

No. 798,003.

PATENTED AUG. 22, 1905.

W. H. AYER.
PICKER CHECK.

APPLICATION FILED NOV. 29, 1904.

Fig. 1.

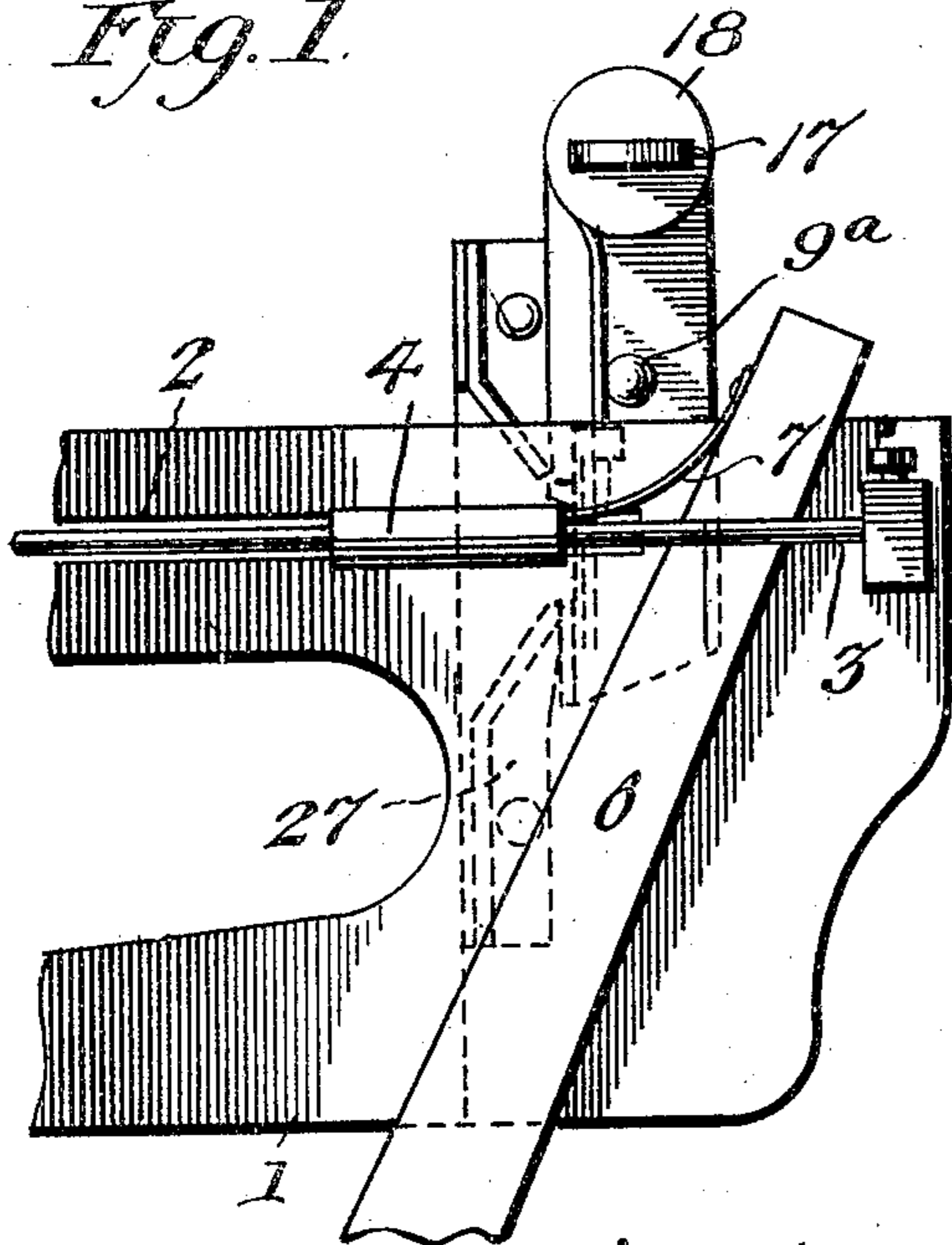


Fig. 2.

