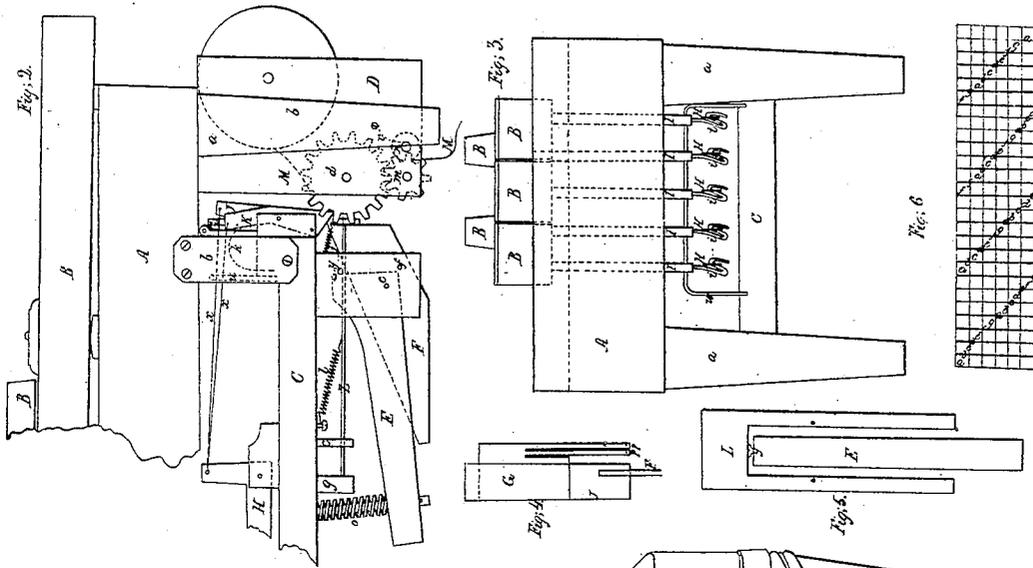


H. F. BOND.  
REGISTERING MUSIC.

No. 26,244.

Patented Nov. 29, 1859.



Witnesses.  
Henry C. Craft,  
Amos Sturgis Bond.

Inventor.  
Henry F. Bond.

# UNITED STATES PATENT OFFICE.

HENRY F. BOND, OF HUDSON, WISCONSIN.

## MACHINE FOR REGISTERING MUSIC.

Specification of Letters Patent No. 26,244, dated November 29, 1859.

To all whom it may concern:

Be it known that I, HENRY F. BOND, of Hudson, in the county of St. Croix and State of Wisconsin, have invented a new and useful Improvement on a Machine for Registering Music, called a Music-Recorder; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figs. I and II are side elevations of the machine. Fig. III is front elevation of the machine. Fig. IV, front elevation of loud pedal marker. Fig. V, is bar-marker and its lever. Fig. VI represents the manner in which the paper to be used is ruled and cross-ruled. Fig. VII is a piano in perspective with the position of the recorder underneath it represented in red lines. Figs. VIII, IX and X show the note markers which in Figs. I and II are marked J and K.

That others skilled in the art may understand and use my invention, I will proceed to describe the manner in which I have carried out the same.

In the said drawings A, is the support for the recorder, substituted in the drawings for a piano and has legs *a, a*. B, B, piano keys. C, board upon and under which the action is sustained, and which is hung to the piano or other keyed instrument by the supports *b, b*. D, a frame work which contains a cylinder *d* equal in length to the width of the paper, covered with fine cotton or linen cloth or some similar article inked with indigo ground in oil or some similar mixture to give color to the marks as hereinafter described. The frame work D also contains two friction rolls *m*, and *n*, and a reel to give off paper *t*. The friction rolls are connected with clock movement as represented in Fig. VII and draw the paper over the cylinder *d*, at an even rate holding it by friction produced by the spring *v* as seen in Fig. I, and the spring *v* as seen in Fig. II. E, F, levers connected with pedals. E, is pivoted at *e*. F is pivoted at *f*. G, apparatus to record the action of the loud pedal. It is supported on a hinge and operated by the loud pedal through its connection with the lever F, and thrown back by spring *s*, which is fastened at *r* (see Fig. IV). H, lever made of tin or steel or other metal

