

(No Model.)

H. I. CROMER.

REGISTERING ATTACHMENT FOR TYPE WRITERS.

No. 476,735.

Patented June 7, 1892.

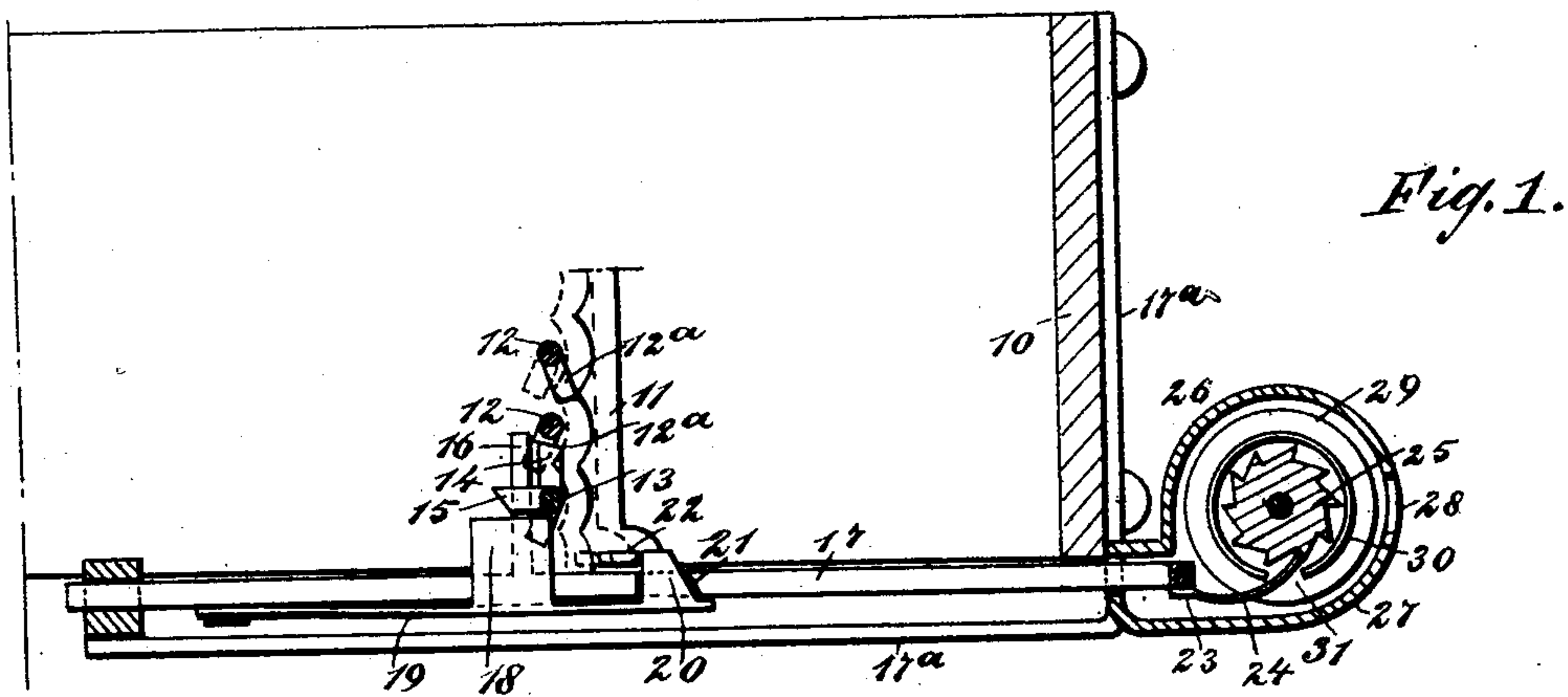


Fig. 1.