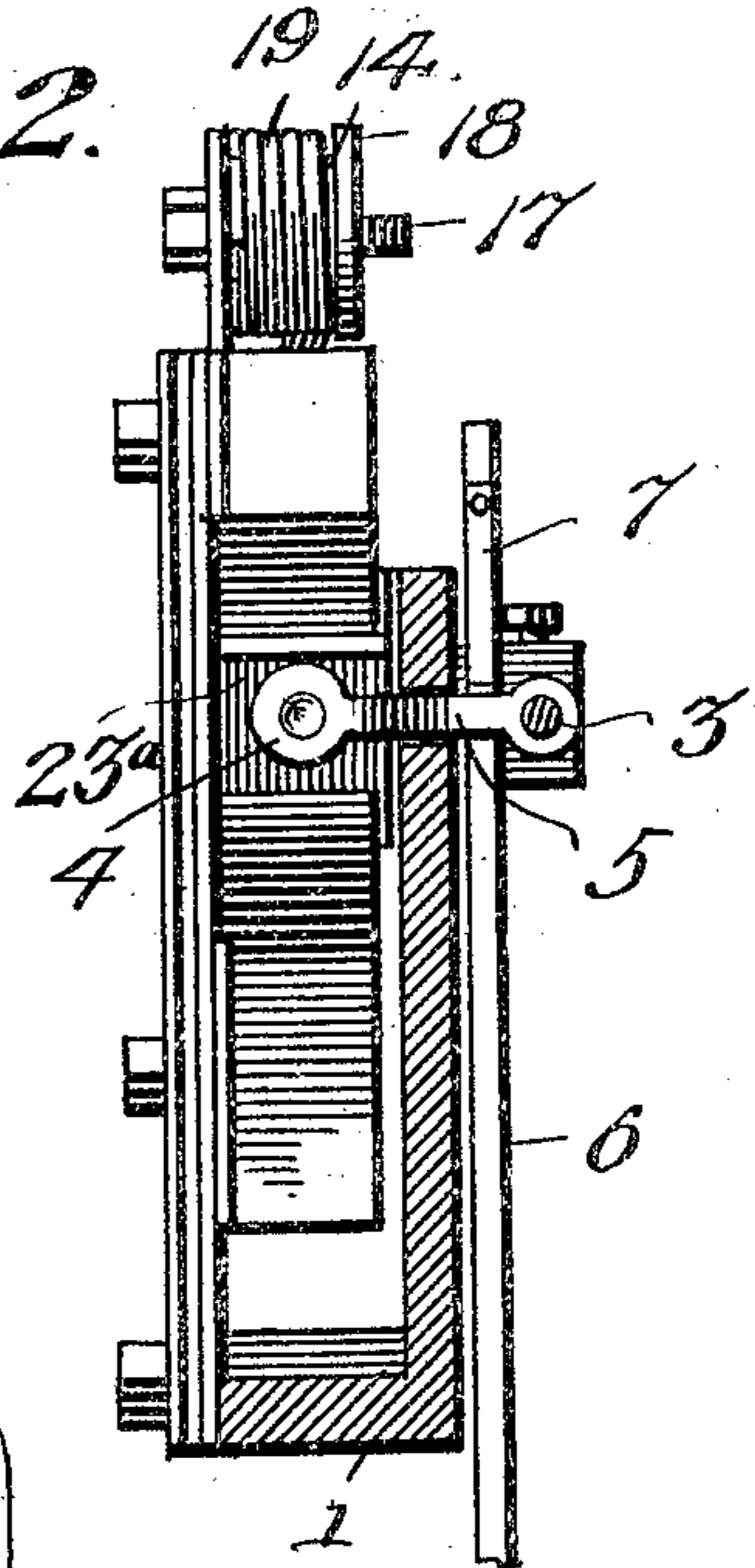


Fig. 3.

