

No. 610,141.

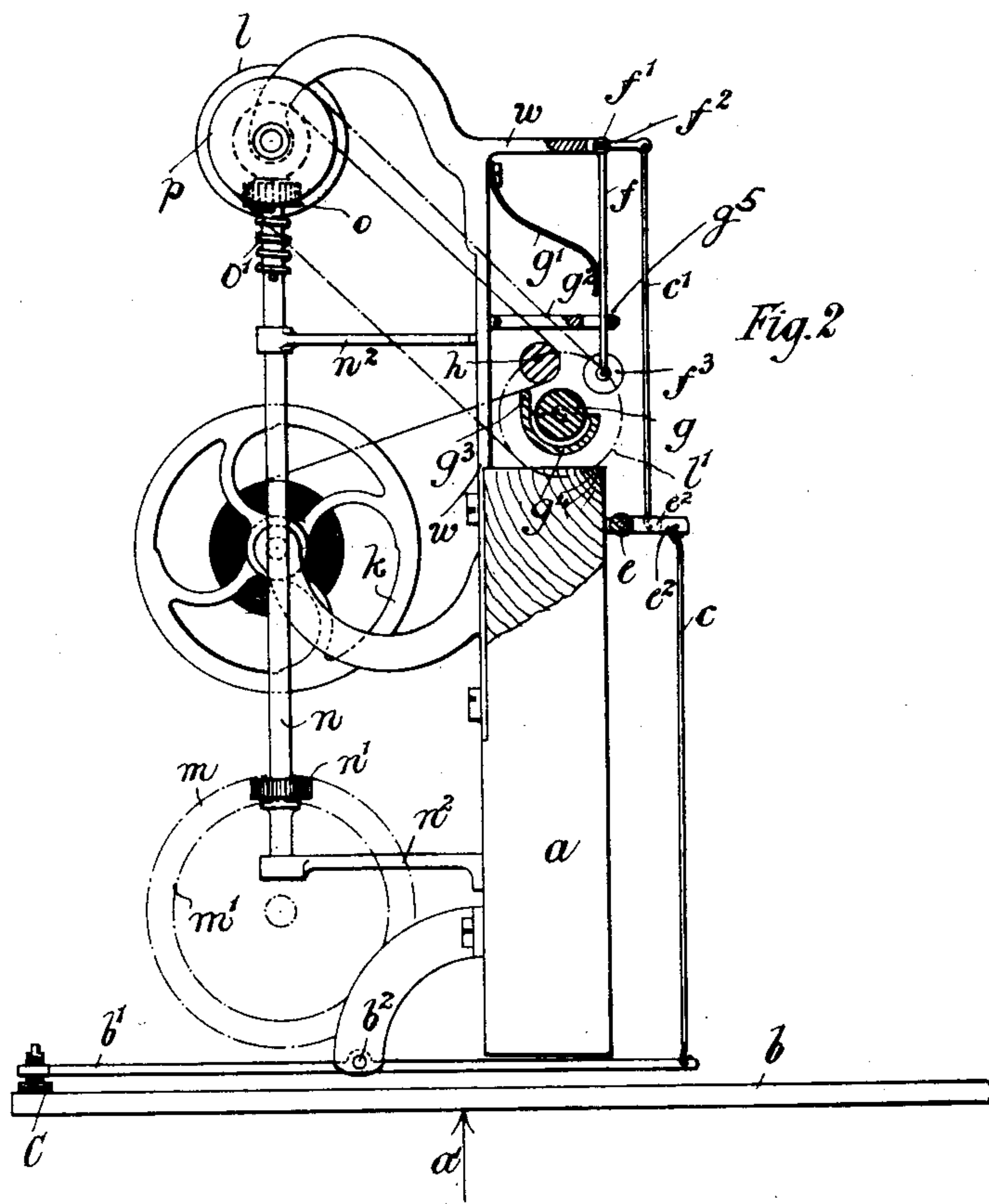
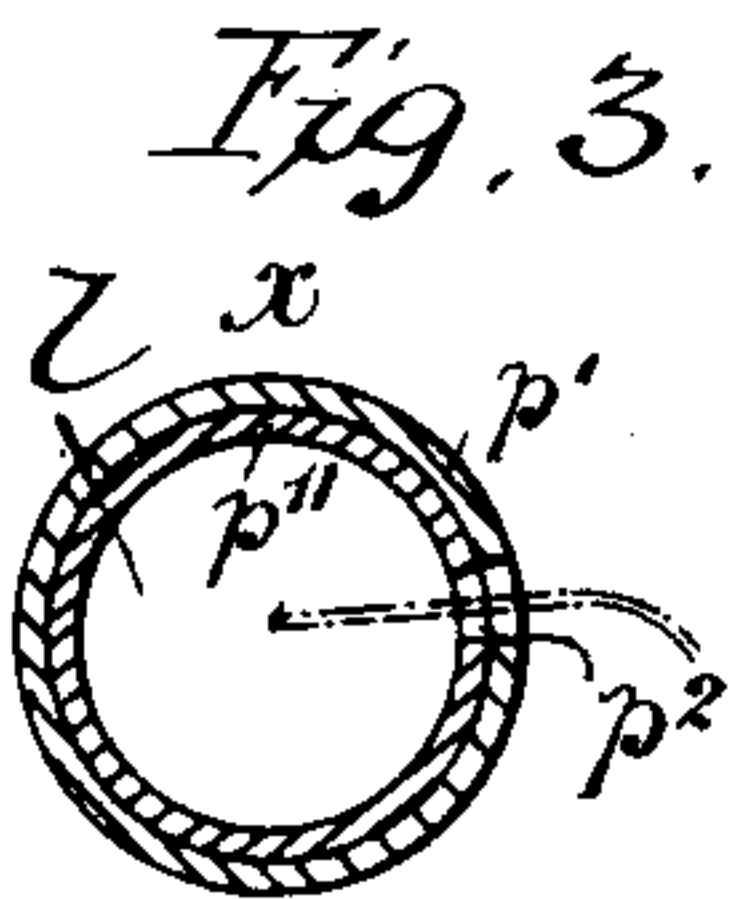
Patented Aug. 30, 1898.

