

H. V. WAGONER.

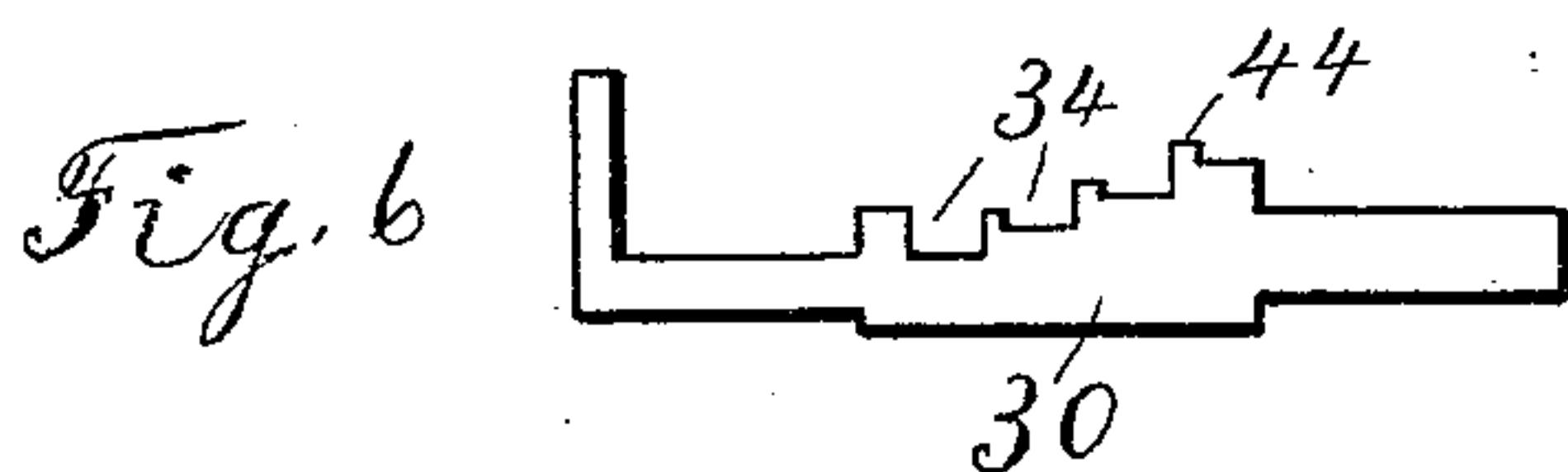
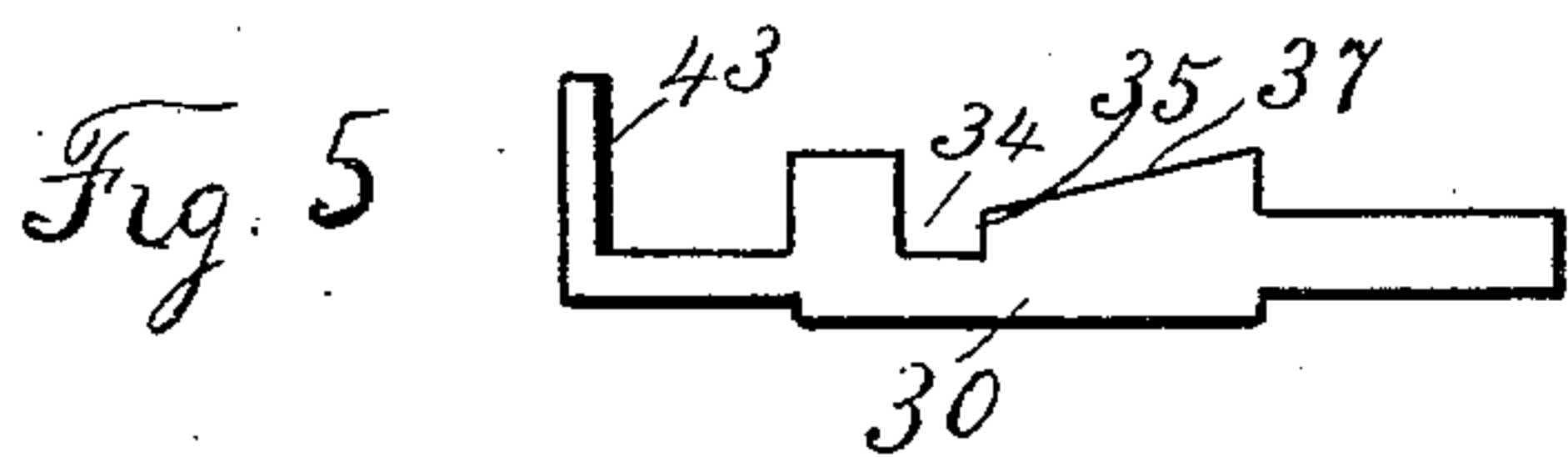
