

No. 791,701.

PATENTED JUNE 6, 1905.

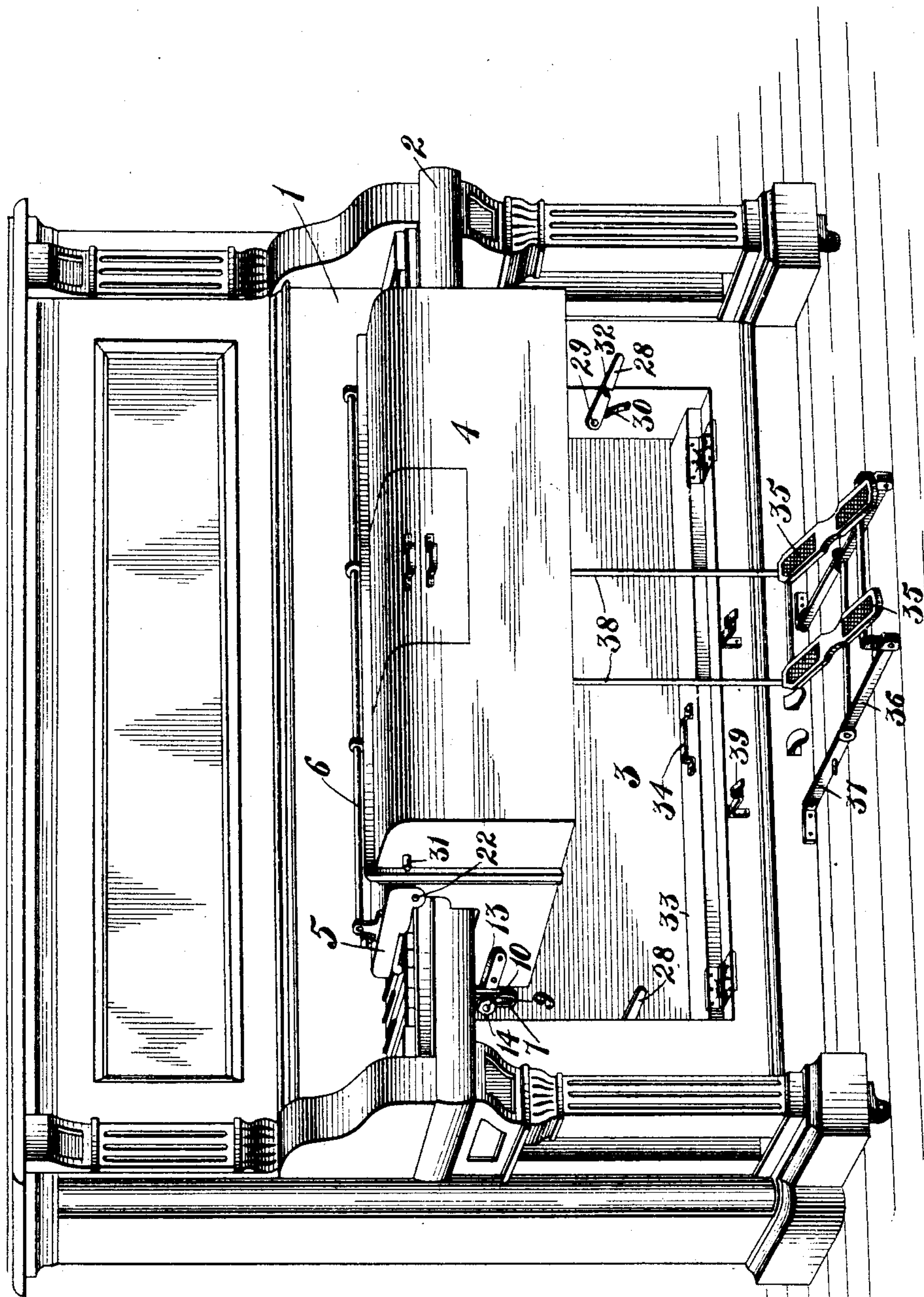
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AUTOMATIC PLAYING ATTACHMENT FOR PIANOS.

APPLICATION FILED FEB. 6, 1903.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 4.

