

H. R. EDGEComb.
 AUTOMATIC MUSICAL INSTRUMENT OR PLAYER,
 APPLICATION FILED NOV. 20, 1907.

899,295.

Patented Sept. 22, 1908.
 2 SHEETS—SHEET 1.

Fig. 1.

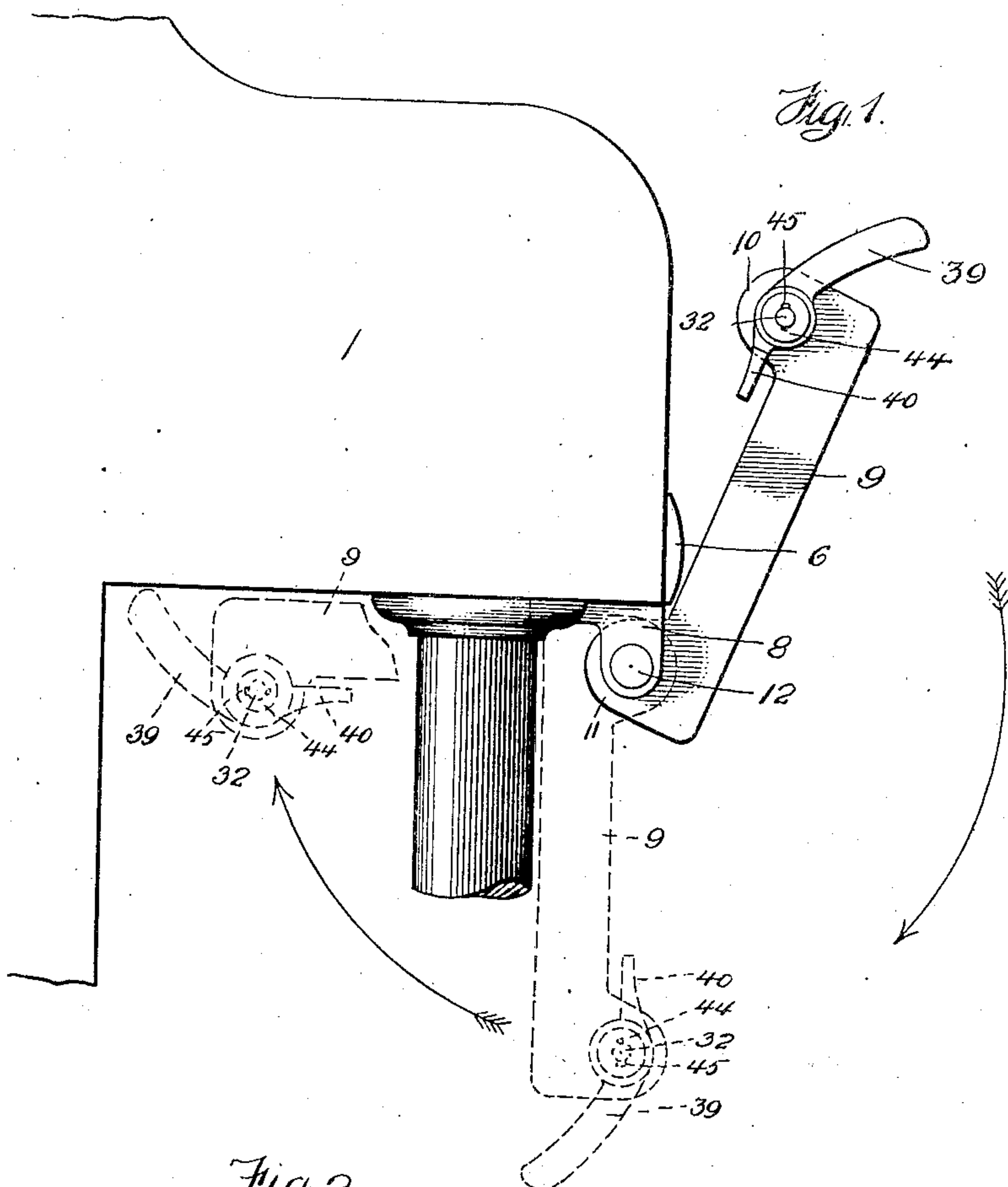
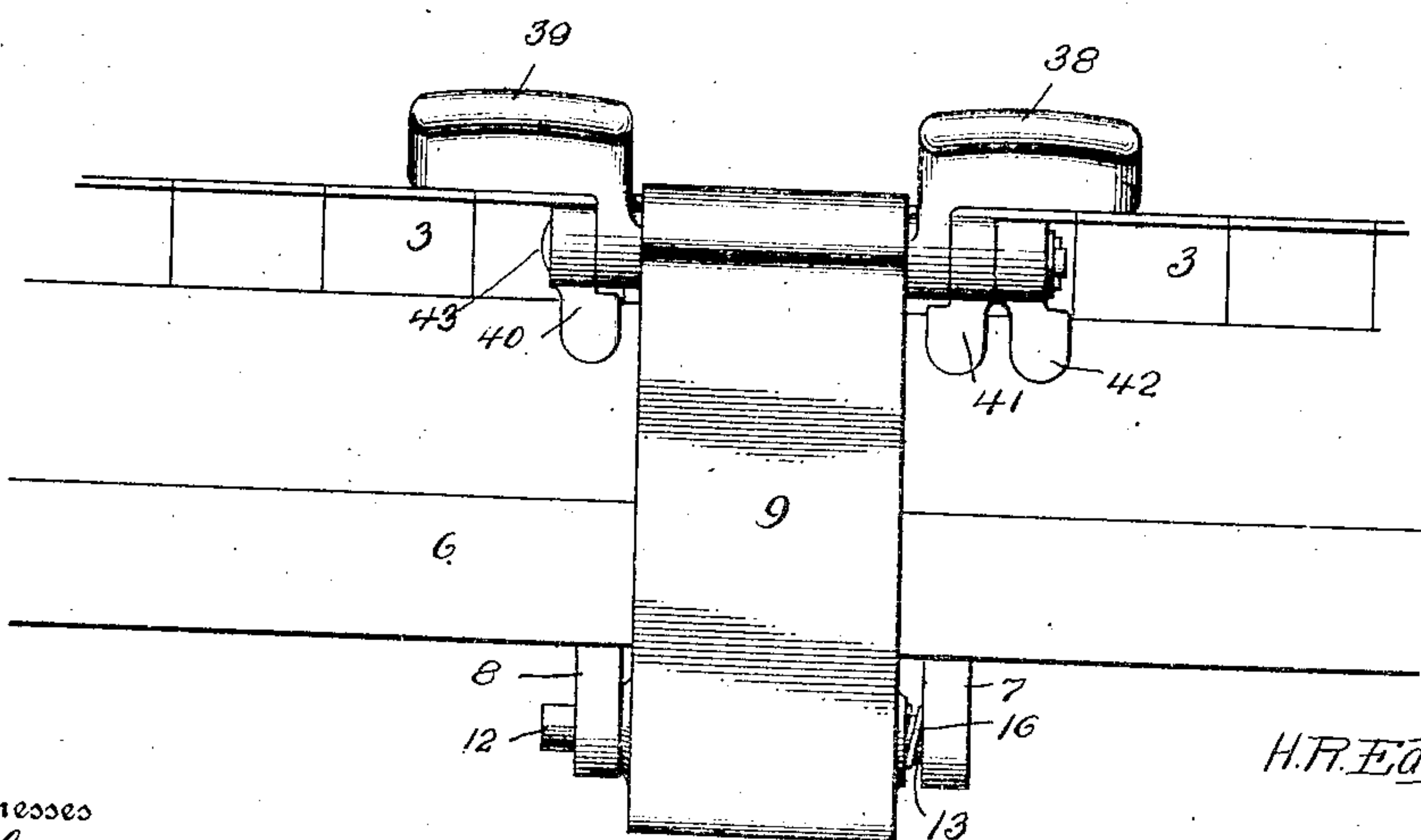