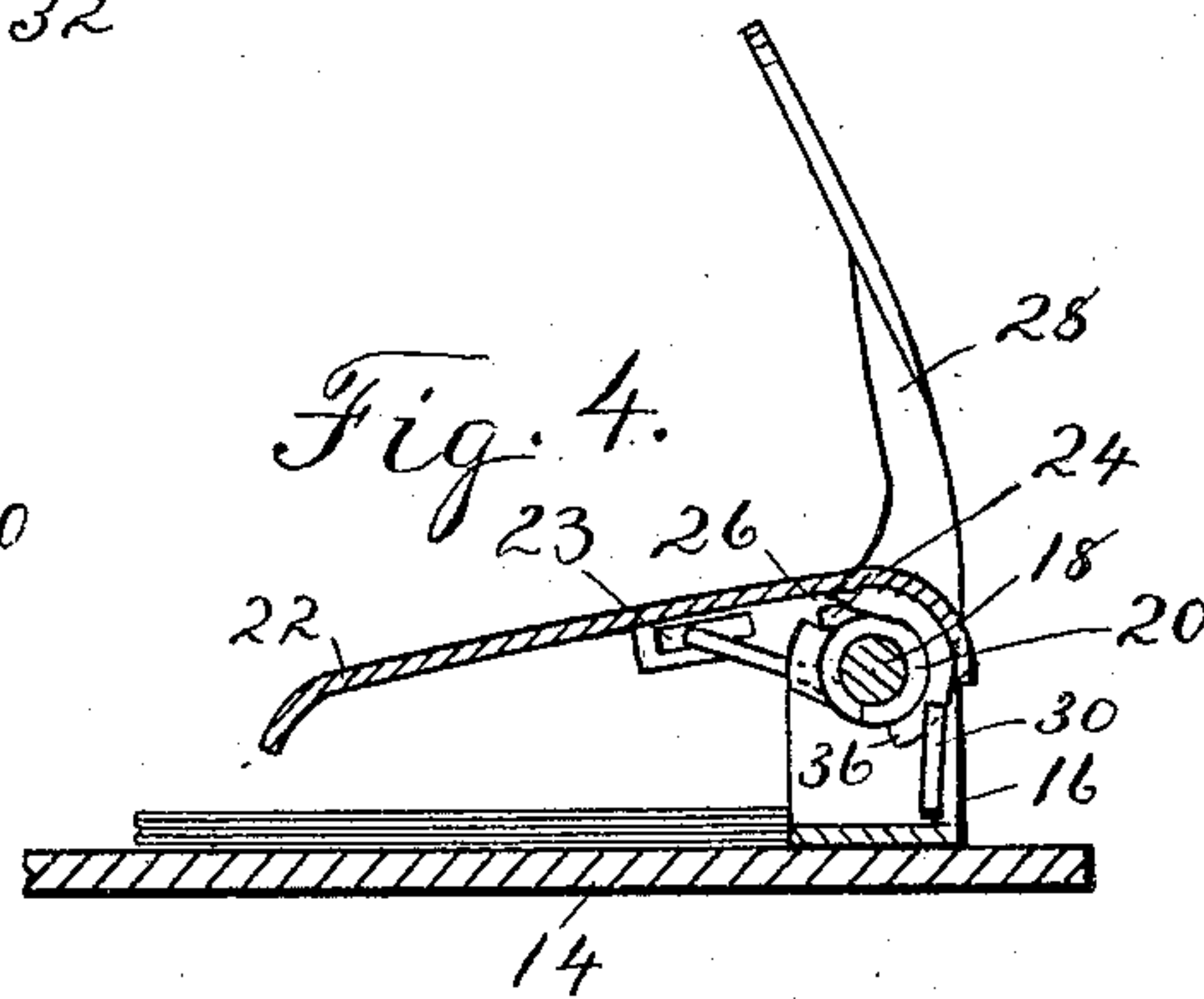
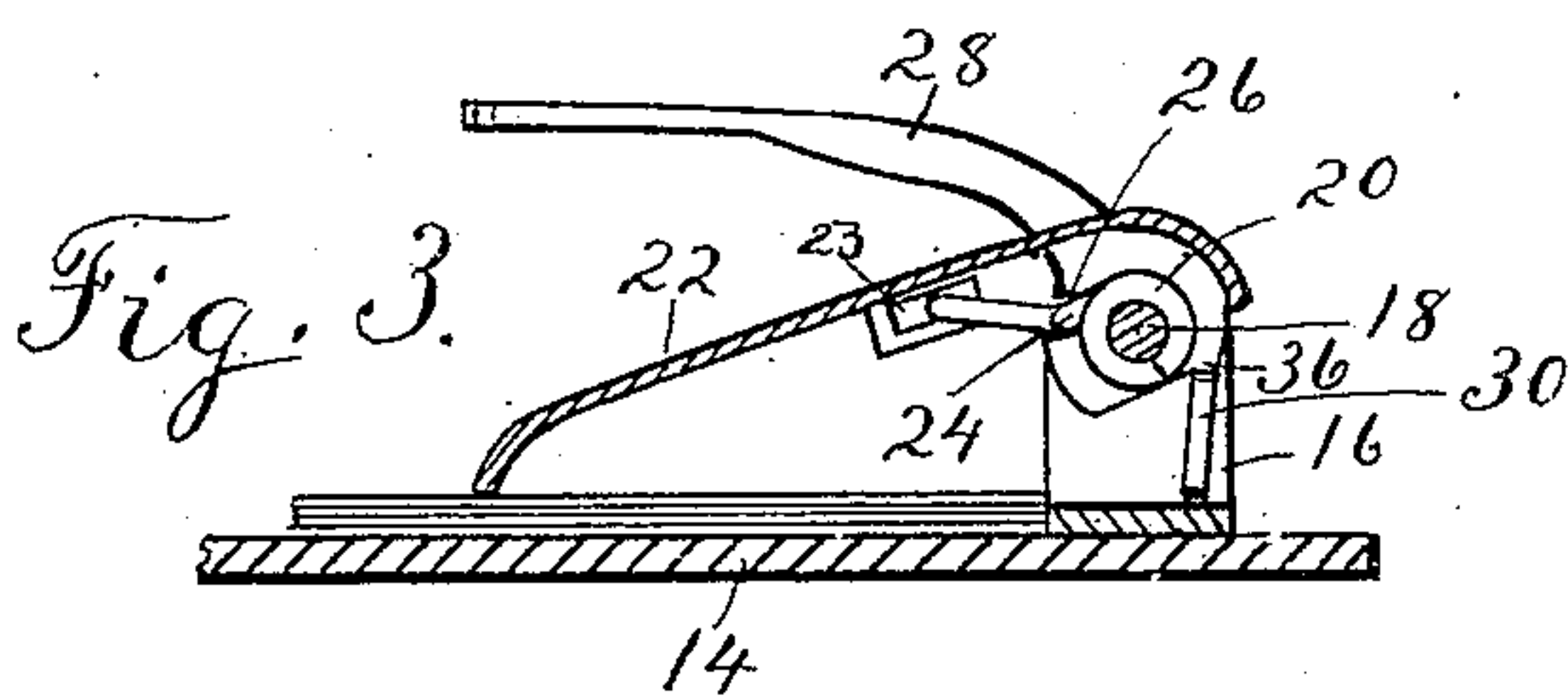
