

2 Sheets—Sheet 1.

No. 571,002.

Patented Nov. 10, 1896.

Fig. 1,

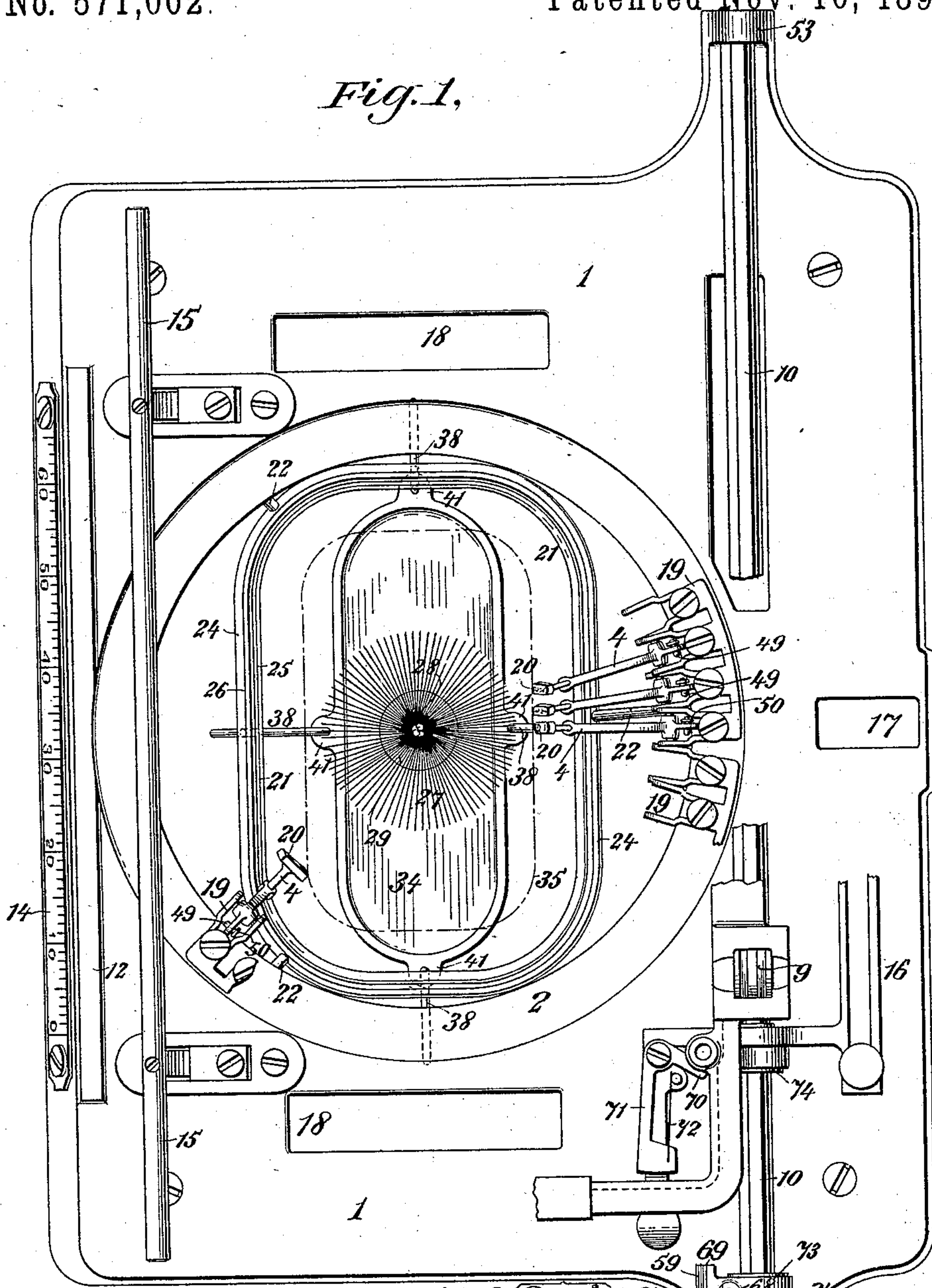


Fig. 9.

Fig. 8.

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BY

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(No Model.)

2 Sheets—Sheet 2.

W. K. JENNE.
TYPE WRITING MACHINE.

No. 571,002.

Patented Nov. 10, 1896.

Fig. 2.