Fig. 2.



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Fig. 4.

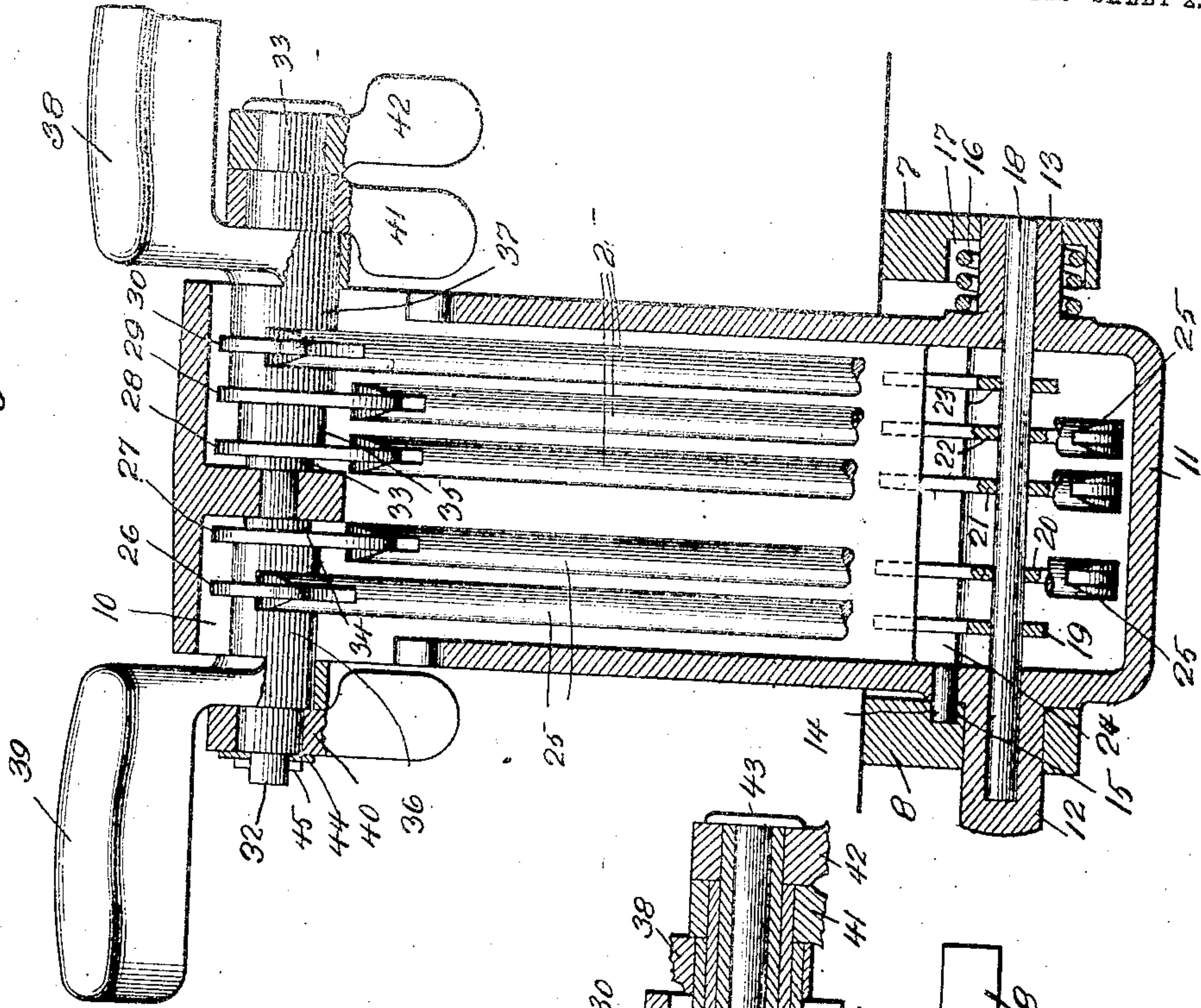


Fig. 5.