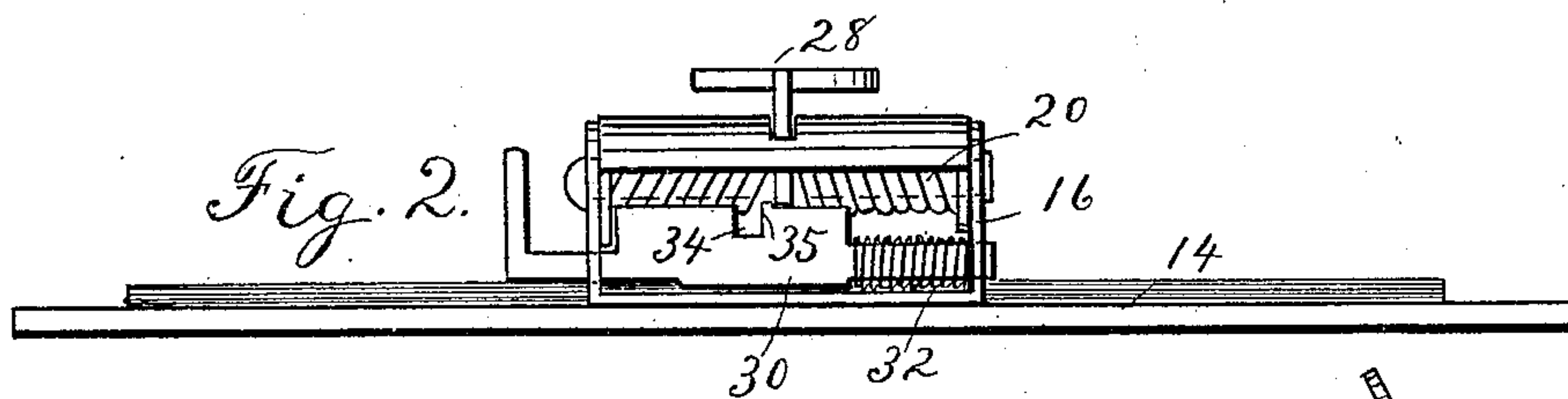
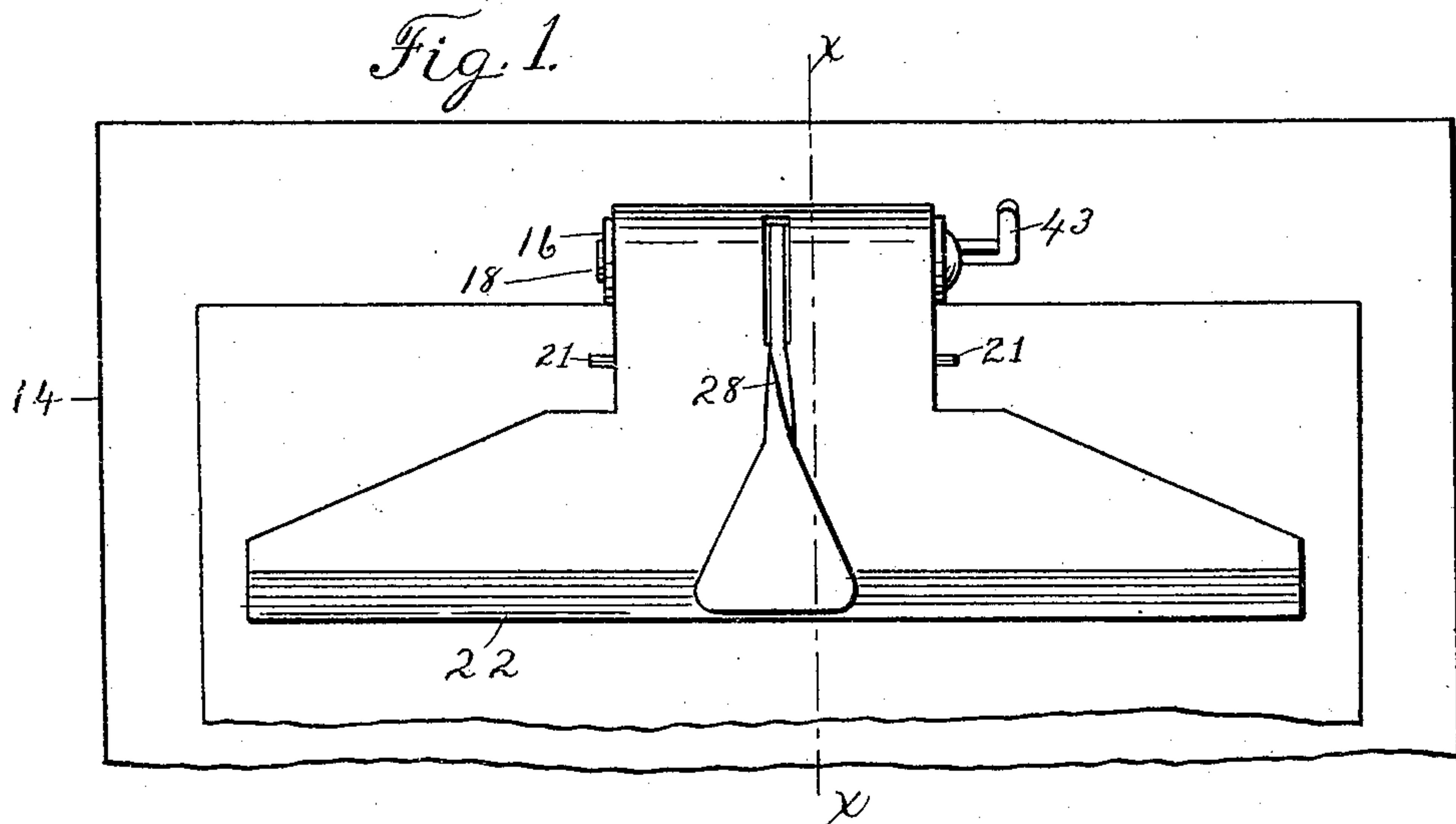
BINDER.