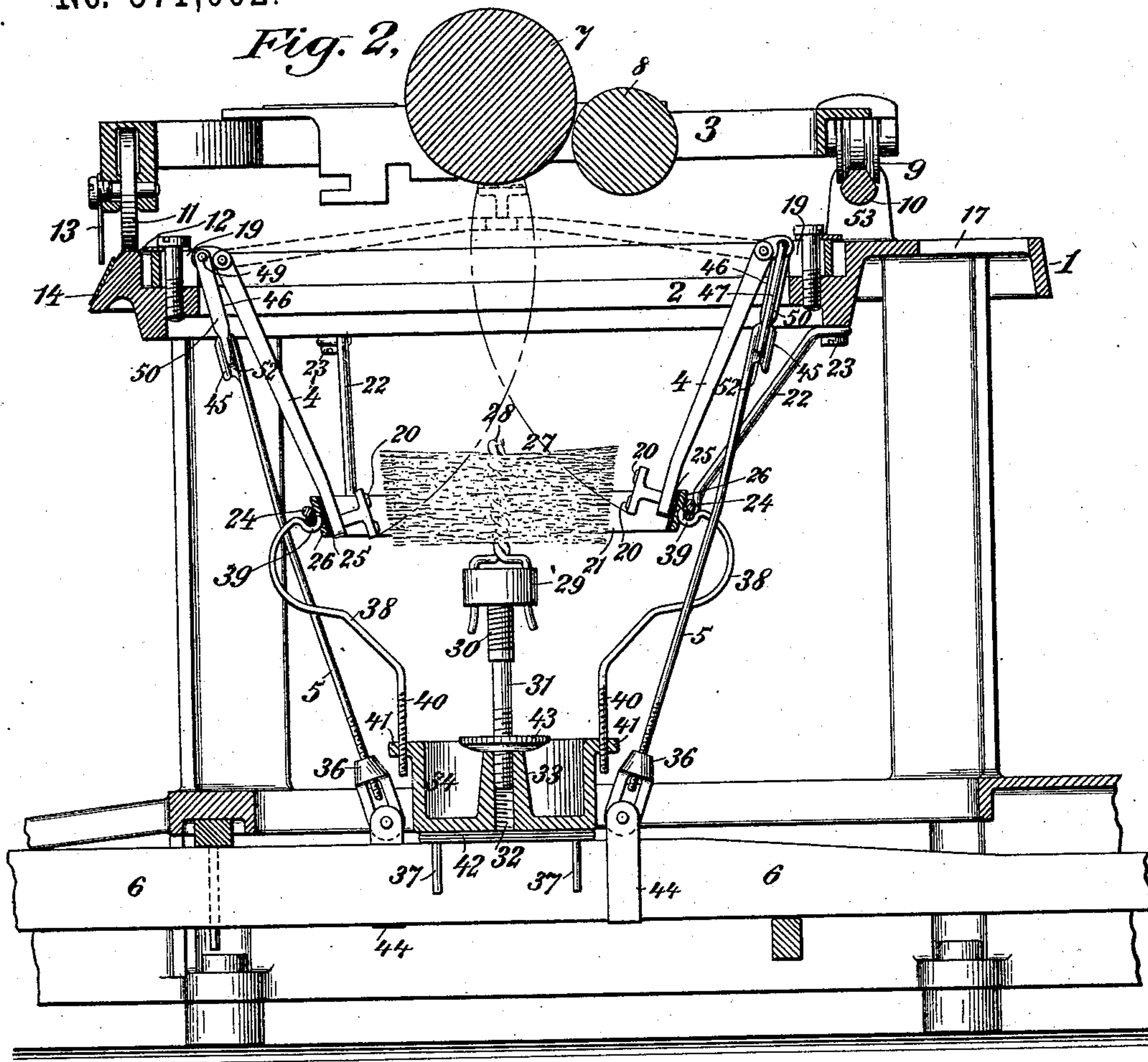


Fig. 3.