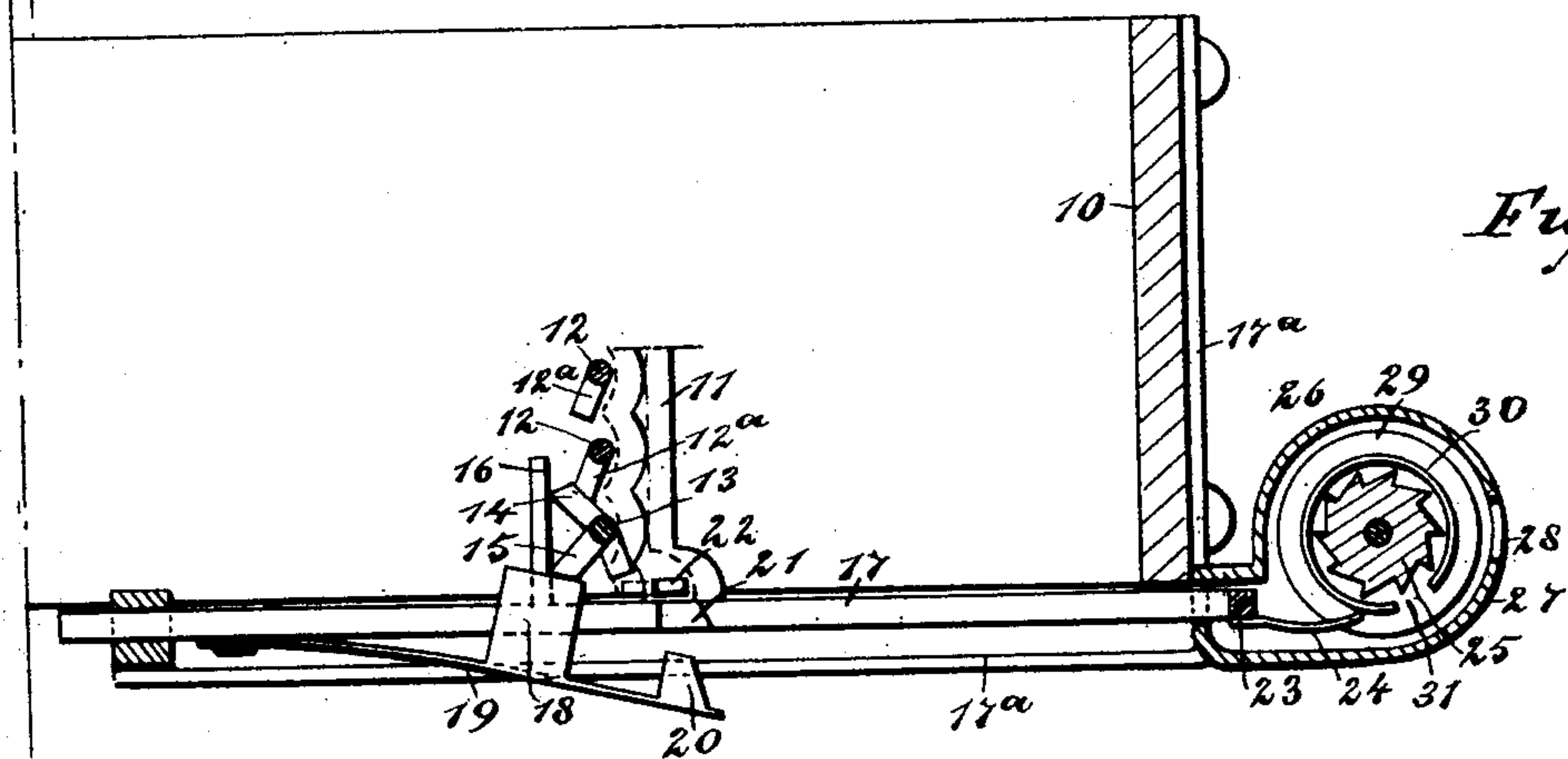


Fig. 2.