APPLICATION FILED JAN. 4, 1908.

938,621.

Patented Nov. 2, 1909.

2 SHEETS—SHEET 1.



Witnesses

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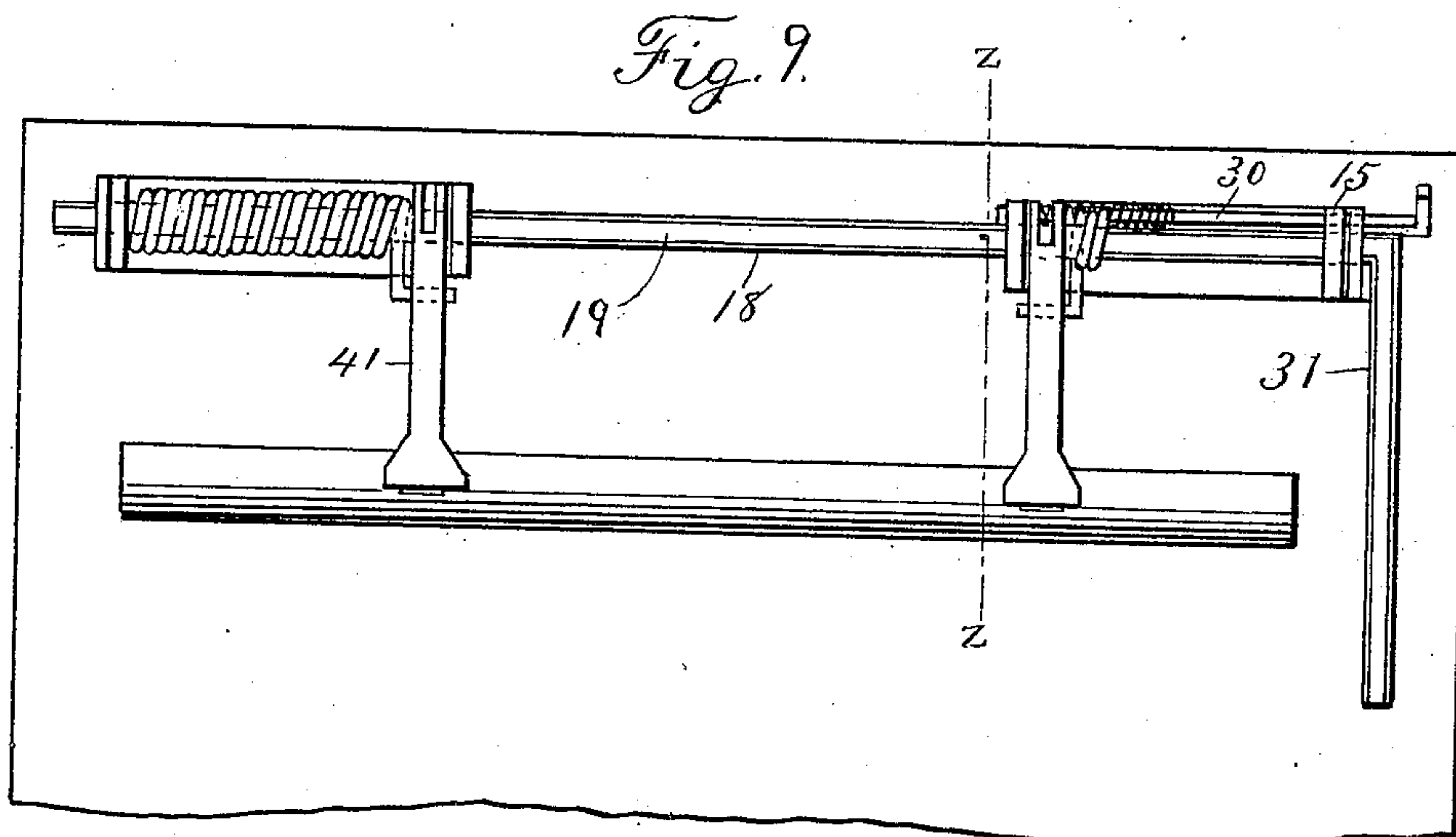
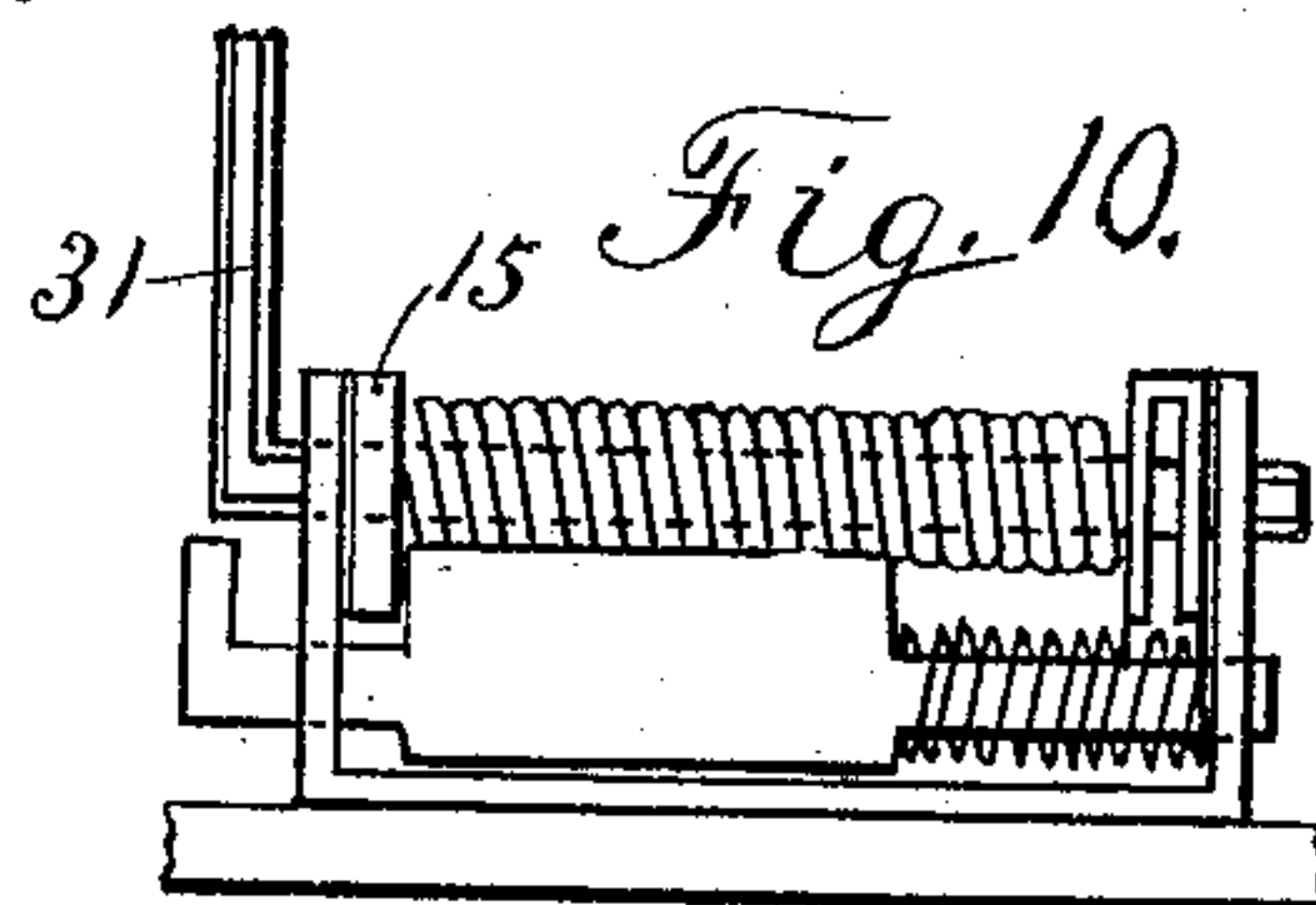
