

No. 702,740.

Patented June 17, 1902.

P. F. NILSON.

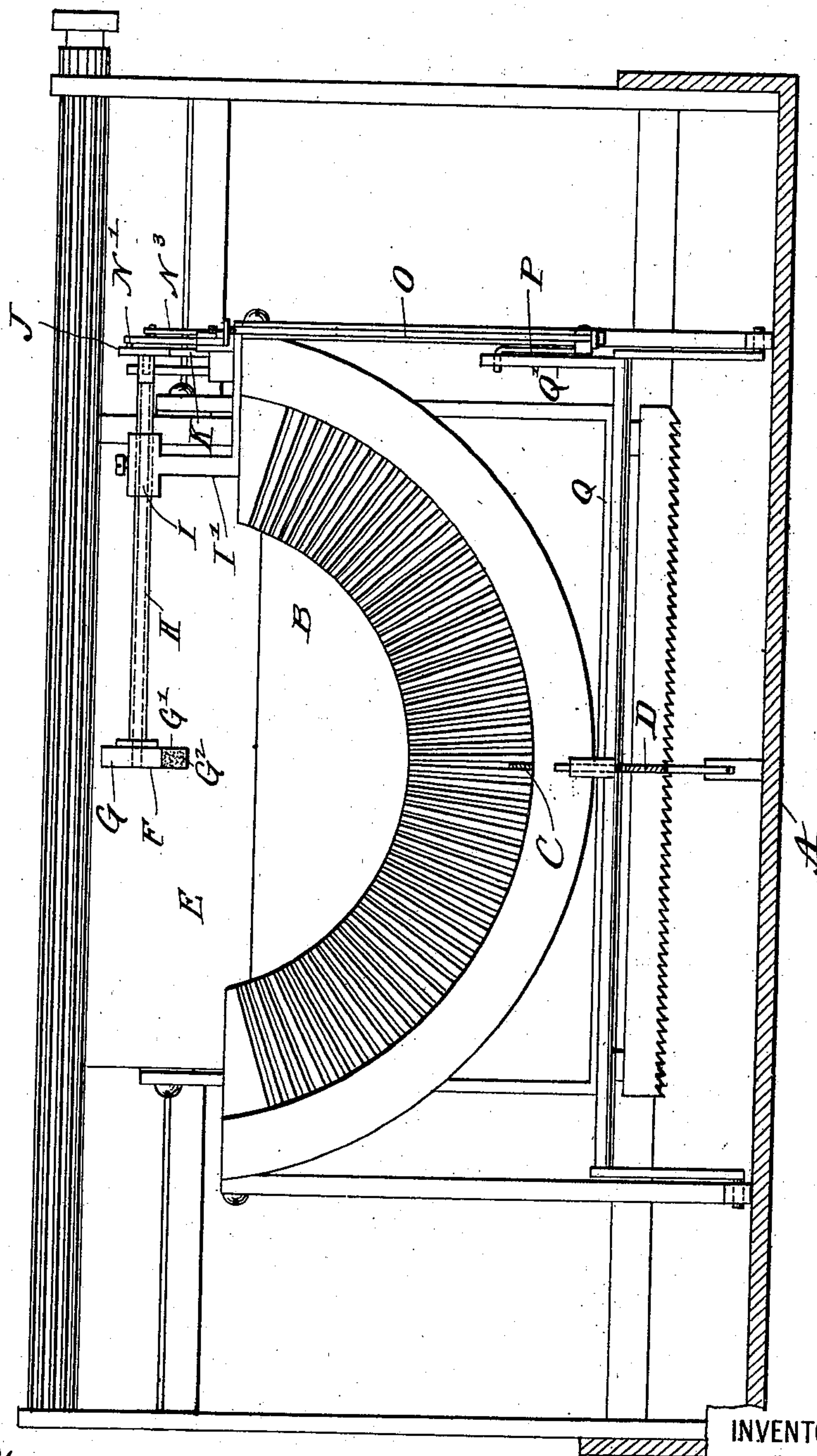
INKING DEVICE FOR TYPE WRITING MACHINES.

