

SAMUEL R. BROOKS.

Improvement in Notators for Music.

No. 115,930.

Patented June 13, 1871.

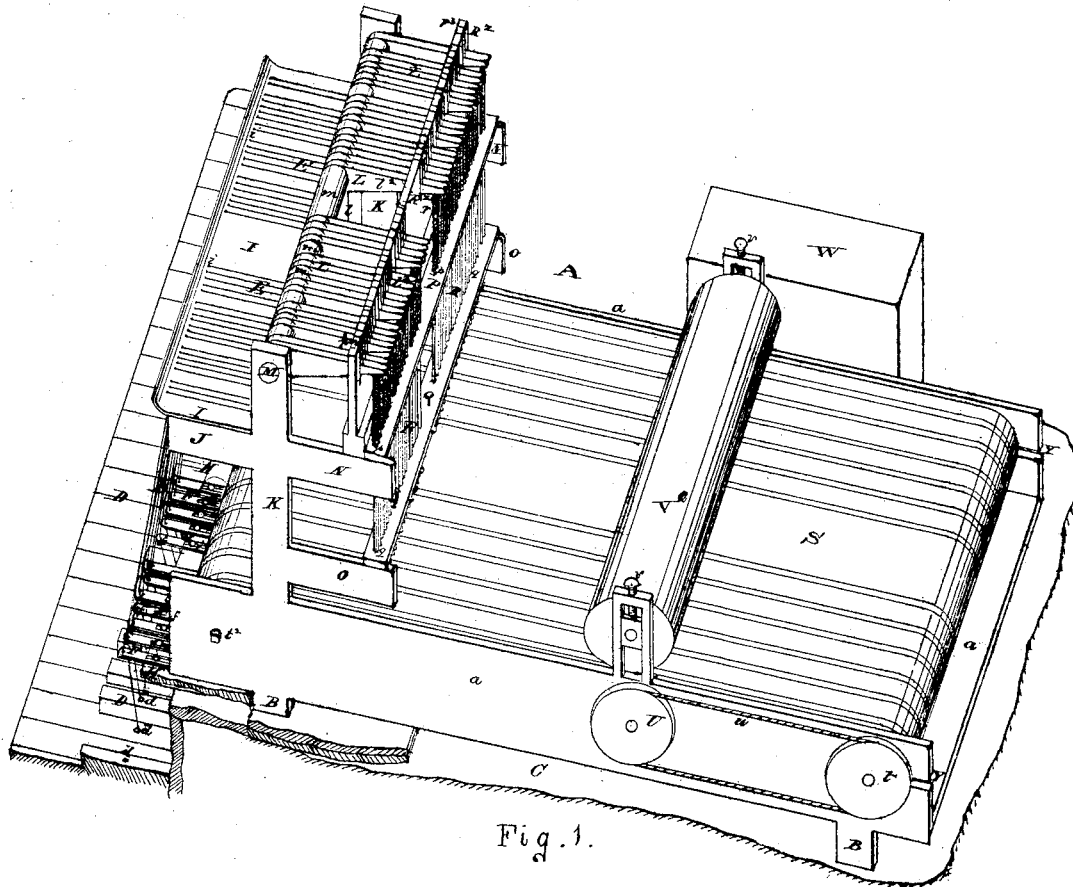


Fig. 1.

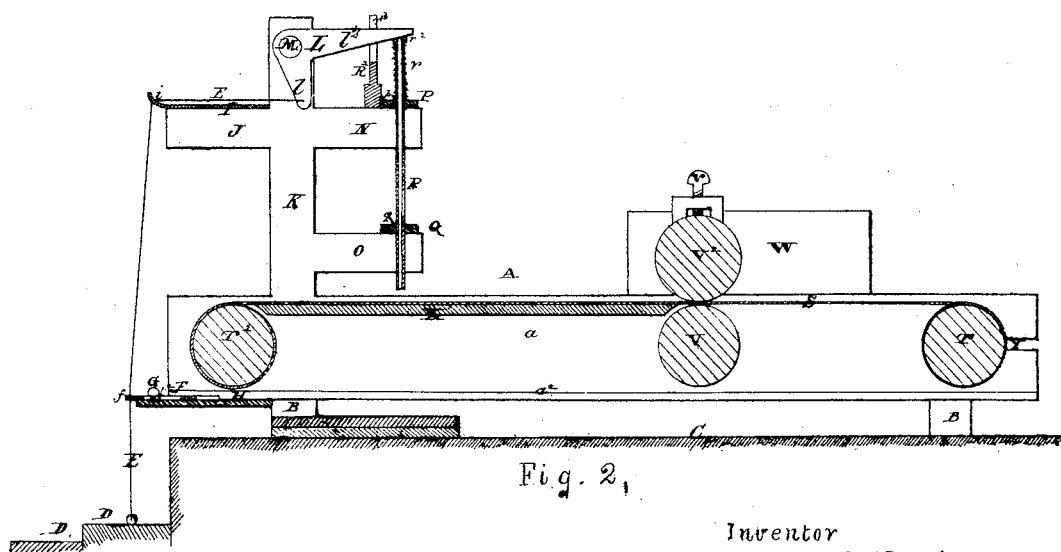


Fig. 2.

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UNITED STATES PATENT OFFICE.

SAMUEL R. BROOKS, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN NOTATORS FOR MUSIC.

