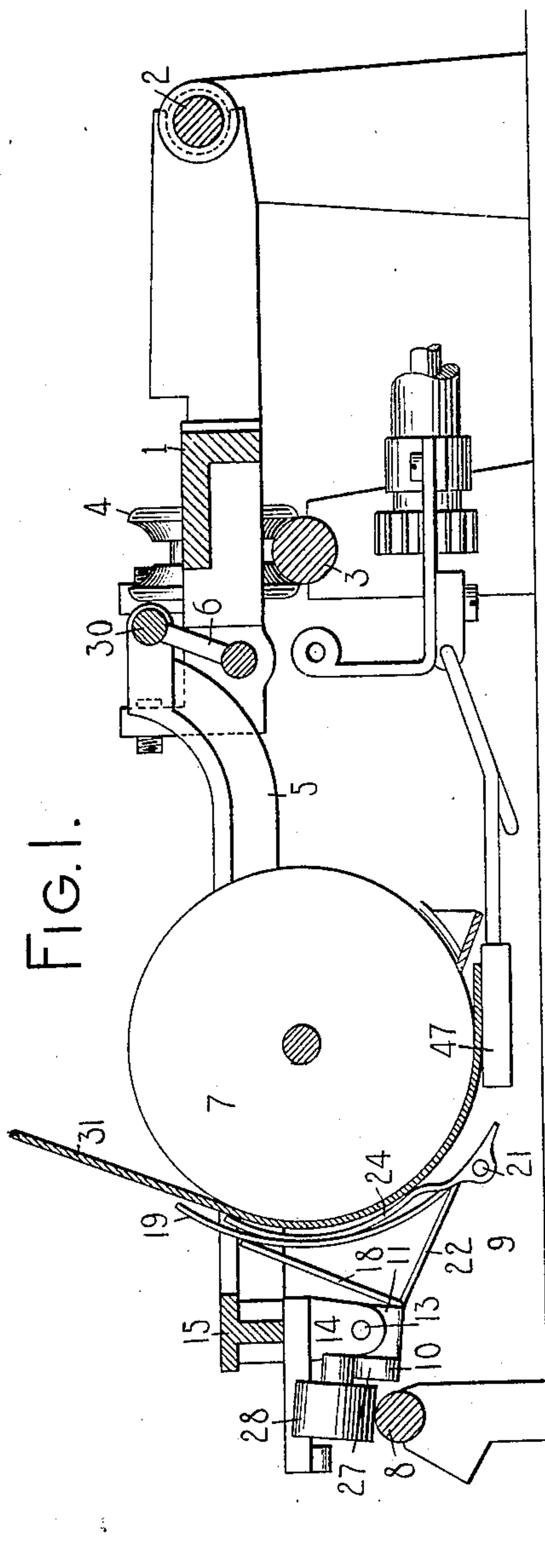


No. 897,308.

PATENTED SEPT. 1, 1908.