(Application filed Dec. 2, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



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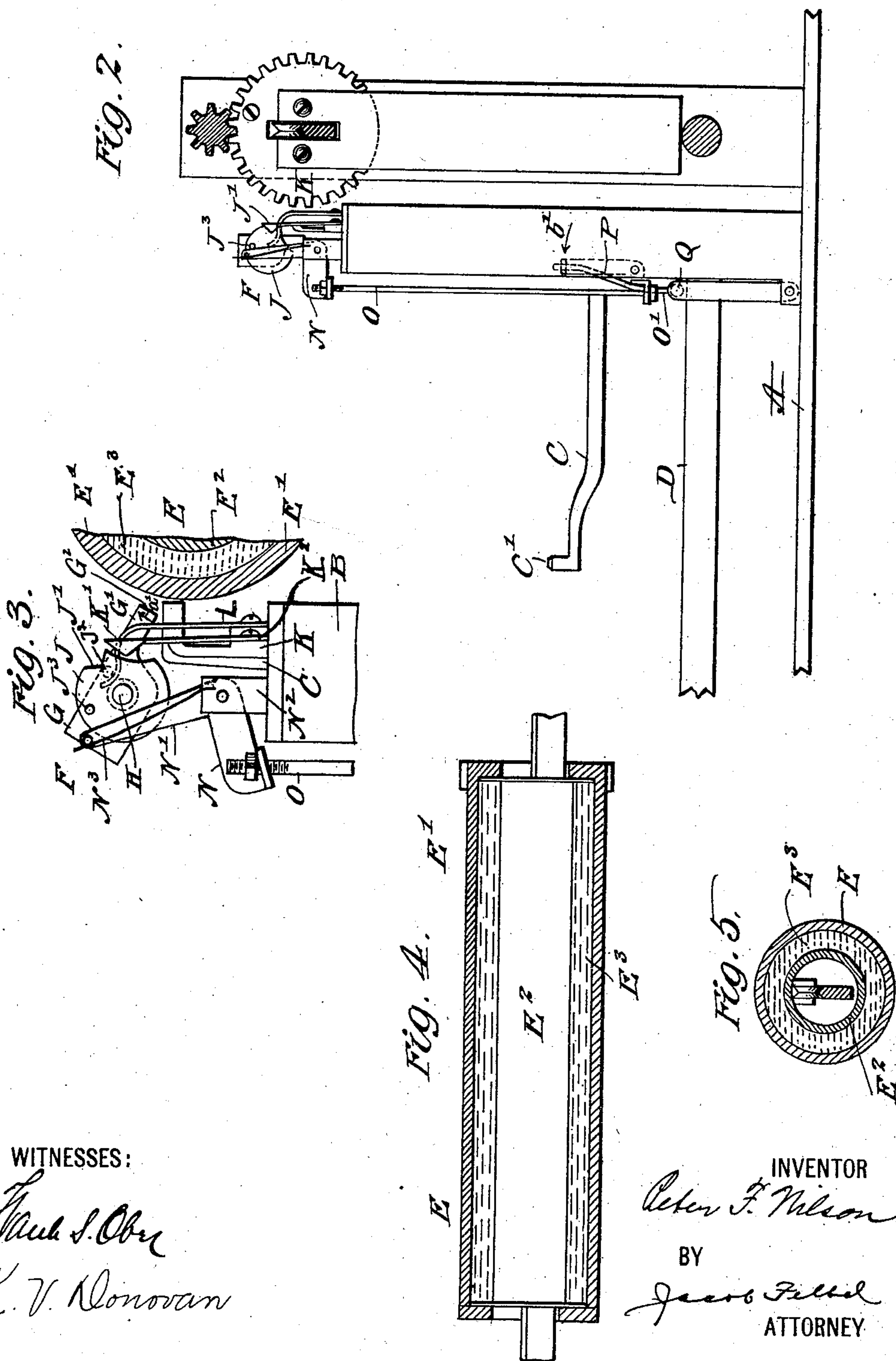
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3 Sheets—Sheet 2.



