

No. 744,425.

PATENTED NOV. 17, 1903.

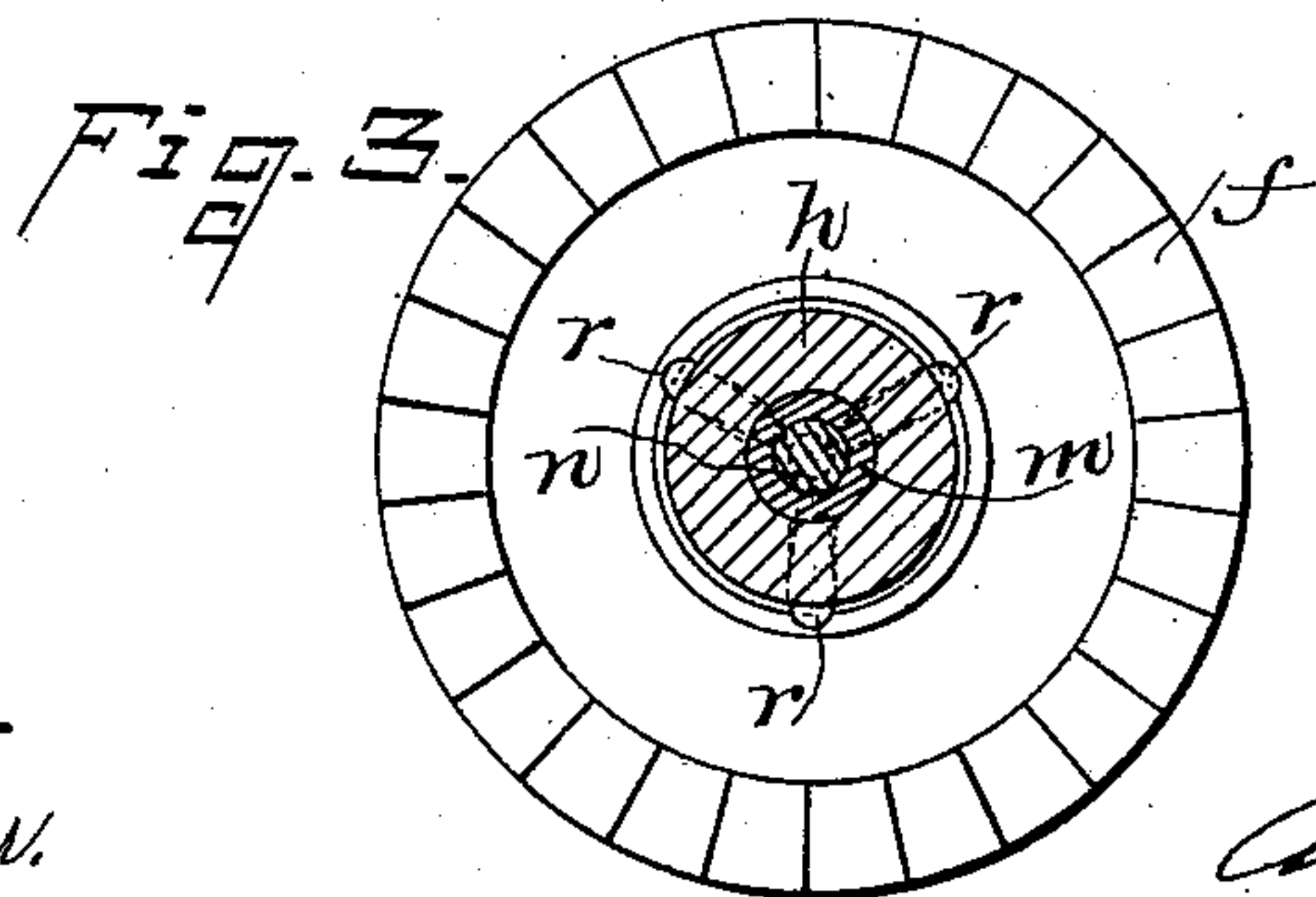
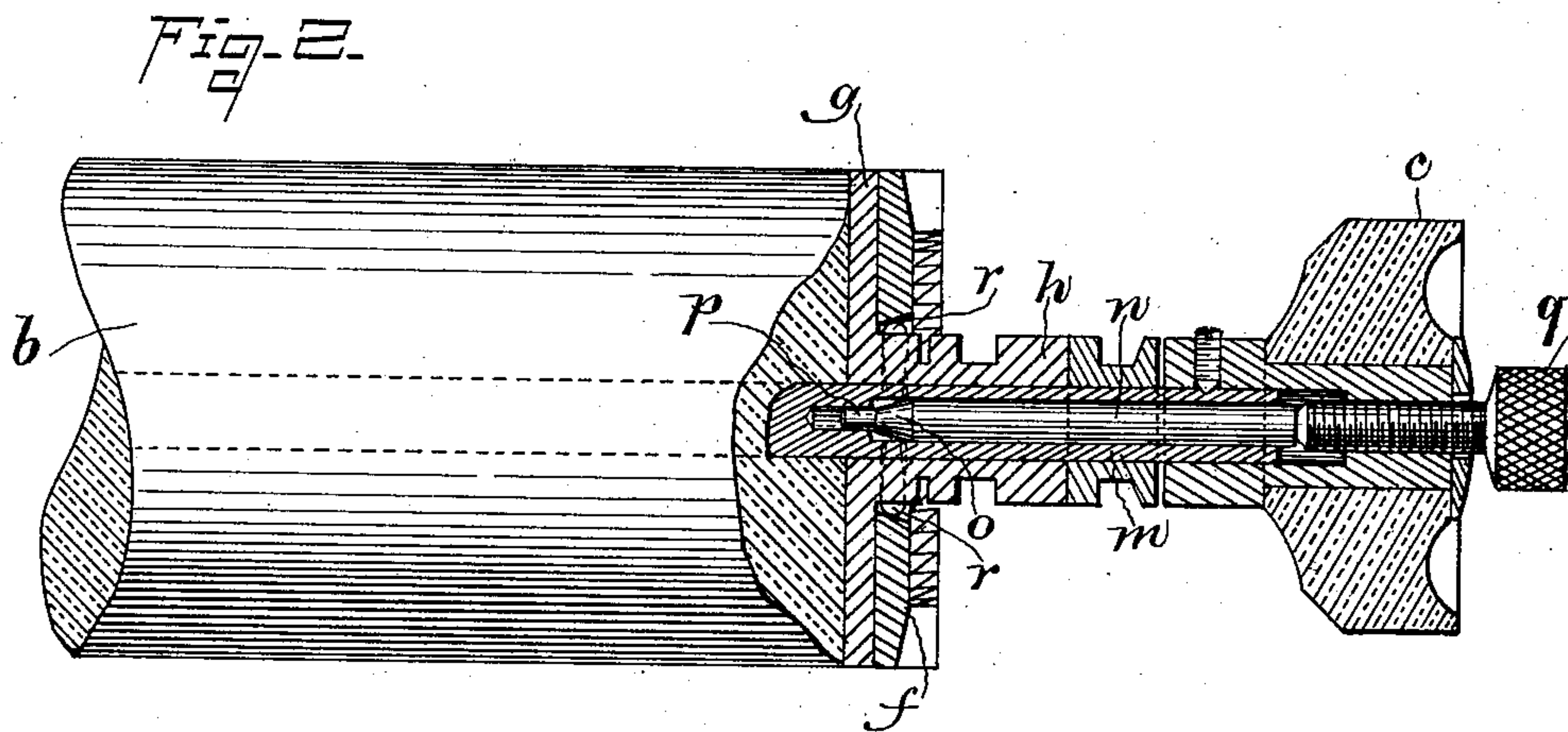