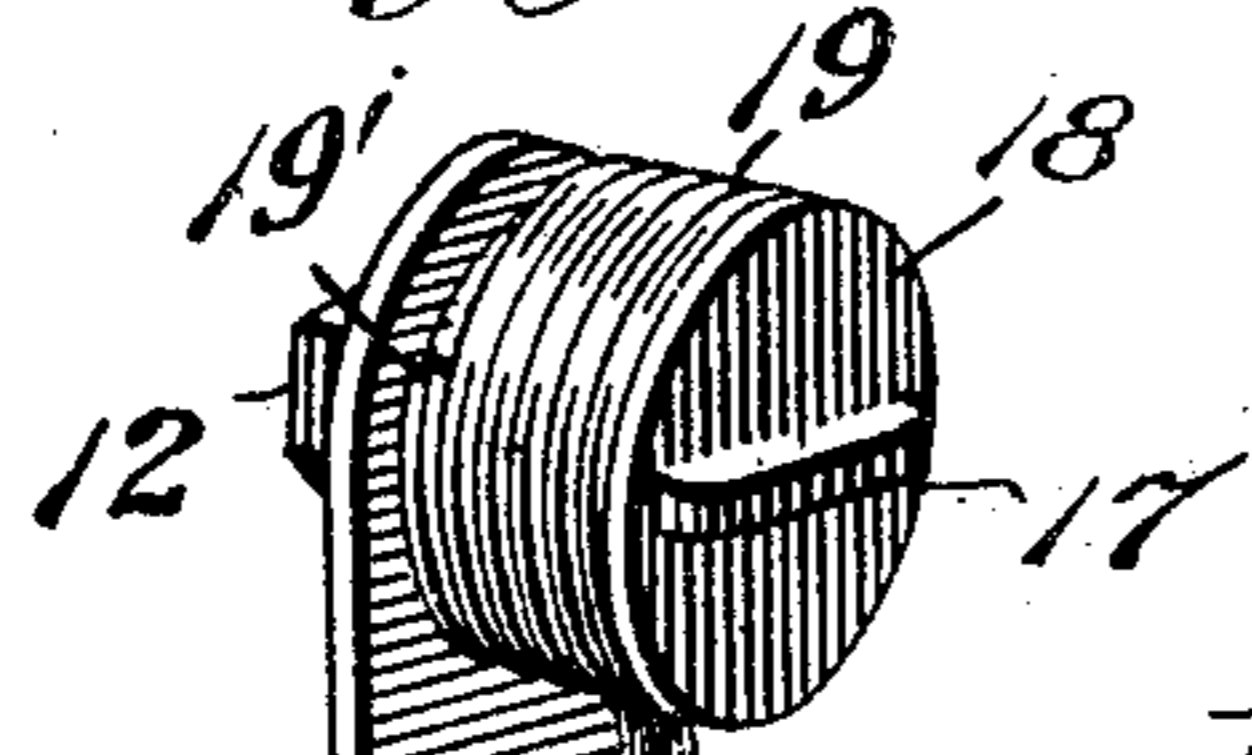


Fig. 5.

