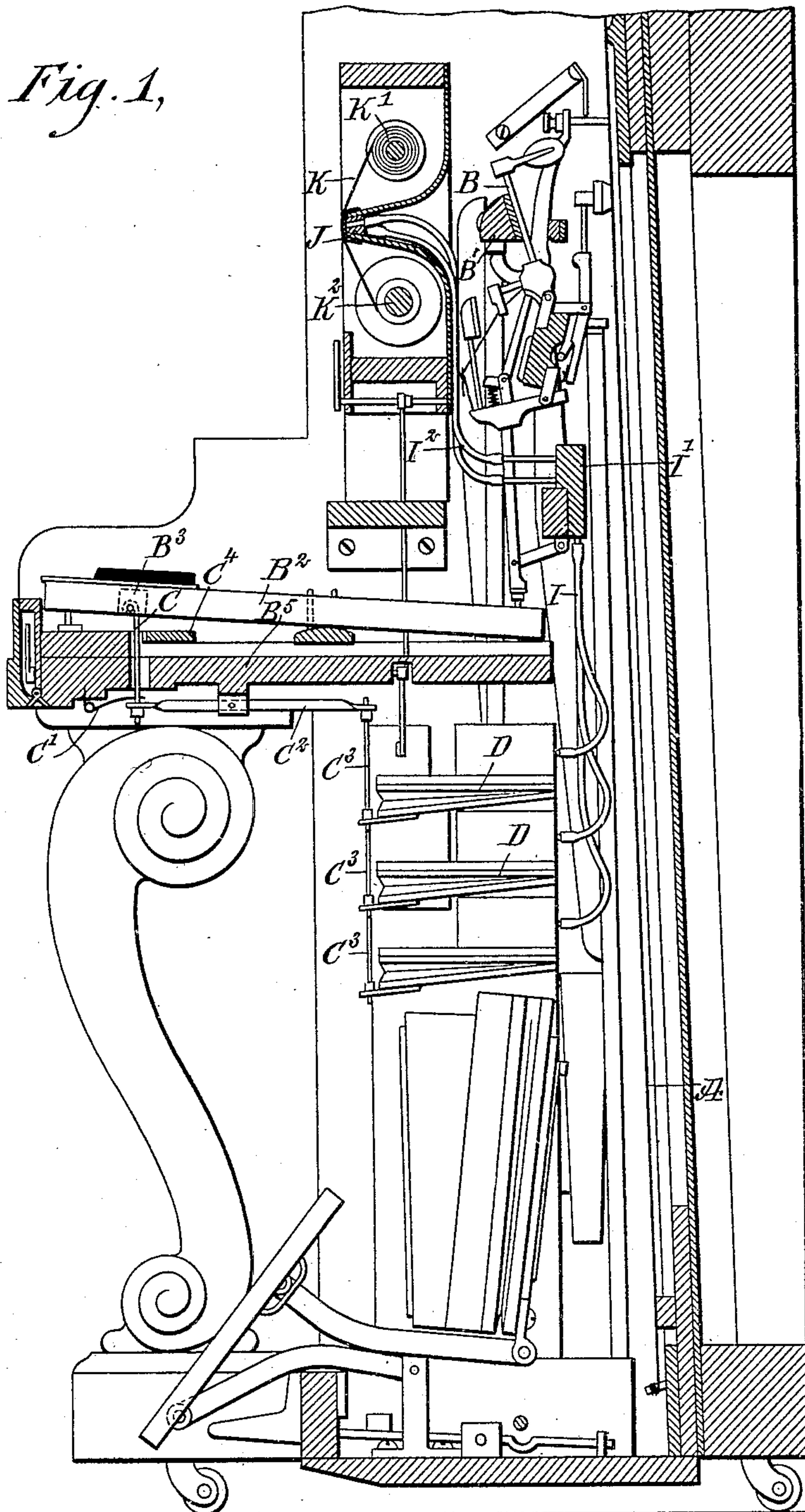


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 AUTOMATIC PIANO.
 APPLICATION FILED DEC. 21, 1905.

934,201.

Patented Sept. 14, 1909.

2 SHEETS—SHEET 1.



WITNESSES

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Fig. 2.