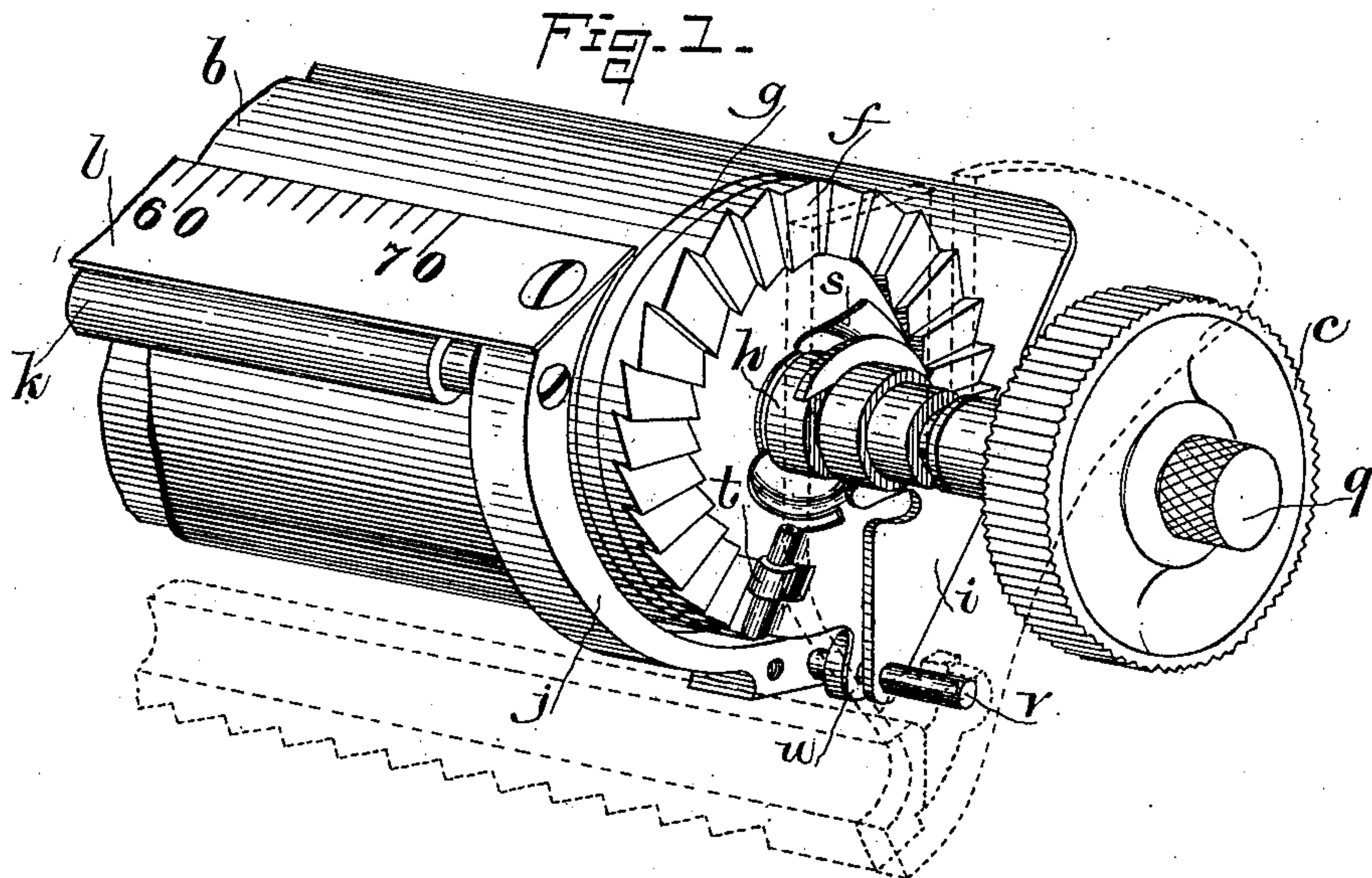
A. W. STEIGER.

