

944,596.

2 SHEETS—SHEET 1.



E. M. Wells  
R. H. Strother

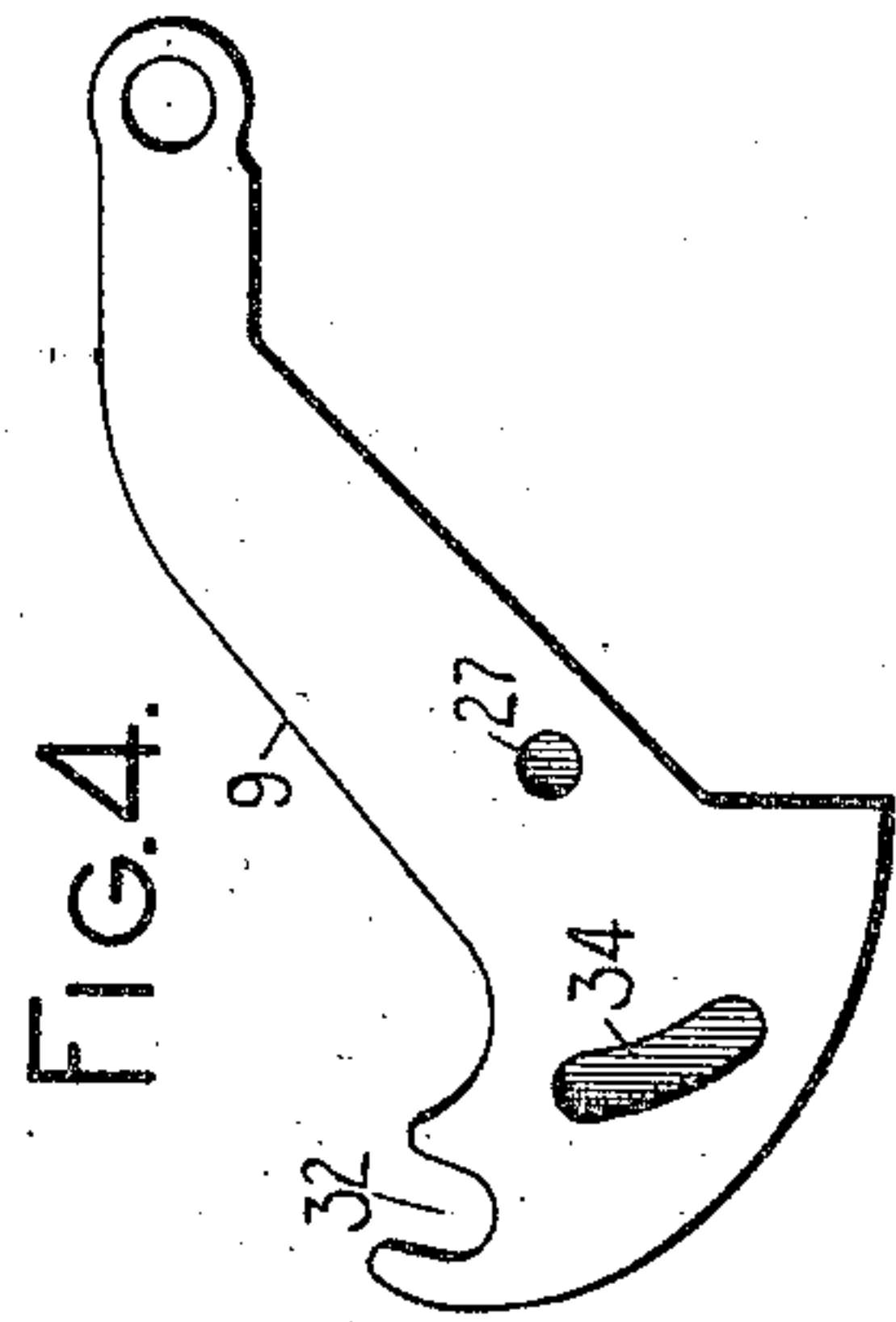