C. H. SHEPARD.
TYPE WRITING MACHINE.
APPLICATION FILED SEPT. 6, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

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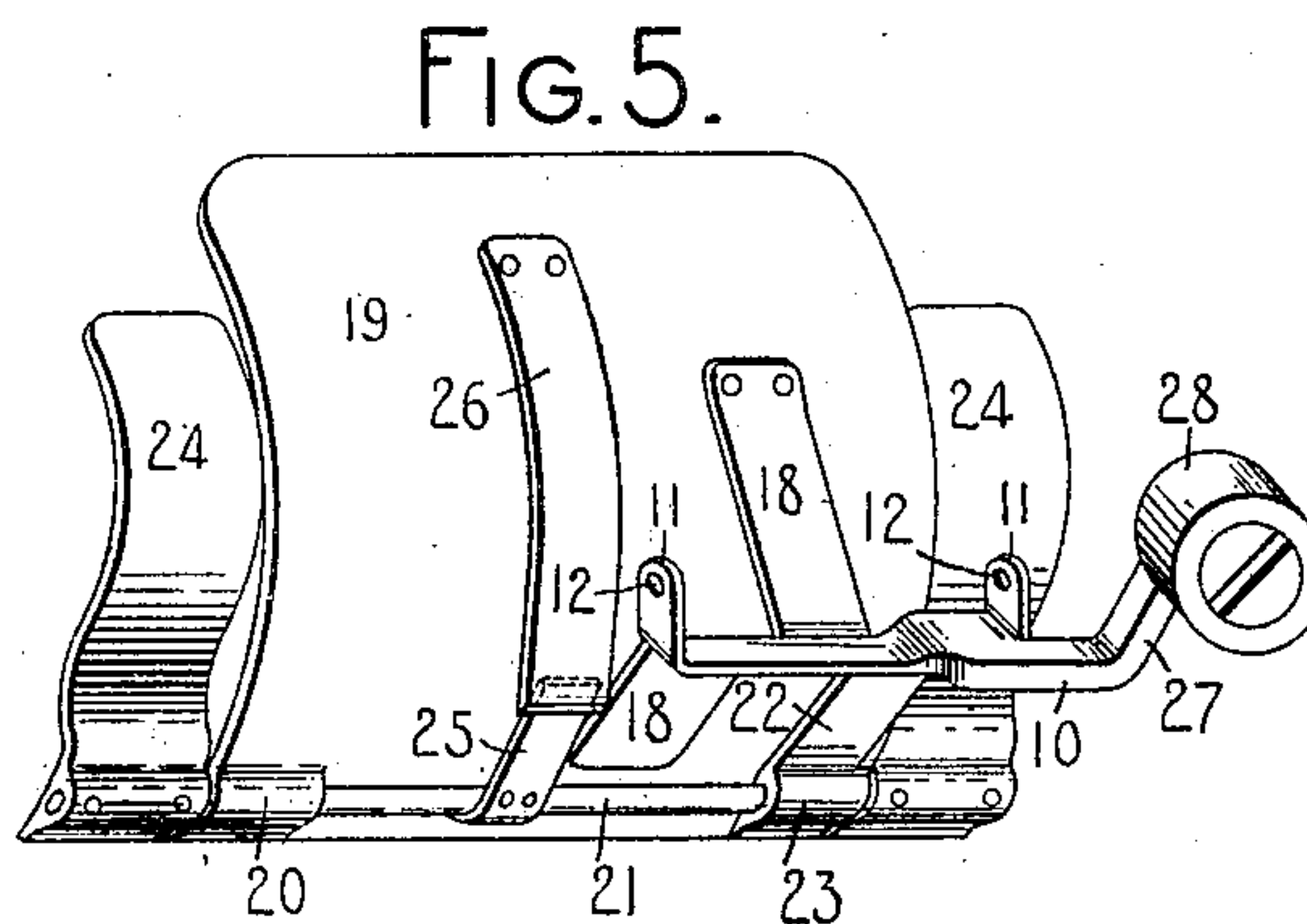
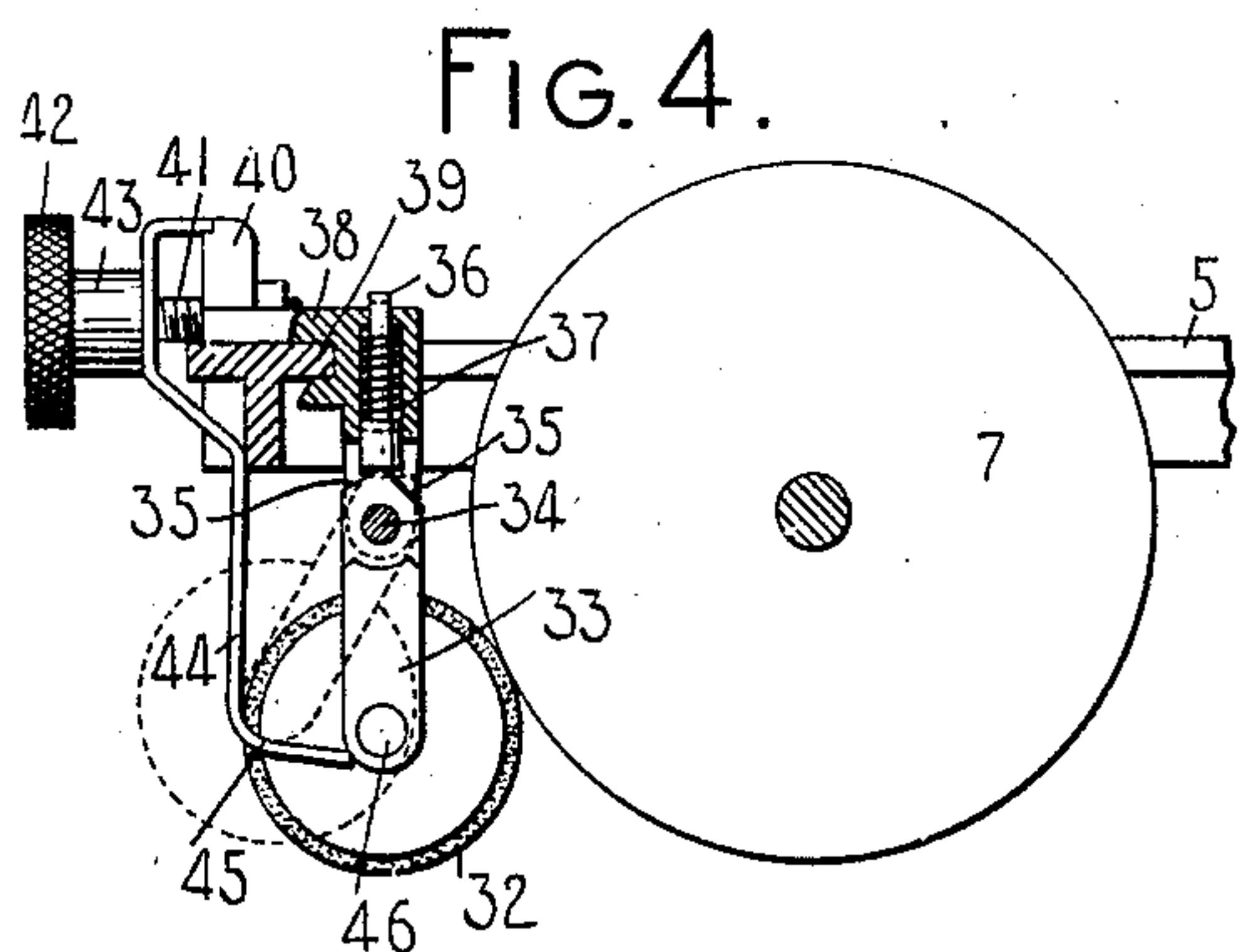