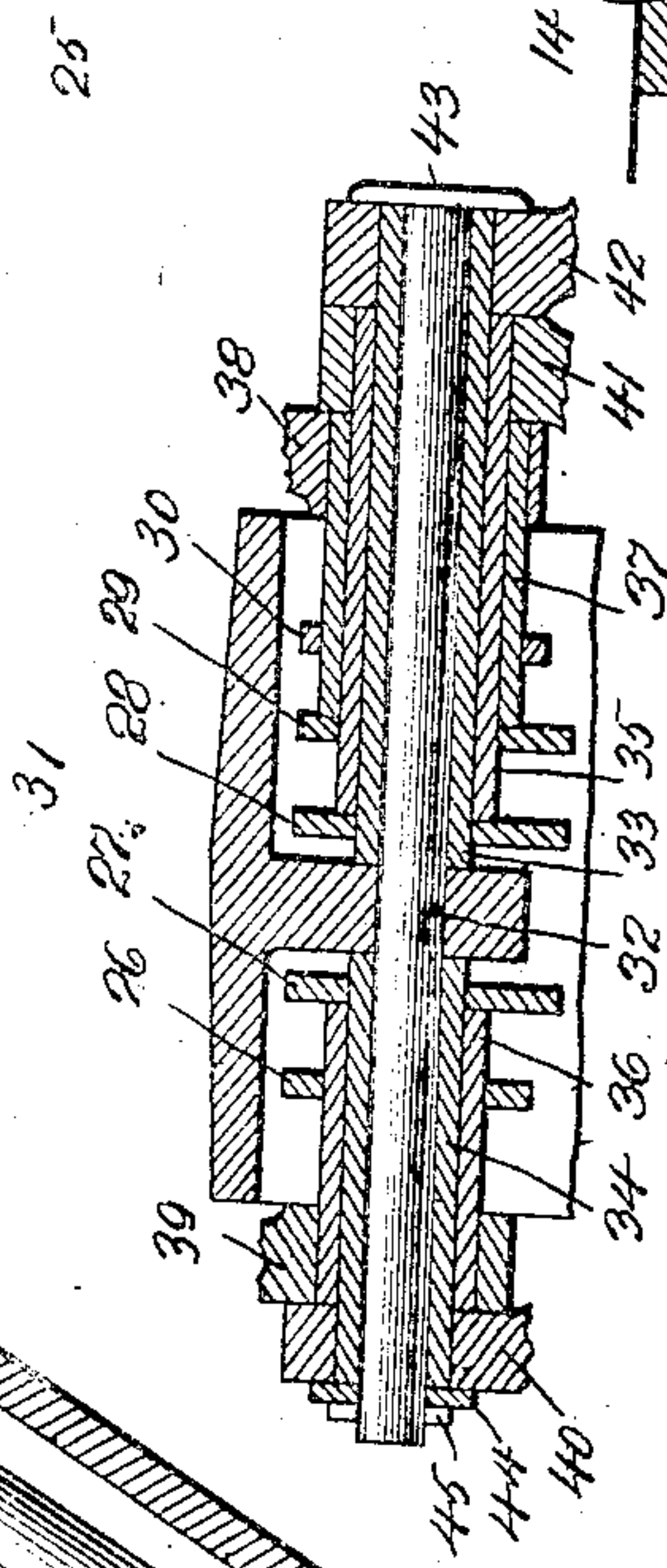


Fig. 6.