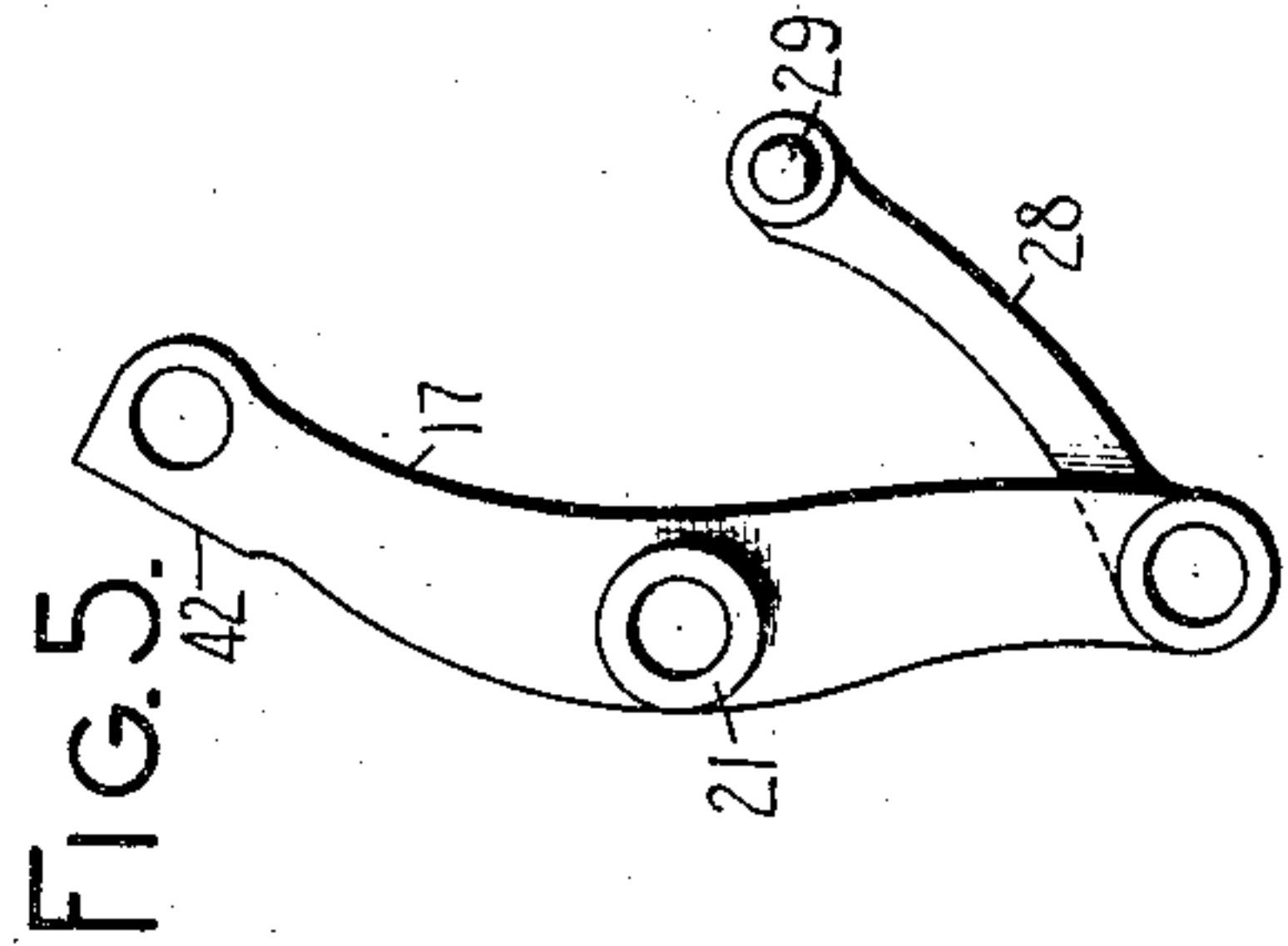
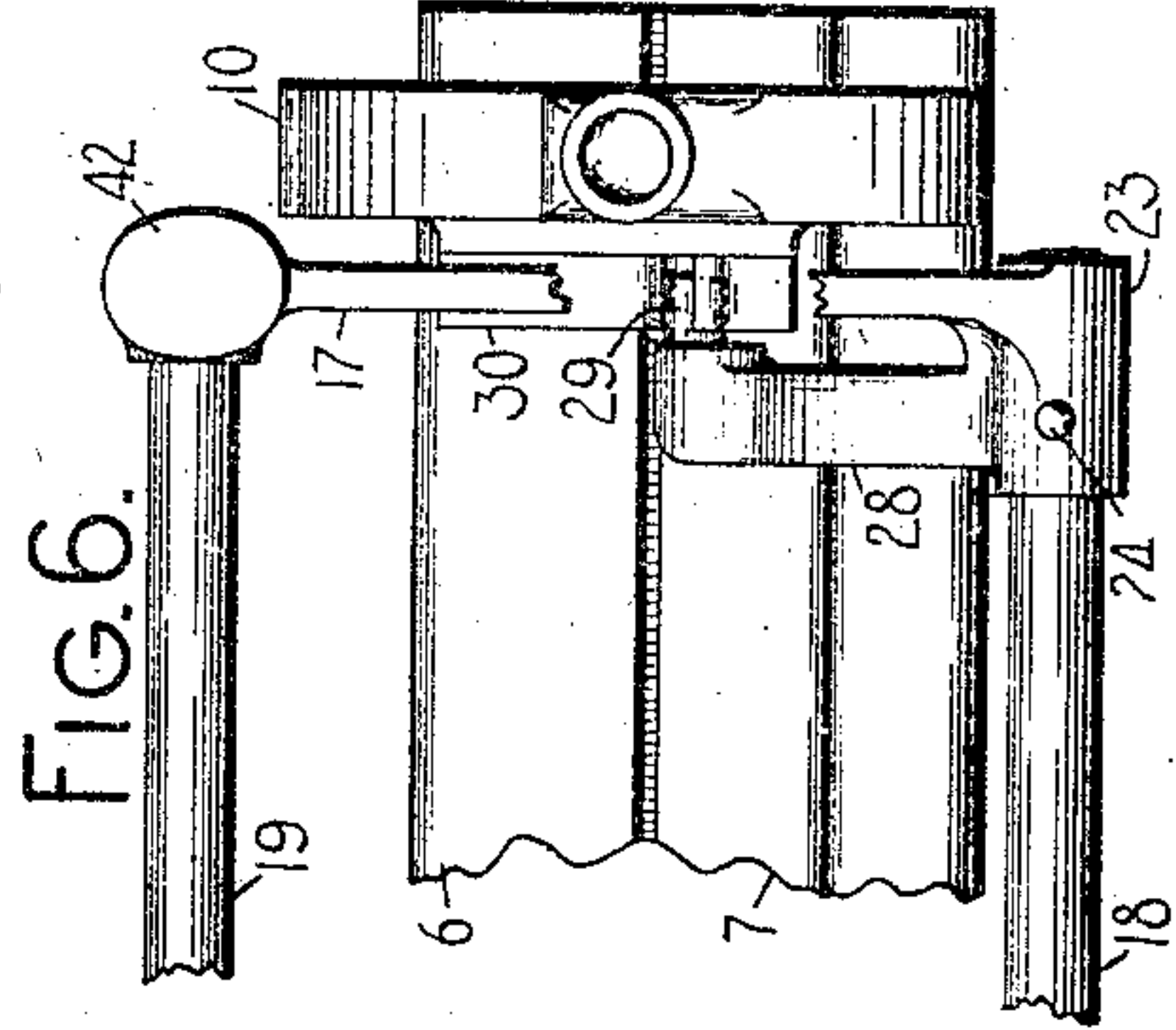
