

No. 692,968.

Patented Feb. 11, 1902.

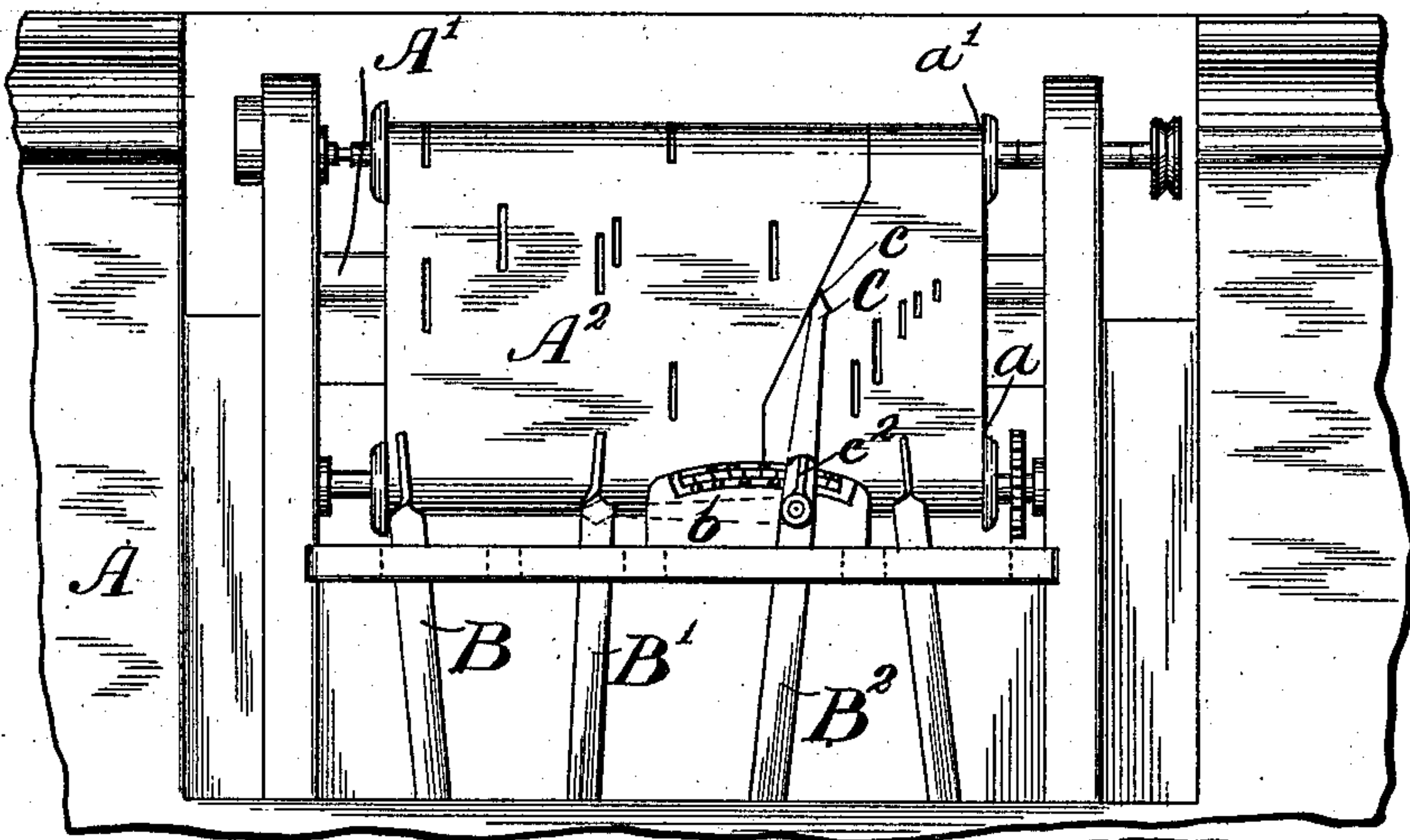
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CONTROLLER FOR MECHANICAL MUSICAL INSTRUMENTS.