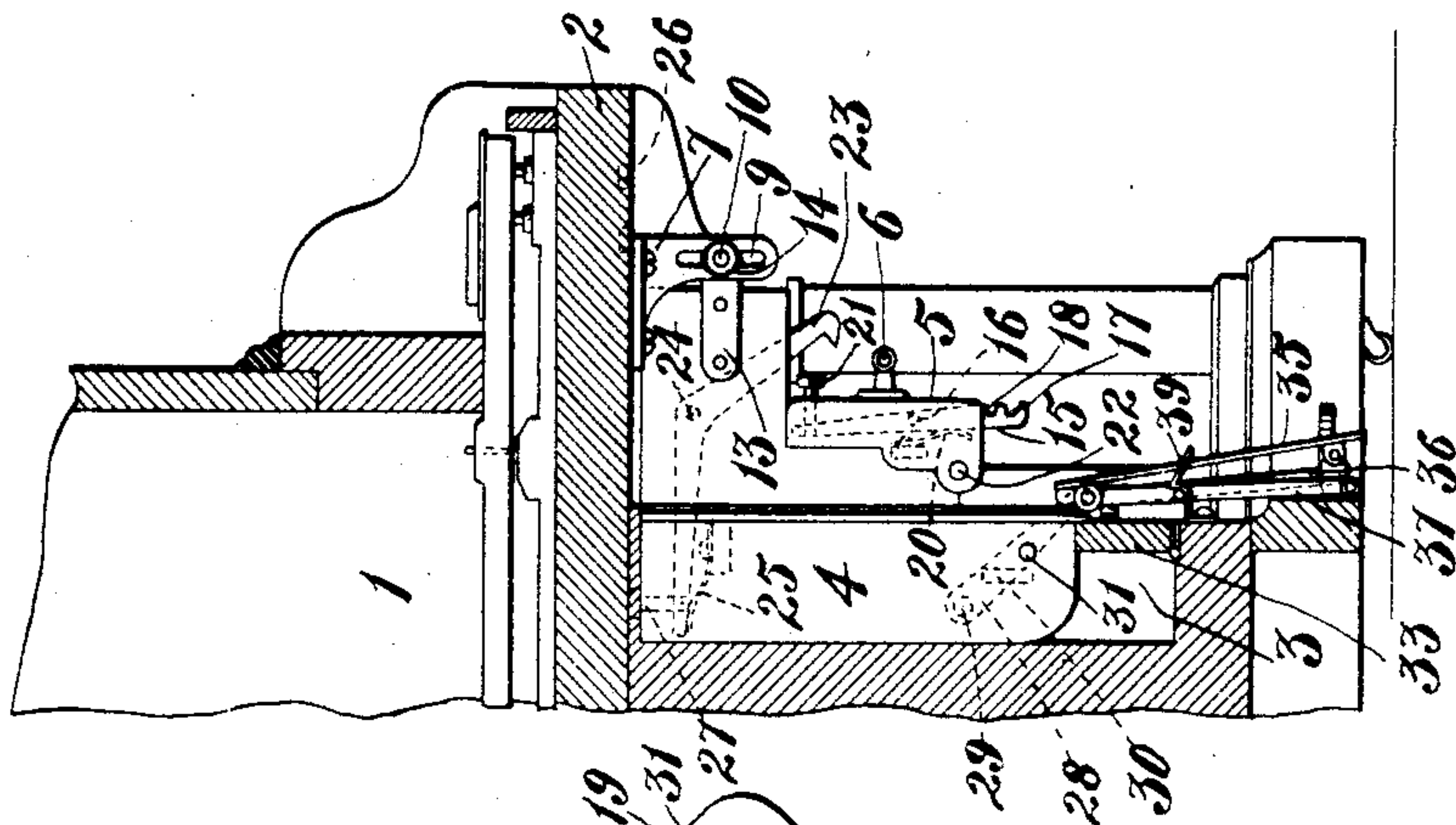


Fig. 5.