DEVICE FOR ADJUSTING THE PLATEN TO THE LINE SPACING MECHANISM.

APPLICATION FILED AUG. 20, 1900. RENEWED MAR. 25, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses.
Charles B. Crocker.
B. F. Colley Jr.

Inventor.
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By Chas. F. Howe
his atty.

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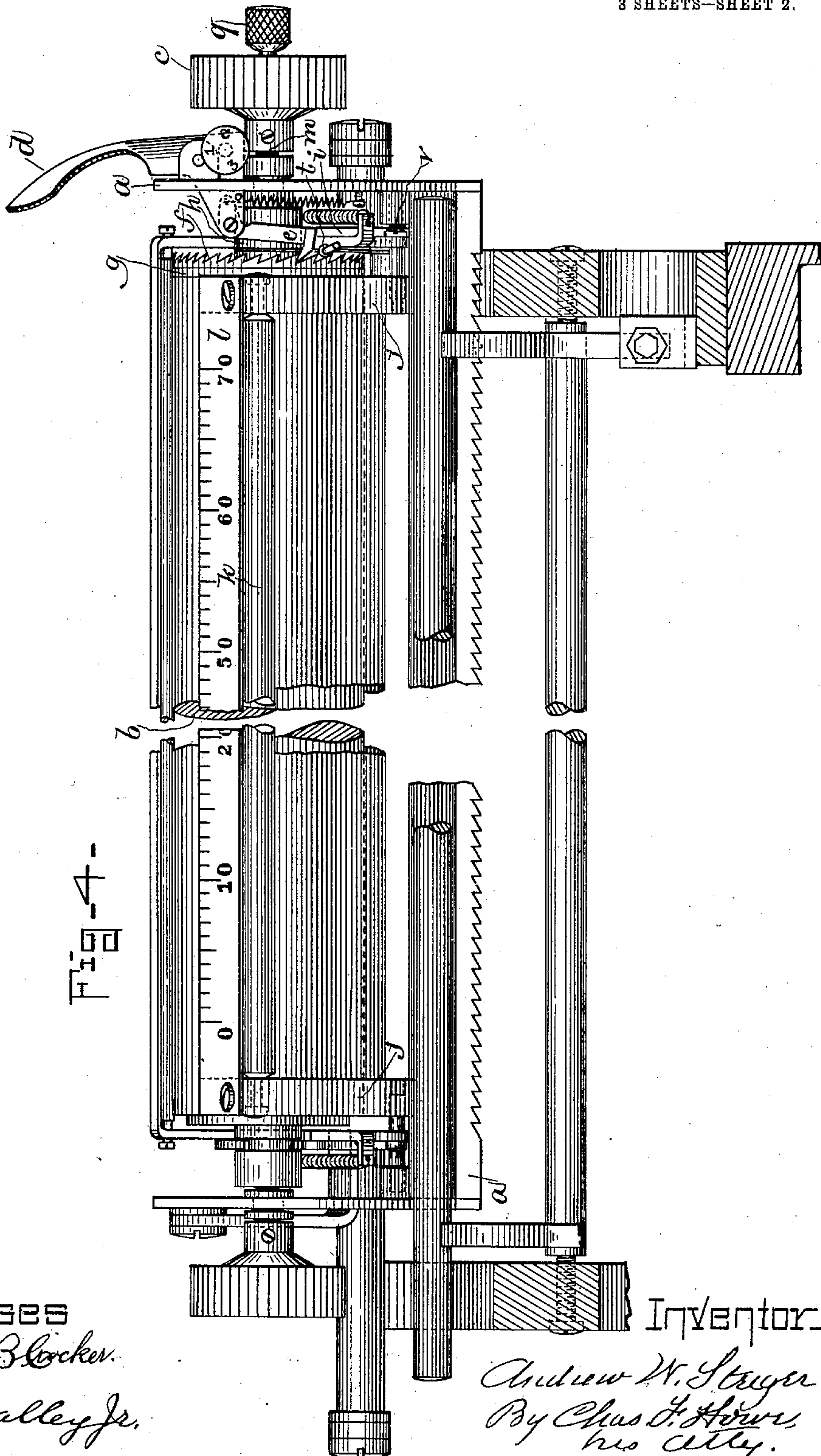
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