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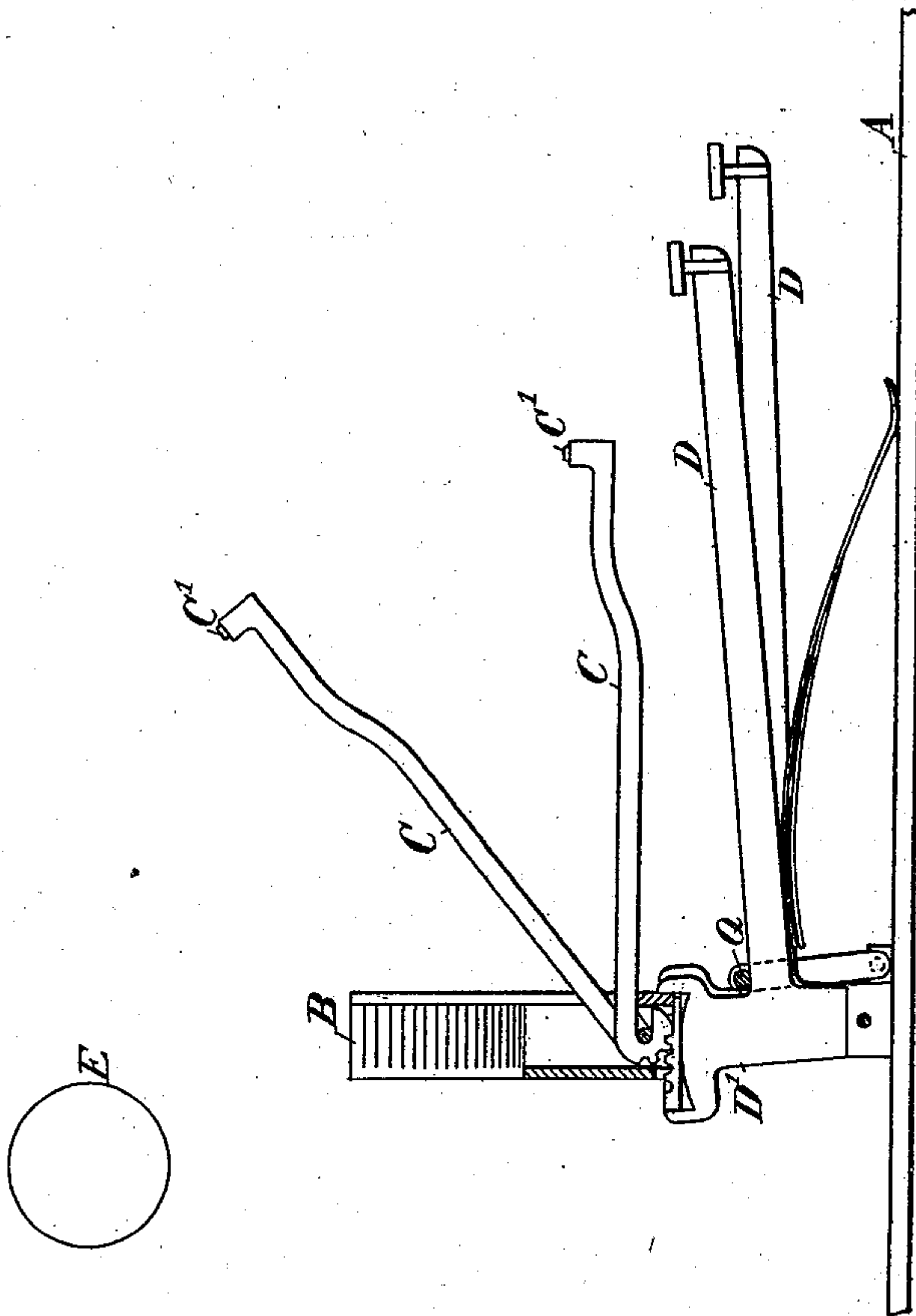
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(No Model.)

3 Sheets—Sheet 3.

Fig. 6.



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UNITED STATES PATENT OFFICE.

PETER F. NILSON, OF JEROME, ARIZONA TERRITORY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE UNION TYPEWRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

INKING DEVICE FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 702,740, dated June 17, 1902.

Application filed December 2, 1899. Serial No. 738,945. (No model.)

To all whom it may concern:

Be it known that I, PETER F. NILSON, a citizen of the United States, and a resident of Jerome, in the county of Yavapai and Territory of Arizona, have invented certain new and useful Improvements in Inking Devices for Type-Writing Machines, of which the following is a specification.

The invention relates to type-writing machines; and its object is to provide a new and improved inking device for directly and properly inking the type immediately before the impression is made on the paper.

The invention consists principally of an inking device mounted to swing in and out of the path of the several type-bars.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the improvement as applied, parts of the type-writing machine being in section. Fig. 2 is an end elevation of the same with parts of the machine in section. Fig. 3 is an enlarged side elevation of the improvement with the impression-roller in section. Fig. 4 is a longitudinal section of the impression-roller, and Fig. 5 is a cross-section of the same. Fig. 6 is a diagrammatic elevation of the type action.

The type-writing machine on which the improvement is applied may be of any approved construction; but, as shown in the drawings, the machine is similar to the one described in the application for Letters Patent No. 597,828, filed by me on July 2, 1896.

The type-writing machine is provided with the usual frame A, supporting a basket B, in which are mounted to swing the type-bars C, carrying the type C' and actuated from the keys D when the latter are pressed, the several keys swinging to a common center on the impression-roller E. Each key or key-lever D is a bell-crank the short arm of which is forked at its upper end and loosely embraces a slid-

ing rack, Fig. 6, the latter being in mesh with teeth formed upon the type-bar hub, so that movement of the key-lever is communicated through the rack to the type-bar, this construction being specifically claimed in my said original application, No. 597,828.