pivoted in block *h*, and connected with the keys by the connecting rod I. I, connecting rod with wire hook *i* (which has a thread cut upon its upper end) screwed into it and adjustable in length by means of the screws. J, lever or marker made of tin, steel or other metal which makes a single mark to represent a natural whenever operated upon, and is connected with a white key of the instrument. K, lever or marker made of two pieces of tin or other metal riveted together at *z z*, (see Figs. IX and X) so as to allow J, free play between them. This marker makes a double mark which represents a sharp or flat and is connected with a black key of the instrument. L, apparatus for marking the bars guided through holes in C, operated upon by a pedal through the lever E and thrown back and up by the spring *l* and stopped against *g*. M, continuous strip of paper unwound by clock work from reel *t*, and passed over inked cylinder *d*, and through friction rolls *m* and *n*. *u*, guide for the wires *x, x, x*, consisting of a sort of comb-work. *w*, stop for levers H, H, H. *k*, spring to throw back K. *j*, spring to throw back J.

In playing upon the musical instrument the keys B, B, B, are pressed upon the rods I, I, I, which being hooked into the levers H, H, H, draw the wires *x, x, x*, and thereby operate upon the markers J, J, J, or K, K, K, causing their lower points or corners to press the paper M against the inked cylinder *d*, making marks after the manner of the manifold letter-writer, proportioned in length to the time the keys are held down.

The paper is moved at uniform rate by the friction-rolls *m*, and *n*, clock movement being attached to them. Whenever a white key is struck, a single mark is made thus ——— and in its proper place upon the staff. Whenever a black key is struck a double mark is made = = = and in its proper place upon the staff. The same lines and spaces are used as in common music notation, the staves being interlined, however, with another color (see Fig. VI). The staccato and legato touch are accurately shown, and the length of blank paper in any place indicates the exact duration of a rest, as the length of a mark indicates the length of a note.

When the loud pedal is used, it operates upon the lever F and the marker G, pressing

the points *p, p*, (Fig. IV) against the moving paper M, thereby making marks. The points are set on springs and are of different lengths. By a light pressure upon the pedal, only one point presses the paper—by a harder pressure, another, and so on, for there may be many points. A crescendo would be represented in a suitable place upon the paper, say above or below the music staff thus        a diminuendo thus        and a swell thus       .

The bars of music are marked across the staff with the usual appearance by beating time upon a pedal which operates upon the lever E, which presses the marker L, against the paper M. The marker L, upon striking the moving paper and making a mark is instantly moved downward by the power of the cylinder *d*, and disengaged from the lever E and drawn back from the cylinder *d* and paper M by the spring *l*. When the foot is raised from the pedal, the lever E is thrown back by the spring *o*, the marker L is raised and brought before the screw *y*, (which is adjustable) by the spring *z*, and everything is ready for another beat. For form of marker L and connection with lever E see Fig. V.

I do not claim as original the connection of points or markers with the keys of a musical instrument so as to produce black or other colored marks upon the automatically moved paper which in some manner represent the notes played.

What I claim as my invention and desire to secure by Letters Patent is—

1. The application of the bell-pull action

with knees and wires to act upon the markers substantially as described above.

2. The arrangement of the levers J, J, J, and K, K, K, by which the sharps are marked with double lines on the spaces or lines in music with their corresponding naturals, the levers or markers K, K, K, being made each of two pieces of tin or other metal, and the levers or markers J, J, J, playing between those two pieces.

3. The arrangement of levers or markers of both kinds in a row, with proper intervals to record the music on paper ruled substantially as represented in Fig. VI, the staves of music being ruled of one color with just leger lines enough of another color to write directly up or down from one staff to another, the leger lines between the two staves belonging alike to both of them, and the whole number of lines and spaces being equal to the compass of the instrument.

4. The application of the ink or coloring matter to the cylinder *d* as above described and the producing of colored marks by pressing the paper against the inked cylinder.

5. The action of the lever E, upon the bar-marker L substantially after the manner set forth above.

6. The mode in which the loud pedal action is marked substantially as set forth above.

HENRY F. BOND.

Witnesses:

WM. STURGIS BOND,  
I. LOUIS BRACKETT.