Specification forming part of Letters Patent No. 115,930, dated June 13, 1871.

I, SAMUEL R. BROOKS, of the city and county of St. Louis and State of Missouri, have invented a new and useful Notator for Music, of which the following is a specification:

Nature and Object of the Invention.

My invention relates to a means by which any music composition may be printed upon a strip of properly-ruled paper by merely playing the piece upon the piano. Small wires or cords are attached to the keys and to bell-crank levers, which latter are made, by the depression of the keys, to act on a series of markers and bring them in contact with the strip of paper passing at a uniform speed beneath them.

Description of the Drawing.

Figure 1 is a perspective view of my notator. Fig. 2 is a vertical section, showing the operation.

General Description.

A is the main frame of the machine, having sides *a* and bottom *a*², and standing, by means of legs B, upon the piano-top C. D are the keys of the piano, and *d* are small eye-bolts that are screwed fast therein, (either in front of or at the rear of the key-board.) These eye-bolts may be quite small, and formed of silver or ivory, or other substance that will not be unsightly to the piano; or the eyes may be made in the body of the keys. E are wires or cords secured to the eyes *d*, and passing through adjustable plates F. The plates F have an eye, *f*, through which the wire passes, and a slot, *f*², traversed by a set-screw, G, by which the plate is secured to a ledge, H, projecting forward from the lower part of the frame A, and extending as far as the keys of the piano upon each side. These eye-plates are made adjustable by means of the slot and set-screw to regulate the tension of the wire. The notator would, for ordinary purposes, be made twenty inches, more or less, in breadth, and the extending ends of the ledge H may be braced thereto, or be secured to or rest upon the piano. Although twenty inches is given as the ordinary width of the notator-frame, I do not limit my claim to any stated size or proportion or number of markers. One of the plates F is located over each key, and serves as a guide

to the wire as well as a means of regulating the tension, as before stated. From the eye *f* the wire passes through an eye, *i*, in a plate, I, attached to horizontal arms J extending forward from standards K secured to the sides *a*; and from the eye *i* the wire passes to the depending short arm *l* of a bell-crank lever, L. The levers L are fulcrumed on a bar, M, supported at its ends by the standards K. The bar may also have any intermediate supports found requisite. The levers L are held in position on the fulcrum-bar by a number of intervening washers, *m*. *P* are the longer horizontal arms of the levers L. Projecting horizontally backward from the standards K are arms N O, which support bars P Q having perforations *p q*, through which pass the vertical markers or styles R, which are supported by spiral springs *r*, having bearing between the upper side of the bar P and beneath the heads *r*² of the markers. The markers may have a socket at the lower end to receive a soft pencil or other dry substance to mark the strip of paper S passing beneath their ends; or may be tubular, as shown in Fig. 2, to receive a porous material, serving to hold ink or other dye or pigment. The markers are depressed by the downward movement of the arms *P* of the levers L, the said arms playing in slots *r*³ of a comb, R². The strip of paper S is suitably ruled, and its ends are wound upon rollers T T², the former of which receives motion from a belt, *u*, connecting its grooved pulley *t* with the pulley U of a roller, V, which receives regular rotation from clock-work or other motor that may be inclosed in a case, W. The paper is pressed down upon the top of the roller V by a roller, V², acting by force of gravity, or pressed downward by temper-screws *v*, or by springs. Between the rollers T² and V the paper passes over a table, X, which may be cloth-covered to insure the proper presentation of the paper to the markers. Y are slots in the sides *a* to receive the gudgeons of the roller T, to allow of its removal with the roll of printed paper. The gudgeon of the roller T² may have a squared end, *t*², to receive a key to rotate the roller when coiling the paper thereon.

Operation.

The paper S is first wound upon the roller T², except so much of one end as will extend

over the table X and the roller V to the roller T, to which latter it is fastened. The clock-work or other motor is then put in operation, which causes the paper to be drawn over the table and beneath the markers at a uniform speed. Whenever a key of the piano is touched the wire attached to that key will cause the descent of the corresponding marker, which will make a dot or line on the paper S, the time being indicated by the distance between the marks and by their respective lengths.

The apparatus admits of application to an organ or melodeon, and in these cases the length of the notes would be indicated by the length of the line inscribed by the marker, and the rests by the distance apart in the direction of the movement of the paper.

The wires or cords E may pass over anti-friction rollers at the bending points—that is, at the eyes *f* and *i*—or may be connected to bell-cranks at these points, so as to do away with almost all the friction.

The markers R may be hinged to the levers L, if desired, and the spring be applied to the lever, or to any other part, to raise the markers from the paper when the key is allowed to rise.

A friction-brake may be applied to the roller T² to prevent the too easy unrolling of the paper therefrom.

The upper roller V² may be covered with blotting-paper, or an endless belt of blotting-paper may pass around it and another roller to dry the ink on the paper and prevent blurring.

Claims.

I claim herein as of my invention—

1. The hollow markers R, adapted to contain a crayon, pencil, or any suitable marking material, and employed in combination with the levers L, wires or cords E, and carrying-rollers T T² V V², substantially as described.

2. The adjusting-plate F, when constructed and applied as described, in combination with the wires or cords E, for the purposes specified.

In testimony of which invention I have hereunto set my hand.

SAMUEL R. BROOKS.

Witnesses:

SAML. KNIGHT,
GEO. H. DILLON.