

L. NEY.
TYPE WRITING MACHINE.
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983,164.

Patented Jan. 31, 1911.

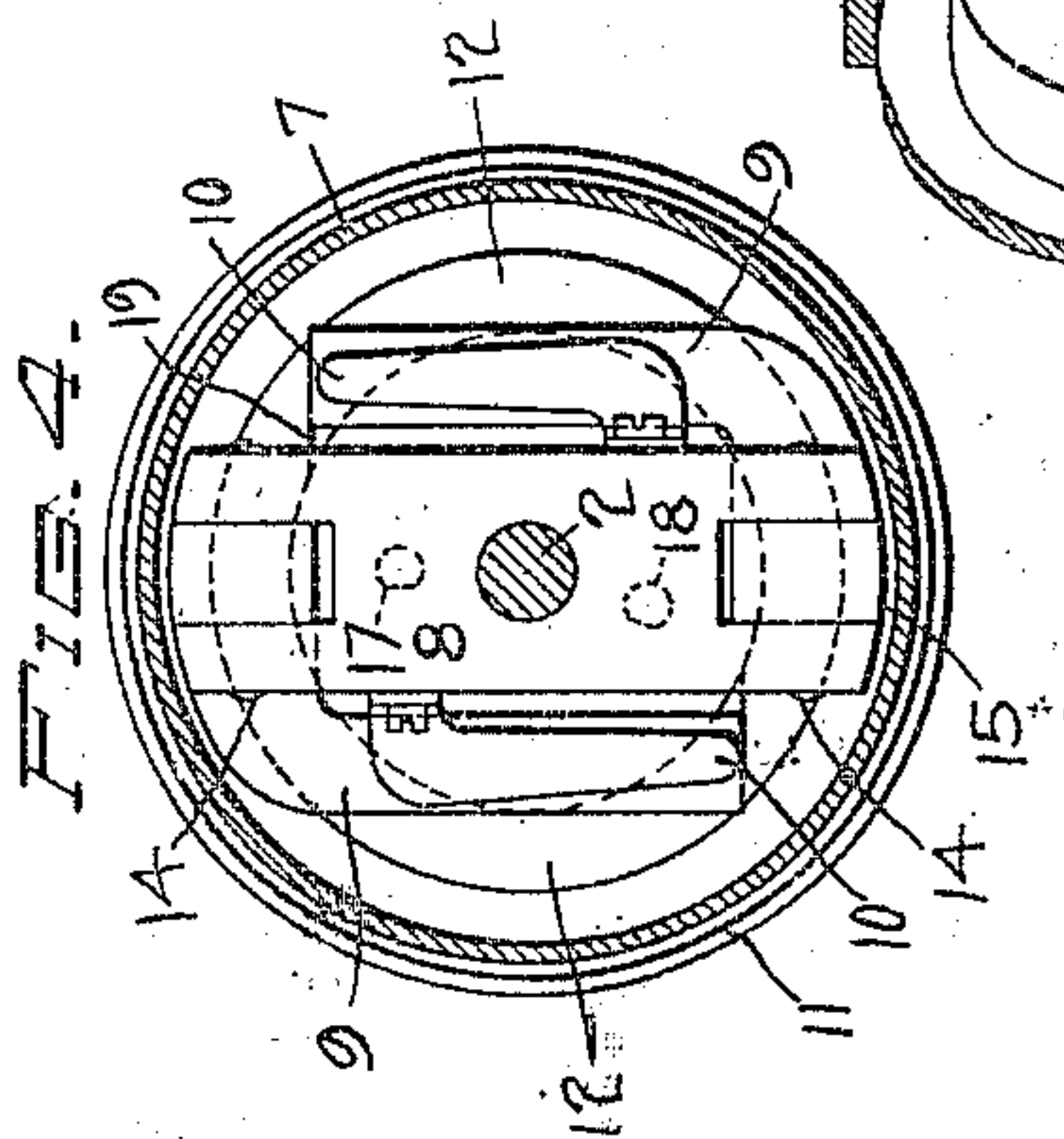