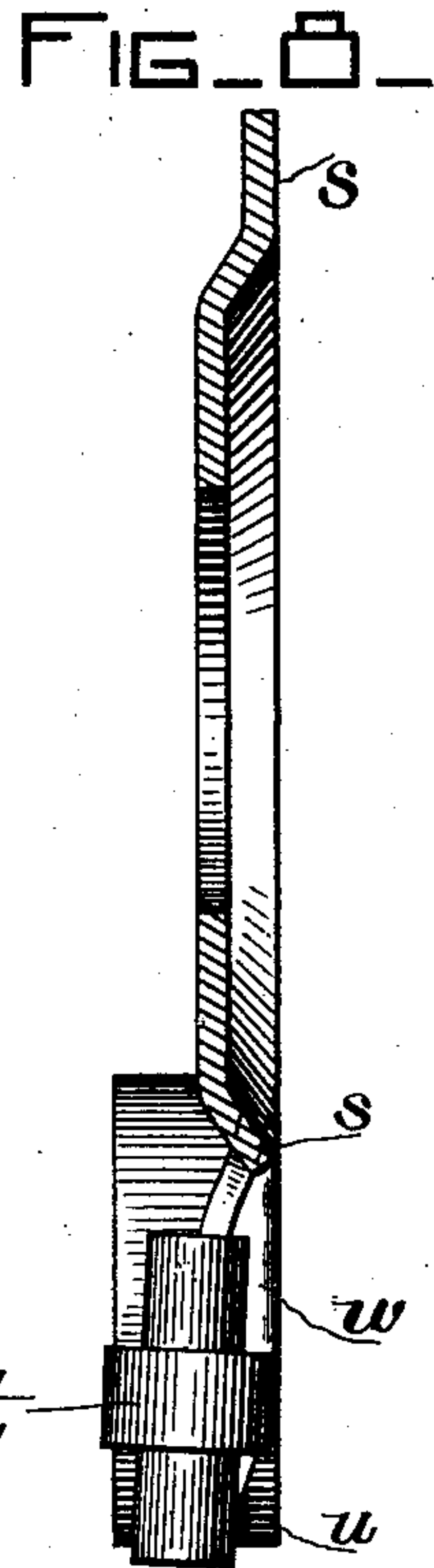
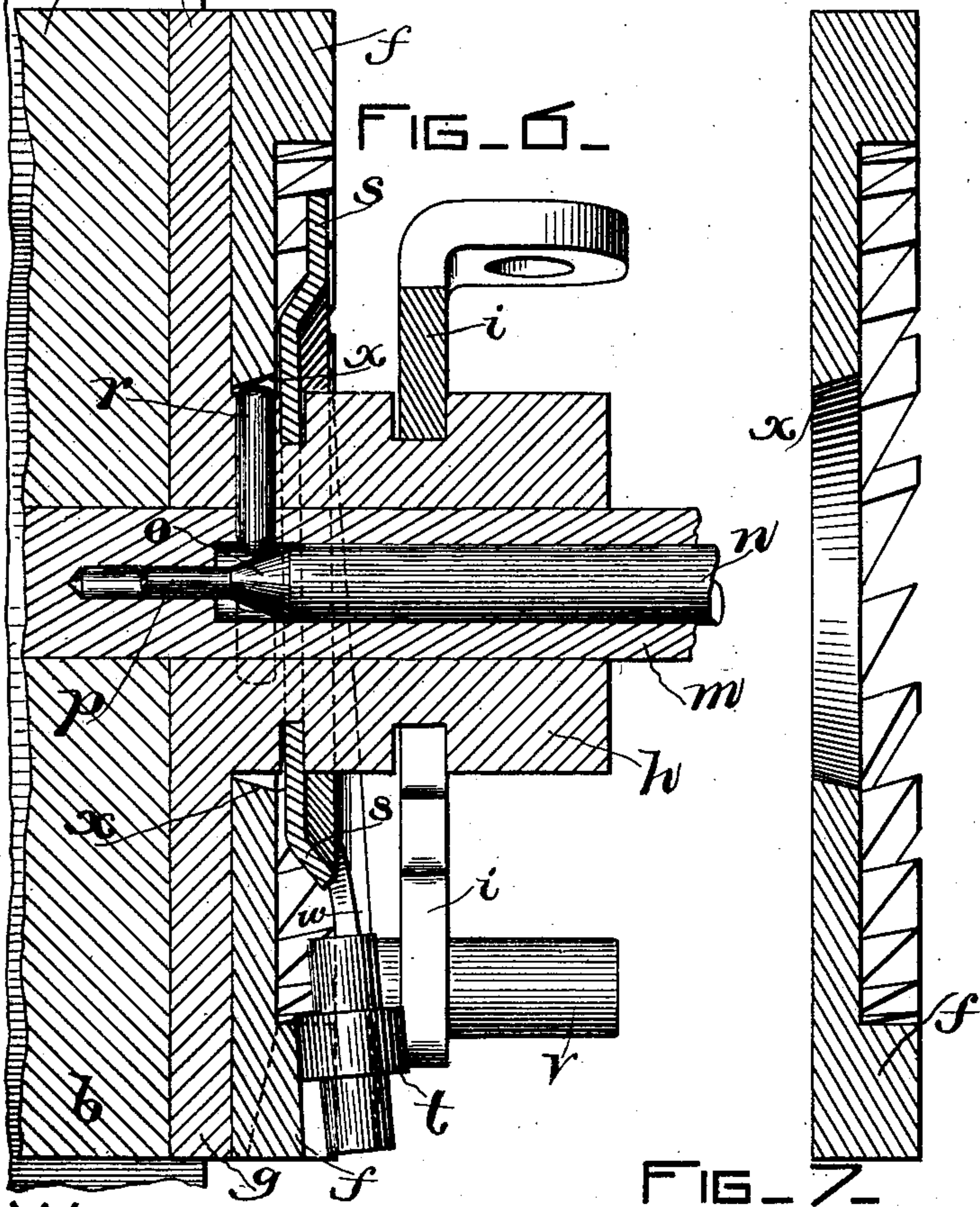
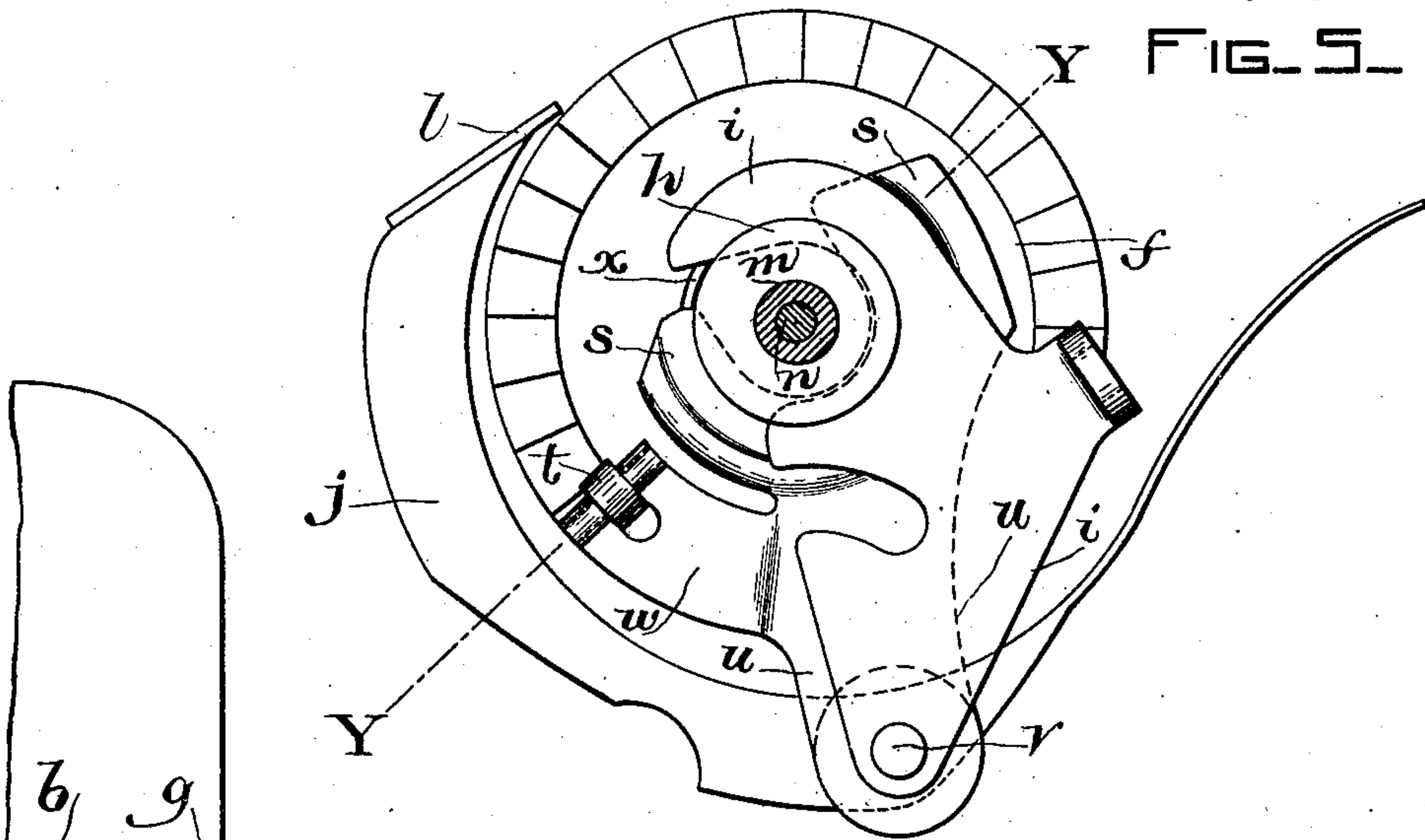
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3 SHEETS—SHEET 3.