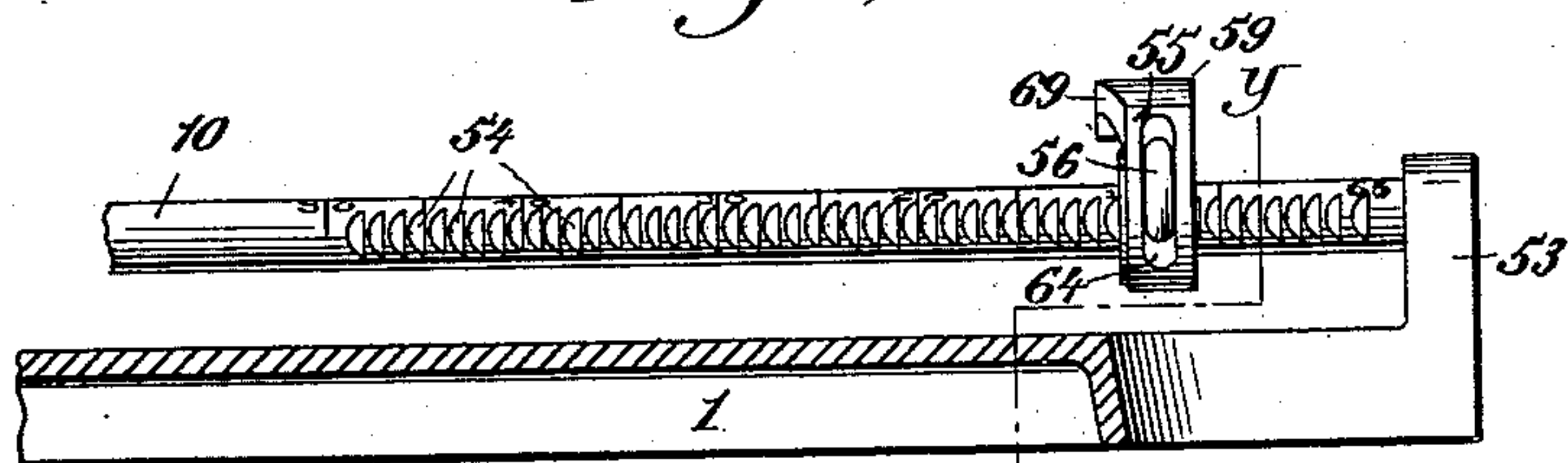


Fig. 5.

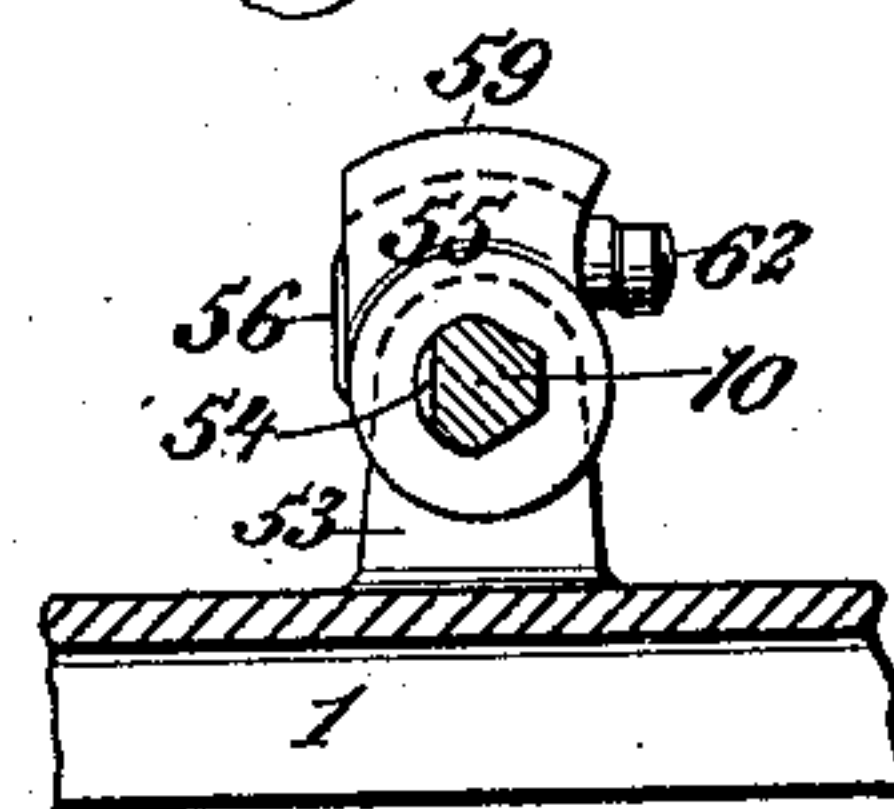
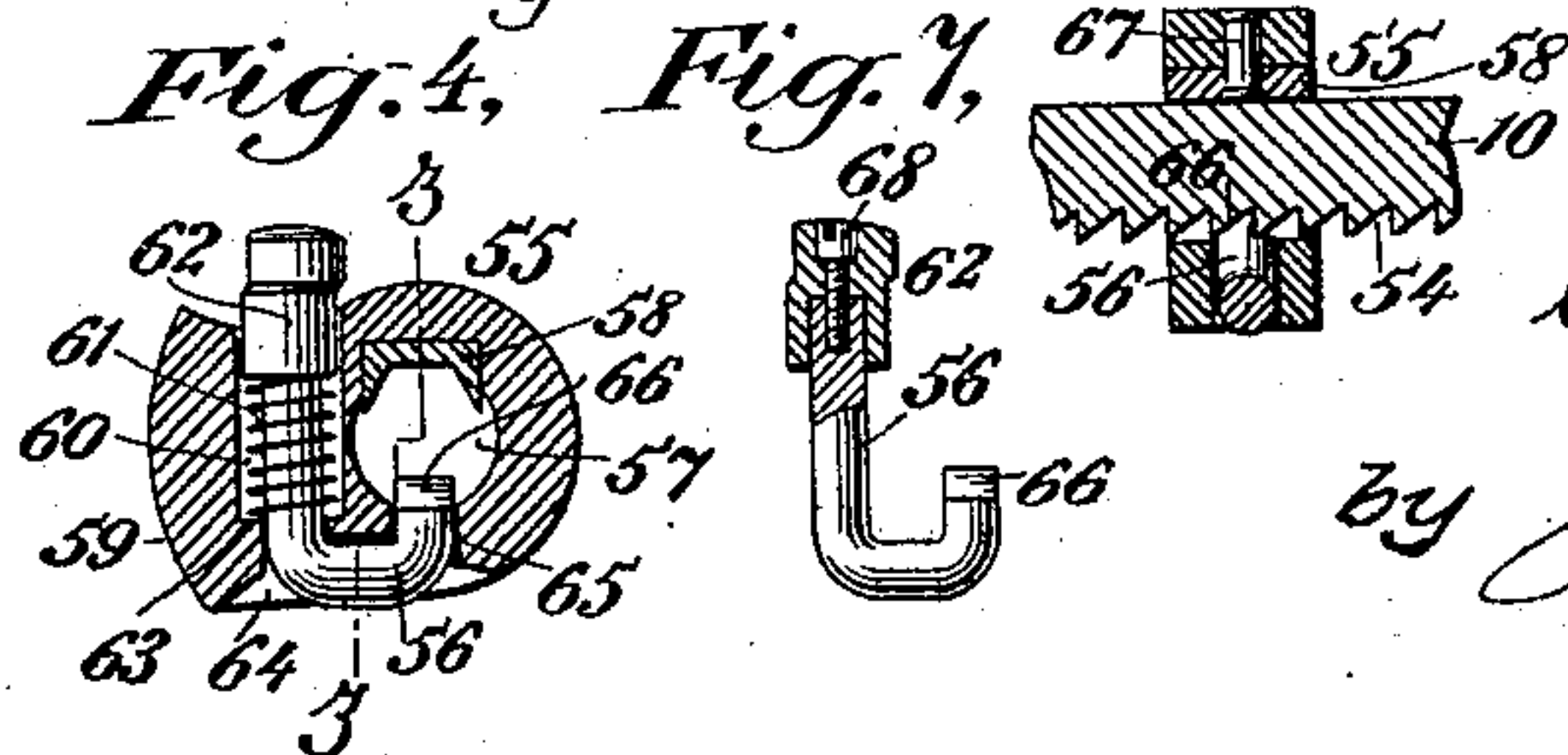