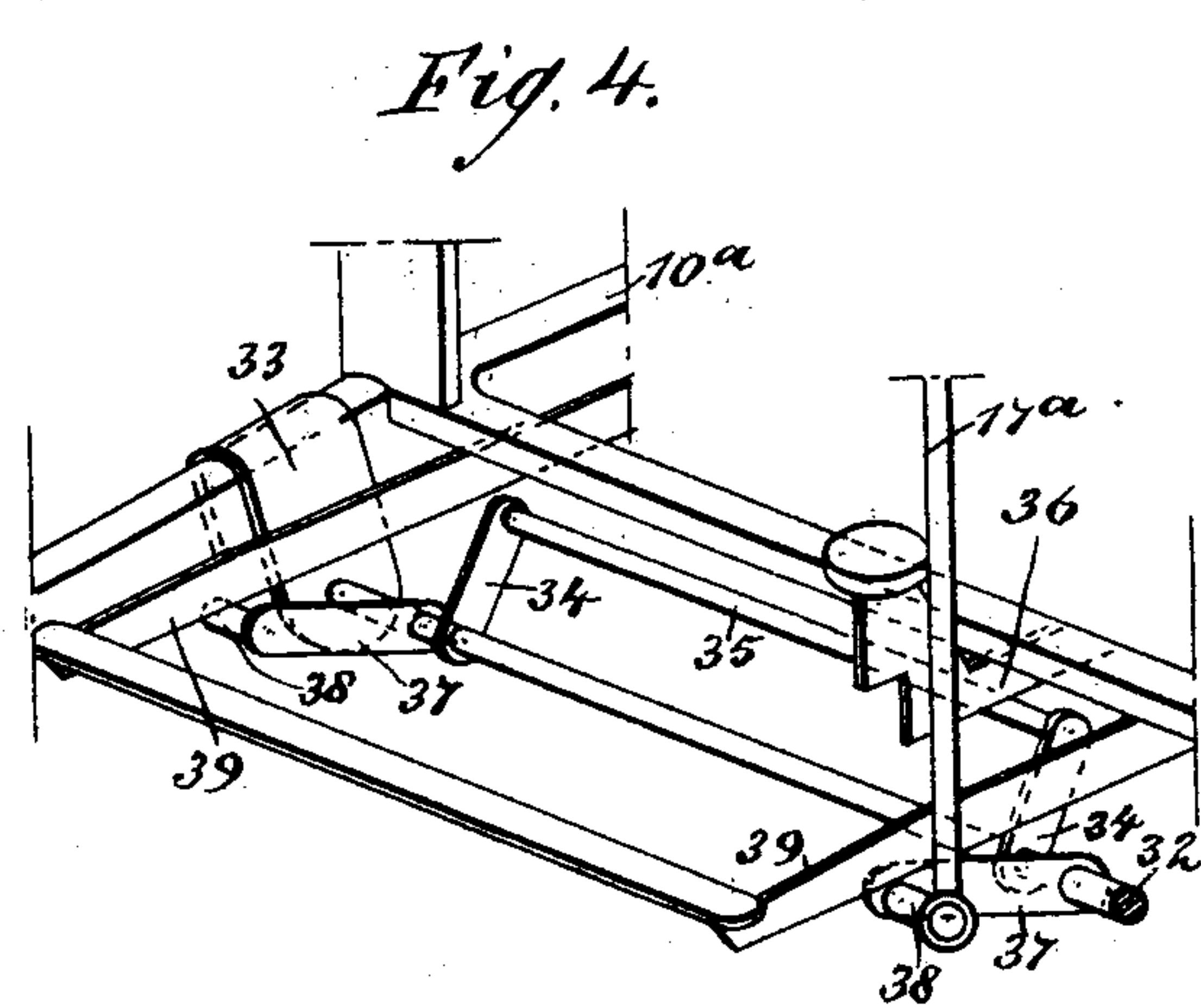


Fig. 4.