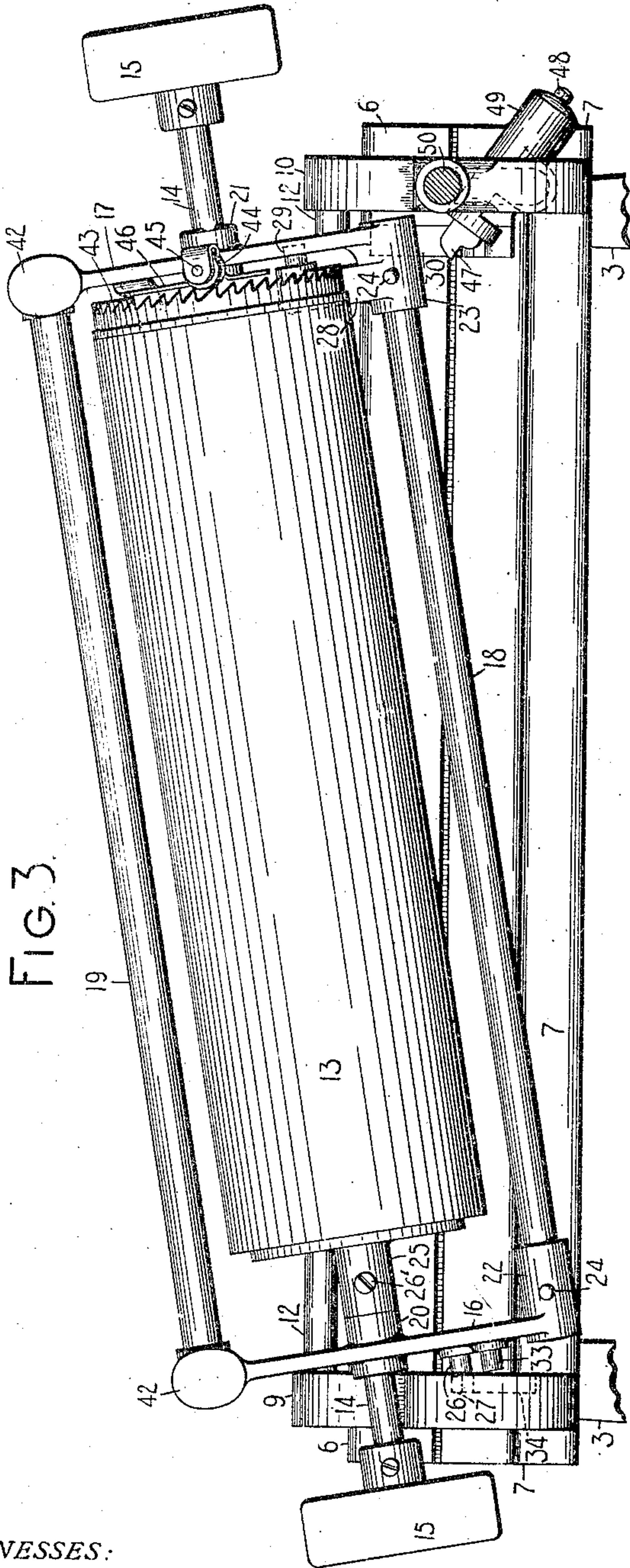
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BY  
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A. T. BROWN.  
TYPE WRITING MACHINE.  
APPLICATION FILED APR. 25, 1906.