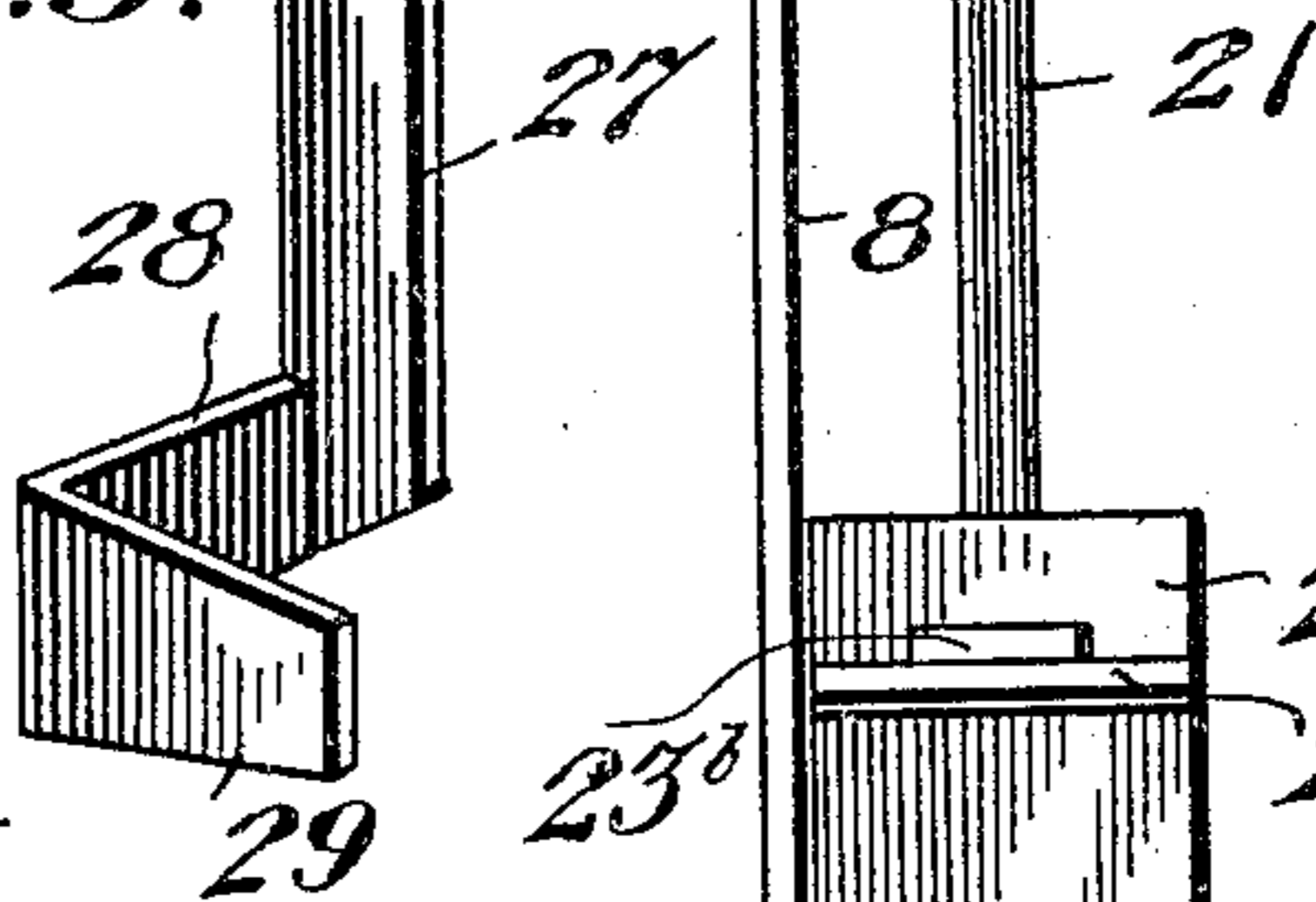


Fig. 4.

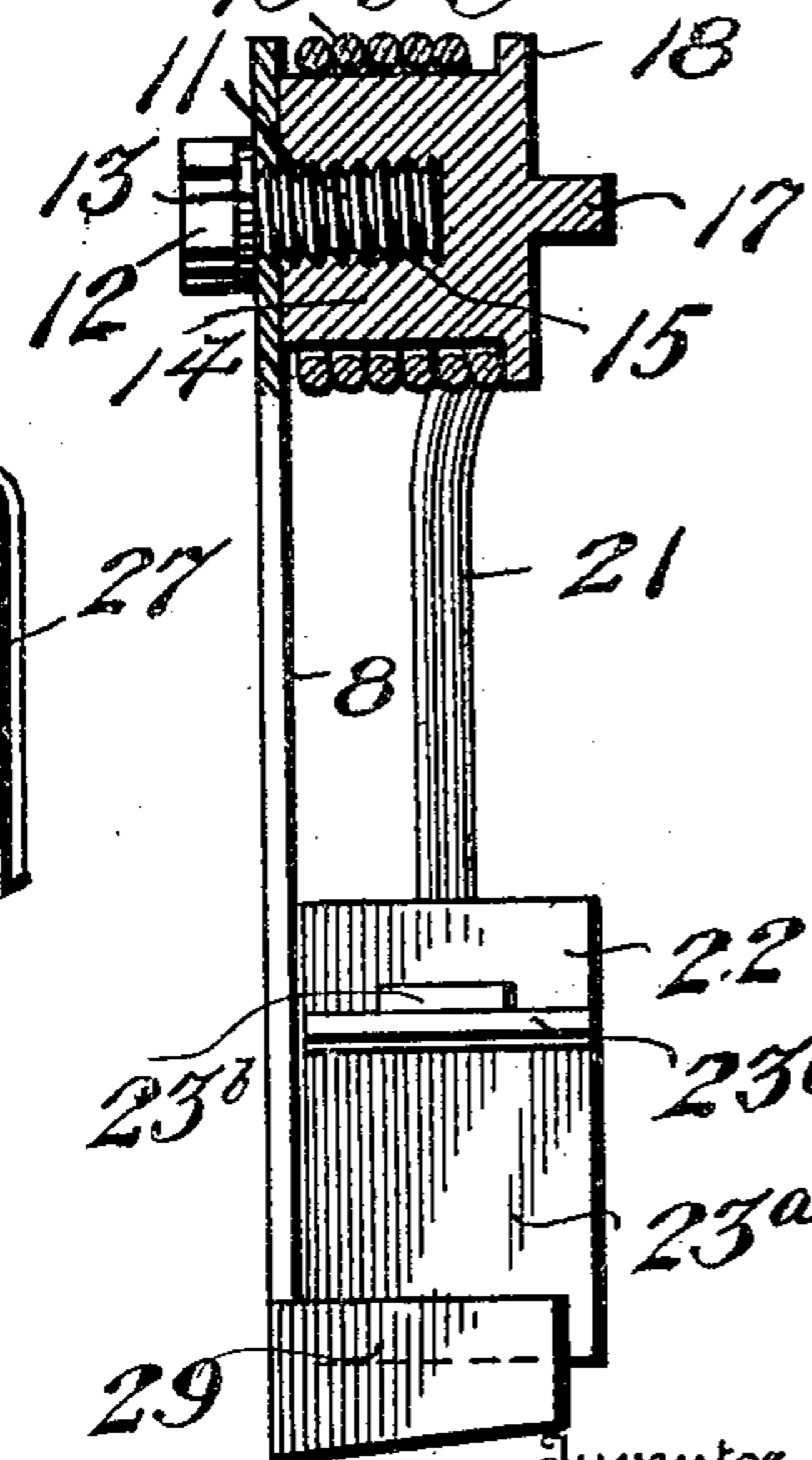


Fig. 7.