A. A. LATEULERE.
MUSIC RECORDING MECHANISM.

(Application filed Apr. 19, 1898.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

ALBERT ANTOINE LATEULERE, OF LONDON, ENGLAND.

MUSIC-RECORDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 610,141, dated August 30, 1898.

Application filed April 19, 1898. Serial No. 678,161. (No model.)

To all whom it may concern:

Be it known that I, ALBERT ANTOINE LATEULERE, a citizen of the Republic of France, and a resident of 19 Clerkenwell road, in the city and county of London, England, have invented a certain new and useful Improved Music Recording, Noting, and Marking Mechanism for Pianos, Harmoniums, and other Keyboard Instruments, (for which a patent has been applied for in Great Britain, No. 10,865, bearing date May 1, 1897,) of which the following is a specification.

The object of my invention is to provide easy and effective means for recording or noting compositions or musical ideas on a strip or roll of paper or other suitable material, as hereinafter described.

My apparatus includes the combination and arrangement of devices hereinafter fully described, and pointed out in the claim.

I will now describe the invention with reference to the accompanying drawings, in which—

Figure 1 shows a front elevation of the mechanism. Fig. 2 shows a side elevation of Fig. 1 on a larger scale. Fig. 3 is a sectional detail view. Figs. 4 and 5 are detail views in section of the device for securing the supporting-frame of the invention to the piano-frame.

a is the frame, on which the mechanism hereinafter described is mounted.

b, Fig. 2, is one of the keys of the instrument, fulcrumed at *a'*, and when its front end is depressed causes its back end to rise and actuate the lever *b'* through the adjustable bolt and nut C, provided with a felt pad to prevent vibration. The lever *b'* is fulcrumed at *b²*, and when its back end is raised its front end is depressed and operates the printing-lever *f*. This action is effected as follows: As will be seen in Fig. 1, the recording mechanism is condensed to occupy as small a space as possible. To convey the motion of the keys to the recording mechanism, a number of horizontal rods *e* are pivoted in brackets *e'*, attached to the frame *a*. The number of these horizontal rods correspond to the number of keys required. The rods *e* are each provided with two projecting studs *e²*. To one of them is connected the rod *c* to convey the motion of the key to one of the horizontal