944,596.

Patented Dec. 28, 1909.

2 SHEETS—SHEET 2.



WITNESSES:

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INVENTOR.

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# UNITED STATES PATENT OFFICE.

ALEXANDER T. BROWN, OF SYRACUSE, NEW YORK.

TYPE-WRITING MACHINE.

944,596.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed April 25, 1906. Serial No. 313,604.

*To all whom it may concern:*

Be it known that I, ALEXANDER T. BROWN, citizen of the United States, and resident of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to typewriting machines and it has for its principal object to provide an improved construction of paper carriage for such machines.

My invention consists in certain features of construction and combinations and arrangements of parts, all of which will be fully set forth herein and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of the upper part of a typewriting machine having my invention embodied therein. Fig. 2 is a left hand side elevation of the same, parts being shown in section on a plane just inside the left hand end piece of the carriage truck. Fig. 3 is a front elevation of the carriage showing the platen frame in a position it occupies when being removed from or placed in the machine. Fig. 4 is a view of the left hand end piece of the carriage truck as seen from the right. Fig. 5 is a view of the right hand end piece of the platen frame as seen from the right. Fig. 6 is a fragmentary view of the right hand end of the carriage and platen frame as seen from the front.

In most of the views parts have been shown in section or broken away and parts have been omitted as has been found convenient.

Some of the features of my invention are more especially applicable to front strike typewriters and I have accordingly shown said invention applied to a machine of that sort. The machine parts of which are shown in the drawings, comprises a top plate 1 supported by posts 2. Two standards 3, rising from the top plate 1, having their upper ends inclined downward and toward the front of the machine at an angle of approximately 45°. The carriage is supported by a single stationary rail 4 that is grooved at its opposite edges to form race-ways in which run anti-friction balls or rollers 5 that cooperate with race-ways formed in an upper or rear carriage rail 6 and a lower or forward car-

riage rail 7. The rail 4 lies on the inclined ends of the standards 3 to which it may be secured in any suitable manner as by means of screws 8. The two rails 6 and 7 each extend nearly to the middle of the truck so that said two rails together almost cover up the stationary rail 4. The carriage truck has a left-hand end piece 9 and a right-hand end piece 10 to which end pieces the rails 6 and 7 are secured by screws 11 passing through the rails and threaded into the end pieces. These end pieces may be of any suitable construction but I prefer to make them hollow as shown in Fig. 1, where the end piece 9 is shown broken and in section. In addition to being connected together by the rails 6 and 7 the end pieces 9 and 10 are also connected at their upper rear ends by a rod or shaft 12. Any suitable means may be provided for propelling the carriage across the machine and any suitable escapement mechanism or other step-by-step feed mechanism may be provided for controlling its motion.

The cylindrical platen 13 may be of any suitable or usual construction and said platen is provided with a shaft 14 that extends beyond the ends of the platen and has the usual finger wheels 15 mounted thereon. The platen shaft 14 is mounted in a platen frame that comprises a left-hand end piece 16 and a right hand end piece 17, said end pieces being connected together by a lower frame bar 18 and an upper frame bar 19. The end pieces 16 and 17 are provided or formed with hubs 20 and 21, respectively, in which the platen shaft 14 is journaled. The rod 19 is secured in suitable openings in the upper ends of the end pieces 16 and 17 and the rod 18 also passes through elongated hubs or sleeves 22 and 23 in which said rod is secured by pins 24 passing through the hubs and the rod. Endwise motion of the shaft 14 in the platen frame in one direction is prevented by a hub 25 which forms part of the means whereby the left hand end of the platen is secured to the shaft, said hub being secured to the shaft by a set screw 26 threaded through the hub and bearing against the shaft. The end of the hub 25 bears against the end of the hub 20 of the end piece 16 and a similar hub on the right hand end of the platen bears at its end against the end of the hub 21.



The platen frame is mounted on the carriage in such manner as to be readily detachable therefrom. To this end the left hand end piece of said platen frame has a pin 26 projecting therefrom and when said platen frame is in position on the carriage said pin 26 extends into a hole 27 in the inner face of the end piece 9 of the carriage (Fig. 4). The right hand end piece 17 of the platen frame has projecting from the hub 23 thereof upward and toward the rear of the machine an arm 28 from which there projects a pin 29 which, when the platen frame is in position, lies in a notch in the upper edge of a block or projection 30 that is secured by screws 31 to the inner face of the right hand end piece 10 of the carriage. The construction is such that the platen frame may be placed in position on the machine by holding said frame in about the position shown in Fig. 3, inserting the pin 26 into the hole 27 by a longitudinal movement of the platen frame and then lowering the right hand end of the platen frame until the pin 29 drops into the notch in the block 30. The platen frame then drops by its own weight about the pins 26 and 29 as a pivot until the shaft 14 falls into notches 32 (Fig. 4) formed in the upper edges of the forwardly projecting parts of the end pieces 9 and 10. It will be perceived that the construction is such that the platen frame may be tilted about the pins 26 and 29 as a pivot into the position indicated by dotted lines in Fig. 2 without detaching the platen frame from the machine. The upward and rearward motion of the platen frame in this tilting action is limited by a pin 33 that projects from the left hand end piece 16 of the platen frame into a slot 34 (Fig. 4) formed in the inner face of the left-hand end piece 9 of the carriage. As indicated in Fig. 1 this slot 34 passes entirely through the inner wall of the hollow end piece; but the slot may be otherwise constructed if desired. It will also be obvious that any other suitable means may be provided for limiting the backward motion of the platen frame about its pivots. The principal purpose of this tilting motion of the platen frame is for convenience in making erasures.