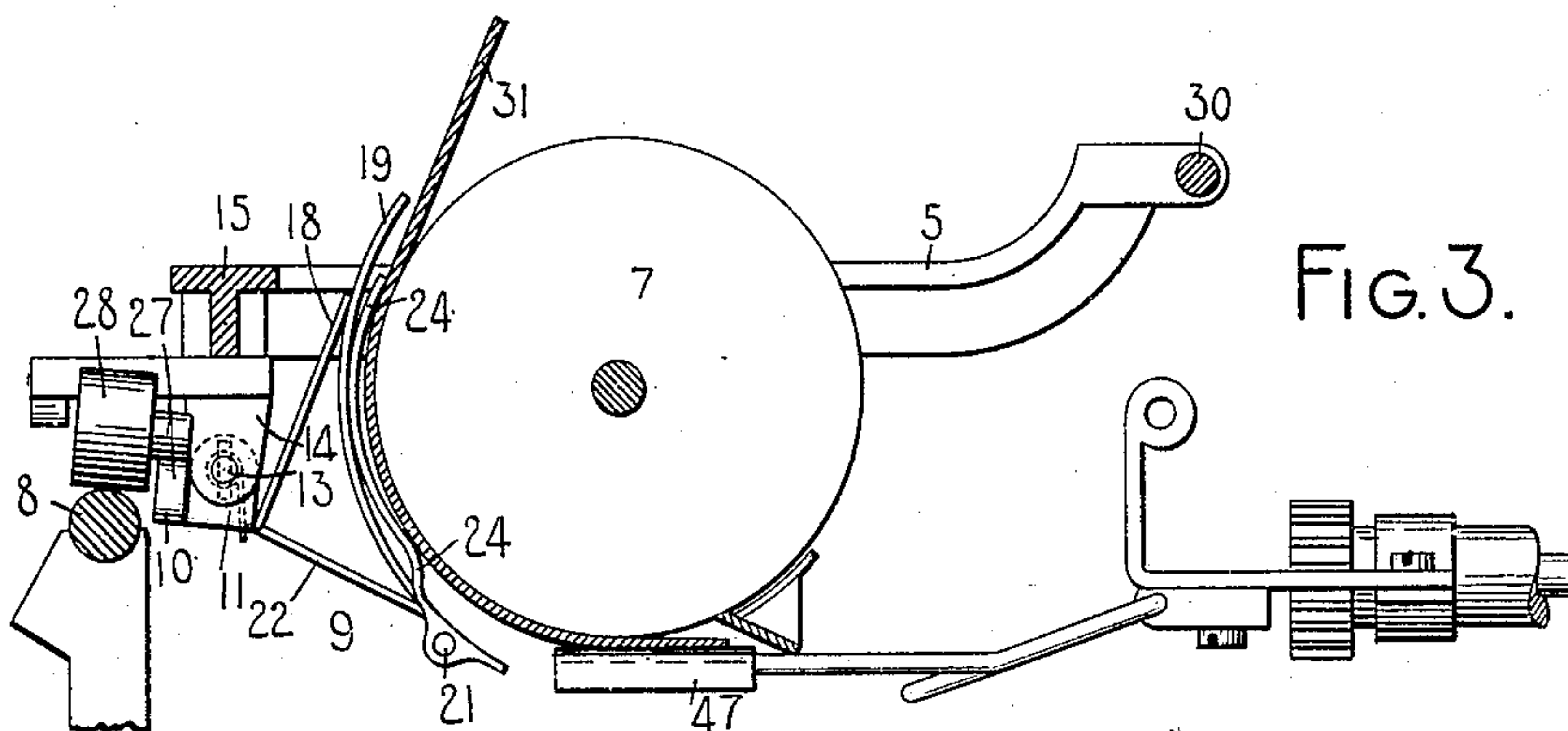
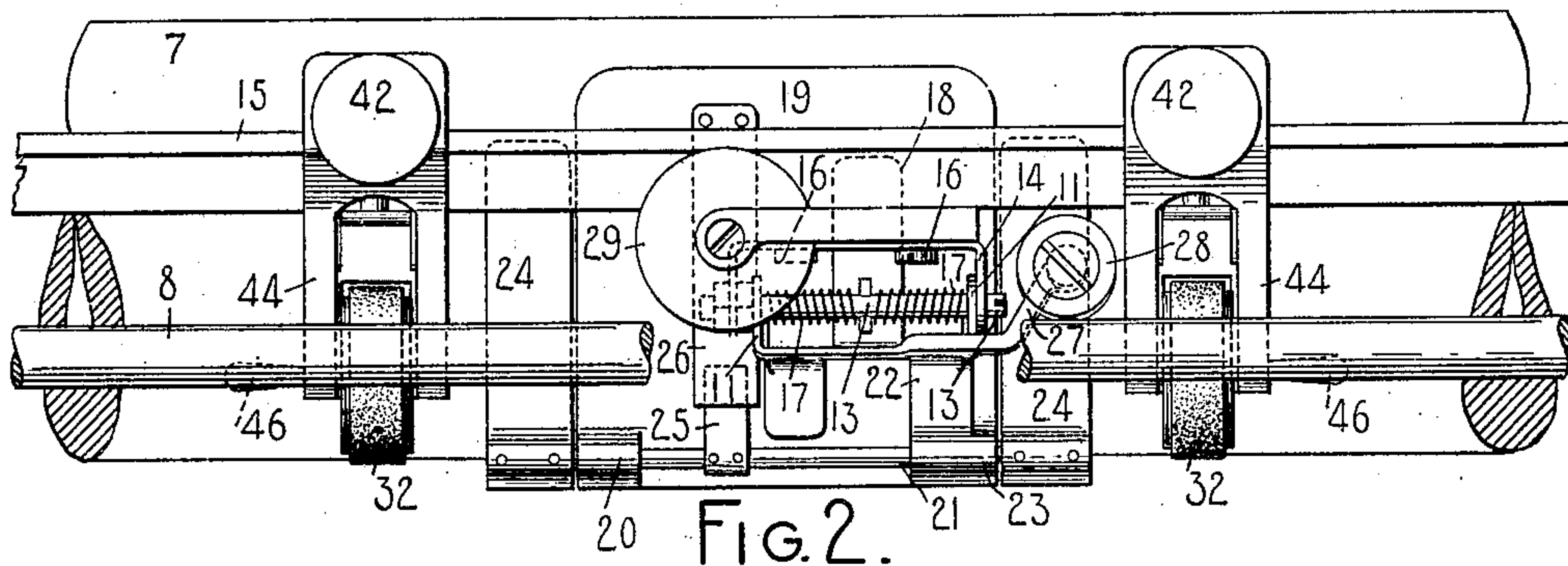
HIS ATTORNEY