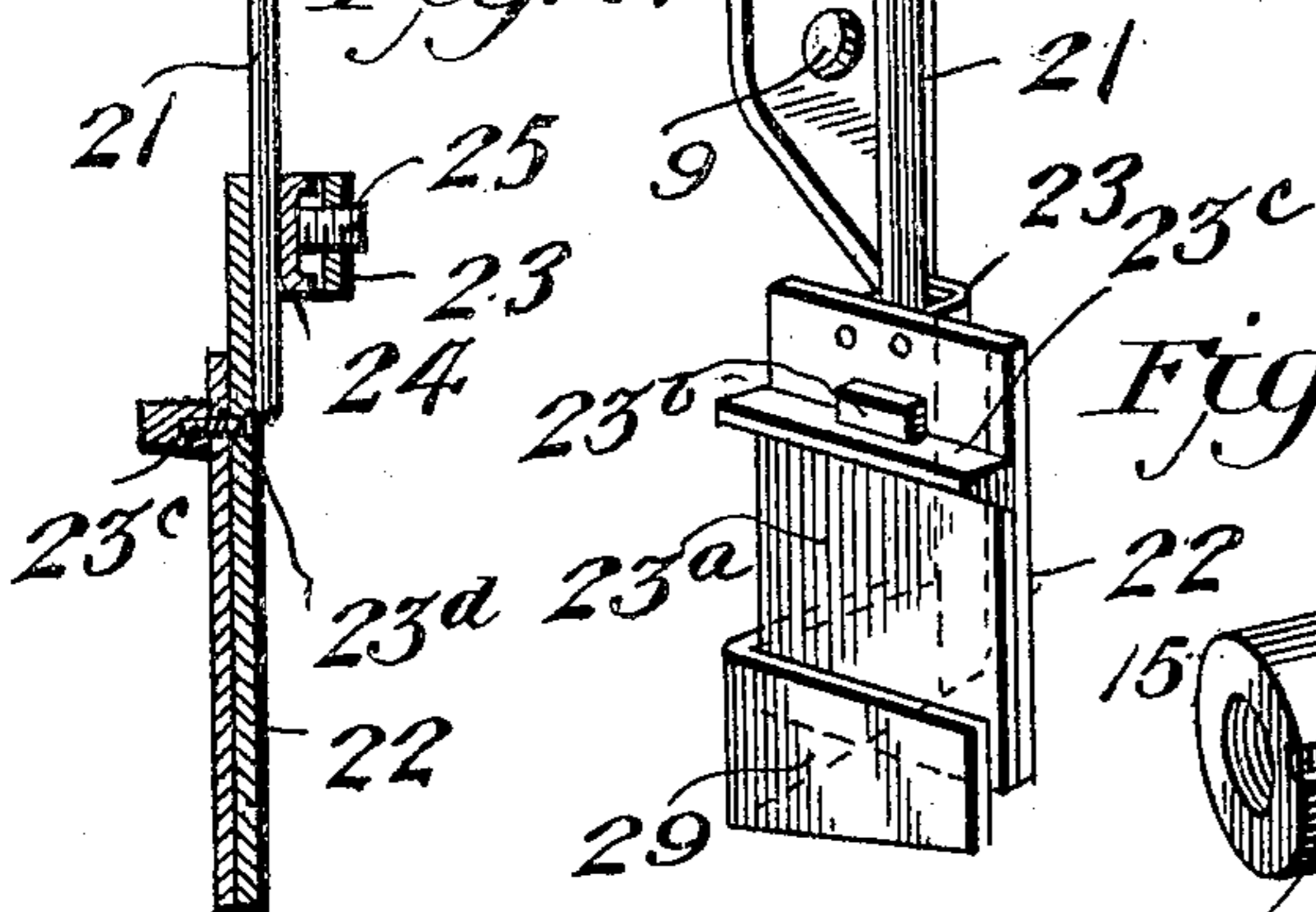
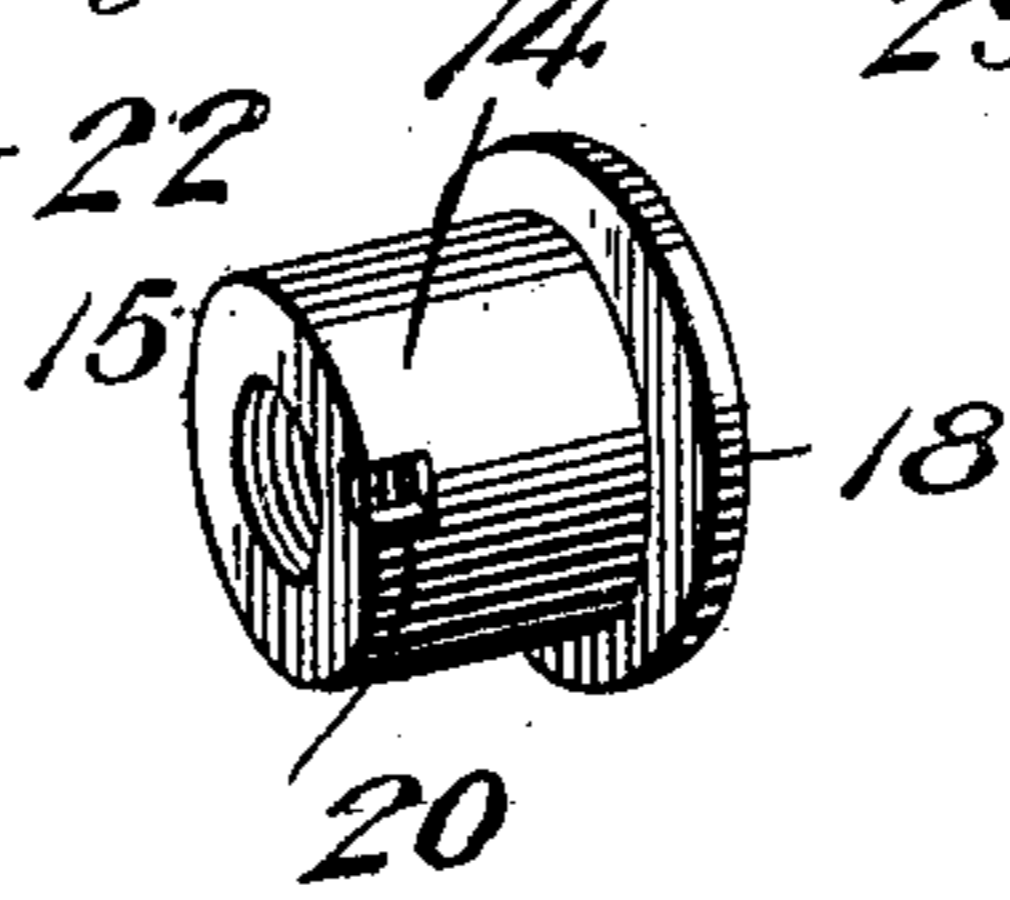