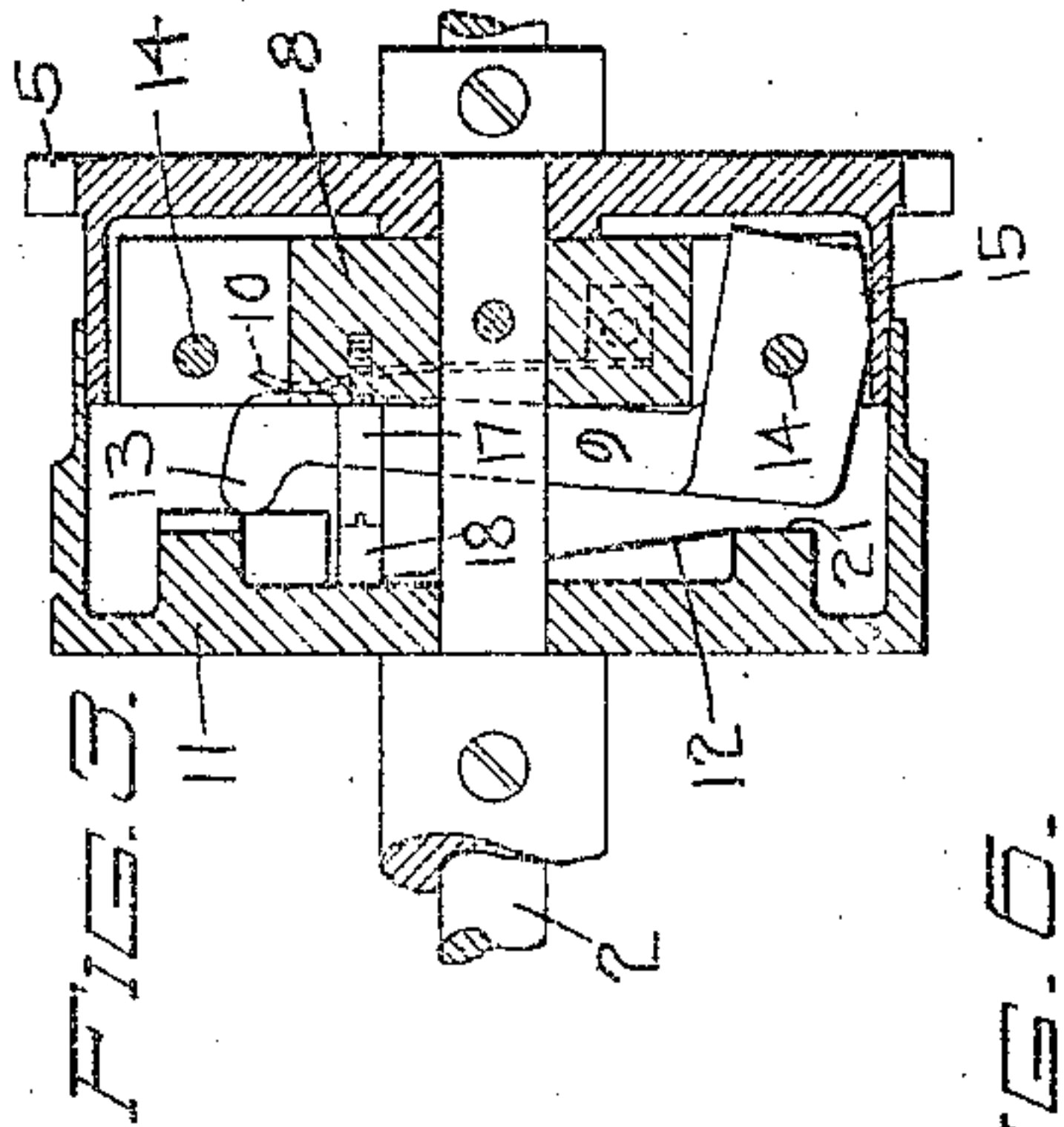
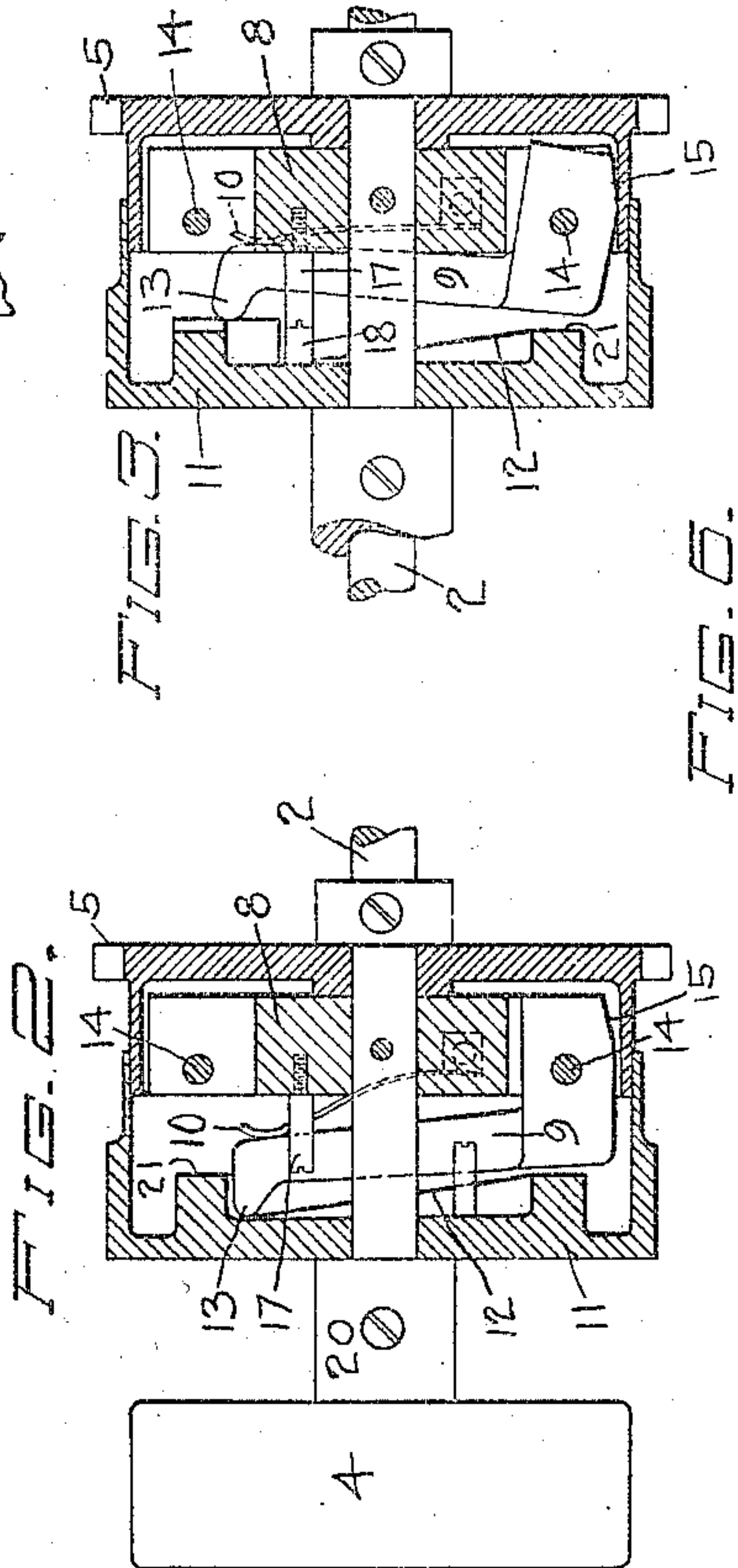