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 897,308.

Specification of Letters Patent.

Patented Sept. 1, 1908.

Original application filed July 17, 1902, Serial No. 115,922. Divided and this application filed September 6,
1905. Serial No. 277,207.

To all whom it may concern:

Be it known that I, CHARLES H. SHEPARD, citizen of the United States, and resident of the borough of Brooklyn, city of New York, in the county of Kings 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 paper feeding devices for typewriting machines and one of the objects of my invention is to provide simple and efficient devices of the character specified.

To the above and other ends which will hereinafter appear my invention consists in the features of construction, arrangements of parts and combinations of devices to be hereinafter described and claimed.

The present case is a division of my application Serial No. 115,922 filed July 17th, 1902.

In the accompanying drawings wherein like reference characters designate corresponding parts in the various views:—

Figure 1 is a vertical front to rear sectional view of sufficient number of parts of a typewriting machine to show my invention in its application thereto. Fig. 2 is an enlarged detail front view, with parts broken away, of a portion of the machine embodying my invention. Fig. 3 is a detail transverse sectional view of the same. Fig. 4 is a detail vertical sectional view through a portion of the carriage where one of the front paper feed rollers is mounted. Fig. 5 is a detail perspective view of the front paper guiding and feeding device as the same would appear in looking towards the front of the machine.

I have illustrated my invention in the present instance in its application to a No. 6 Remington machine, but it should be understood that while the invention is applicable to that machine it may be employed in other styles of typewriting machines.

The truck 1 is supported and guided on traction or guide rods 2 and 3, the latter supporting and guiding the truck through anti-friction rollers 4. A platen frame 5 is supported at the rear side by links 6 on which the platen frame is adapted to be turned back to the inoperative position and to vibrate fore and aft of the machine to change the case position of the platen 7 which is sup-

ported by the platen. The shift rod or rail 8 coöperates with the platen frame to effect the case shift of the platen. The parts thus far described are or may be of the usual construction employed in the No. 6 Remington machine and in addition to the parts mentioned the usual paper feeding devices or some of them may be employed.

In addition to certain of the other paper feeding devices ordinarily employed, such as the paper feed rollers, etc., I may provide a paper feeding and guiding device 9. This paper feeding or guiding device is preferably in the nature of a center guide and is constructed with a frame 10 that has upturned ears 11 thereon in which are formed bearing openings 12, through which extends a shaft or pivot bearing 13. This pivot likewise projects through bearing openings in a bracket 14, which may be secured to the front rail 15 of the platen frame at 16. One or more coiled springs 17 surrounds the pivot 13 and the tension thereof is exerted to force the lower end of the frame and the parts carried thereby towards the platen 7. The frame 10 carries projecting arms 18 which afford a support for a paper guide or shield 19. The lower end of this paper shield is formed as a bearing 20 for the reception of a rock shaft 21. The frame 10 likewise has an arm 22 which is connected to the shield 19 and has a bearing 23 therein for the reception of the rock shaft 21. The rock shaft projects at its ends beyond the bearings 20 and 23 and has secured thereto paper guiding arms or fingers 24 which are maintained under spring pressure by an arm 25 secured to the rock shaft 21 intermediate of its ends and a spring 26 secured at one end to the shield 19 and bears at its free end upon the arm 25. Thus the pressure of the spring 26 upon the arm 25 tends to turn the rock shaft 21 and to force the paper guiding arms or fingers 24 towards the platen.