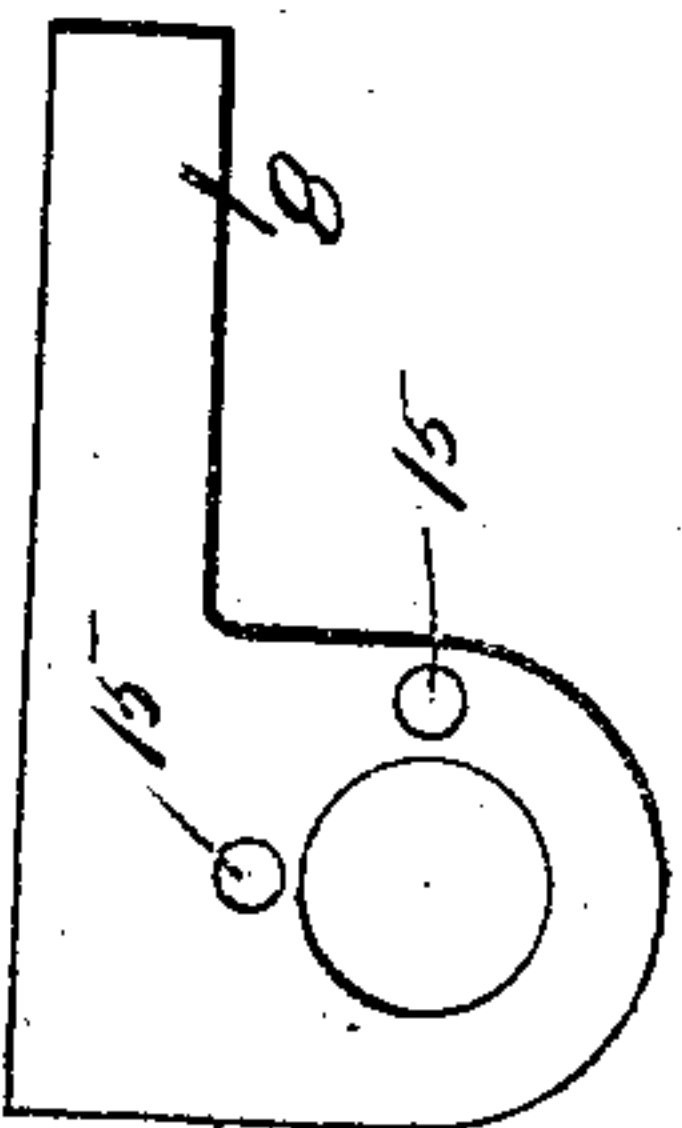
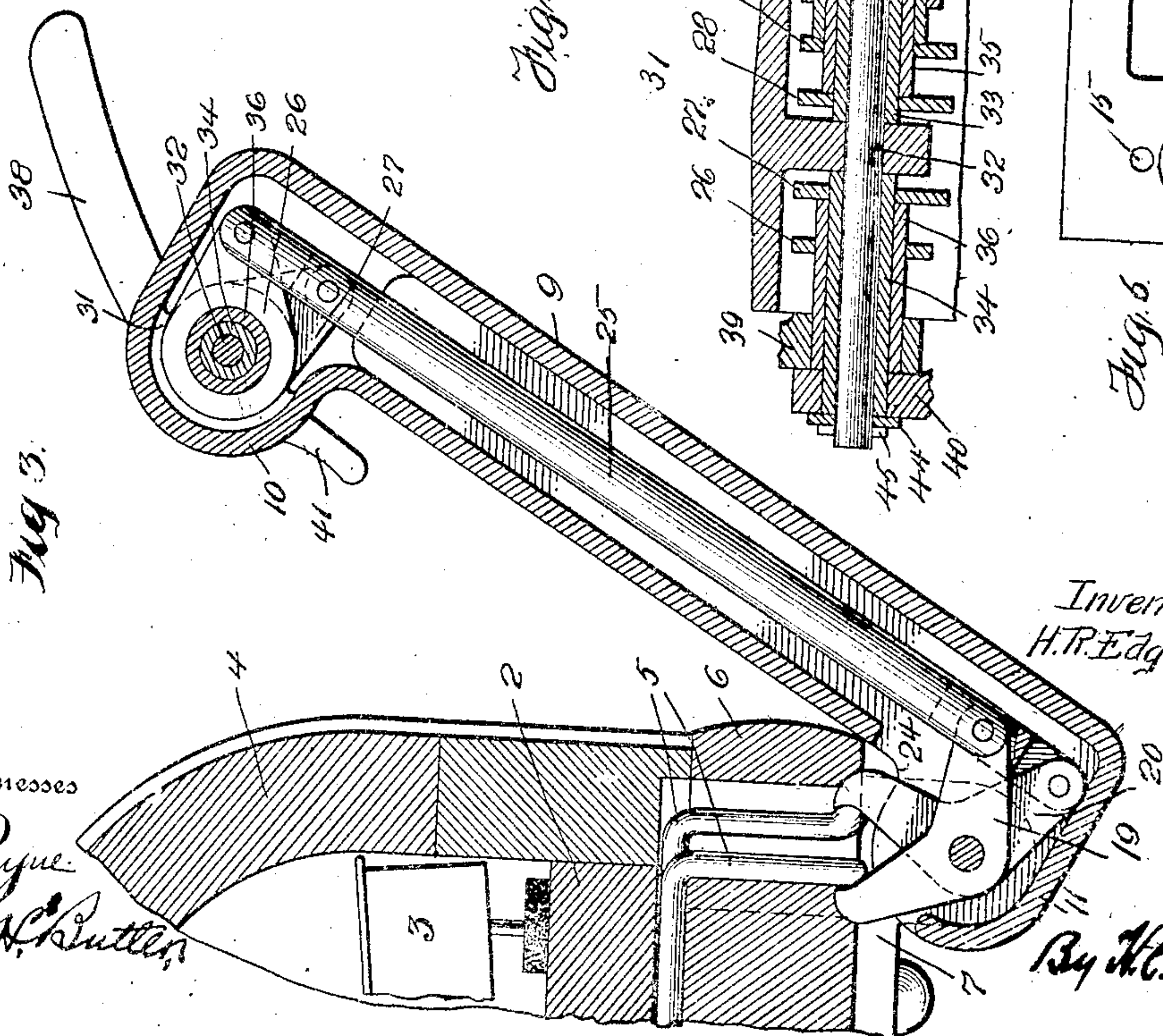


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY R. EDGECOMB, OF BRADDOCK TOWNSHIP, ALLEGHENY COUNTY,
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AUTOMATIC MUSICAL INSTRUMENT OR PLAYER.