Fig. 6.



Witnesses

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PICKER-CHECK.

No. 798,003.

Specification of Letters Patent.

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Application filed November 29, 1904. Serial No. 234,766.

To all whom it may concern:

Be it known that I, WILLIAM H. AYER, a citizen of the United States, residing at Claremont, in the county of Sullivan and State of New Hampshire, have invented new and useful Improvements in Picker-Checks, of which the following is a specification.

This invention relates to an improved buffer and cushioning means for the pickers and shuttles of looms, and in common with prior devices of its kind is designed to provide a check of a construction to cushion the impact of the pickers and shuttles and bring the shuttles gradually to rest and reduce shocks and jars and wear on the pickers.

The object of the present invention is to provide a cushioning-check which will perform this work more efficiently, which may be used for a long period without liability of breakage or injury from ordinary use, which may be readily removed when changing the pickers and adjusted to vary the cushioning resistance to the required degree, and which will maintain the picker in proper position to prevent undue wear thereon when engaged by the shuttle, and embodies means to effectually limit the movement of the buffer member of the check.

With this and other objects in view the invention consists of the features of construction, combination, and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a view in elevation of a portion of a loom-frame, showing the application of the invention. Fig. 2 is a vertical cross-section on the line 2 2 of Fig. 1. Fig. 3 is a detail view of the buffer or cushion-check removed. Fig. 4 is a view in elevation of the same, the spring, its drum or sleeve, and its supporting-bracket appearing in section. Fig. 5 is a detail view of the bracket. Fig. 6 is a similar view of the drum or sleeve; and Fig. 7 is a sectional view of the buffer-plate or head, showing the means for fastening the same to the spring-arm.