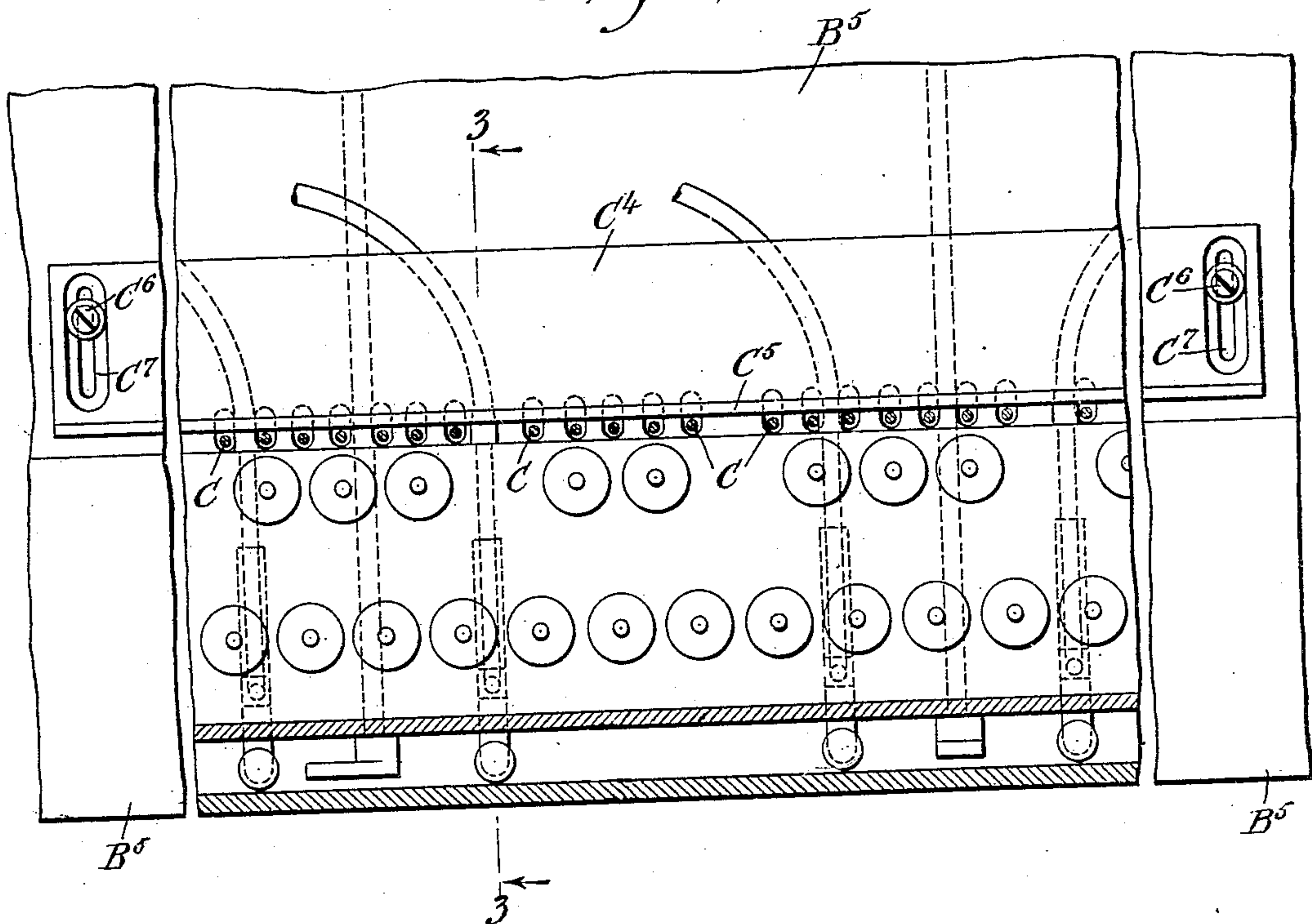