WITNESSES
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UNITED STATES PATENT OFFICE.

ANDREW W. STEIGER, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AUGUSTUS L. HOFFMAN, FREDERIC S. CONVERSE, AND FREDERIC J. LEACH, TRUSTEES, OF LYONS, NEW YORK.

DEVICE FOR ADJUSTING THE PLATEN TO THE LINE-SPACING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 744,425, dated November 17, 1903.

Application filed August 20, 1900. Renewed March 25, 1903. Serial No. 149,585. (No model.)

To all whom it may concern:

Be it known that I, ANDREW W. STEIGER, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Devices for Adjusting the Platen to the Line-Spacing Mechanism, of which the following, taken in connection with the accompanying drawings, is a specification.

The present invention in type-writers relates to devices for locating the paper on the platen with relation to the line of the type impressions.

It has heretofore been customary in type-writer construction to secure to the platen a regularly-notched surface which, in connection with a coacting pawl operated by a spacing-lever, serves to rotate the platen a determinate distance at each stroke of the pawl. The platen is also restrained by a frictional detent which offers considerable resistance to the rotation of the platen to prevent retrograde motion. The paper is wound round the platen and held against it by some frictional tension device, as a pressure-roll, and if the printed date-line should not happen to come exactly at the type-line of the machine the operator is obliged to press back the tension device, if possible, and seesaw the paper to the proper location. Some machines have such complex tension devices that all the members of the hands are holding something, so that in returning to the machine a sheet for corrections or like exact positioning work a thin sheet may be torn or otherwise injured, with consequent annoying loss of time.

Now the purpose of this invention is to overcome these faults; and it consists of devices for freeing, adjusting, or locking the platen to the spacing mechanism.

In carrying the invention into effect I secure to an end of the platen a head, face up flat the outer surface, and cut a bearing-groove on a cylindrical extension to support the hanger of the paper-table. On the shaft extending from this head is mounted a bearing for the platen in the carriage, and securely fastened thereto is the usual knurl for rotating the platen. Within the shaft I place a

plunger having a conical surface near its extremity, against which surface a series of pins abut and extend radially therefrom through the cylindrical portion of the head. The ratchet is faced flat and placed against the finished outer surface of the head. A central hole with beveled sides is turned in the ratchet, against which beveled surface the pins press and center the ratchet. A thumb-screw passes through the metal center of the knurl, which serves to free or jam the conical surface of the plunger against the pins, and thereby to produce a like effect of the pins against the beveled surface of the ratchet. If the pins are forced against the ratchet, their thrust on the beveled surface of the ratchet causes the flat faces of the ratchet and head to be pressed tightly together, in which case the ratchet will be able to drive the platen in the usual manner; but when the thumb-screw is retracted the plunger falls back and loosens the pins, and the ratchet being restrained by a detent connected with the paper-table remains fixed, while the platen may be freely revolved by the knurl. Ruled paper, as bill-heads, frequently does not coincide in spacing with the line-spacing of the machine, and hence if the operator spaces with the lever the work is unsightly, instead of which the paper may be advanced by hand at each line with the knurl by loosening the thumb-screw.

An advantage flowing from this invention is the ability to use more tension on the pressure-roll, which insures more accurate spacing.

In the drawings, Figure 1 is a sketch of a platen to which my invention has been applied. Fig. 2 is a central section of the platen-head and connected devices. Fig. 3 is a detail of the ratchet and platen-head clutch. Fig. 4 is a cross-section of a type-writer, showing the mode of mounting the carriage and platen. Fig. 5 is an end elevation of the platen and its connected parts. Fig. 6 is a section of parts at one end of the platen on the line X X of Fig. 5. Fig. 7 is a section of the ratchet alone. Fig. 8 is a section of the spring-washer.

Upon the carriage *a* I mount a platen *b*, so

it may be revolved by the knurl *c* or else by a spacing-lever *d*, pivoted on the carriage, which is furnished with a spring-positioned pawl *e*, intermeshing with a ratchet *f*, which
5 may be connected to the platen.

Referring to the parts connected with the platen when detached from the carriage, I secure to an end of the platen *b* the disk of a head *g*, the outer face of which disk is finished flat, and there extends from the head
10 a cylindrical boss *h*, in which is cut a groove to furnish a bearing for the paper-table hanger *i*. The paper-table reinforce *j*, pivoted to the hanger *i*, furnishes a bearing for
15 the pressure-roll *k* and supports at its extremity the scale *l*. The shaft *m*, extending from the boss *h*, carries a grooved bearing to support the platen in the carriage, together with the securely-fastened knurl *c*, by means
20 of which the platen may be turned to insert the paper.

Within the shaft *m* is placed a plunger *n*, near the extremity of which is formed a conical surface *o*, and extending therefrom is a
25 small tip *p*. The position of this plunger is determined by a thumb-screw *q*, threaded in the metal portion of the knurl *c*. A series of pins *r*, radiating from the conical surface of the plunger, are supported in the boss of
30 the head and are prevented from interfering with each other as the conical surface *o* is withdrawn by the tip *p*.

One side of the ratchet *f* is made flat and is maintained lightly in contact with the outer
35 surface of the head *g* by the pressure of a spring-disk washer *s*, which is fixed in a groove cut in the boss *h*. If the thumb-screw *q* is set up against the plunger *n*, the conical surface *o* presses the pins *r* against the beveled surface *x* of the ratchet, the resultant effect of
40 which is to force the ratchet so tightly against the face of the head *g* that the spacing-lever *d* may by its pawl *e* rotate the ratchet and platen as one piece, and forms the normal
45 driving relation of the parts. A detent *t* meshes with the teeth of the ratchet, the detent being supported on a resilient arm *w* of an extension from the spring-disk washer *s*, another arm *u* of which extension passes over
50 the trunnion *v* of the paper-table and holds the detent from turning about the platen-shaft.