Fig. 6.

Fig. 4.

Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM K. JENNE, OF ILION, NEW YORK, ASSIGNOR TO THE WYCKOFF,
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TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 571,002, dated November 10, 1896.

Application filed September 23, 1893. Serial No. 486,264. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM K. JENNE, a citizen of the United States, and a resident of Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

The means for arresting the paper-carriage, comprising the stop-rod and sliding collar with spring-catch, have been patented in England under Letters Patent No. 21,569, of 1891.

My improvements in type-writing machines relate more particularly, first, to means for automatically cleaning the type; secondly, to means for arresting the paper-carriage, and thirdly, to means for joining the connecting-rods and type-bars, and have for their main objects to provide simple, durable, and effective constructions for these purposes.

To these ends my improvements consist in the various features of construction and combinations of devices hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a plan view of a portion of a Remington type-writing machine embodying my several improvements. Fig. 2 is a central vertical section thereof, but showing more of the machine. Fig. 3 is a front elevation, partly in section, showing the means for arresting the paper-carriage. Fig. 4 is a vertical section taken at the line *xx* of Fig. 1. Fig. 5 is a vertical section taken at the line *yy* of Fig. 3. Fig. 6 is a vertical section taken at the line *zz* of Fig. 4. Fig. 7 is a detail sectional view showing the construction of the catch shown in elevation at Fig. 4. Fig. 8 is a side elevation of the means for joining the type-bar to the connecting-rod, a portion of the latter and also of the type-bar being shown. Fig. 9 represents, in two views, the mode of constructing the new coupler or connecting means; and Fig. 10 is a view showing, in elevation, the upper end of a connecting-rod.

In the several views the same parts will be found designated by the same numerals of reference.