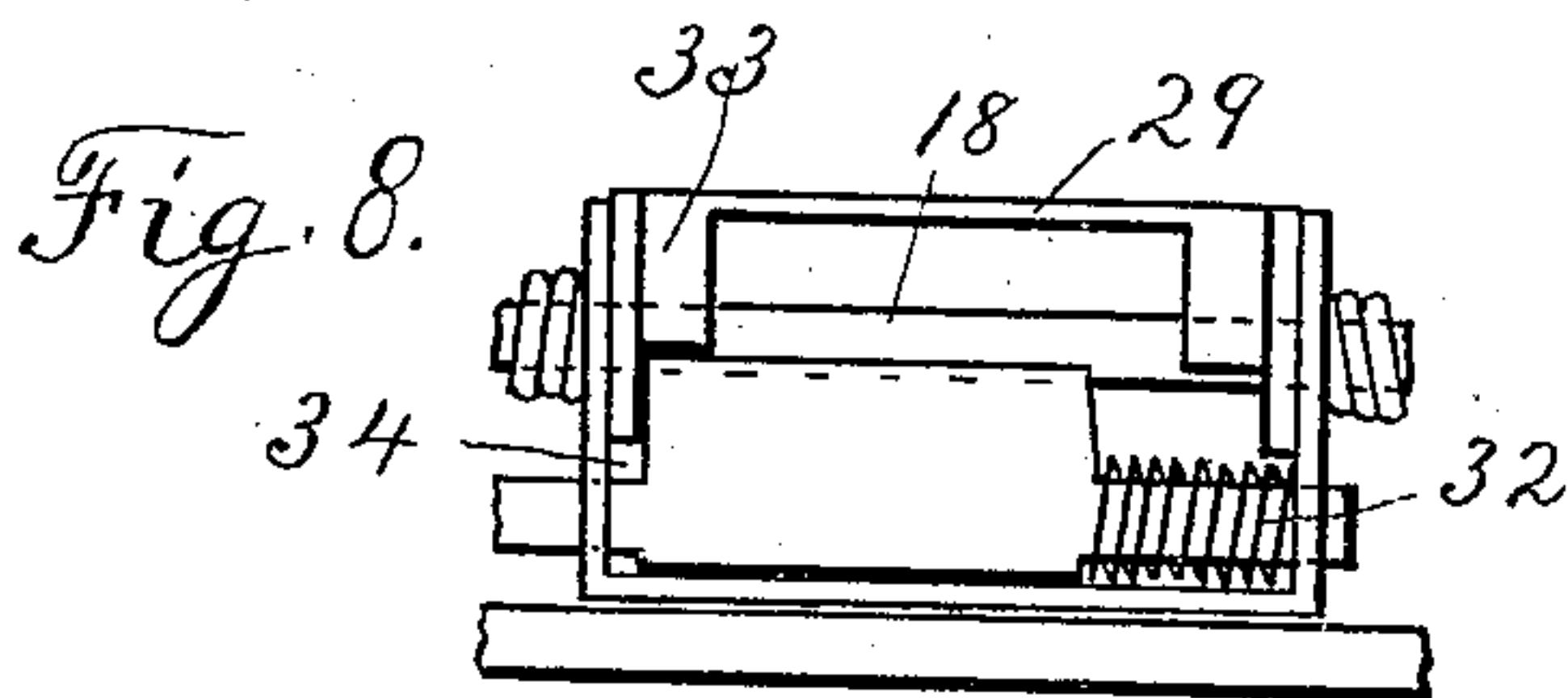
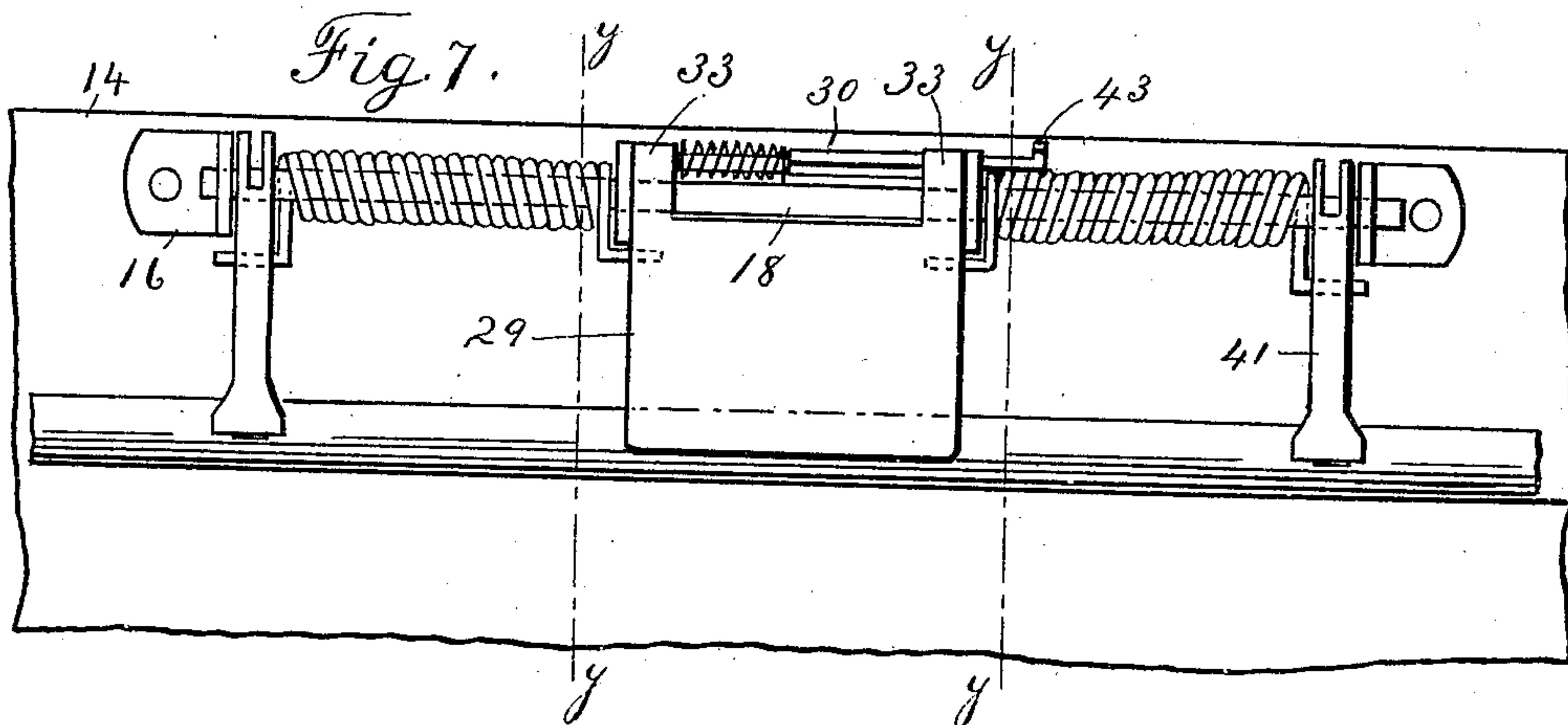
BINDER.