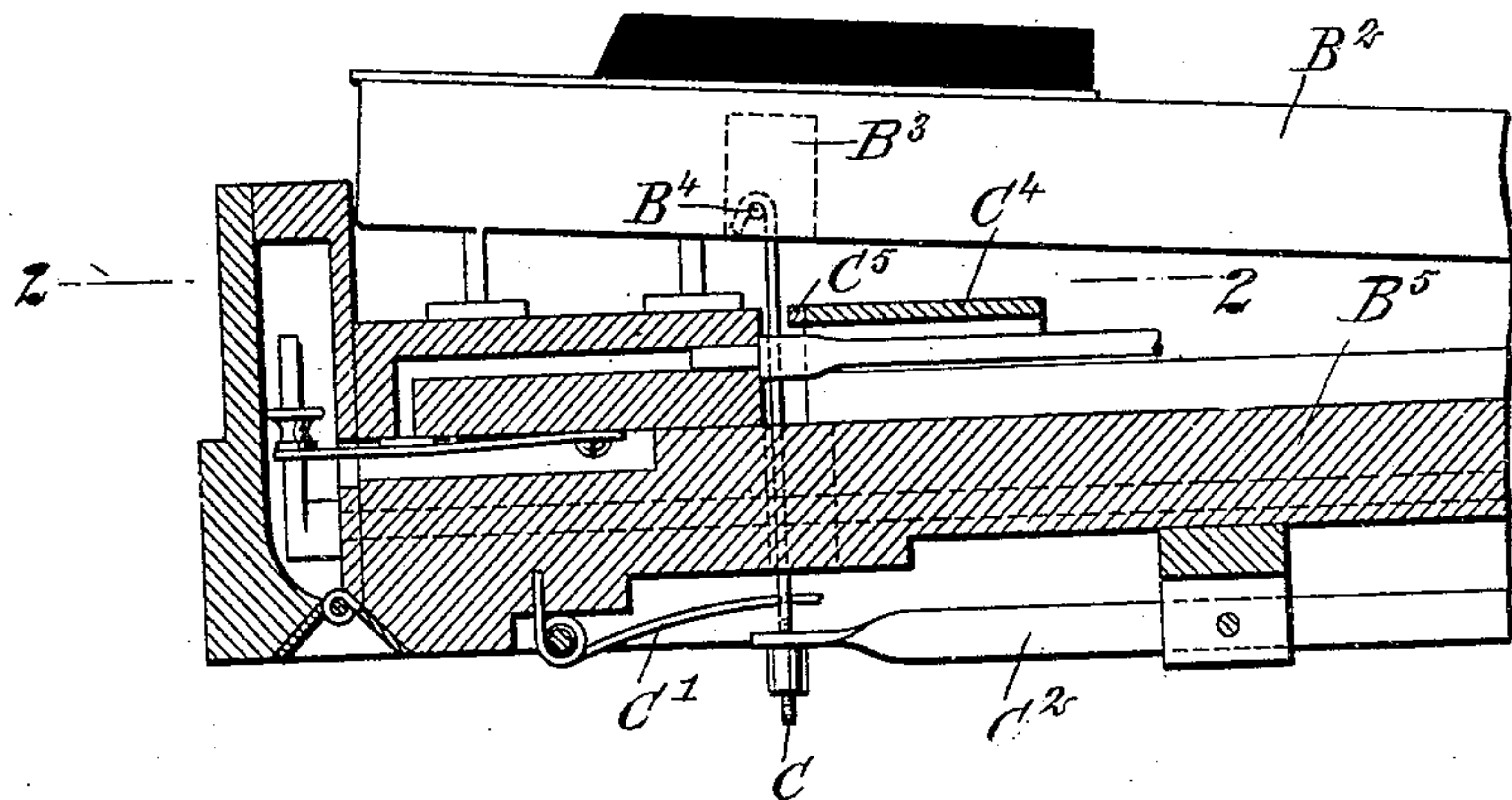