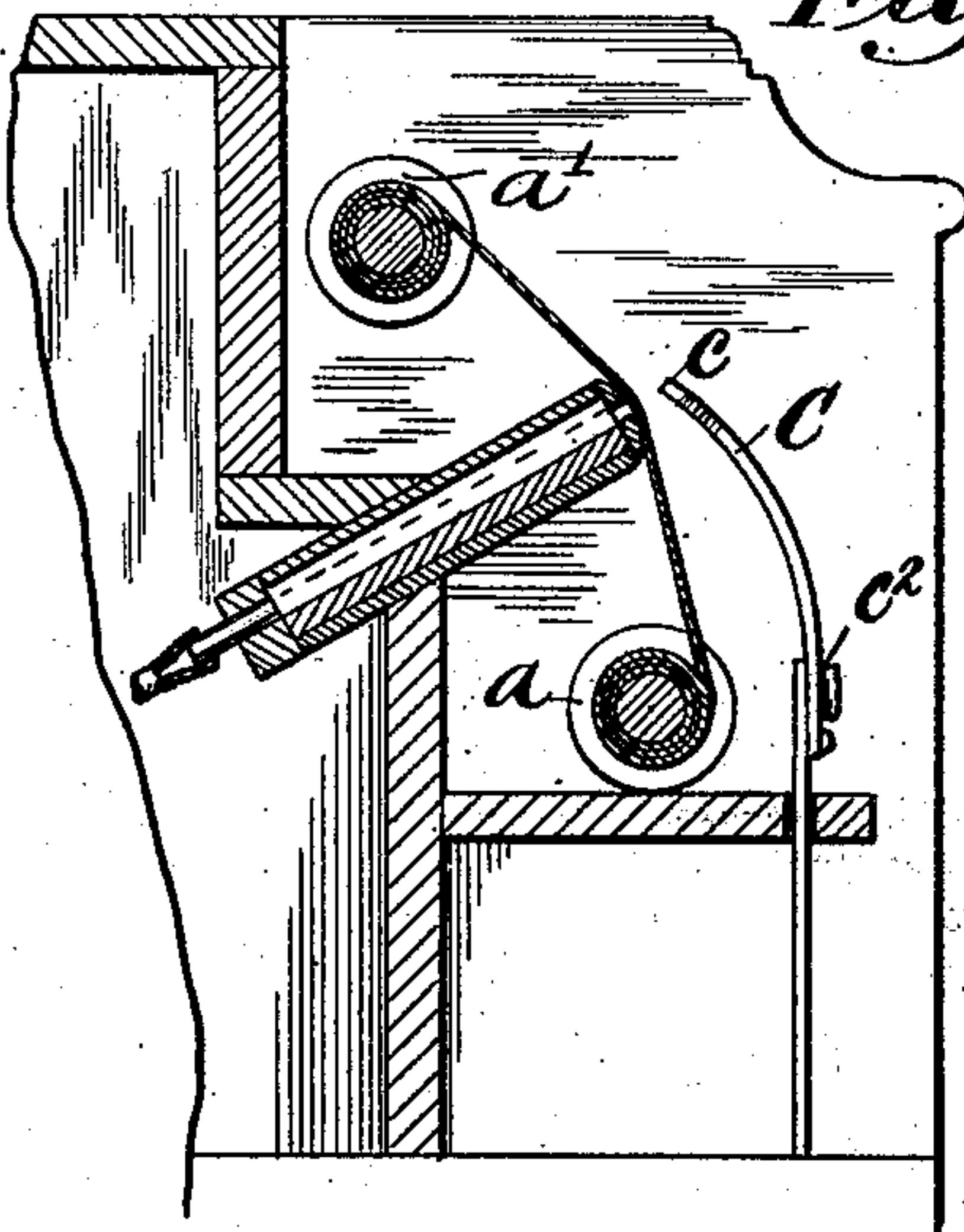
(Application filed Nov. 15, 1901.)

(No Model.)