Referring now more particularly to the drawings, the numeral 1 represents a portion of the frame of a loom provided with a picker-race or guideway 2, 3 the guide-rod, 4 the picker having its shank 5 projecting through the said race or guideway and connected to the guide-rod, 6 the picker stick or staff, and 7 a strap connecting the said stick with the

picker, all of which parts may be of the ordinary or any approved construction.

In carrying my invention into practice I provide a bracket-plate 8, provided at a point about intermediate of its length with an opening 9 for the passage of a bolt 9^a to secure it to the frame portion 1 in such position that the upper end of the bracket will lie at a suitable distance above and near the end of the race 2. The bracket-plate 8 is also provided with an opening 10, at the upper end thereof, through which extends a fastening-screw 11, which is provided at one end with a head 12 and a washer 13, the latter being clamped by the head 12 against the outer side of the plate 8. On the inner side of the plate 8 is disposed a barrel, drum, or sleeve 14, having a socket 15, receiving the said screw 11 and formed or provided at its outer end with a key or finger-piece 17, by which it may be threaded on and off the screw and adjusted in conjunction with the head 12, so as to be tightly clamped in position against the bracket-plate 8. The outer circumference of the barrel 14 is preferably a true cylinder, which is uninterrupted by projections at its inner end, but is provided at its outer end with a circumferential flange 18, forming a space or recess for the reception of the convolutions of a coiled spring 19, disposed about the drum. When the drum is applied in position, the upper end of the bracket-plate 8 projects beyond the same entirely around its circumference and provides a complementary projection or flange which coöperates with the flange 18 to form an annular receiving-space for the convolutions of the spring and prevent endwise movement or detachment thereof in the event of the spring becoming disconnected from the drum.

One end 19' of the spring forms a terminal of the coiled portion thereof and is seated within a notch or recess 20 in the barrel 14 and clamped thereby against the bracket-plate 8, whereby the said end of the spring is securely connected to the drum and held from relative movement. The other end of the spring extends beyond the other terminal coil or convolution and is doubled to form an arm 21, extending downward below the barrel and bracket and connected at its lower end to a bumper or buffer head or plate 22.

In order to adjustably and detachably secure the bumper head or plate to the spring-arm 21, the said plate is provided upon its upper rear face with a stirrup or keeper 23, re-

ceiving the lower end of the arm 21 and containing a clamping piece or plate 24, adapted to be adjusted by a screw 25 to clamp the arm against the rear face of the bumper-plate, the said screw extending through the back of the stirrup or keeper, so as to be conveniently manipulated to loosen the clamp to adjust the position of the bumper on the arm 21 or to enable the bumper to be quickly and conveniently detached.

The bumper or buffer head or plate 22 lies in the path of movement of the picker 4 and is adapted when engaged by said picker upon the latter reaching the end of its stroke to yield outwardly to bring the picker to a gradual and easy stop, this action being permitted by the contraction of the coiled portion of the spring 19, which permits the arm 21 to have rearward movement, so that the shock of impact of the picker will be taken up and cushioned, thereby preventing the shocks or jars and strain ordinarily produced when the picker comes in contact with bumpers of ordinary construction. The buffer head or plate 22 may be made of metal or other suitable durable material and provided or not, as desired, with a cushion-plate of leather or like substance, the plate itself being adapted to withstand the impact of the picker without causing injury to the picker and without itself being broken or otherwise injured, and may thus be employed indefinitely or until the surface thereof from repeated shocks becomes roughened or indented to such an extent as to render the use of a new plate or head necessary, in which event the head may be quickly detached by slacking the screw 25 and a new plate as quickly and conveniently substituted therefor. As shown in the present instance, the buffer plate or head is provided upon its contact-face with a cushioning strip or layer 23^a of leather which covers the lower surface of said face and is provided at its upper end with a tongue or projection 23^b, extending upwardly through an opening in a transverse contact bar or strip 23^c, projecting forwardly from the contact-face of the buffer at or near the upper end thereof and secured thereto by screws or other similar fastenings 23^d, the tongue cooperating with said screws to secure the leather strip in position. The contact strip or bar 23^c forms a stop member or abutment which lies above and normally engages the upper surface of the head of the picker 4 and prevents the latter from moving out of position when the shuttle comes in contact therewith, thus preventing the shuttle from striking the picker at too low a point and unduly wearing the picker or deranging the same and cooperating parts of the loom mechanism. This is an important feature of the present invention and overcomes a serious objection to the constructions now in common use. By detachably securing the contact-strip or stop-bar 23^c to the buffer-head the said

strip, as well as the leather facing 23^a, may be quickly and conveniently removed and a new bar and facing substituted when occasion requires. The cushioning resistance of the buffer plate or head may be regulated by varying the resistance of the spring 19, which may be accomplished by turning the screw 11 slightly out of the socket 15 and further screwing up the barrel 14, by which the coils or convolutions of the spring will be wound to a higher tension or lower tension, according to the direction of movement of the barrel, thus permitting the resistance to be regulated with nicety to the required degree. After the barrel has been so adjusted it may again be clamped firmly against possibility of disengagement by tightening up the screw 11. It will of course be understood that the screw 11 may be provided with a nut instead of the solid head to lock it in adjusted position.