Most front strike typewriters have a ribbon guide that conducts a ribbon across the printing point and in the present construction such a guide is shown. This ribbon guide is designated by the numeral 35 and is of the sort known as a ribbon vibrator, so that its normal position is below the writing line, the position of which is indicated in Fig. 1 by the letter A. The ribbon vibrator 35 shown in the present instance has an ink ribbon 36 guided therethrough and said vibrator, as it moves up and down, is guided by a vibrator guide 37 which is secured by a

screw 38 to the front face of an upwardly projecting portion 39 of the top plate 1. It has been thought unnecessary to fully show and describe these parts as they form no part of the present invention. The position of these parts, or of the parts corresponding thereto, however, in this and in most other front strike typewriters is such that said parts stand in the way of making erasures so that in order to erase the last letter written, it has been usual for the operator either to feed the paper upward by turning the platen or else to move the carriage to the right or to the left in order to get the matter to be erased away from the ribbon vibrator. This necessitates a readjustment of the platen or of the carriage after the erasure is made and consumes time. By the use of the present invention this disarrangement of the parts is obviated. The operator merely tilts the platen frame from the position shown in full lines in Fig. 2 up to the position shown in broken lines in said figure, in which latter position of the parts the line of writing is so far removed from the ribbon mechanism that said mechanism does not interfere with the operation of erasing. In Fig. 2 the normal position of the writing line is indicated by the arrow 40 and the tilted position of said writing line is indicated by the arrow 41. The platen frame may be tilted by grasping any part thereof but I prefer to flatten the upper ends of the end pieces 16 and 17 as indicated at 42. This flattened part may be roughened, if desired, to furnish a firm hold for one hand of the operator, the erasing being done with the other hand.

Any suitable line spacing mechanism may be provided. I have here shown a line space ratchet wheel 43 having ratchet teeth formed on the right hand face thereof. These ratchet teeth are engaged by a detent roller 44 rotatably mounted on a pin 45 that passes through a suitably formed and bent spring plate 46 that is secured at its ends to the inner face of the right hand end piece 17 of the platen frame. This spring plate 46 is substantially semi-circular, the roller 44 being mounted thereon in position to engage the ratchet teeth of the wheel 43 and being pressed into engagement with said teeth by the resiliency of the spring plate. The line space mechanism comprises a dog 47 consisting of the inner end of a spring pressed plunger 48 mounted in a barrel 49 which is rigidly mounted on a shaft 50 that is journaled in the right hand end piece 10 of the carriage, said shaft passing through said end piece in a direction inclined downward toward the back of the machine as indicated by dotted lines in Fig. 2. The forward end of the shaft 50 extends toward the front of the machine and is bent down-



wardly out of line with the portion of said shaft that lies within the end piece 10, so that said forwardly extending part of the shaft serves as a line space lever. The dog 5 47 is normally out of engagement with the teeth of the ratchet wheel 43, so that said dog does not interfere either with the tilting of the platen frame or with its removal from the machine; but when the shaft 50 is 10 rocked said dog engages the teeth of the ratchet wheel and turns the platen. In order to avoid interfering with the action of this dog and the ratchet wheel the arm 28 that carries the pivot pin 29 stands nearer the middle of the machine than the end piece 15 17 of the platen frame and curves backward and upward below and behind the platen to the point at which the pin 29 is mounted. The pivot pins 26 and 29 stand behind the 20 platen, so that when the platen frame is tilted about said pivot pins, the front face of the platen is elevated as indicated in Fig. 2.