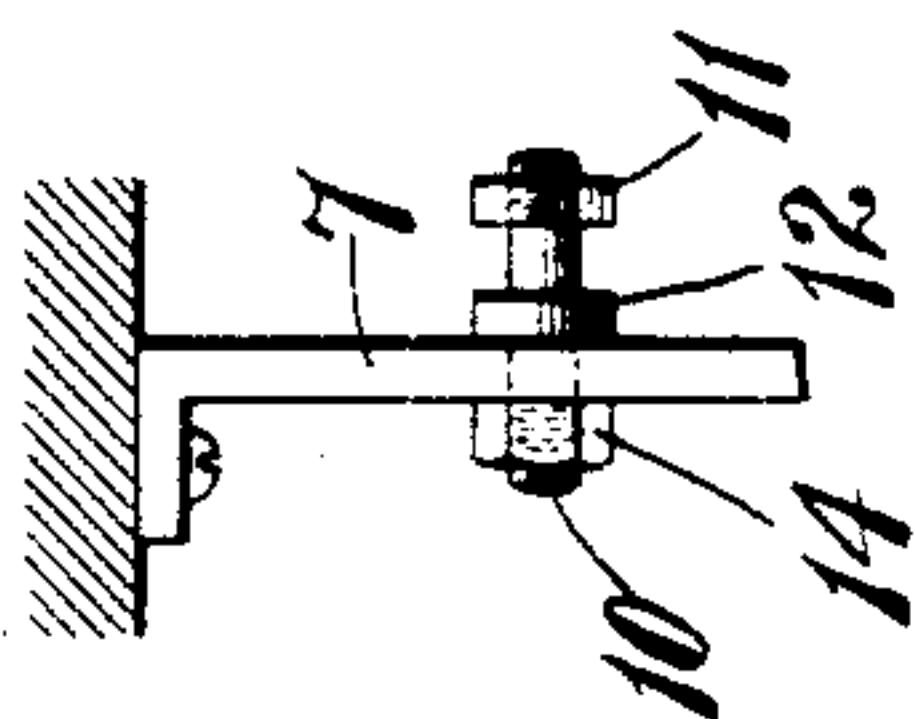


Fig. 3.