No. 899,295.

Specification of Letters Patent.

Patented Sept. 22, 1908.

Application filed November 20, 1907. Serial No. 403,057.

To all whom it may concern:

Be it known that I, HENRY R. EDGECOMB, a citizen of the United States of America, residing at Braddock township, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Musical Instruments or Players, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to automatic musical instruments or players, and its primary object is to provide improved means for controlling the accent and tempo valves, the sustaining lever, and other elements of a mechanical player.

Another object of the invention is to provide a novel controller box and means for supporting the same in its elevated or active position in front of the key-board of a piano or other musical instrument to which the playing attachment is applied.

A further object of this invention is to provide a novel cover or casing for the actuating mechanism of a controller box.

A still further object of this invention is to greatly simplify the construction of a controller box and reduce the number of parts required, and thereby reduce to a minimum the danger of the controller box getting out of order.

A further object of the invention is, to provide a player with regulating means so attached to a piano or like instrument as to permit the regulating attachment to be swung under the key-board when not required for use.

The invention comprises a plurality of levers connected to the valves of the player, and means for operating said levers by the palms of the hand, and the fingers, of the performer.

The construction of the improvement will be fully described hereinafter, in connection with the accompanying drawing which forms a part of this specification and its features of novelty will be set forth in the appended claims.

In the drawings: Figure 1 is a side elevation of my invention as applied to a piano, Fig. 2 is a front elevation of the same, Fig. 3 is a longitudinal sectional view of the attachment, Fig. 4 is a vertical cross sectional view

of the same, Fig. 5 is a detail sectional view of the bearings for the actuating levers, and Fig. 6 is an elevation of one of the bearings used in connection with the attachment.

In the accompanying drawings, I have illustrated a portion of a piano case 1, and the key board 2 on which the digitals or keys 3 are supported, these digitals or keys being normally protected by a cover 4. Beneath the key board 2 are arranged the actuating rods 5 of the instrument, these rods being provided with depending ends extending through the supports 6 of the key-board. The rods 5 are generally arranged centrally of the instrument, and the number of these rods depends entirely upon the type of the instrument. A rod is generally employed for operating the motor valve to vary the tempo, another rod is used for varying the strength of a stroke, another rod for accenting the specific notes, and still another rod for operating the sustaining pedal. These rods are simply selected as typical of a conventional type of automatic instrument, and in this connection I desire it to be understood that my invention is applicable to any controlling or regulating devices used on an automatic player.

The key board support 6 is provided at its front edge with two bearings 7 and 8, said bearings being arranged to support a movable controller box or casing 9. The controller box 9 is oblong in form having its ends enlarged as at 10 and 11. The enlarged end 11 of the box 9 is provided with trunnions 12 and 13, these trunnions fitting loosely in the bearings 7 and 8. The bearings 7 and 8 are arranged to permit of the controller box being laterally shifted. I accomplish this lateral movement of the controller box by making the trunnion 12 of greater length than the trunnion 13, whereby said trunnion 12 can be used similar to a push button for shifting the controller box. The lateral movement of the controller box is essential in order to lock the box either in an operative position or in an inoperative position, and to this end, I provide the controller box 9 adjacent to the trunnion 12 with a lock pin 14 adapted to engage in one of the recesses 15 of the bearing 8. To normally hold the pin 14 in one of said recesses, I use a coil spring 16, said spring surrounding the trunnion 13, seating in the

recesses 17 formed in the bearing 7, and bearing against the controller box. It is therefore apparent that the controller box will be normally held in engagement with the bearing 8, and that when it is desired to move the same from the operative position shown in Fig. 1 of the drawings in full lines, to the inoperative position shown in dotted lines, it is only necessary to press inwardly upon the trunnion 12 swinging the controller box until the pin 14 registers with the proper recess, at which time the spring 17 will immediately move the box laterally, and through the medium of the pin 14 and bearing 8 firmly hold the controller box.