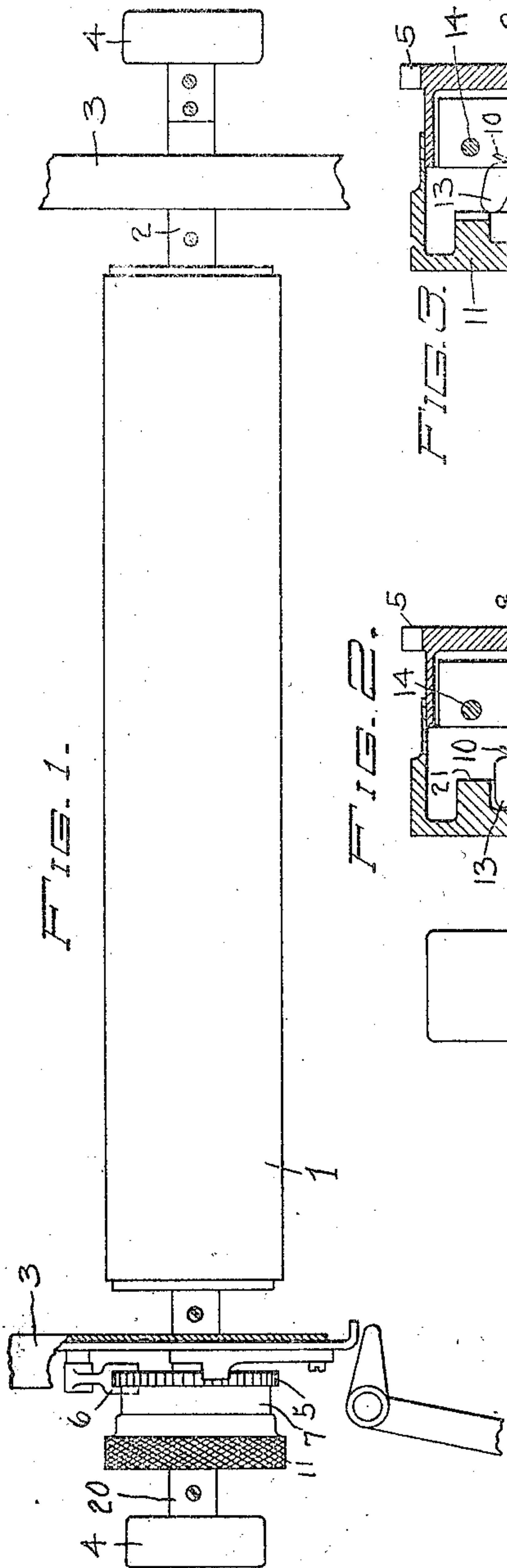
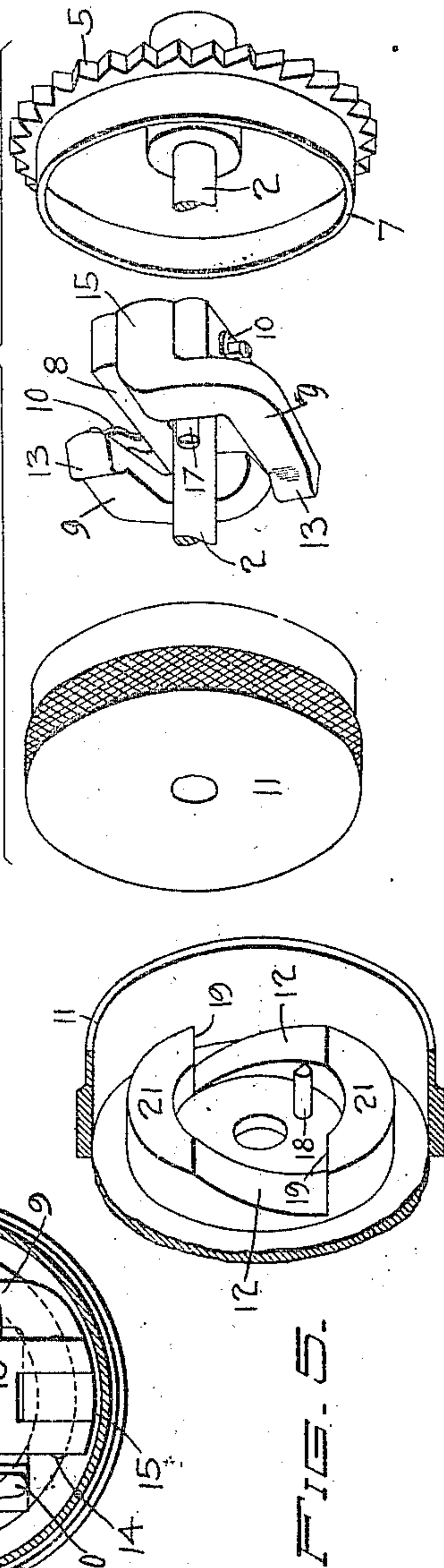