It will be observed that the paper shield 19 and the arms or fingers 24 correspond substantially in shape to the contour of the platen in order to guide the paper in its line spacing movement with the platen. The frame 10 which carries the various parts of the paper feeding and guiding device 9 has an arm 27 to which is pivoted a freely movable anti-friction bearing roller 28 that extends

to the opposite side of the pivotal center of the frame from that which carries the paper feeding and guiding instrumentalities, as will be seen upon reference to Fig. 3 of the drawings. This bearing roller 28 rests upon the shift rod 8 when the platen is in the operative or printing position and the platen frame and shift rod 8 are connected in the usual manner by a suitable flange roller 29, which is a traverse wheel carried by the platen frame, and bears upon the shift rod so that they may move together when the shift rod is moved to shift the platen for upper or lowercase writing but permits a free longitudinal movement of the carriage, though it should be understood that the roller 28 may bear upon any relatively fixed portion of the machine. During this movement of the platen frame the roller 28 will be maintained in the same relative position upon the shift rod so that the pressure of the platen frame on the bearing roller will overcome the tension of the spring or springs 17 and maintain a pressure upon the paper guiding and feeding instrumentalities of the device 9 as long as the platen frame is maintained in the operative or printing position represented by Figs. 1 and 3. The pressure thus exerted to force the upper portion of the shield 19 towards the platen likewise moves the upper portions of the fingers 24 in the same direction through the parts 26, 25 and 21. When, however, the platen frame is turned back upon its pivotal center 30, the pressure of the frame will be relieved from the bearing roller and the spring or springs 17 of the paper device 9 will tend to change the position of the feeding and guiding instrumentalities with relation to the platen. Thus, for instance, it will be seen upon reference to Fig. 3 that the paper 31 inserted in the machine will be maintained under pressure by the paper feeding and guiding device 9 so long as the platen frame is in the printing position represented in this figure. It will likewise be observed that the lower end of the paper shield will be maintained in a position where it can readily receive the leading edge of the paper or card and will guide the same to and maintain it in contact with the platen. When, however, the platen frame is swung back on its pivotal center 30, the bearing roller 28 is no longer under pressure or weight of the platen frame and the spring or springs 17 will tend to move the frame and the parts carried thereby around the pivotal center of the device 9 and the paper guiding and feeding instrumentalities at the front of the platen will be thus automatically relieved from pressure so that the paper may be readily adjusted upon the platen for the purposes of correction or otherwise, and that both hands of the operator are free to move the paper to the necessary position.

A further advantage of this structure is

that when the carriage is in the printing position, the lower edge of the paper guide is maintained away from the platen to readily receive the leading end of stiff paper or cards which tend to spring away from the platen, whereas when the carriage is thrown back, the lower edge of the guide moves automatically against the platen, so that when the carriage is moved down to the printing position there is no liability of the paper guide being caught by other parts of the machine (not shown), such as a printing point indicator, with a consequent injury to the parts.