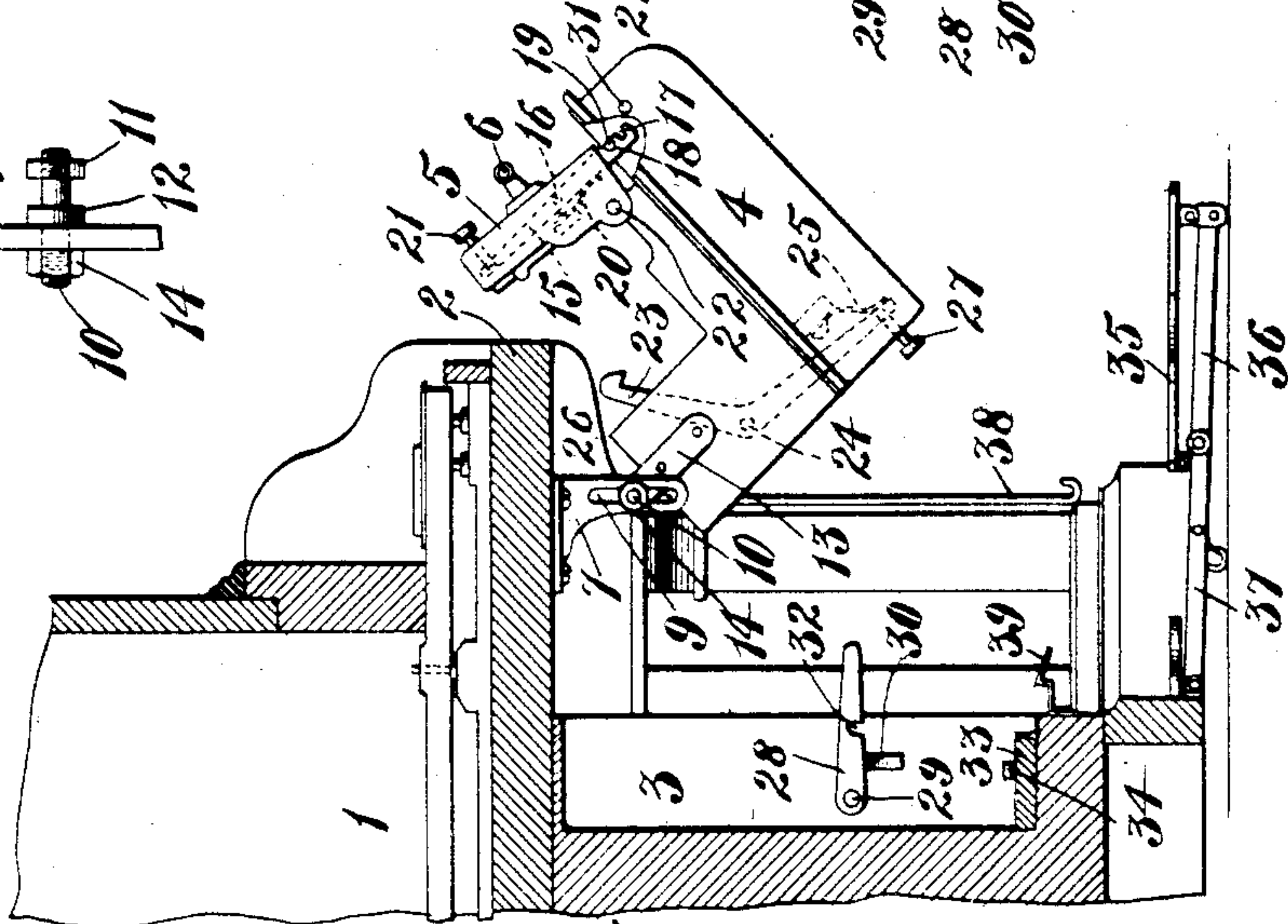
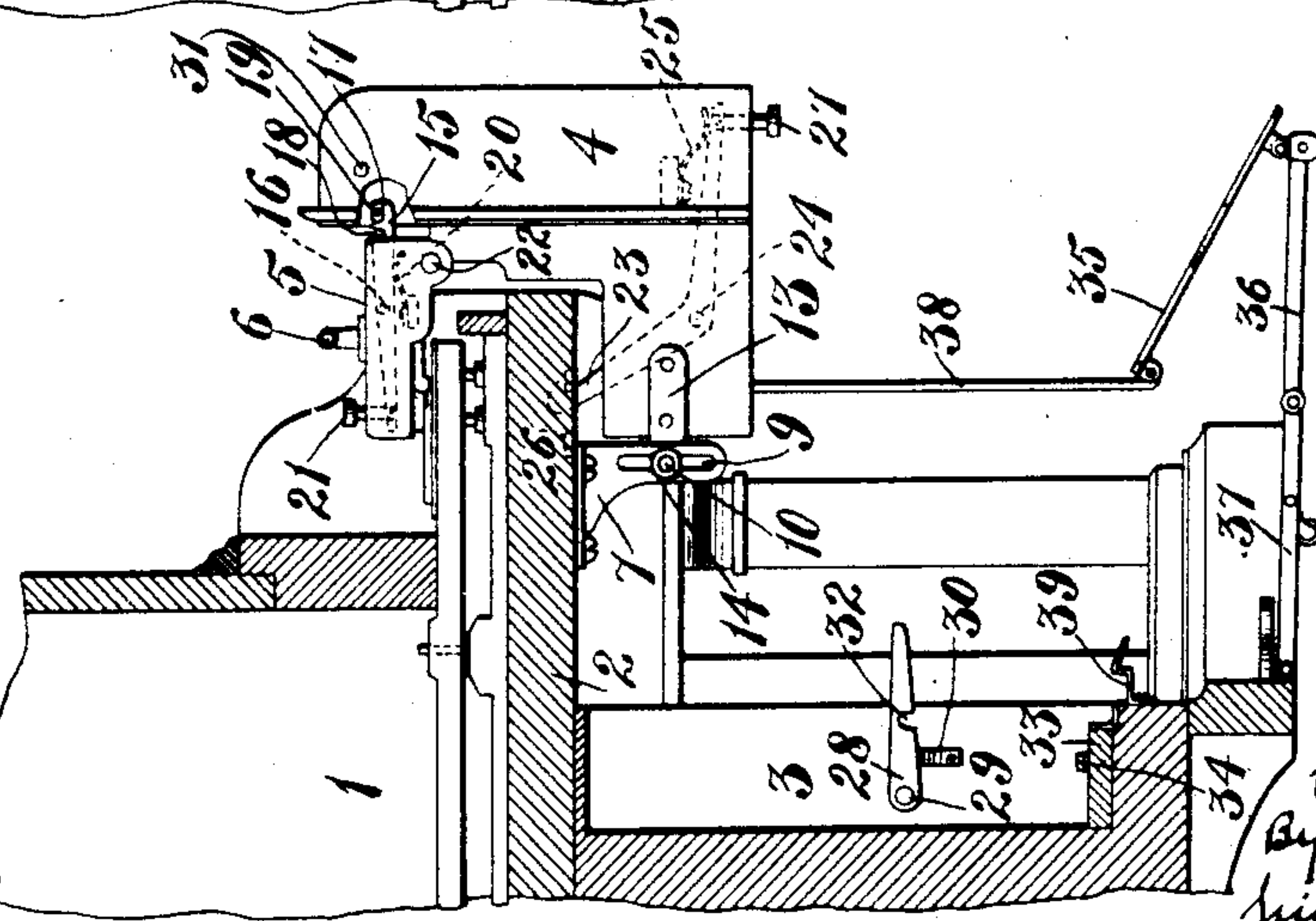


Fig. 2.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC PLAYING ATTACHMENT FOR PIANOS.