As will be observed, the machine selected

for exhibiting my several improvements is that known as the "Remington No. 2," but I do not wish to be confined to this or any other particular make of machines, so far as my improvements are concerned, although I have in practice applied them all to this description of type-writing machines.

1 designates the top plate; 2, the type-ring; 3, the paper-carriage; 4, the type-bars; 5, the connecting-rods, and 6 the key-levers. The paper-carriage represented is of the shifting type employed in the Remington No. 2 machine, containing a platen 7 and feed-roller 8, and is provided at its rear side with grooved supporting-rolls 9, which travel on a guide and hinge-rod 10, and at its front side with a small supporting-wheel 11, which travels on a track or way 12 on the top plate. On the screw-pivot of the wheel is fastened a pointer or indicator 13, which travels along over a scale 14, affixed at the front edge of the top plate and shown as graduated and marked from "0" to "65."

At Fig. 1 I have indicated the carriage shift-rod by 15 and a portion of the hinged feed-rack by 16, the usual feed-dogs being omitted; but the opening in the top plate through which they operate is shown at 17.

18 18 designate the openings in the top plate through which the inking-ribbon passes.

The type-bars 4 are pivoted in hangers 19, screwed to the type-ring, and their lower depending ends, provided with type 20, bear against the type-rest 21 in the normal position of the type-bars. The type-rest is supported preferably by three rods 22, which at their upper ends are secured by screws 23 to the under side of the type-ring and which at their lower ends are soldered to the outside of the type-rest, consisting, preferably, of an exterior grooved metal band 24, an interior leather facing 25, and an intermediate strip of felt 26, the leather and felt being independently sewed together and then secured to the outside ring by over-hand stitching, as heretofore.

I shall now describe that improvement relating to the type-cleaning devices.

27 designates a substantially cylindrical brush composed, preferably, of hog-bristles and held together by and between a pair of

twisted wires 28, the lower ends of which are bent to pass down through perforations in a wooden block 29, mounted at the upper end of a closely-wound spiral spring 30, whose lower end is attached to the head of a screw 31, which engages a threaded hole 32, formed in an upward projection 33, cast integral with and centrally of a cup or dish 34 arranged centrally of the type-basket and serving as a base for the elastically-supported brush, as well as a receptacle for the dust and ink that may be removed from the types above.

In the Remington machine the lower ends of the circularly-mounted type-bars when at rest form an oblong figure somewhat rectangular in outline, due to the contour of the type-rest, as shown by the broken lines 35 at Fig. 1, and the lower ends of the connecting-rods are arranged to also form a figure substantially like that formed by the types. I have, therefore, in this machine made the cup of a size and shape to fit the space inclosed by the lower ends of the connecting-rods and their swivels 36; but so far as the main features of my invention are concerned this is not essential, and it will be understood that in this machine, as well as other styles of machines, the size and shape of the receptacle may vary.

The cup rests or is supported upon the key-levers (about twenty-five in number) at and in the vicinity of the middle of the machine, and is provided on its under side with two depending pins 37 at about the center of its length, which pins extend down between the two contiguous key-levers at the center of the machine and operate to steady the cup and prevent it from moving longitudinally or from right to left.

The cup is prevented from moving to the front or rear any material distance by reason of its fitting in the space between the swivels or lower ends of the connecting-rods, of which they form a part, and preferably the cup is made of such a weight that it will stay in position by its own gravity, especially with the assistance of the steadying-pins.

The cup may be connected to the type-rest by wires 38, however, to provide further security against its being jarred out of position. These wires are preferably of a springy nature, and are connected at their hooked upper ends 39 to the type-rest by engaging with the under edge of the metallic ring thereof. They are maintained in this engagement by the natural spring in the wires, which causes the hooks to press upwardly. The lower ends of the wires 38 are made straight and threaded, as at 40, to engage threaded holes in ears 41, cast at four points at the upper edge of the cup. By screwing the wires 38 up or down before the connection is made the requisite degree of tension or pressure against the type-rest may be obtained, and hence the cup made to bear down upon the key-levers with the required force to maintain it in proper working position.

The wires 38 serve to prevent any rising action of the cup and brush during shipment or inversion of the machine, in addition to performing the function of assisting in keeping the contrivance in position during the use of the machine.

On the under side of the cup is a cushion 42, which may be of leather or other suitable material, to prevent the key-levers on their return movements from striking directly against the cup and making a noise, the cup being preferably, though not necessarily, made of metal, but so far as the main features of my improvements under this head are concerned, the cushion 42, the spring-wires, the guiding-pins, &c., may be dispensed with, although I prefer to make use of them, as they all effect important or useful results in the contrivance as a whole.