The lower end of the bracket 8 is provided with an inwardly-projecting flange 27, from the lower portion of which projects an arm 28, terminating in a flange 29, bent at right angles to said arm 28 and lying a suitable distance from and in a plane parallel with the flange 27. The buffer plate or head 22 is supported a sufficient distance below the barrel 14 to lie between the two flanges 27 and 29 and is limited in its back and forth movements by said flanges, the distance between the flanges being such as to permit the bumper-plate to have a sufficient extent of movement to effectually perform its cushioning action. The arm 28 restrains the bumper-plate against outward sidewise or lateral movement. When the picker comes into contact with the bumper-plate on its outward movement under the thrust or impact of the shuttle, the plate moves rearwardly until if the impact is of sufficient force it engages the flange 27, when its further outward movement is arrested. When the picker moves inwardly again, the spring restores the bumper to its normal position, in which it bears against the flange 29. The flange 29 thus serves to prevent undue rebounding or vibration of the buffer when returning to its normal position and at the same time maintains it at the proper point and angle to be squarely engaged by the picker on its outward movement.

From the foregoing description, taken in connection with the accompanying drawings, the construction of my improved cushion check or buffer will be readily understood and its advantages appreciated. It will be observed that the device may be readily applied to existing loom structures and adjusted to regulate the cushioning resistance as desired and that the device need not be removed when the pickers are changed, as by loosening the screw 25 in the stirrup or keeper the buffer head or plate 22 may be adjusted upward on the arm 21 until it passes above the head of

the picker, thus enabling the pickers to be changed with facility.

Having thus described the invention, what is claimed as new is—

1. A cushion-check for looms comprising a buffer-head, a spring-support therefor, and means for adjusting the buffer-head on the spring-support.

2. A cushion-check for looms comprising a buffer-head, a spring-support therefor having a carrying-arm, and means for adjustably clamping the buffer to said arm.

3. A cushioning-check for looms, comprising a bracket or support, a buffer-head, a barrel adjustably connected with said bracket or support, a spring connected to and coiled about the barrel, means for adjustably connecting the buffer-head to the spring, and means for adjusting the barrel to vary the tension of said spring and yielding resistance of the buffer-head.

4. A cushion-check for looms comprising a buffer-head, a spring-support therefor, means for varying the resistance of said spring-support, and means for adjusting the buffer-head on the spring-support.

5. In a cushion-check for looms, a spring-controlled buffer provided with means to engage and retain the picker-head in proper position.

6. In a spring-check for looms, a spring-controlled buffer provided with a projecting portion adapted to engage and retain the picker-head in proper position to receive the impact of the shuttle.

7. In a cushion-check for looms, a spring-controlled buffer comprising a buffer-head, a pad carried thereby, and a device for fastening the pad to the buffer-head and engaging and retaining the picker-head in proper position.

8. The combination with a loom-frame, of a

cushioning-buffer, a support for the buffer adjustably mounted on the loom-frame so that the buffer may be thrown into and out of the path of the picker, and means for fixing said buffer and support in operative position.

9. The combination with a loom-frame, of a cushioning-buffer adjustably mounted upon the frame so as to be thrown into and out of the path of the picker.

10. The combination with a loom-frame, of a cushioning-buffer pivotally mounted upon the frame so as to be thrown into and out of the path of the picker.

11. The combination with a loom-frame, of a buffer-head, a spring-support therefor, a bracket carrying the spring-support, means for pivotally mounting the bracket upon the frame to swing laterally in and out of the path of the loom-picker, and means for fixing the bracket in adjusted position.

12. A cushion-check for looms comprising a buffer-head, a spring-support therefor, means carried by the buffer-head for engaging and retaining the picker-head in proper position, and means for adjusting the buffer-head and aforesaid means on the spring-support.

13. A cushion-check for looms comprising a bracket, a spring-support carried by the bracket, a buffer carried by said support, means for regulating the resistance of the spring-support, means for adjusting the buffer on the spring-support, and stops carried by the bracket for limiting the movements of the buffer.

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

WILLIAM H. AYER.

Witnesses:

IRA G. COLBY,
IRA COLBY.