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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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BINDER.

938,621.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed January 4, 1908. Serial No. 409,301.

To all whom it may concern:

Be it known that I, HENRY VAIL WAGONER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Binders, of which the following is a specification.

This invention relates to devices for holding material of any kind, in loose sheets or bound together, under clamp pressure.

It comprises means for applying pressure to the inner part of the spring or springs, the outer ends of which are connected directly, or indirectly to the sheet holding clamp.

It also includes means for locking the device in operative position, and for releasing the same when desired.

The spirit of the invention is expressed in the accompanying drawings, which illustrate preferred forms of the various parts of the device. I do not, however limit myself to the exact construction here shown, but reserve the right to embody the invention in other forms, not inconsistent with the claims.

In the drawings Figure 1 is a plan view of a binder, equipped with my improvements, the base and the sheets of paper being shown fragmentarily. Fig. 2 is an elevation of the upper end of the device shown in Fig. 1. Fig. 3 is a cross-section on line $x-x$ of Fig. 1. Fig. 4 is a view similar to that in Fig. 3, but with the clamp open. Figs. 5, and 6, are side views of modifications of the lock-bar employed. Fig. 7 is a plan view of another form of binder, fitted with my lock. Fig. 8 is an elevation of the central part of the upper end of the form shown in Fig. 7, between the dotted lines $y-y$. Fig. 9 is a third form of binder fitted with my invention, and having one of the springs partly omitted, to expose the parts beneath. Fig. 10 is a view of part of the upper end of the form shown in Fig. 9, and extending from the right side to the dotted line $z-z$. In this view the clamp is loose, or open.

In the drawings the reference figures designate the base of the binder, and 16, 16, supports on said base. A rod 18, rests in said supports. Resilient means 20, are provided on the rod 18, to control the clamp 22.

As shown in the drawings, these resilient means consist either of a single coiled spring

having a central loop 24, hung in a notch 26 in the base of the lever 28, or of a coiled spring cut in two pieces, having their inner ends connected directly or indirectly, to the lever 28. The other ends 21 of these springs are bent to loosely engage slots 23 in the sides of the clamp 22.