Fig. 3.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC PIANO.

934,201.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed December 21, 1905. Serial No. 292,717.

To all whom it may concern:

Be it known that I, HERMANN MEYER, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county and State of New York, have invented a new and Improved Automatic Piano, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved automatic piano having a simple and effective connection between the pneumatics and the keys for playing the piano automatically and for allowing playing the keys by hand whenever it is desired to do so.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a transverse vertical sectional view of an automatic piano provided with the improvement; Fig. 2 is an enlarged sectional plan view of the key board, the section being on the line 2—2 of Fig. 3; and Fig. 3 is a transverse section of the same on the line 3—3 of Fig. 2.

The piano action for sounding the strings A may be of any approved construction, and consists essentially of hammers B, normally resting on a hammer rail B', and adapted to be actuated by keys B², which latter are played either by hand or by mechanical means presently to be described in detail. The under sides of the forward ends of the keys B² are provided with recesses B³ and pins B⁴ extending through the recesses B³ and adapted to be engaged by the hooked upper ends of rods C, extending downwardly through openings in the bottom B⁵ of the key board, as plainly indicated in Fig. 1, each rod C being normally held in an uppermost position by a spring C' secured to the under side of the key board bottom B⁵, and extending with its free end through an opening in the rod C. Thus by the arrangement described, the keys B² may be played by hand without interference with the rod C. When the latter is moved downward, however, then the corresponding key B² is actuated the same as if the key was played by hand.

The lower ends of the rods C are engaged by the forward ends of transversely-extending levers C², fulcrumed on the under side of the key board bottom B⁵, and connected at their rear ends by rods C³ with the movable members of action pneumatics D, having their valve mechanisms connected by flexible tubes I, tube board I' and flexible tubes I² with the tracker board J, over which passes the note sheet K, unwinding from the roller K' and winding up on the roller K² in the usual manner. Now when the instrument is in action and a note sheet aperture of the note sheet K registers with the tracker board opening then the corresponding action pneumatic D collapses, and when this takes place the movable member of the collapsing action pneumatic D moves the rod C³ upward and imparts a swinging motion to the lever C² which, by the rod C, imparts a downward swinging motion to the forward end of the corresponding key B², so that the corresponding hammer B is actuated to swing in contact with its string A and sound the same. As soon as the note sheet aperture in the note sheet K has passed out of register with its tracker board opening, then air passes into the action pneumatic D to again inflate the same. When this takes place the rod C³ is pulled downward to impart a reverse swinging motion to the lever C², to move the rod C upward, thus allowing the key B² and the hammer B to swing back to their normal position of rest. By having the spring C' connected with the rod C it is evident that a quick return movement of the movable member of the action pneumatic D is obtained, it being understood that the said spring C' is compressed on the downward movement of the rod C and consequently exerts its full force to return the rod C and the action pneumatic D to normal positions.

In order to hold the rod C in proper position when the keys B² are played by hand, a guard rail C⁴ having a felt strip C⁵ at its front edge is adjustably secured by screws C⁶ to the key board bottom B⁵, in such a manner that the felt strip C⁵ is adjacent to the rear of the rod C to prevent the same from accidentally swinging backward when the key B² is pressed by hand and the pin B⁴ moves out of engagement with the hook of the rod C. Thus when the key B² is released by the performer and returns, then the hook of the rod C readily reengages the pin B⁴.

The guard rail C⁴ is provided with transversely elongated slots C⁷ for the passage of the screws C⁶, to allow transverse adjustment of the guard rail C⁴.

5 The automatic piano is provided in front of the key board with the usual handles for actuating the several controlling devices, but as the latter form no part of the present invention it is not deemed necessary to
10 further describe the same.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. An automatic piano provided with a
15 piano action, action pneumatics, rods connected with the movable members of the said action pneumatics, levers fulcrumed on the under side of the key-board and connected at the rear ends with the said rods, hook rods
20 engaged by the front ends of the said levers pins in the forward ends of the keys of the said piano action and adapted to be engaged by the said hook rods, and a spring

pressing each hook rod to hold the latter in uppermost position when a key is pressed
25 by hand.

2. An automatic piano provided with a piano action, action pneumatics, rods connected with the movable members of the said action pneumatics, levers fulcrumed on the
30 under side of the key-board and connected at the rear ends with the said rods, hook rods engaged by the front ends of the said levers pins in the forward ends of the keys of the said piano action and adapted to be en-
35 gaged by the said hook rods, and a guard-rail for the said hook rods adjustably held on the key-board.

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

HERMANN MEYER.

Witnesses:

THEO. G. HOSTER,
EVERARD B. MARSHALL.