rods *e*. The rod *c'* conveys the motion from the horizontal rod *e* to the printing-lever and is connected to the second stud *e²*, which actuates the upper end of the printing-lever *f*. Each of the printing-levers consists of a small cranked rod fulcrumed at *f'* on the rod *f²*. At the lower end of each of these levers is a small disk *f³*. The printing lever and disk oscillate with the movement of the keys toward or away from the inking-rollers *g* and the traveling strip of paper. The lever is normally held away by means of a leaf-spring *g'*, so that the disk does not touch the inking-roller. As the inking-roller rotates, when the disk *f³* strikes it the disk *f³* is also caused to rotate and make a mark upon the paper. Each of the levers moves in a forked guide *g²* to prevent side play and is provided at the front end with a felt stop *g⁵* to prevent noise. The inking-roller *g* rotates, as hereinafter described, in a trough *g⁴*, containing the ink. The inside surface of the front of the trough is provided with a suitable scraper to regulate the quantity of ink upon the roller and is provided at the back with an upwardly-projecting lip *g³* to keep the back of the paper off the inking-roller.

h is a tension-roller which also serves as a bed to receive the impression from the printing-disks. The paper is fed from a feeding-roller *k*, passes round the tension-roller *h*, and is finally wound upon a winding-roller *l*.

It will be understood from Fig. 1 that the above description with reference to the transmitting mechanism from the keys to the printing-disks applies only to one set, which is duplicated as many times as desired.

The driving mechanism of the paper and inking-roller is as follows: In Fig. 2 a suitable motor is indicated in end view by two dotted circles *m m'*, representing wheels, one of which drives the vertical shaft *n* by pinion *n'*. The shaft *n* runs in suitable bearings *n²* and is provided at its upper end with a pinion *o*, driving a crown-wheel *p* on the end of the paper-winding roller *l*. The roller *l* is provided with a pulley and band to drive the inking-roller *g* by means of another pulley *l'*. The pinion *o* is kept in its normal position—that is to say, that of engagement with crown-wheel *p*—by means of a spring *o'*. The paper-winding roller may thus be thrown out of

gear when a paper is to be wound off. The end of the paper is fixed in the paper-winding rollers by means of the device shown in the detached section *x*. The paper-winding roller consists of two concentric tubes p' p'' , in which are formed longitudinal slots p^2 of suitable length. Thus if one of the tubes is shifted so that the slots are brought together the end of the paper may be slipped through the slots and the inner or outer tube turned a short distance, thus gripping the end of the paper firmly.

If it is desired to dispense with the use of the recording mechanism, it is only necessary to tilt the frame *a* forward, so that the back end of the keys do not actuate the levers *b'*.

The printing-levers *f*, springs *g'*, guides *g*², inking-roller *g*, and tension-roller *h* are all supported by rack *w*, superposed above frame *a*.

The paper-feed roller *k* and paper-winding roller *l* are removably supported in suitable brackets projecting from rack *w*.

To adjust and fix the recording mechanism firmly in position, *q* is a slotted angular plate recessed in the frame *a*. The plate is caused to move laterally by means of screw *r* and cone or wedge *s* and so tighten it against the side of the piano.

In accordance with the length the key is kept under pressure or the note is sustained—that is, a semibreve, a minim, a crotchet or quaver—their respective values in time will

be shown by the varied length of the marks produced on the paper by the recording mechanism. Their lengths are determined by the speed the paper is caused to travel at.

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

In combination with the frame *a* having means for attaching it in upright position to the piano and above the keys of the same, levers *b'* extending over the keys and pivotally supported by the frame to be operated by an upward movement of the rear end of the key, the inking-roller *g* and trough, the tension and guide-roller *h* above the same, the paper-supply roll and winding-roll, means for driving the winding-roll, a connection between the same and the inking-roller to drive the same, the said guide and tension roller *h* directing the paper so as to be exposed to view at the front of the instrument and above the inking-roller, the printing-disks *f*³ at the front of the guide-roller and above the inking-roller, the depending arms carrying the printing-disks and the connections between said arms and the levers *b'* over the keys, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ALBERT ANTOINE LATEULERE.

Witnesses:

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T. WILSON.