The brush is mounted centrally of the cup and the type-basket, and its vertical axis is in line, substantially, with the printing-point or the center or centers at which the types strike. The brush is preferably circular in shape, and is arranged substantially in the horizontal plane occupied by the types when at rest, or, in other words, it is so disposed that the types are obliged to strike against the bristles during their ascent and descent. The brush is made sufficiently thick to clean two types at a time, if the machine be of the kind illustrated—that is, one having two types on a bar. Although I prefer to use hog-bristles, wires or other material may be employed instead in the construction of the brush. The brush being arranged at such a height that the types must hit the bristles thereof when moving from their resting place to the printing-point and when returning, means should be provided to permit the brush to yield or be pushed aside by the types sufficiently to enable the latter to pass by without undue impediment and to then secure the return of the brush to its normal position after departure of the types. I have found in practice that a spring-support, as 30, enables this action to take place very effectively.

When a type-bar is elevated, its type strikes the bristles, which clean the type, and the brush as a whole is vibrated by the blow of the type. As soon as the type passes by or parts company with the brush the latter is returned to normal position by the spring. On the return of the type-bar the brush is then vibrated in the opposite direction and when the type has passed by it it is again returned to its normal position by the spring. The type is thus cleaned on its face and sides in ascending and on its sides in descending. The sudden vibration of the brush by the actions of the types and spring tend to make the brush self-cleaning, and I have found in actual practice, after several months' use, that very little ink or dirt adheres to the brush.

By the employment of the coiled spring 30 the brush may be vibrated or moved in any

radial direction and returned promptly to its normal upright position. It is so arranged that every type strikes it both in rising and falling. The proper or best working position for the brush may be obtained by screwing up or down its stem 31 in the socket of the cup. When the brush has been adjusted to the desired height or position, it may be held rigidly thereat by means of a check-nut 43, bearing on top of the projection 33. The arc-shaped broken lines at Fig. 3 show the paths of the type.

I shall now refer to the means for joining the connecting-rods and type-bars.

The lower end of each connecting-rod is preferably threaded and attached to a turn-buckle or swivel 36, pivoted to a stirrup 44 on the key-lever, and provided with a threaded aperture for the reception of the threaded end of the connecting-rod; but so far as the present feature of improvement is concerned, the lower end of the connecting-rod may be attached to the key-lever in a different manner from that illustrated and described.

The upper end of the connecting-rod is formed with a downwardly-extending hook 45, adapted to engage with a coupler 46, which in turn engages with the type-bar. The coupler 46 comprises a rigid stem or shank 47, a lower hook or eye 48, an upper lateral hook or pin 49, and a stiff spring 50, parallel with the stem or shank. The coupler is preferably made of a single piece of round wire, as shown at Fig. 9, which is compressed or flattened at one end, as shown in the plan view, to form the spring 50. The flattened portion is perforated at 51 and the wire then doubled or bent into the form shown in elevation at Fig. 9. The hook 45 is engaged with the hook or eye 48 and the hook or pin 49 is engaged with a transverse hole or bearing in the shorter arm of the type-bar. The hook or pin 49 is preferably of such length as that it protrudes through the hole in the type-bar. While the hook or pin 49 is being passed through the hole in the type-bar the spring 50 is bent or pulled outwardly, as shown in dotted lines at Fig. 8, and after the engagement is effected the spring, on being released, returns automatically to normal position by its own elasticity, the perforation 51 in the free end of the spring receiving the point of the hook or pin 49. When the coupling of the type-bar shall have been thus effected, the spring serves to prevent any accidental disengagement of the parts, while permitting at the same time their ready detachment when required. The spring also forms a support for the outer end of the hook. The upper hooked end of the connecting-rod may be permanently secured to the coupler by means of solder, as indicated at 52, or otherwise, to maintain the parts in proper working relationship at all times.

I shall now describe that feature of my in-

vention relating to the means for arresting the paper-carriage.

The hinge and guide-rod 10 is mounted and is made of the same shape in cross-section as heretofore, that is, it is pivotally supported in ears or standards 53 at the side extremities of the top plate, and is made round on its under side and has two flat beveled faces on its upper side to match the grooved rolls 9, the arrangement being such that when the carriage is turned up for inspection of the work the rod 10 is given substantially a quarter-turn and the under side of the rod brought to the view of the operator. On the underside of this rod are cut a plurality of teeth or notches 54, arranged a letter-space distance apart, and corresponding with the spacing-rack and machine-scale 14. The notches or teeth are divided into periods of five, but preferably only every tenth division is marked, as in the machine-scale. While the carriage may make sixty-five letter-spaces, as indicated by the scale 14, there need not be as many notches or teeth in the series 54 on the under side of the rod. About fifty such teeth or notches usually suffice.