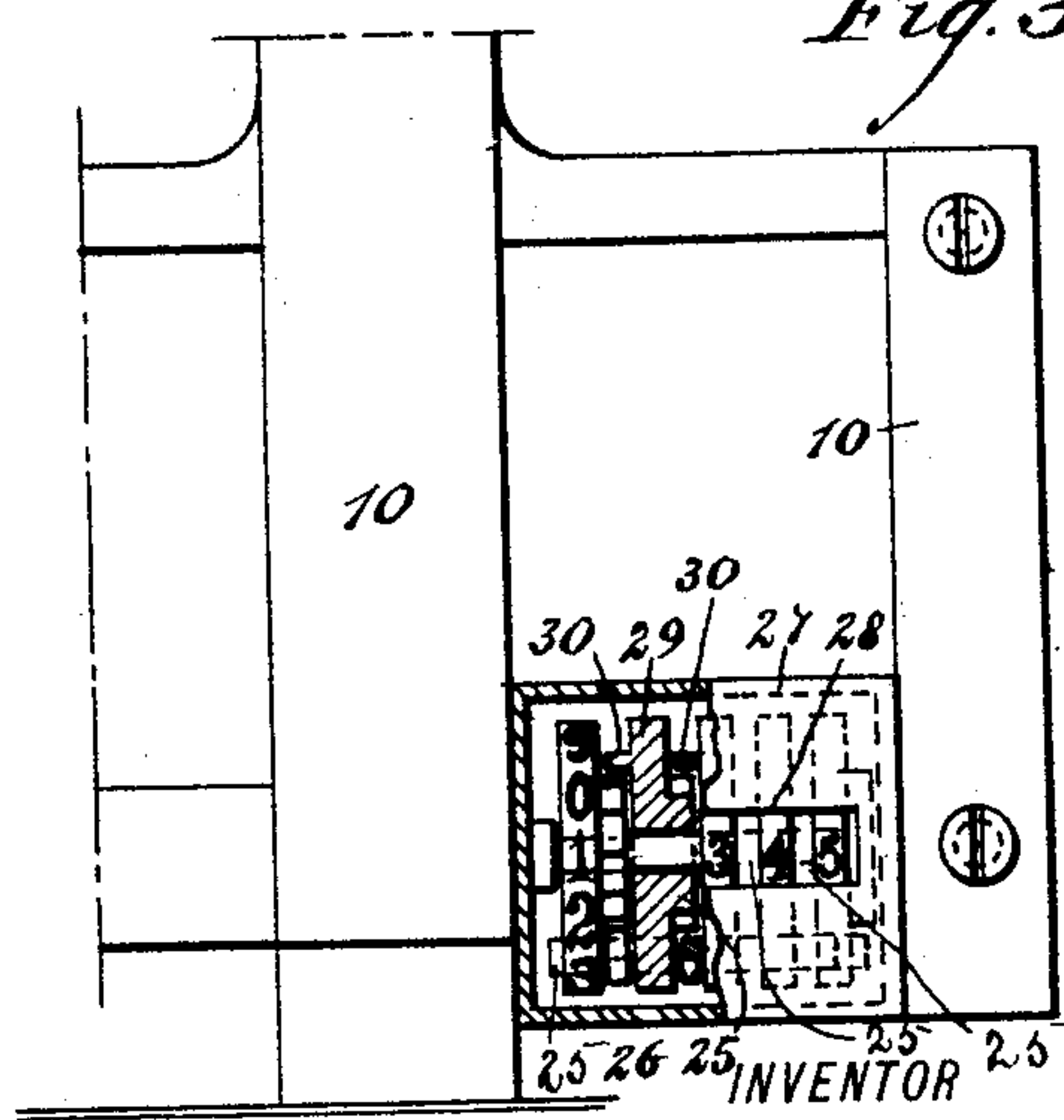


Fig. 3.

WITNESSES:

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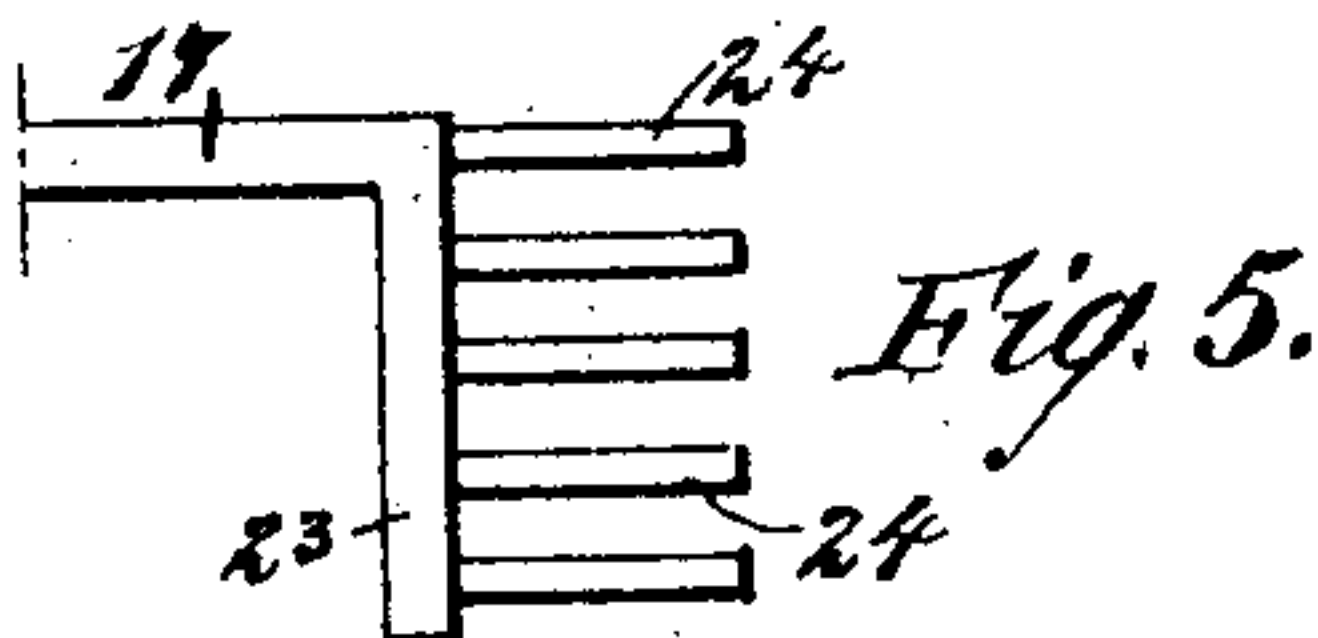