The controller box is made of such size that it will occupy a comparatively small space in front of the key-board of a piano, when in an operative position, and will not detract from the appearance of the instrument to which it is applied, or in any manner interfere with or render difficult the task of playing the instrument in the ordinary manner, when the controller box is in an inoperative position swung beneath the key board support 6.

In the trunnions 12 and 13 of the controller box I mount a shaft 18, and upon this shaft within the controller box are journaled a plurality of bell crank levers 19, 20, 21, 22 and 23, all of these bell crank levers having their inner ends extending through a slot 24 formed in the enlarged end 11 of the controller box, the protruding ends of said bell crank levers being shaped to detachably engage the depending ends of expression rods 5. The opposite ends of the bell crank levers 19 to 23 inclusive are connected by rods 25 to bell crank levers 26, 27, 28, 29 and 30, which are arranged in the outer enlarged end 10 of the controller box.

In the outer enlarged end 10 of the controller box is formed a bearing 31 and in this bearing is mounted a shaft 32 having its ends protruding from the sides of the controller box.

Upon the shaft 32 are mounted sleeves 33 and 34 carrying the bell crank levers 28 and 27 respectively. On the sleeves 33 and 34 are revolubly mounted sleeves 35 and 36 carrying the bell crank levers 29 and 26 respectively, while upon the sleeve 35 is revolubly mounted a sleeve 37, carrying the bell crank lever 30. All of these sleeves protrude from the sides of the controller box, and the sleeves 37 and 36 are provided with palm actuating levers 38 and 39 respectively, while the sleeve 34 carries a finger actuating lever 40; the sleeve 35, a finger actuating lever 41; and the sleeve 33, another finger actuating lever 42. These actuating levers and sleeves are held in position by providing the shaft 32 with a head 43 at one end, and a washer 44 and cotter pin 45 at the opposite end. The palm actuating levers 38 and 39 extend upwardly and forwardly from the controller

box, whereby those possessed with the requisite skill for playing an instrument can rest their palms upon the actuating levers 38 and 39 and allow their fingers to engage the finger actuating levers 40, 41, and 42, which extend downwardly at an angle from the enlarged end 10 of the controller box.

From the novel construction of my attachment, it will be observed that the palm actuating lever 38 operates the bell crank lever 23, the finger actuating lever 42 actuates the bell crank lever 21, the finger actuating lever 41 operates the bell crank lever 22, the palm actuating lever 39 operates the bell crank lever 19, while the finger actuating lever 40 actuates the bell crank lever 20. In this manner five expression rods can be easily operated, the novel arrangement of the actuating levers 38 to 42 inclusive permitting of an operator's hand assuming a natural position upon the controller box, somewhat similar to the position the hands would assume if playing a piano in the ordinary manner.

It is thought that the manner of manipulating the controller box, to place the same in the active or inactive position will be fully understood, and I desire to call attention to the fact that when the controller box is not being used and is supported beneath the key bed of the piano, the box is practically concealed from view, so as not to detract from the ordinary appearance of the piano.

It is obvious that such variations of my invention as are necessary for its adaptability to various types of automatic piano players can be resorted to without departing from the scope of the invention as defined by the appended claims.

Having now described my invention what I claim as new, is:—

1. The combination with a piano, and the expression rods thereof, of bearings carried by said piano, a casing trunnioned in said bearings and having a lateral movement between said bearings, a spring for normally holding said casing in engagement with one of said bearings for locking the same in a fixed position, a shaft mounted in the trunnions of said casing, bell crank levers journaled upon said shaft, and engaging said expression rods, a shaft mounted in said casing, a plurality of sleeves revolubly mounted upon said shaft, bell crank levers carried by said sleeves, rods connecting said bell crank levers with the first mentioned bell crank levers, and actuating levers carried by said sleeves at the sides of said casing, some of said actuating levers projecting in an opposite direction to the remainder of said levers.

2. The combination with a piano, and the expression rods thereof, of bearings carried by said piano, a casing trunnioned in said bearings, and having a lateral movement therebetween, a shaft mounted in the trunnioned end of said casing, bell crank levers

5 journaled upon said shaft and engaging said expression rods, a shaft mounted in the opposite end of said casing, a plurality of sleeves mounted upon said shaft, bell crank
10 levers carried by said sleeves and connecting with the first mentioned bell crank levers, actuating levers carried by said sleeves, at the sides of said casing, and means arranged at the trunnioned end of said casing for locking the same in engagement with one of said bearings.