FIG. 5.



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LOUIS NEY, OF HARTFORD, CONNECTICUT, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

983,164.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS NEY, a citizen of the United States, residing in Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to devices for releasably connecting the platen to the line-space wheel of a type-writing machine, to permit the platen to be rotated independently of the line-space wheel, when required.

The principal object of this invention is to provide, at a low cost, a simple device of this character readily applicable to existing machines, conveniently manipulated, and not liable to become deranged.

In the form of invention illustrated in the drawings, the line-space wheel, which is loose upon the platen axle, is provided with a ring or drum. A finger-wheel is also loosely mounted upon the platen axle. Fixed to the platen axle between the drum and said finger-wheel is a cross-piece having one or more dogs fulcrumed to it. The face of the finger-wheel is provided with wedge or helicoidal surfaces which, when the finger wheel is revolved, act upon the dogs to force their outer extremities against the inner periphery of the ring or drum on the line-space wheel, to bind the latter to the cross-piece, and indirectly to the platen which is fixed to the axle. At the same time said finger wheel becomes locked against accidental releasing movement. This arrangement forms an efficient and compact device, easily manipulable and not liable to become deranged.

In the accompanying drawings, Figure 1 is a view of the platen and platen frame of an Underwood front strike writing machine, with the present improvements applied thereto. Fig. 2 is a side view partly in section and partly in outside elevation of the improved device, showing the line-space wheel released from the platen. Fig. 3 is a view similar to Fig. 2, but showing the clutch actively connecting the line-space wheel to the platen. Fig. 4 is a sectional view of the parts seen at Fig. 2, with the line-space wheel removed, and showing the cross-piece and dogs. Fig. 5 is a perspective view of the finger-wheel, part of the rim being broken away to show the helical wedges of cam surfaces. Fig. 6 shows per-

spective views of several parts embodied in this invention.

The usual cylindrical platen 1 is fixed to an axle 2, whereby it is journaled in a platen frame 3, said axle 2 having at each end the usual hand-wheel 4 for rotating the platen.

Loose upon the platen axle 2, outside of the platen frame 3 is a toothed line-space wheel 5, usually engaged by a spring detent 6. Fixed to or formed upon the line-space wheel 5 is a friction ring or drum 7, forming part of the clutching mechanism. A cross-piece 8 is fixed to the platen axle 2 within the drum 7. Fulcrumed to each end of the cross-piece 8 is a lever 9, having a dog 15, for biting the drum 7, these dogs being moved to and retained in released positions by means of springs 10. The levers 9 may be bent or knee-shaped to circumvent the axle 2; each lever being pivoted at one side of the platen axle and extending to the other side thereof, and the end of each lever extending toward the pivot of the other, thus making a compact structure.

A hollow finger-piece 11, loosely mounted on the platen axle 2, overlaps the drum 7 and forms a cap thereon. The usual knob 4, which is fixed to the projecting end of the platen axle, serves to confine the finger-wheel 11 against movement along the axle.

The finger wheel 11 is provided on its inner face with helical wedge or cam surfaces 12, which, when the wheel 11 is revolved, act on the ends 13 of the levers 9, to swing them in a direction along the platen axis and turn the dogs 15 about their centers 14 and cause said dogs to bite or wedge against the inner periphery of the drum 7, thus wedging or binding the line-space wheel 5 to the cross-piece 8 and indirectly to the platen 1.

A stop 17 is provided on the cross-piece 8 to engage a stop 18 on the finger-wheel 11, to limit the releasing movement of the latter; while to limit the locking movement of the same, the ends 13 of the arms 9 are arranged to abut against the jogs 19 formed on the wedge surfaces 12, shown at Fig. 5.

The operator wishing to connect the line-space wheel 5 to the platen 1, holds the latter steady with one hand, while with the other hand he turns the finger wheel 11 toward him. This causes the cam surfaces 12 to travel along the ends 13 of the arms 9, forcing the dogs 15 to bite the inner periphery

of the friction ring or drum 7, thus jamming the latter (and the line-space wheel 5) to the cross piece 8, and hence to the axle 2 and the platen. Owing to the length of the power-multiplying arm 9, a powerful wedging or biting action of the dog 15 is secured by means of a relatively small amount of power applied to wheel 11. This turning movement of the finger wheel 11 continues until the ends 13 of the arms rest upon the flats or dwells 21 formed at the ends of the cams 12. The dog arms may be made somewhat yielding to accommodate this movement. At this time it will be seen that pressure or reaction of the ends 13, being upon the flats 21, has no tendency whatever to turn or loosen the wheel 11. On the contrary, the dogs cooperate with the hub 20 of the hand wheel 4 to clamp the finger wheel 11 against backward or releasing movement.