Fig. 5.

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UNITED STATES PATENT OFFICE.

HARRY I. CROMER, OF RAPID CITY, SOUTH DAKOTA.

REGISTERING ATTACHMENT FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 476,735, dated June 7, 1892.

Application filed July 8, 1891. Serial No. 398,828. (No model.)

To all whom it may concern:

Be it known that I, HARRY I. CROMER, of Rapid City, in the county of Pennington and State of South Dakota, have invented new and Improved Registering Attachments for Type-Writers, of which the following is a full, clear, and exact description.

My invention relates to improvements in registering attachments for type-writers; and its object is to produce a simple device which by the movements of the keys and space-bars will accurately count and register the number of words printed by the machine.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a detail sectional view showing my improved attachment applied to a "Smith Premier" machine, the parts being shown in operation. Fig. 2 is a similar view, but showing the main operating-bar as it is being pushed back ready for another operation. Fig. 3 is a broken detail plan view, partly in section, of the register. Fig. 4 is a broken detail perspective view showing the attachment as applied to a "Remington" machine, and Fig. 5 is a detail plan view of the fork which operates the register.

The attachments embodying my invention may be applied to any ordinary type-writer by simply changing the location and form of some of the parts, and to illustrate the adaptability of the device I have shown it as applied to two different kinds of type-writing machines.

In Figs. 1 to 3, 10 represents a portion of the machine-frame, and on the back of the frame is the usual swinging space-bar 11, which is operated to make letter-spaces by means of the oscillating type-rods 12, which have lugs 12^a thereon to contact with the bar 11, and the bar is operated to make the spaces between the words by the oscillating space-rod 13, which has also a lug to contact with the space-bar 11. The above construction is of the common form and forms no part of my invention.

On the oscillating space-rod 13 are secured lugs 14 and 15, which are arranged one above the other and project at angles to each other, the upper lug 14 being adapted to engage a stud 16 on the sliding bar 17 and the lower lug 15 being adapted to strike upon the top of a block 18, which is produced on a spring 19, secured to the under side of the sliding bar 17. This sliding bar 17 is held in an angular frame 17^a, which is secured to the main frame. The bar is adapted to operate the register, as hereinafter described, and is moved by the oscillating type-rods 12 and space-rod 13. The spring 19, which is secured to the under side of the sliding bar 17, has a projection 20 on its upper side near the free end, which projection is adapted to enter a recess 21 in and near the center of the bar 17 and project upward through said recess into the path of a lug 22, which projects laterally from the foot of the swinging space-bar 11. It will thus be seen that when one of the oscillating type-rods 12 moves the space-bar 11 the lug 22 will engage the projection 20 and cause the bar 17 to slide back toward the register, and when the space-rod 13 is oscillated to make the space between two words the lower lug 15 of the space-rod will strike upon the block 18 and depress the spring 19, so as to withdraw the projection 20 from the type-bar, as shown in Fig. 2, and the upper lug 14 of the space-rod 13 will strike the stud 16 of the sliding bar 17 and push the bar back to its normal position. One end of the sliding bar 17 terminates in a fork 23, which has a series of projecting spring-prongs 24, (see Fig. 5,) adapted to contact with the teeth of the ratchet-wheels 25, which wheels are secured on the registering-disks 29 of the register 26. The register 26 is provided with a suitable casing 27, which has a slot 28, located in one side, and within the casing are the disks 29, which are mounted independently on a suitable shaft and which are numbered upon their faces from "0" to "9," and the ratchet-wheels 25 are secured to the sides of the disks 29 and are preferably formed integral with said disks.