Surrounding the notched or toothed rod 10 is a collar or abutment 55, adapted to slide on said rod and carrying a spring-catch 56, adapted to engage with any one of the notches or teeth in the rod and arrest the carriage at any desired point corresponding with the graduations on the scale.

The collar is provided with a large transverse perforation 57 for the passage of the rod, and is fitted with a bushing 58 at the upper side of said perforation to correspond with the shape of the upper portion of the rod. In front of the perforation 57 and in a forward extension 59 of the collar is formed a vertical hole 60 for the vertical shank of the catch, its spiral spring 61, and for the finger-piece 62, the lower end of the spring bearing against a shoulder 63, and the upper end against the finger-piece. The under side of the extension of the collar is cut away, as is seen at 64, for the admission of the lowermost horizontal portion of the spring-catch, and a vertical hole 65 is formed from the under side of the collar inward to the horizontal perforation 57 for the accommodation of the upwardly-extending engaging notched and beveled portion 66 of the catch. The bushing 58 is secured to the interior of the collar by a pin 67, and the finger-piece is attached to the shank of the spring-catch by means of a screw 68, which passes through the finger-piece and engages a threaded hole in the shank.

The inner end of the spring-pressed J-shaped catch normally engages a notch or tooth of the rod and securely holds the stop-collar against movement lengthwise of said rod in a direction toward the right, and consequently when the carriage is returned for the commencement of a new line and strikes against said collar it is arrested and its start-

ing point determined by the position of said collar.

The collar may be shifted or moved to occupy a position at any point along the series of notches or teeth for the purpose of stopping the carriage on its return movement at various localities, and hence of defining the width of margin at the left-hand sides of the sheets of paper in different pieces of work. The collar may be adjusted toward the left by simply pushing upon it, owing to the beveled end of the catch and the beveled sides of the teeth or notches. In order to adjust the collar toward the right, however, it is necessary to disengage the end 66 from the notch which it occupies, which may be accomplished by pressing down upon the finger-piece 62, and as long as this pressure is exerted the operative end of the catch is held away from the plane of the teeth or notches and the collar may be freely slid along the rod to the desired point. When the pressure is released, the inner end of the catch will automatically engage with the notch opposite which it may have been stopped. Of course when the finger-piece is pressed inwardly the collar may be moved in either direction. The adjustments of the collar are usually effected when the carriage is in an upturned condition, at which time the under side of the rod 54 is brought up to face the operator, as shown at Fig. 3, in which position of the rod the series of teeth and their graduating-marks may be more readily observed and the collar more conveniently adjusted. Although I have shown this contrivance arranged at the right-hand side of the machine, and for the purpose of arresting the carriage to determine its starting point, it will be understood that the same may be employed at the left-hand side of the machine to arrest the travel of the carriage at predetermined points when printing or to regulate the length of line, it being only necessary in such arrangement to change the direction of cut of the teeth and the bevel at the engaging end of the catch. Hence, so far as this part of my invention is concerned, I do not wish to be limited to the employment of the means described for arresting the carriage on its return movement or travel toward the right.

The extension 59 of the collar is provided with a cam-face or projection 69, against which the rearwardly-bent end 70 of a lever 71, having a flat spring 72, may strike on the return movement of the carriage to act as a buffer and ease the shock when the carriage strikes against the stop-collar. The stop-collar or the rod may also be provided with a leather or other cushioning washer 73 for the carriage to strike directly against, the striking portion of the carriage being indicated at 74.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a type-cleaning attachment for typewriters, the combination with the base or sup-

port adapted to rest upon the key-levers, the vertically-adjustable stem thereon, the coiled spring, and the brush.

2. In a type-writing machine, the combination of the base resting upon the key-levers, the vertically-adjustable stem screwed into said base, the coiled spring on the same, the support thereon, and the brush-bristles, held together by twisted wires, the lower ends of which are attached to said support.

3. In a type-writing machine, the combination with a series of type-bars connected to a series of key-levers, of a dust-receptacle resting on and supported by said key-levers and provided with a type-cleaning brush.

4. In a type-writing machine, the combination with the type-bars and their connected key-levers, of a dust-receptacle arranged over said key-levers and provided with means extending downwardly between the key-levers to prevent endwise movement of the dust-receptacle.

5. In a type-writing machine, the combination with the type-bars and their connected key-levers, of a dust-receptacle arranged upon said key-levers and provided with guiding-pins.

6. In a type-writing machine, the combination with a series of type-bars and their connected key-levers, of a dust-receptacle having a type-cleaning brush and supported on said key-levers and provided with means for preventing the dust-receptacle and the type-cleaning brush from moving laterally.