In front of the impression-roller E at the common center for the type-bars C is arranged an inking device designated generally as F and provided with a fountain G, having a downward projection G', covered at the front with a pad G², receiving its supply of ink from a vat contained in the fountain G. The pad G² is adapted to be struck by the face of the type C' at the time the type-bar swings upward and immediately before the impression is made on the paper held over the impression-roller E. The force of the type striking the pad causes the latter to swing out of the path of the type to permit the latter to proceed on its inward movement and make an impression in the usual manner, it being understood, however, that the type has received sufficient ink from the pad upon striking it to make a proper impression.

The fountain G is secured on one end of a shaft H, mounted to turn in a suitable bearing I, adjustably held in a bracket I', secured to the basket B or the frame A, if desired. On the outer end of the shaft H is secured a disk J, formed in its periphery with a notch J', normally engaged by a projection or lug K', held on the free end of a spring K², secured to a bracket K, attached to the basket B. On the face of the disk J is secured a pin J², engaged by the free end of a spring L, likewise attached to the bracket K, the spring serving to turn the disk J and throw the said disk J and the shaft H to swing the casing G in the direction of the arrow a' after the lug K' is disengaged from the notch J' by the turning of the disk J, caused by the force of the blow given by the type C' to the pad G² and its arm G'. Thus when the type strikes the pad G² the force is sufficient to start the fountain in the direction of the arrow a', so as to dislodge the lug K' from the notch J', and then the spring L suddenly turns the disk, and consequently the casing, to move the pad completely out of the path of the

type C', and the latter now proceeds to make an impression on the paper held on the impression-roller E. When the type-bar C swings downward and returns to its normal position on the release of the key D, then the fountain G is swung back to its normal position to compress the spring L and to again engage the lug K' with the notch J'. This movement is controlled by the spacing device, and for this purpose the disk J is provided with a pin J³, adapted to be engaged by the arm N' of a bell-crank lever N, fulcrumed on a bracket N², secured to the basket B. A spring N³ presses the arm N' and swings the latter rearwardly to engage the pin J³ and to turn the disk J in the inverse direction of the arrow a' until the lug K' engages the notch J' and the free end of the spring L is compressed. The other arm of the bell-crank lever N is connected loosely by a link O with a lever P, fulcrumed on the frame A and connected with an arm Q', projecting from a rock-shaft Q, actuated from the keys D and connected with the spacing device to operate the latter, as fully described in the application above referred to. When the key D is pressed, the arm Q' of the rock-shaft Q causes a swinging of the lever P in the direction of the arrow b', so that the link O pulls on the bell-crank lever N to swing the same forward away from the pin J³. As the type-bar C is now on its upward swinging motion, the type finally strikes the pad, takes ink, and causes a swinging of the fountain in the direction of the arrow a', as previously explained, the disk J being free to turn in the direction of the arrow a' as the arm N' is away from the pin J³, Fig. 3. As soon as the key D is released then the bell-crank lever N is free to swing backward by the action of the spring N³, which is sufficiently strong to cause the disk J to turn and compress the spring L to engage the lug K' with the notch J', Fig. 2.

It will be seen that by the arrangement described the type of each type-bar is properly inked when nearing the point of impression and the inking device swings out of the path of the type to permit the latter to proceed to the point of impression. It is evident that as the fountain swings upward and rearward away from the type after the latter has received the ink the pad does not rub on the type, and consequently the latter remains properly inked and does not get clogged or filled with ink, which would be the case if the pad should rub over the type or the latter over the pad.

It will be perceived that I have combined a series of type-bars, a series of key-levers, a platen, an inking mechanism arranged near the platen and normally held in the path of the types by means of a releasable lock, means for moving the said inking mechanism out of contact with the types while they are making their printing strokes and for holding it out of contact while the types are making their impressions, and means controlled

by the key-levers through the universal bar for returning said inking mechanism to normal position independently of said type-bars. 70

The impression-roller E (shown in detail in Figs. 4 and 5) is provided with a shell E', of soft rubber or other suitable elastic material, and with an inner tube E² to form a space with the said shell, the space being filled with a liquid or gaseous fluid E³. It is evident that the fluid gives an elastic resistance to the shell E' to insure a proper impression when the type C' strikes the paper on the impression-roller E'. 80

It will be seen that an impression-roller constructed as described is especially valuable and serviceable when used on a type-writing machine having an inking device, as above set forth, inasmuch as the force of the type-bar is somewhat diminished by the type first engaging the ink-pad and starting the fountain on its swinging movement in the manner described. The clicking sound produced on the ordinary type-writing machine by the type striking against the hard impression-roller is completely avoided by the use of an impression-roller, as above described. 90