SPECIFICATION forming part of Letters Patent No. 791,701, dated June 6, 1905.

Application filed February 6, 1903. Serial No. 142,125.

To all whom it may concern:

Be it known that I, CHARLES A. KUSTER, a citizen of the United States, and a resident of Rutherford, in the county of Bergen and State of New Jersey, have invented a new and useful Automatic Playing Attachment for Pianos, of which the following is a specification.

My invention relates to an automatic playing attachment for pianos with the object in view of providing an attachment which may be swung up into playing position over the keys when desired to have the piano automatically played and which may be swung down underneath the key-bed and stored out of the way when the piano is to be manually manipulated.

In the accompanying drawings, Figure 1 is a view of a piano, showing the attachment in the position which it assumes when swung up into playing position. Fig. 2 is a vertical section from front to rear, showing the attachment in end elevation in its playing position. Fig. 3 is a similar section showing the attachment partially swung into position underneath the key-bed out of playing position. Fig. 4 is a similar section showing the attachment completely housed underneath the key-bed out of playing position, and Fig. 5 is a view in detail of the pivotal bolt in engagement with the depending hanger or bracket for pivoting the attachment to the key-bed in swinging and vertical adjustment.

A piano of any well-known or approved form is represented by 1. Its key-bed is represented by 2, and underneath the key-bed the body of the piano is provided with an opening 3 in its front for receiving the attachment when the latter is folded away out of playing position.

The casing of the attachment consists of a part 4, carrying the bellows, and the key operating and controlling mechanism, which may be of any well-known and approved form and which does not form a part of my present invention. To the part 4 of the casing there is hinged a part 5, carrying the playing-fingers for operating upon the piano-keys when in playing position. The part 4 of the casing has a general L shape in cross-section, one branch extending underneath the key-bed

when in playing position, as shown in Figs. 1 and 2, and the other up in front of the key-bed, while the part 5 rests when in playing position over the tops of the keys in the key-bed 2. The part 5 of the casing is provided with a truss-rod 6, connected from end to end along its back for the purpose of holding the casing, which may be made of suitable thin material, firmly against any liability of springing out of shape during the operation of the playing-fingers. The casing is hinged in the present instance by a pair of hangers 7, secured to the under side of the key-bed and depending therefrom. The hangers 7 are provided with elongated slots 9 for the reception of the hinge-bolt 10.

The hinge-bolt 10 is provided with a head 11 and a collar 12, fixed thereon and spaced from the head 11, to receive between them the eye in the strap 13, fixed to the end of the casing, and the free end of the bolt 10 is screw-threaded and provided with a nut 14 for the purpose of clamping the bolt tightly to the hanger 7 in such vertical adjustment as may be required to cause the attachment to swing into position to bring the playing-fingers into proper relation to the keys.

It is to be understood that there is a hanger 7, bolt 10, and a strap 13, similar to those shown and described, located at the opposite end of the attachment and similarly arranged with reference to one another.

In the opposite ends of the part 5 of the casing there is located a lever 15, pivoted to the end of the casing 5, as at 16, and provided at its free end with a pair of notches 17 18 for the reception of a pin 19 on the end of the part 4 of the casing. The lever 15 is pressed upwardly into engagement with the pin 19 by means of a spring 20, and the opposite end of the said lever is provided with a headed pin 21 for the purpose of manipulating the lever by hand to release it from the pin 19 against the tension of the spring 20.

The part 5 of the casing is hinged to the part 4 of the casing at 22, and when it is desired to throw the attachment out of playing position the pin 21 is lifted to release the lever 15 from the pin 19, and the part 5 of the casing is then swung on its pivot 22 to allow

the pin 19 to engage in the notch 18 of the lever, thereby holding the part 5 of the casing slightly raised from the keys, so as to permit it to swing together with the part 4 over away from and below the key-bed or back into position up and over the key-bed without striking the bed itself.