The ratchet *f* is a ring loosely held to the platen-head *g* (not necessarily at all times
55 concentrically therewith) by the detent *t*, supported on the yielding arm *w* of the washer *s* to restrain but not prevent its rotation. When, however, the pins *r* are jammed into
60 contact with the beveled interior surface *x* of the ratchet, it will be centered and forced axially into close contact with the platen.

The platen may always be rotated with its knurl; but if the ratchet is secured to the platen more force must be used to move the
65 parts past the detent to overcome its restraining effect. As the friction-surfaces of the platen and ratchet are of considerable area

and as the conical surface *o* of the plunger is not much inclined to the plane of the pins *r*, pressure on the thumb-screw *q* that is insufficient to disturb the ratchet and detent will
70 furnish an ample driving-contact between the platen and ratchet. Nothing is required to free the plunger from the pins save the slipping of the parts when not jammed, and
75 less than half a turn of the thumb-screw *q* relieves the pressure, so that the pins may fall back and release the ratchet from the platen.

If the operator wishes to insert in an ordinary machine a piece of paper with an engraved date-line, the paper may be run in with the spacing-lever or the knurls, and as the detent corresponding to the piece *l* will
80 position the platen the paper must be allowed to come some fraction of a space above the scale, as *l*. The operator now releases the paper-tension devices and adjusts the paper to the scale over the fixed platen. On the
85 other hand, if the machine contains this invention the operator to use a like sheet of paper will first loosen the thumb-screw *q*, the plunger will fall back and relieve the pins *r*, and thereby release the platen *b* from the
90 ratchet *f*, which remains fixed in position by the detent *t* and with the pawl *e* ready to feed the ratchet by means of the spacing-lever *d*. The paper is now inserted while the platen is movable with relation to the scale,
95 and on turning the platen with the knurl *c* the date-line is brought to the scale *l*. Now the thumb-screw *q* is tightened, locking the ratchet to the platen, and on feeding the paper the usual two spaces the machine is ready
100 for action.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a type-writer, a platen having central bosses, a friction-surface at the end of the
110 platen, hangers supported from the bosses, a paper-table pivoted on its trunnions in the hangers carrying a pressure-roll and scale, combined with a ratchet having a friction-surface in contact with that of the platen, a
115 central beveled surface on the ratchet, a washer restrained from rotation by the paper-table trunnions positioned on a boss of the platen and supporting a spring-detent for the ratchet, a conical surface movable
120 axially of the platen and means for changing the position of the conical surface to lock or free the platen and ratchet, substantially as described.

2. In a type-writer, a platen having a friction-head and a central boss, a finger-knurl
125 fast with the boss, a plunger having a conical surface free to move longitudinally of the boss, a thumb-screw to determine the position of the plunger, and pins radiating
130 from the boss near the friction-head, combined with a ratchet having a friction-surface opposed to that of the platen and a beveled surface such that when the conical sur-

face of the plunger forces the pins into contact with it the friction-surfaces of ratchet and platen will be fast together, substantially as described.

5 3. In a type-writer, a platen having a friction-surface at one end, a ratchet unrestrained by the platen, devices to oppose a friction-surface of the ratchet to that of the platen, a beveled surface central to the
10 ratchet, a conical surface opposed to the beveled surface of the ratchet, and means for moving the inclined surfaces longitudinally of the platen to center the ratchet and jam it into driving relation with the platen, substantially as described.

15 4. In a type-writer, a platen having an axial boss, a ratchet positioned clear of the boss in loose contact with the end of the platen and a spring-detent to hold the ratchet to the
20 platen, substantially as described.

5. In a type-writer, a boss extending from the end of a platen, radial pins protruding

through the boss, a ratchet arranged against the end of the platen-head, said ratchet having a beveled surface in the plane of the pins, 25 combined with means controlled by the operator to project the pins farther from the boss to jam the ratchet into driving-contact with the platen-head, substantially as described.

6. In a type-writer, a platen having pins extending therefrom, a ratchet placed against the end of the platen, a surface of the ratchet located in and at an angle to the path of the pins and means to spread the pins to force 30 the ratchet tightly to the platen, substantially as described.

In testimony whereof I have hereunto subscribed my name this 27th day of December, A. D. 1899.

ANDREW W. STEIGER.

Witnesses:

JOHN B. DALEY,
A. O. ORNE.