In addition to the paper feeding and guiding device 9, I may provide one or more paper feed rollers 32. Each of these feed rollers is free to rotate in an arm 33 which is pivoted to its support as indicated at 34. The upper end of each arm 33, which is preferably bifurcated to receive the roller, may be provided with a flattened head or portion 35 for cooperation with a spring pressed plunger 36. The spring 37 of this plunger tends to force the plunger downward so that when the roller has been moved away from contact with the platen and the arm of the roller is in the dotted line position, as shown in dotted lines in Fig. 4, a flattened portion 35 on the arm will be in cooperative contact with the head of the plunger and the tension of the spring 37 will tend to maintain the parts in this position. A support 38 to which an arm 33 is pivoted and which is recessed to receive the plunger 36 and spring 37, may be provided with a groove 39, for the reception of the inner flange of the T-rail that constitutes the front bar 15 of the platen frame. A suitable lug or projection 40 extends from the support 38 and may be provided with a tapped opening for the reception of the stem of a clamping screw 41 that is provided with a head 42. Interposed between shoulder 43 on the head or thumb screw and the support 38 is a leaf spring 44 that bears against the front rail 15 of the carriage and constitutes a portion or element of the clamp for maintaining the support 38 in the position to which it is adjusted along the rail 15. The spring 44 is provided with a depending portion that is turned at an angle near its lower end, as indicated at 45, so that the free end of the spring is adapted to bear against the associated arm 33 and maintain the roller 32 in contact with the platen and under pressure when the parts are in the full line position indicated in Fig. 4. When, however, the feed roller and the arm 33 which carries it is moved to the dotted line position by hand, the spring 44 cooperates with the arm to maintain the roller out of contact with the platen. Thus each arm 33 which carries its roller may be forced by hand to the dotted line position, and finger pieces 46 may be

provided to facilitate this movement. When an arm has reached the dotted line position, the lower end thereof is received within the bend 45 of the spring 44 and the pressure, which was exerted to maintain the feed roller in contact with the platen, is now effective to maintain it away from the platen.

If desired, the paper feeding devices of the present invention may be used in conjunction with a pivoted card guide 47 which is claimed in the application hereinbefore referred to and of which this is a division.

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

1. In a typewriting machine, the combination of a platen, a paper feed roller adapted to cooperate with said platen, an adjustable support for said roller and upon which support the roller is adapted to be moved into or out of contact with the platen, and a spring which is adapted to exert a pressure upon said roller to maintain it in contact with the platen and which constitutes a portion of the support and a portion of the means by which the support is held in place and enables it to be clamped in the adjusted position.

2. In a typewriting machine, the combination of a platen, a paper feed roller adapted to cooperate with said platen, an adjustable support for said roller and upon which support the roller is adapted to be moved into or out of contact with the platen, and a spring which is adapted to exert a pressure upon said roller to maintain it either in or out of contact with the platen and which constitutes a portion of the support and a portion of the means by which the support is held in place and enables it to be clamped in the adjusted position.

3. In a typewriting machine, the combination of a movable platen carriage, paper guiding mechanism carried by the carriage and which cooperates with the platen and which is maintained in such cooperation by the carriage when it is in the operative position, and means for effecting a movement of said guiding mechanism away from the operative position by a movement of the platen.

4. In a typewriting machine, the combination of a swinging platen carriage, paper guiding or feeding devices that cooperate with the platen and are carried by and travel with the carriage, and mechanism for automatically changing the position of the guiding and feeding devices with relation to the platen by a swinging movement of the carriage away from the operative position.

5. In a typewriting machine, the combination of a swinging platen carriage, spring pressed paper guiding or feeding devices that cooperate with the platen, and mechanism

for automatically relieving the spring pressure of the paper devices on the platen by a swinging movement of the carriage away from the operative position.

6. In a typewriting machine, the combination of a swinging platen carriage, paper guiding or feeding devices that cooperate with the platen, and mechanism for automatically maintaining the paper devices under pressure while the carriage is in the operative position and for automatically relieving said paper devices from pressure by a movement of the carriage from the operative position.

7. In a typewriting machine, the combination of a swinging carriage, paper guiding or feeding devices that cooperate with the platen, and mechanism controlled by the weight of the carriage for maintaining said paper devices in the operative position.

8. In a typewriting machine, the combination of a swinging platen carriage, paper guiding or feeding devices that cooperate with the platen, and mechanism controlled by the weight of the carriage for maintaining said paper devices in the operative position and for throwing such devices out of the operative position when the carriage is swung from the operative position.

9. In a typewriting machine, the combination of a swinging platen carriage, paper guiding or feeding devices that cooperate with the platen, and mechanism controlled by the weight of the carriage for maintaining said paper devices in the operative position and for throwing such devices out of the operative position when the weight of the carriage is relieved therefrom.

10. In a typewriting machine, the combination of a swinging platen carriage, and a paper feeding or guiding device which is carried by the carriage and has one position relative to the platen when the carriage is in the operative position and automatically assumes another position relative to the platen when the carriage is swung back out of the operative position.