The attachment is held up in its playing position by means of a pair of spring-actuated hooks 23, one at each end of the attachment, pivoted to the end of the attachment, as at 24, and having a spring 25 bearing against their outer ends to hold the hook in engagement with an eye or ledge 26 (see Fig. 2) in the under side of the key-bed. A pin 27, fast to the outer end of the hook 23, is used to manipulate the hook to release it from the eye or ledge 26 when the attachment is to be lowered out of playing position.

When the attachment is at the limit of its swinging movement down and rearwardly out of playing position, as shown in Fig. 4, the part 5 is folded inwardly onto the face of one branch of the part 4, and the attachment is held in its folded position by means of a lever 28, pivoted to the head wall of the recess 3, as at 29. The lever 28 is conveniently held by means of a flat spring 30 bearing against its side in raised position, as shown in Figs. 2 and 3, ready for the passage of a pin 31, projecting from the end of the attachment, the lever 28 being forced downwardly to cause its notch 32 to receive the pin 31 when the attachment has been completely folded.

At the bottom of the recess 3 in the front of the piano-frame there is hinged a board 33, which, by means of a handle 34, may be drawn over into upright position, as shown in Fig. 4, when the attachment is folded away out of use in order to close the front of the recess 3, and this swinging board 33 also serves by its close fit to sustain a portion of the weight of the attachment when in its folded position.

The treadle for operating the bellows of the attachment is denoted by 35, and is hinged at one end to the outer folding section 36 of a base-frame, the said section 36 being pivoted to the inner section 37 of the base-frame, which in turn is pivotally secured to the base of the piano-frame, so that when the treadle 35 is unhooked from the rods 38, which connect it with the bellows, it may be first folded down onto the part 36, as shown in Fig. 3, and then the two parts folded over underneath the part 37 and the whole folded back against the base of the piano-frame and held in position by means of spring-detents 39. The operating-rods 38 may be detached from the attachment when the latter is to be folded away underneath the piano.

The construction hereinabove described admits of folding away the automatic playing attachment where it is but little observed and wholly out of the way of manipulating the piano manually and yet provides for the ready

swinging of the attachment over into playing position without getting it out of proper adjustment during its swinging movement away from or into playing position. This playing adjustment may be accurately obtained by means of the raising and lowering of the attachment as a whole in its hangers, and when once obtained may be maintained so that whatever the position which the piano may occupy, whether perfectly level or not, the attachment will bear the proper relation to the keyboard of the piano when swung into playing position.

What I claim is—

1. The combination with a suitable means of support, of an automatic playing attachment hinged to the support in position to be swung up over the keyboard of a piano into playing position and down and backwardly underneath the key-bed.

2. The combination with supporting means fixed to a piano beneath its key-bed, of an automatic playing attachment hinged to said support in position to be swung up over the keyboard of the piano into playing position and down underneath the key-bed out of playing position.

3. The combination with suitable supporting means, of an automatic playing attachment hinged to said supporting means in position to swing up over the keyboard of the piano and down underneath the key-bed and means for adjusting the said automatic playing attachment vertically on the supporting means.

4. The combination with suitable supporting means, of an automatic playing attachment comprising a folding casing for housing the operating parts of the attachment, the said casing being hinged to the supporting means in position to swing up over the keyboard and down beneath the key-bed.

5. The combination with suitable supporting means, of a playing attachment hinged to the said supporting means in position to be swung up over the keyboard and down beneath the key-bed, that part of the casing of the said attachment which extends over the keyboard when in playing position being hinged to the other part of the playing attachment and means for locking the said part of the playing attachment which extends over the keyboard to the other part in different angular adjustments relative thereto.

6. The combination with a piano-casing provided with an opening in its front below the key-bed, of an automatic playing attachment hinged to the piano in position to swing into said recess in the front of the piano-casing out of playing position and from said recess up and over the keyboard into playing position.

7. The combination with a piano-casing provided with a recess in its front below the key-bed, of slotted hangers fixed to the piano, an automatic playing attachment hinged in said

slotted hangers in vertical adjustment in position to swing into said recess in front of the piano out of playing position and up over the keyboard into playing position and means for
5 locking the said playing attachment in position at the limits of its swinging movements.

In testimony that I claim the foregoing as

my invention I have signed my name, in presence of two witnesses, this 23d day of January, 1903.

CHARLES A. KUSTER.

Witnesses:

F. MORTIMER HILL,
OAKLEY SELLECK.