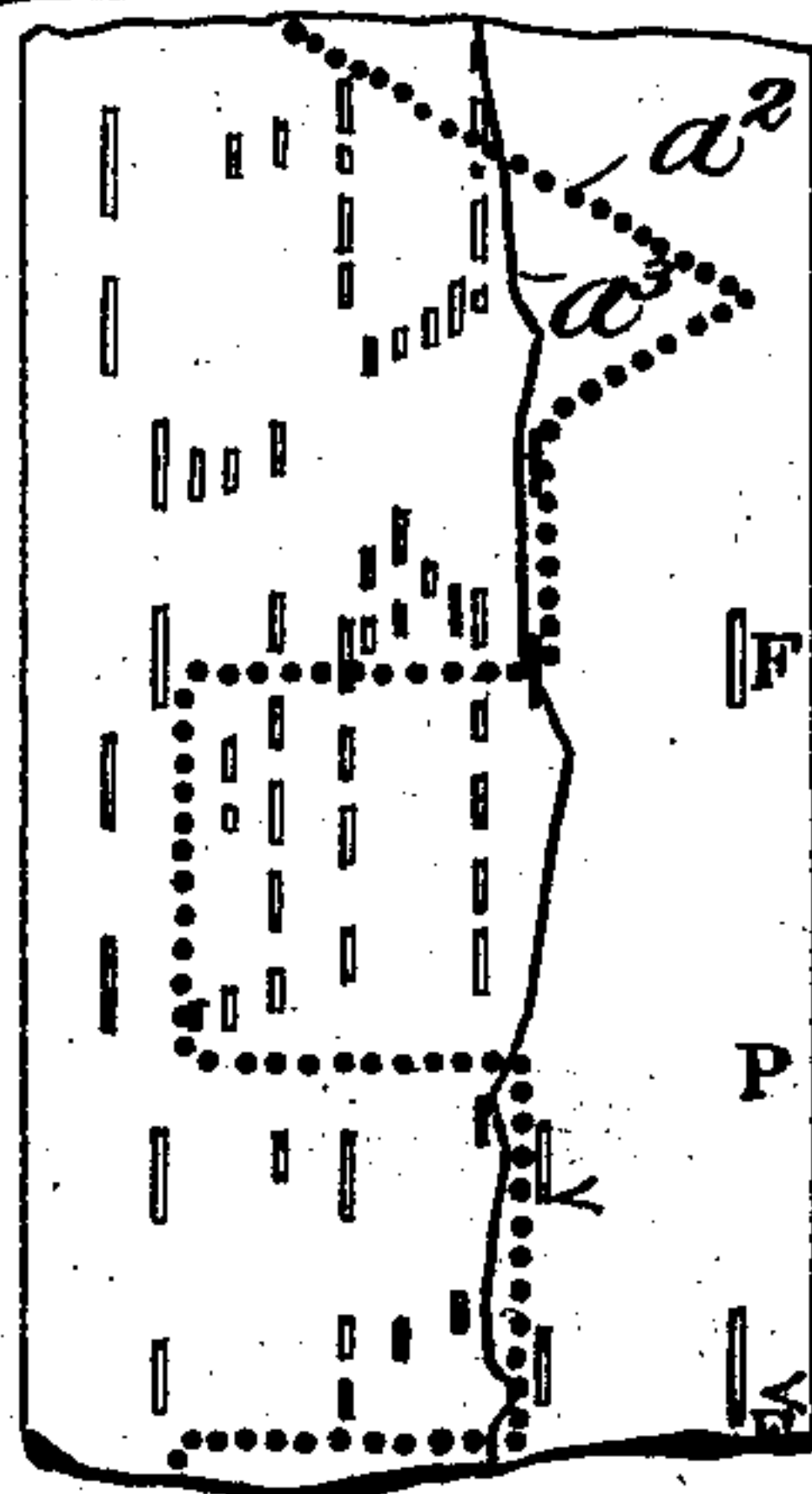
*Fig. 1,*



*Fig. 2,*



*Fig. 3,*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## CONTROLLER FOR MECHANICAL MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 692,968, dated February 11, 1902.

Application filed November 15, 1901. Serial No. 82,393. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS LINCOLN YOUNG, a citizen of the United States, residing at London, England, have invented a certain new and useful Improvement in Controllers for Mechanical Musical Instruments, of which the following is a specification.

The object of my invention is to provide a controller of a mechanism comprised in a mechanical musical instrument with a device which may be moved to follow a line marked on a perforated music-sheet which indicates different effects to be produced in playing.

I will describe a mechanical musical instrument embodying my invention, and then point out the novel features thereof in the claims.