11. In a typewriting machine, the combination of a swinging platen carriage and a paper feeding or guiding device which is carried by the carriage and has one position relative to the platen when the carriage is in the operative position and automatically assumes another position relative to the platen when the carriage is swung back out of the operative position, and which is automatically restored to the initial position when the carriage is again swung down to the operative position.

12. In a typewriting machine, the combination of a swinging platen carriage, and a paper feeding or guiding device which cooperates with the platen of said carriage, said paper device having a portion thereof which is adapted to bear upon a portion of

the machine fixed against travel with the carriage and thus maintain the devices in the operative position.

13. In a typewriting machine, the combination of a swinging platen carriage, and a paper feeding or guiding device which is carried by the carriage and is movable independently thereof and which coöperates with the platen of said carriage, said paper device having a portion thereof which is adapted to bear upon a portion of the machine fixed against travel with the carriage and thus maintain the device in the operative position.

14. In a typewriting machine, the combination of a swinging platen carriage and a paper feeding or guiding device which coöperates with the platen of said carriage, said paper device having a portion thereof which is adapted to bear upon a relatively fixed portion of the machine and thus maintain the device under pressure.

15. In a typewriting machine, the combination of a swinging platen carriage, and a paper feeding or guiding device which coöperates with the platen of said carriage, said paper device having a portion thereof which is adapted to bear and ride upon a relatively fixed portion of the machine during the travel of the carriage and thus maintain the devices in one position and which is moved away from the framing of the machine when the carriage is swung back to automatically change the position of the paper device.

16. In a typewriting machine, the combination of a platen carriage, a paper guiding and feeding device which coöperates with the platen of the carriage, and a trackway upon which said paper device bears in the travel of the carriage, whereby when the carriage is moved away from said trackway the position of the feeding device relative to the platen will be automatically changed.

17. In a typewriting machine, the combination of a swinging platen carriage, a paper guiding and feeding device which coöperates with the platen of the carriage, and which is movable independently of the carriage, a bearing roller carried by the paper device, and a trackway carried upon the framing of the machine and upon which the roller of said paper device bears in the travel of the carriage, whereby when the carriage is moved away from said trackway the position of the feeding device relative to the platen will be automatically changed.

18. In a typewriting machine, the combination of a swinging platen carriage, a spring-pressed paper guiding and feeding device which coöperates with the platen of the

carriage and which is movable by its spring independently of the carriage, a bearing roller carried by the paper device, and a trackway carried by the framing of the machine and upon which the roller of said paper device bears in the travel of the carriage, whereby when the carriage is in the operative position it will overcome the tension of the spring of the paper device and maintain the said device in one position and when the carriage is swung back and away from said trackway the position of the feeding device relative to the platen will be automatically changed by the spring of said device.

19. In a typewriting machine, the combination of a swinging platen carriage, a spring pressed paper guiding and feeding device which is pivoted to the carriage and coöperates with the platen of the carriage and which is movable by its spring independently of the carriage, a bearing roller carried by the paper device, and a trackway carried by the framing of the machine and upon which the roller of said paper device bears and is maintained by the carriage during its travel, whereby when the carriage is in the operative position it will overcome the tension of the spring of the paper device and maintain the said device under tension and when the carriage is swung back and away from said trackway the position of the feeding device relative to the platen will be automatically changed by the spring of said device and the tension maintained on the device by the carriage will be relieved.

20. In a typewriting machine, the combination of a swinging platen carriage, a frame pivoted to the carriage and carrying spring paper feeding fingers which correspond substantially to the contour of the platen, a bearing roller carried by said frame and adapted to bear upon the shift rod for the platen when the carriage is in the operative or printing position and to maintain the spring fingers against the platen, and a spring for moving the frame around its pivotal center when the carriage is swung back and away from the printing position, whereby the position of the spring fingers is automatically changed when the carriage is swung to or from the printing or operative position.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York, this 5th day of September, A. D. 1905.

CHARLES H. SHEPARD.

Witnesses:

E. M. WELLS,

M. F. HANNWEBER.