The ratchet-wheel on the units-disk has its teeth constantly exposed to one of the prongs 24 of the fork 23; but the other ratchet-wheels are protected by a flange 30, placed con-

centric with the wheels and arranged to overlap the teeth of the wheels, the flanges being arranged on the sides of the disks 29 so as to project over the ratchet-wheels of adjacent disks. These flanges 30 have each an opening 31 in one side, (see Figs. 1 and 2,) which will permit a prong 24 of the fork 23 to enter at this point and turn the ratchet-wheel one notch, and it will be observed that the number of teeth on the ratchet-wheel correspond with the number of numerals on the face of the disk. It will thus be seen that every time the sliding bar 17 is pushed forward the units-disk will be turned, and when the disk has been turned to the number "9" the flange on the disk will be brought to a point where a prong of the fork can turn the tens-disk, and after the tens-disk has been turned ten times the hundreds-disk will be brought into a position to be turned, and it will be seen that this arrangement may be carried out indefinitely, so that the counting may be carried on to any desired extent.

The operation of the machine, as shown in Figs. 1 to 3, is as follows: At the beginning of a word, and when the first key is struck to print the first letter of the word, the space-bar 11 will be moved and the stud 22 on the bar will strike the projection 20 on the spring 19 and move the sliding bar 17, so that the fork on the end of the bar will actuate the registering mechanism in the manner described and register one word thereon. This movement of the sliding bar will carry it forward, so that it cannot be again operated until it is moved back into its former position, and this is accomplished after a word has been completed and when the space-key is struck to make the space between two words. At this movement the space-rod 13 is oscillated in the usual way, and the lugs 14 and 15 thereon, striking the stud 16 and block 18, push the projection 20 down through the sliding bar 17 and return the bar to its normal position. It will be seen, then, that the mechanism can only operate at the beginning of each word and after the spacing-key has been struck at the completion of a word. Consequently the device will register automatically and in a perfectly accurate manner, and the number of words printed may be ascertained at any time by referring to the register 26.

In Fig. 4 I have shown the means of operating the register by the movement of the keys and space-bars of the Remington machine. In this case a rod 32 is suspended in clips 33, which are mounted on opposite sides of the frame 10^a and doubled over the same at the ends of the keyboard, and projecting rearwardly and upwardly from this rod 32 are cranks 34, which are connected by

a rod 35, and this rod bears against the under side of the type-keys 36. Projecting forward and upward from the front side of the rod 32 are cranks 37, which have laterally-extending ends 38, and these ends contact with the space-bars 39 of the machine, and one of them is pivoted to a bar 17^a, which is adapted to operate the registering mechanism in the same manner as the sliding bar already described. It will be seen that when a key 36 is depressed to begin the word the cranks 34 will move downward and the cranks 37 upward, thereby raising the bar 17^a and actuating the registering mechanism in the manner already described, and when this movement is effected the rod 35 will be out of the path of the type-keys, so that the device will not be again operated until the space-bars are depressed, and these, acting on the cranks 37, will reverse the movement, so as to bring the rod 35 again into the path of the type-keys.

I do not confine myself to the exact mechanism shown for operating the register, and it will be understood that without departing from the spirit of my invention the register-operating connections may be made with the type-keys and space-bars of any kind of a type-writer, so as to be operated by the movements of the same, and the mechanism may be reversed, so that the space-bars will operate the register and the type-bars set the mechanism.

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

1. The combination, with the type-writer frame and the register secured thereon, of a recessed sliding bar adapted to operate the register and arranged adjacent to the space-bar of the machine, a spring secured to the sliding bar and having a lug to enter the recess thereof, a lug on the space-bar to contact with the lug on the spring, and a stud on the sliding bar and block on the spring arranged, respectively, in the path of the type-rod and space-rod lugs, substantially as described.

2. The combination, with the type-writer frame and the register secured thereon, of a recessed sliding bar adapted to operate the register and arranged adjacent to the space-bar of the machine, a spring secured to the sliding bar and having a projection adapted to penetrate the recess thereof, a lug on the space-bar to contact with the projection on the spring, and a lever mechanism for releasing the spring and returning the sliding bar by the movements of the oscillating space-rod, substantially as described.

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Witnesses:

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