Various changes may be made in the details of construction and arrangements without departing from my invention.

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

1. In a typewriting machine, the combination of a carriage truck, a platen frame, a 30 platen having a shaft journaled in said platen frame, a pivot for said platen frame seated in a notch or open slot in said carriage truck back of the platen, said truck 35 having also an open notch or slot in which said platen axle normally rests.

2. In a front-strike typewriting machine, the combination of a platen having the printing line at the front thereof and having 40 a shaft, a platen frame, a carriage truck, and a pivotal, detachable connection between said platen frame and said truck adapted to allow said platen frame to be 45 tilted about a center that is fixed with relation to the truck to raise the platen above its printing position, said shaft normally resting on said truck and limiting the downward motion of said platen frame about its pivot.

3. In a front-strike typewriting machine, the combination of a platen having a shaft, a platen frame, a carriage truck having 50 fixed end pieces, a pivot pin connecting said platen frame with each of said end pieces, said platen frame being capable of an up 55 and down tilting motion about said pivot pins as fixed centers, and said platen shaft normally resting on said end pieces and limiting the downward tilting motion of said 60 platen frame.

4. In a front-strike typewriting machine, the combination of a platen, a platen frame, a carriage truck, means for pivotally connecting one end of said platen frame with

said truck, said means comprising a pivot 65 pin working in a hole, means comprising a pivot pin working in a notch for pivotally connecting the other end of said platen frame with said truck, and means for limiting the up and down tilting motion of said 70 platen frame about said pivot pins, the construction being so constructed that the platen frame may be tilted up above its printing position, and so that the platen frame may be detached from the truck by 75 first lifting the end thereof that is mounted by the pin and notch, and then moving said frame longitudinally to withdraw the other pin from its hole.

5. In a front-strike typewriting machine, 80 the combination of a platen, a platen frame, a carriage truck, and a detachable pivotal connection between said platen frame and said truck comprising, at one end, a pivot pin working in a hole and a stop pin work- 85 ing in a slot, and at the other end a pivot pin working in a notch.

6. In a front-strike typewriting machine, the combination of a platen having a shaft, a platen frame, a carriage truck having end 90 pieces, and means whereby said platen frame is detachably and pivotally secured to said truck comprising pivot pins projecting from the ends of said platen frame, a hole in one of said end pieces for one of said pins, a 95 notched part on the other of said end pieces for the other of said pins, and notches in said end pieces in which said platen shaft normally rests.

7. In a typewriting machine, the combination of a platen frame, a carriage truck, 100 and means whereby said platen frame is detachably mounted on said truck, said means at one end comprising a pin received in a hole, said pin being fixed to the platen frame 105 and the hole being formed in a fixed part of the truck, and said means at the other end comprising a pin fixed to the platen frame and lying in a notch formed in a fixed part of the truck; the construction being such 110 that the platen frame may be detached from the truck by first lifting that end of the platen frame near the notch in order to disengage the pin therefrom and by then moving the platen frame endwise to disengage 115 the other pin from the hole.

8. In a typewriting machine, the combination of a platen frame, a platen rotatable therein, a carriage truck and pivotal connections between said frame and truck such 120 that said frame normally maintains said platen in printing position but is adapted at all times to be swung up manually to move the platen to non-printing position, said platen having a pin and slot connection with 125 said platen frame whereby said platen may be removed without any preliminary removal or unlatching of parts.

9. In a front-strike typewriting machine,  
the combination of a platen frame, a car-  
riage truck, and means whereby said platen  
frame is detachably mounted on said truck,  
5 said means comprising at each end a pin in  
a suitable aperture in a rigid part of the  
truck, and said aperture at one end being an  
open notch, whereby the platen frame is held  
in position by gravity but may be removed

without any preliminary removal or un- 10.  
latching of parts.

Signed at Syracuse, in the county of  
Onondaga, and State of New York, this 23d  
day of April, A. D. 1906.

ALEXANDER T. BROWN.

Witnesses:

S. DAVIS,

R. ARONSON.