15 3. The combination with a piano and the expression rods thereof, of a movable casing arranged beneath said expression rods, a plurality of bell crank levers journaled in said casing for engaging said expression rods, a shaft fixed in said casing, a plurality of bell crank levers movably mounted upon said shaft and connecting with the first mentioned bell crank levers, actuating levers arranged at the sides of said casing for moving the last mentioned bell crank levers, and means located at one end of said casing for locking the same in a fixed position with relation to said piano.

20 4. In combination with the expression rods of a piano, a movable casing, bell crank levers movably mounted in said casing for engaging said expression rods, bell crank levers movably mounted in said casing and connecting with the first mentioned bell crank levers, means arranged at the sides of said casing for actuating the last mentioned bell crank levers, and means carried by said casing for locking the same in a fixed position with relation to said piano.

25 5. The combination of expression rods, movable bell crank levers for engaging said rods, bell crank levers for actuating the first mentioned bell crank levers, a movable casing for housing said bell crank levers, means arranged at the sides of said casing for actuating said bell crank levers, and means carried by said casing for retaining the same in a fixed position with relation to said piano.

30 6. The combination with a piano, and the expression rods thereof, of bell crank levers for moving said rods, a movable casing for housing said bell crank levers, means supported by said casing for actuating said bell crank levers, and means carried by said casing for fixing the same with relation to said piano.

35 7. The combination of the expression rods of a piano, bell crank levers for moving said rods, a movable casing for housing said bell crank levers, and means supported by said casing for actuating said bell crank levers.

40 8. An attachment of the type described comprising a plurality of connected bell crank levers, levers for actuating said bell crank levers, and a movable casing for housing said bell crank levers together with means for holding said casing in a fixed position.

45 9. An attachment of the type described

comprising a movable trunnioned casing, palm and finger actuating levers arranged at the sides of said casing, and a mechanism contained within said casing and operated by said palm and finger actuating levers.

70 10. An attachment of the type described comprising a movable trunnioned casing having upwardly extending palm actuating levers and depending finger actuating levers.

75 11. In an attachment for pianos, a pivotally-mounted controller box embodying a trunnioned casing capable of being shifted laterally of its bearings, means for locking said casing in either of two positions, and expression-rod actuating-means carried by said casing.

80 12. In an attachment for pianos, a pivotally-mounted controller-box embodying a casing capable of being shifted laterally of its bearings, means for locking the box in either of two positions, and expression-rod actuating-levers carried by said casing.

85 13. In an attachment for pianos, a pivotally-mounted controller-box, embodying a casing carrying upwardly-extending palm-actuated levers and depending finger-actuated levers.

90 14. The combination with a piano, and the expression rods thereof, of a controller-box pivotally-mounted on the piano and movable on its pivots to operative-position in front of the piano key-board, and to inoperative position underneath the key-board, means within said box for engaging with said expression rods when the box is moved to operative position, and actuating levers carried by said box for operating said means.

95 15. The combination with a piano, and the expression rods thereof, of a controller-box for said rods pivotally-mounted on the piano and movable to operative position in front of the piano key-board and inoperative position underneath the key-board, means arranged within said controller box for operative-connection with said expression rods in the operative position of the controller-box, and means outside the box for operating the first mentioned means, said means embodying upwardly-extending palm-actuated levers and depending finger-actuated levers.

100 16. The combination with a piano, and the expression rods thereof, of a controller-box pivotally-mounted on the piano and movable to operative position in front of the piano key-board and to inoperative position underneath the key-board, means arranged within said controller box for operative-connection with said expression rods in the operative position of the controller box, means outside the box for operating the first mentioned means, said means embodying upwardly-extending palm-actuated levers and depending finger-actuated levers and means for locking the box in each of its positions.

105 17. The combination with a piano, and the

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5 neath the key-board, means within said box
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plurality of upwardly extending palm-actu-
ated levers and a plurality of depending

finger - actuated levers connected to said 10
means and projecting outside the box.

In testimony whereof I affix my signature
in the presence of two witnesses.

HENRY R. EDGECOMB.

Witnesses:

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