The lever 28 is mounted on the rod 18, or is integral therewith, and may be located at any desired point on the binder, but preferably at an end, or in its middle part, as shown in the different views. But in any case, it is adapted to engage a lock-bar 30, at or near its base, either directly, as seen in Fig. 2, or through some interposed part as the notched disk 15, which in Fig. 9, is seen to receive a rotary motion from the lever 31.

The lock-bar 30 is located at any desired point, but is preferably, although not necessarily, contiguous to the lever 28. The lock-bar is provided with one or more notches 34, or a shoulder 35, to engage the extension 36 on the base of the lever 28, or on some similar part rotated by the lever. When the clamp is open and the lever up, the projection 36 is in the notch 34, or engages the shoulder 35, but when the lever is depressed until the end of the projection 36 is reached, the spring 32, on the bar, forces the bar under the overhanging projection 36, which then rests upon the bar and holds the clamp closed. The clamp is opened by a slight downward pressure of the lever and by pushing back the bar, then on releasing the lever, its base engages the bar as stated, and holds it back, until the lever is depressed to lock the clamp again.

In the modification of the lock-bar shown in Fig. 5, an inclined upper edge 37 on the bar, allows a graduated adjustment of the clamp, without any positive stop, while the form in Fig. 6 secures the graduated tension through a series of rising stops. In these forms shown in Figs. 5 and 6, about the same tension is secured on a large or small number of sheets, and the lever 28 is kept low down, so as not to interfere with a cover for the binder, should one be used.

The guards 44, are to prevent accidental displacement of the bar, and may be used on any of the bars described.

Figs. 7 and 8 show the adaptation of the lock to a binder, having a central lever mounted at each of its sides 33, upon the

rod 18, and having a notch 34, in its lock-bar adapted to engage one of said sides.

Figs. 9 and 10 show another form of binder in which the rod 18 has a flat side 19, or is made non-circular in cross-section so that the notched disks 15, having holes to fit upon the rod, rotate with it. The lever 31 is shown to be at an end of the rod, in these views, and the notch in the bar is engaged by the edge of the washer 15, near the lever 31, the washer having a peripheral extension 36 similar to that shown on the base of the lever in Figs. 3 and 4.

This locking device is readily adapted for use on any binders of the general character shown, in which there is one or more rotatable parts having means to engage and release the bar and by the action of the spring on the bar, and I desire to secure the use of it in all such conditions.

Any suitable finger piece 43, is placed on the projecting end of the lock-bar, by which it is pushed back against the expansion spring 32, when the lever 28 is to be released.

What I claim, is—

1. In a binder for sheets having a rod mounted on a base, a clamp, normally open, resilient means on said rod to control said clamp, a lever to actuate said resilient means and a bar to automatically engage the base of said lever, as described.

2. In a binder for sheets having a rod mounted on a base, a clamp, normally open, resilient means on said rod to control said clamp, a centrally disposed lever to actuate said resilient means and a bar to automatically lock the binder in operative position.

3. A clamping device including a base and a clamp, a support on said base, coiled springs on said support whose outer ends control said clamp and whose inner ends are controlled by a lever for applying pressure, and means to retain and release said pressure.

4. A binder having a rod supported on a base, a lever and resilient means on said rod, one of which said parts, the rod, the lever and the resilient means, is rotatory, and a lock adapted to be engaged by one of said rotatory parts to lock the binder in operative position.

5. In a binder for sheets having a rod mounted on a base, a clamp, resilient means on said rod to control said clamp, a lever to actuate said resilient means and a bar to

automatically lock the binder in operative position.

6. In a binder for sheets having a rod mounted on a base, a clamp, resilient means on said rod to control said clamp, a lever on said rod to actuate said resilient means and a bar to engage a disk on said rod, for the purpose specified.

7. In a binder having a base and a rod supported thereon, a lever on said rod, a projection on the base of said lever, a lock-bar, a finger piece thereon, a spring to control said lock-bar and means by which said bar is engaged by the projection on said lever.

8. A binder, having a base, a rod supported on said base, a spring on said rod, a clamp on the outer ends of said spring, a lever connected with said spring, a projection on the base of said lever and a sliding, spring-actuated bar having a notch to engage said projection, as described.

9. In a binder opened and closed by a rotatory motion of some of its parts, a projection on one of its said rotatory parts, a lock-bar having means to automatically engage said projection to lock the binder in operative position.

10. In a binder opened and closed by a rotatory motion of some of its parts, a projection on one of its rotatory parts, a sliding lock-bar, a spring to move said lock-bar into contact with the projection and lock the binder in operative position and means by which said lock-bar may be forced out of operative position.

11. A clamping device including a base and clamp, a support on said base, coiled springs on said support whose outer ends are adapted to control said clamp and whose inner ends are directly connected with a lever for applying pressure, and means to maintain and release said pressure.

12. A coil spring-actuated clamp binder, the outer ends of the coil springs being adapted to control the clamp, the inner ends being directly connected with a lever for applying pressure, and means to maintain and to release said pressure.

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

HENRY VAIL WAGONER.

Witnesses:

EDWARD B. REECE,

THOMAS FRANCIS DIXON.