7. In a type-writing machine, the combination with a series of type-bars, their converging connecting-rods, and their key-levers, of a dust-receptacle having a type-cleaning brush and mounted upon said key-levers and fitting the space formed at the lower end of the connecting-rods and provided with means extending downwardly between the key-levers, whereby the dust-receptacle and the brush are prevented from materially moving either backwardly, forwardly, or laterally.

8. In a type-writing machine, the combination of the type-rest, the dust-receptacle, the brush mounted thereon, and arms connecting the dust-receptacle with the type-rest.

9. In a type-writing machine, the combination of the type-rest, the dust-receptacle supported by the key-levers, the brush mounted thereon, and the spring-wires connecting the dust-receptacle to the type-rest.

10. In a type-writing machine, the combination of the type-rest, the dust-receptacle supported by key-levers, and the spring-wires adjustable on said dust-receptacle and bearing at their upper ends against the type-rest.

11. In a type-writing machine, the combination with a series of type-bars, a type-rest, a series of connecting-rods, a series of key-levers, a dust-receptacle mounted on said key-levers within the lower ends of the series of connecting-rods and provided with means engaging with the key-levers, the adjustable spring-wires connecting the dust-receptacle

with the type-rest, and the elastically-mounted type-cleaning brush mounted adjustably upon said dust-receptacle.

12. In a type-writing machine, the combination with the type-bars and their key-levers, of a dust-receptacle provided on its under side with a cushion which rests directly upon said key-levers.

13. In a type-writing machine, the combination with a type-bar having a transverse hole or bearing, and a connecting-rod provided at its upper end with a hook 45, of an intermediate coupler consisting of a rigid shank or stem 47, a hook or eye 48 at its lower end, a transverse hook or pin 49 at its upper end, and a flat spring 50 arranged parallel with the shank or stem and perforated at its upper end in line with said hook or pin 49, all of the parts of said coupler being made integral or from a single piece of metal; as shown.

14. In a type-writing machine, the combination with a paper-carriage, a rod provided with a series of notches or teeth at letter-space distances apart, a stop-collar on said rod adapted to be adjusted longitudinally thereon, a catch arranged within a housing in said stop-collar and adapted to slide independently therein at right angles to the movement of said stop-collar for adjustment on said rod, a finger-piece on said catch projecting beyond said stop-collar for sliding the catch in one direction and out of engagement with said notches or teeth, and a spring within said housing for sliding said catch in the opposite direction when pressure is removed from said finger-piece.

15. In a type-writing machine, the combination with a paper-carriage, of a guide-rod therefor attached to the machine-frame and notched or perforated, and a collar or abutment surrounding said rod and provided with an independent spring-catch to engage said notches or perforations, said spring-catch being mounted to slide in a housing within said collar or abutment, and having at one end an engaging tooth and at the other end a finger-piece which projects beyond said collar, whereby when said finger-piece is pressed toward said collar said tooth or catch portion

is moved away from and out of engagement with the said rod.

16. In a type-writing machine, the combination with a paper-carriage, of a stationary rod provided with a series of notches or teeth, 55 and a stop-collar mounted on said rod and provided with a spring-pressed J-shaped catch having a projecting finger-piece which when pressed upon will free the catch from the rod and enable the collar or abutment to be slid 60 thereupon.

17. In a type-writing machine, the combination with a lifting paper-carriage, of a pivotally-mounted hinge and guide rod having on its under side a series of teeth or notches corresponding to the graduations of the machine-scale, and a movable abutment on said rod provided with a spring-catch having a projecting finger-piece which when pressed upon will free the catch from the rod and enable 70 the collar or abutment to be slid thereupon.

18. A type-writer-carriage abutment consisting of the collar 55 perforated transversely as at 57, and vertically as at 60 and provided with a spring-pressed catch made substantially in the form of the letter J, one end thereof having a finger-piece and the other end an engaging portion, the latter extending into the transverse perforation 57.

19. A type-writer-carriage abutment consisting of the collar 55 having a transverse perforation 57, a vertical perforation 60, and a cut-away 64, and provided with a catch consisting of a vertical stem which passes through the perforation 60, a horizontal member which 85 occupies the cut-away 64, a shorter vertical upturned engaging member which enters the perforation 57, a finger-piece projecting above the collar, and a coiled spring encircling the vertical stem within the perforation 60 and 90 bearing at one end against a shoulder therein, and at its other end against the under side of the finger-piece.

Signed at Ilion, in the county of Herkimer and State of New York, this 18th day of September, A. D. 1893.

WILLIAM K. JENNE.

Witnesses:

THOS. RICHARDSON,
A. D. RICHARDSON.