To release the line-space wheel from the platen 1, the operator holds the latter while he turns the hand wheel 11 in the direction away from him. This relieves the pressure on the dogs 15, which, by reason of the springs 10, return to the released position, as shown at Fig. 2, thus disconnecting the line-space wheel 5 from the platen 1.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a revoluble platen, of a line-space wheel loosely mounted, a friction ring or drum, a pivoted wedging dog to engage said drum, said dog having a power-multiplying arm which swings in a direction along the axis of the platen, a revoluble finger wheel, and a face cam connected to said wheel to engage said arm to force the dog to bite said drum and thereby bind the line-space wheel to the platen.

2. In a typewriting machine, the combination with a revoluble platen and an axle therefor, of a line-space wheel loosely mounted on the platen axle and having a friction ring or drum, a collar or cross-piece fixed on the platen axle and having a pivoted dog to engage said drum, a power-multiplying arm for operating said dog, a revoluble finger-wheel, and a cam operated by said wheel to engage said arm to force the dog to bind the drum and line-space wheel to the platen axle; said cam terminating in a dwell portion to be engaged by said arm at the completion of the locking movement of the finger wheel, to prevent unlocking movement of the latter.

3. In a typewriting machine, the combination with a revoluble platen and an axle therefor, of a line-space wheel loosely mounted on the platen axle and having a friction ring or drum, a collar or cross-piece fixed on the platen axle and having a pivoted dog to engage said drum, a power-

multiplying arm for operating said dog, a revoluble finger-wheel, and a cam operated by said wheel to engage said arm to force the dog to bind the drum and line-space wheel to the platen axle, and means being provided to prevent movement of the finger wheel along the platen axle.

4. In a typewriting machine, the combination with a revoluble platen, of a line-space wheel loosely mounted, a friction ring or drum, a pair of dogs pivoted to engage said drum, each dog having a power-multiplying arm, and a revoluble finger wheel having self-binding cams to engage said arms to force the dogs to bite said drum and to simultaneously arrest the finger-wheel and bind the line-space wheel to the platen.

5. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel, a revoluble finger wheel, a friction ring or drum within said finger wheel, and a dog within said drum, to engage the interior thereof, said dog having a power-multiplying arm which swings in a direction along the axis of the platen, said finger wheel having an interior face-cam to engage said arm, to force the dog to bite said drum and thereby lock the line-space wheel to the platen.

6. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel, a revoluble finger wheel, a friction ring or drum within said finger wheel, and a dog within said drum, to engage the interior thereof, said dog having a power-multiplying arm which swings in a direction along the axis of the platen, said finger wheel having an interior face-cam to engage said arm, to force the dog to bite said drum and thereby lock the line-space wheel to the platen; said face-cam terminating in a dwell portion to lock the dog in effective position.

7. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel, a revoluble finger wheel, a friction ring or drum within said finger wheel, and pivoted dogs within said drum, to engage the interior thereof, said dogs having power-multiplying arms which swing in a direction along the axis of the platen, said finger wheel having interior face cams to engage said arms, to force the dogs to bite said drum and thereby lock the line-space wheel to the platen.

8. In a typewriting machine, the combination with a revoluble platen, of a line-space wheel loosely mounted, a friction ring or drum, a pivoted wedging dog to engage said drum, said dog having a power-multiplying arm, a revoluble finger-wheel, means operated by said wheel and engaging said arm to arrest the finger-wheel and force the dog to wedge or bind the drum and line-space wheel to the platen, and a spring tending to disengage the dog from the drum.

9. In a typewriting machine, the combination with a revoluble platen having an axle and a line-space wheel, of a friction ring or drum, a collar or support, a dog pivoted
5 upon said collar or support at one side of the platen axle and having a power-multiplying arm extending to the other side of the platen axle, and a finger wheel having a face-cam to engage the end of said arm to
10 cause the dog to bite the drum and lock the line-space wheel, finger-wheel and platen together.

10. In a typewriting machine, the combination with a revoluble platen having an

axle and a line-space wheel, of a friction 15 ring or drum, a collar or support, dogs pivoted upon said collar or support at one side of the platen axle and having arms extending to the other side of the platen axle, each arm extending toward the pivot of the other, 20 and a finger wheel having face cams to engage the ends of said arms to cause the dogs to bite the drum and lock the line-space wheel and platen together.

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Witnesses:

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