In the accompanying drawings, Figure 1 is a front elevational view of a mechanical musical instrument embodying my invention. Fig. 2 is a transverse sectional view. Fig. 3 is a detail view of a portion of a perforated music-sheet having lines marked thereon which indicate effects to be produced in the playing of the musical composition.

Similar letters of reference designate corresponding parts in all the figures.

A represents a portion of a mechanical musical instrument. The mechanical musical instrument here shown is in the form of a pianola. As this form of instrument is well known to those skilled in the art, it will not be described in detail.

A' represents a tracker-board; A<sup>2</sup>, a perforated music-sheet, which is movable over the tracker-board and controls the operation of the pneumatics, and  $\alpha'$  the usual spool on which the music-sheet is wound from off the spool  $\alpha$ .

B B' B<sup>2</sup> represent controllers, each of which is here shown as being in the form of a lever, and which controllers are provided at the front of the musical instrument. The controller B is for operating mechanism to move the loud or forte pedal. The controller B' is for operating a mechanism which controls the high and low tension winds for obtaining differences in expression, and the lever B<sup>2</sup> is for controlling the tempo mechanism, which, as is well known, controls the speed of the music-sheet in its passage over the tracker-board.

$b$  represents the usual tempo-scale employed in connection with the controller B<sup>2</sup>.

The perforated music-sheet A<sup>2</sup> is here shown as being provided with two lines  $\alpha^2 \alpha^3$ , one of which,  $\alpha^2$ , is made up of dots. The line  $\alpha^2$  indicates the expression to be given in the playing of the musical composition cut in a music-sheet, while the line  $\alpha^3$  indicates the tempo of the musical composition. A third line may be provided which would indicate the times at which the pedal should be operated.

C represents a device (here shown as being in the form of an arm) which is adapted to be carried by or connected with either of the controllers B B' B<sup>2</sup>. If desired, a separate device C may be provided for each controller or for two of the controllers. The arm C is here shown as being hinged, pivoted, or otherwise secured at one of its ends to a controller, and it is of such a length as to have its end  $c$  extend approximately over the tracker-board. The end  $c$  is sharpened or pointed in order that the line marked on the music-sheet indicating the effects to be produced may be more easily followed. The arm is preferably hinged to the controller in order that it may be moved out of the way when a music-sheet is to be placed in position in the instrument, and it is provided with a finger-piece  $c^2$  in order that the controller and the follower may be easily moved.

It is obvious that by having the device C follow the line marked on the music-sheet which indicates effects to be obtained in playing a corresponding movement will be had of the controller and the mechanism of the controller affected accordingly.

I intend to cover generically by my claims the combinations specified by them, including, among other things, a line to indicate any and all effects to be produced—as, for example, a line to indicate the application of the forte-pedal, another line to indicate the application of the expression instrumentalities, and another line to indicate speed or tempo.

Having thus described my invention, what I claim is—

1. In a mechanical musical instrument, the combination of a perforated music-sheet hav-



ing marked thereon, a line which indicates effects to be produced in playing, and a controller, by which such effects are governed, extending over the music-sheet and capable  
5 of adjustment by the operator to follow said line, substantially as described.

2. In a mechanical musical instrument the combination of a perforated music-sheet having marked thereon a line which indicates ef-  
10 fects to be produced in playing, and a controller for a mechanism comprised in the musical instrument, said controller extending over the music-sheet and which will when op-  
15 erated produce the effect indicated by said line, substantially as described.

3. The combination of a perforated music-sheet having a tempo-line, a tempo-controller extending over the music-sheet and capable  
20 of adjustment by the operator to follow the tempo-line, whereby the speed of the music-

sheet may be made to correspond to that indicated by the tempo-line.

4. The combination in a mechanical musical instrument, of a perforated music-sheet having a tempo-line, means for moving said  
25 sheet over the tracker-board, and the tempo mechanism of the instrument comprising a controller-lever extending over the music-sheet and capable of adjustment by the op-  
30 erator to follow the tempo-line, whereby the speed of the music-sheet may be made to correspond to that indicated by the tempo-line.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANCIS LINCOLN YOUNG.

Witnesses:

H. D. JAMESON,  
A. NUTTING.