Having described my invention, I claim—

1. A type-writing machine provided with an inking device, comprising a pivoted fountain having an inking-pad, a spring tending to move said fountain away from the path of the types, and a releasable locking device for locking the fountain against the action of the spring and holding it in the path of the type-bars, whereby when the locking device is released by the impact of the type-bars against the fountain, the fountain will be moved out of the path of the type-bars, substantially as described. 100

2. A type-writing machine, provided with an inking device comprising a fountain having an ink-pad, a rock-shaft upon which the fountain is secured, a spring tending to cause said shaft to move the fountain away from the path of the types, a releasable locking-lug, and means secured to the shaft and with which the lug engages to hold the fountain in the path of the type-bars, substantially as described. 110

3. A type-writing machine, provided with an inking device, comprising a fountain having an ink-pad, a rock-shaft upon which the fountain is secured, a disk on one end of the shaft, a spring tending to move said disk and cause the fountain to be moved away from the path of the type-bars, and a spring engaging the disk to hold the fountain in the path of the type-bars, substantially as described. 120

4. A type-writing machine provided with an inking device, comprising a fountain having an ink-pad, a shaft carrying the fountain, a spring-pressed disk held on the said shaft and having a notch, and a spring having a lug engaging the said notch for locking the disk and fountain in place, substantially as shown and described. 130

5. A type-writing machine provided with an inking device comprising a fountain having an ink-pad, a shaft carrying the fountain, a spring-pressed disk held on the said shaft and having a notch, a spring having a lug engaging the said notch for locking the disk and fountain in place, and means for returning the said disk and controlled from the keys, substantially as described.

6. A type-writing machine provided with an inking device comprising a fountain having an ink-pad, a shaft carrying the fountain, a disk on the said shaft, a bell-crank lever adapted to engage a pin on the said disk, a connection between the said bell-crank lever and the keys, and a spring pressing the said disk, substantially as shown and described.

7. In a type-writing machine, the combination with the type-bars mounted to swing to bring the type to a common center on the impression-roller, of a pivoted fountain having an inking-pad, a spring tending to move said pad away from the path of the types, and a releasable locking device for locking the fountain in the path of the type-bars, and means for returning the fountain to its normal position after it has been struck by the type-bars and moved thereby out of the path of the same, substantially as shown and described.

8. In a type-writing machine, the combination with the keys, and type-bars mounted to swing to bring their types to a common center on the impression-roller, of a rock-shaft, a fountain having an ink-pad and secured to the shaft, a disk on the shaft a spring engaging the disk to hold the fountain in the path of the type-bars, a spring-pressed bell-crank lever engaging the said disk, and means for operating the bell-crank lever from the keys, substantially as described.

9. In a type-writing machine, the combination with the keys and type-bars mounted to swing to bring their types to a common center on the impression-roller, of a rock-shaft, a fountain on the shaft, and having an inking-pad, a notched disk on the end of the shaft, a spring-pressed bell-crank lever engaging a pin on the said disk, and intermediate mechanism between the keys and bell-crank lever

for operating the latter from the former, substantially as shown and described.

10. In a type-writing machine, the combination of a series of type-bars, a series of keys, a platen, inking mechanism arranged near the platen and normally in the path of the types, means for moving said inking mechanism and holding it out of contact with said type-bars while the types are making their impressions, and means for returning said inking mechanism to normal position.

11. In a type-writing machine, the combination of a series of type-bars, a series of key-levers, a universal bar operated by said levers, an inker normally in the path of said type-bars, and operative connections from said universal bar to said inker.

12. In a type-writing machine, the combination of a series of type-bars, a series of keys, an inker arranged in the path of the type-bars, means controlled by the type-bars for moving said inker out of its normal position, and means controlled by said keys independently of said type-bars for returning said inker to normal position.

13. In a type-writing machine, the combination of a series of type-bars, a series of keys, an inker arranged in the path of the type-bars and constructed to be moved by any of said bars during their printing strokes, and mechanism connecting said keys to said inker independently of said type-bars for returning the latter to normal position.

14. In a type-writing machine, the combination of a type, a key, an inker arranged in the path of the type and constructed to be moved by the type during the printing stroke of the latter, and mechanism connecting said key to said inker independently of the type for returning the said inker to normal position during the return of said key to normal position.

Signed at Jerome, in the county of Yavapai and Territory of Arizona, this 25th day of October, A. D. 1899.

PETER F. NILSON.

Witnesses:

D. J. SULLIVAN,
ROB. B. BAUMER.