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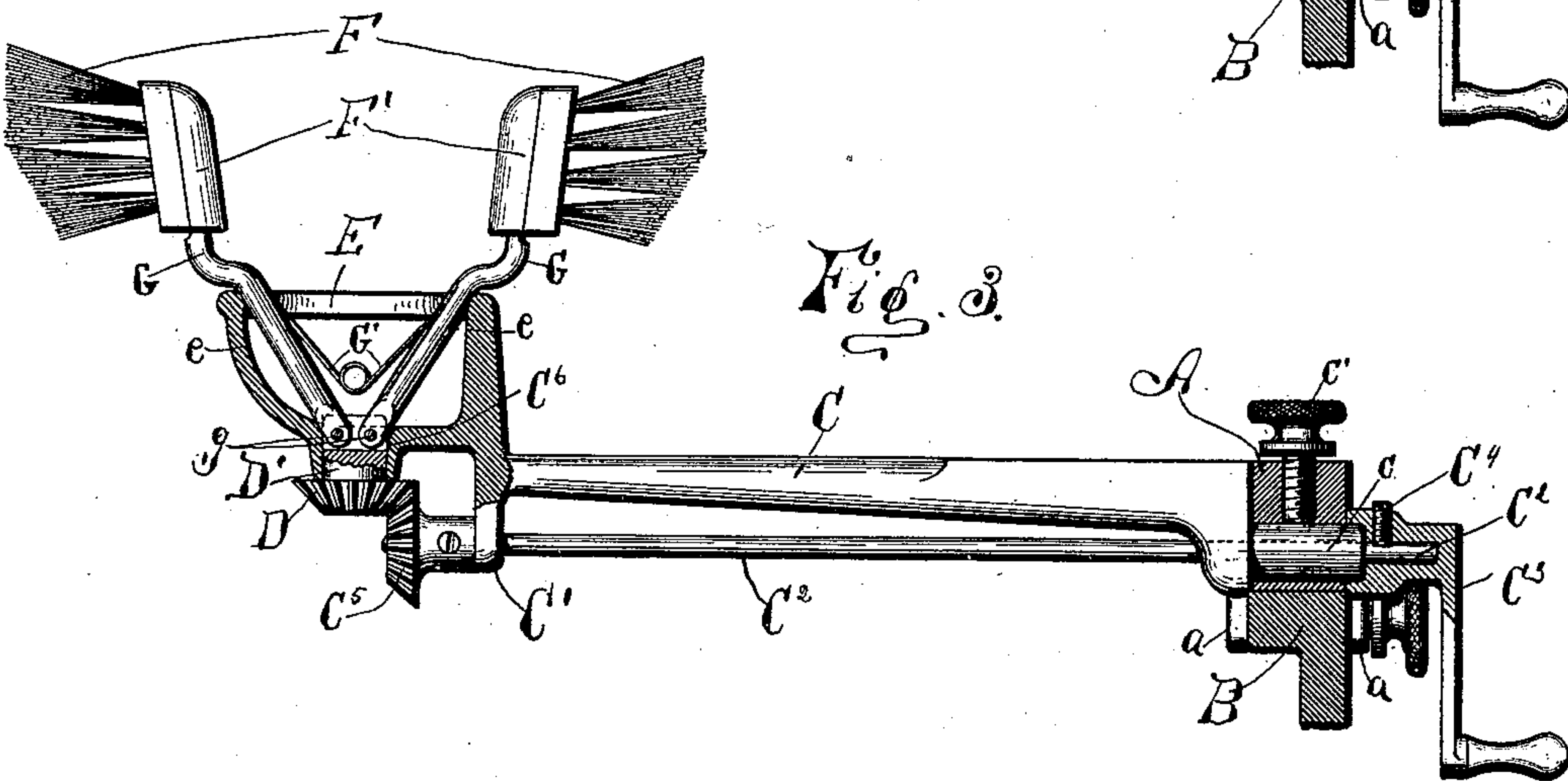
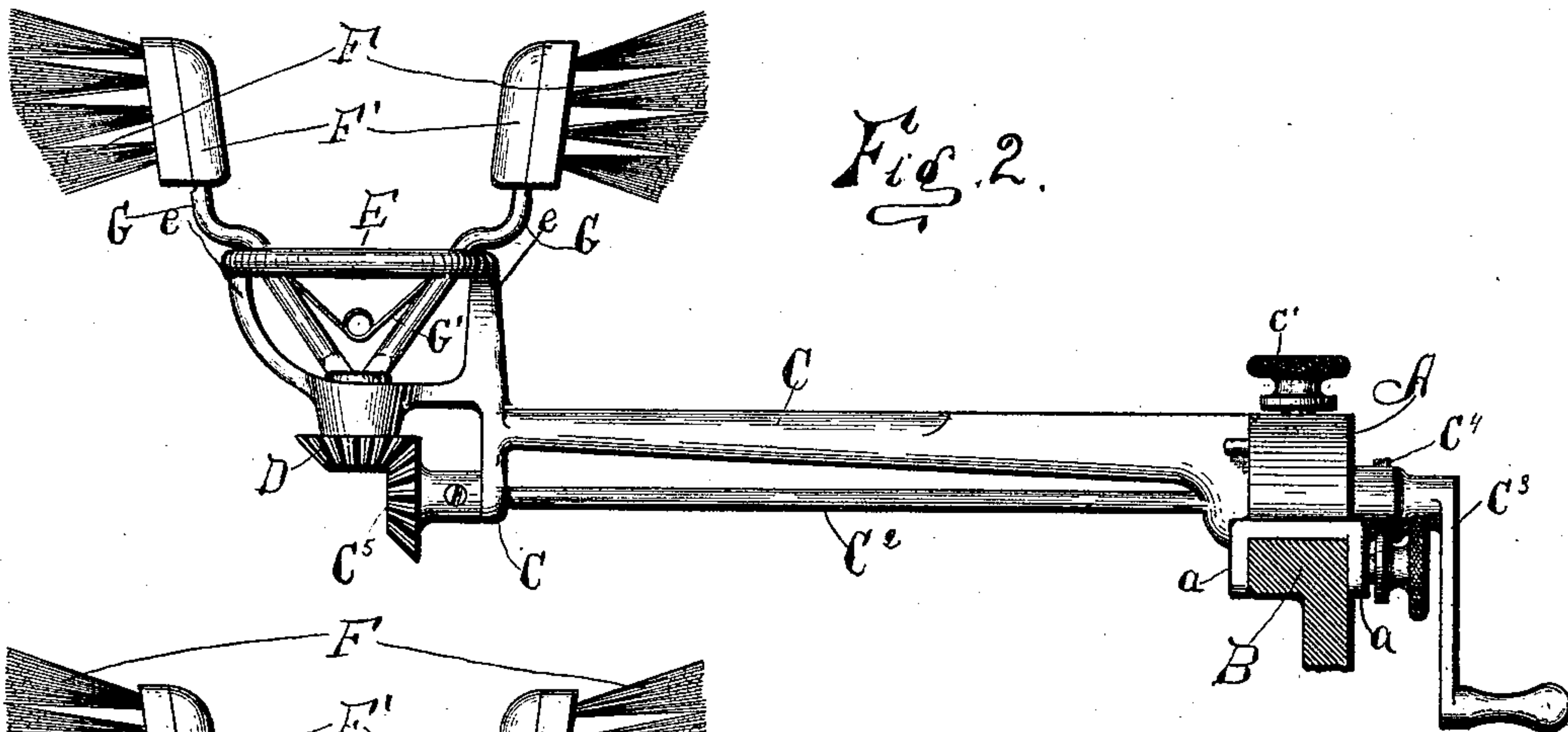
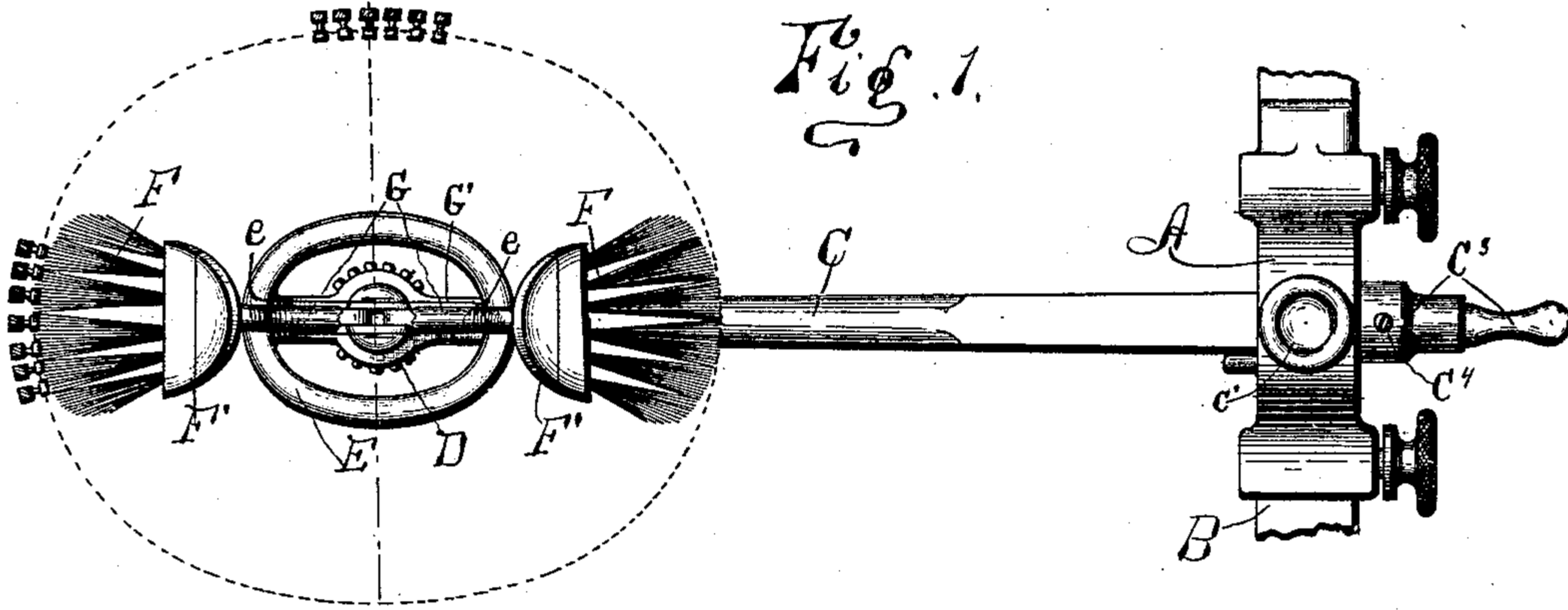
2 Sheets—Sheet 1.

C. E. TOMLINSON.

CLEANING ATTACHMENT FOR TYPE WRITING MACHINES.

No. 464,221.

Patented Dec. 1, 1891.



WITNESSES:

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(No Model.)

2 Sheets—Sheet 2.

C. E. TOMLINSON.

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Fig. 4.

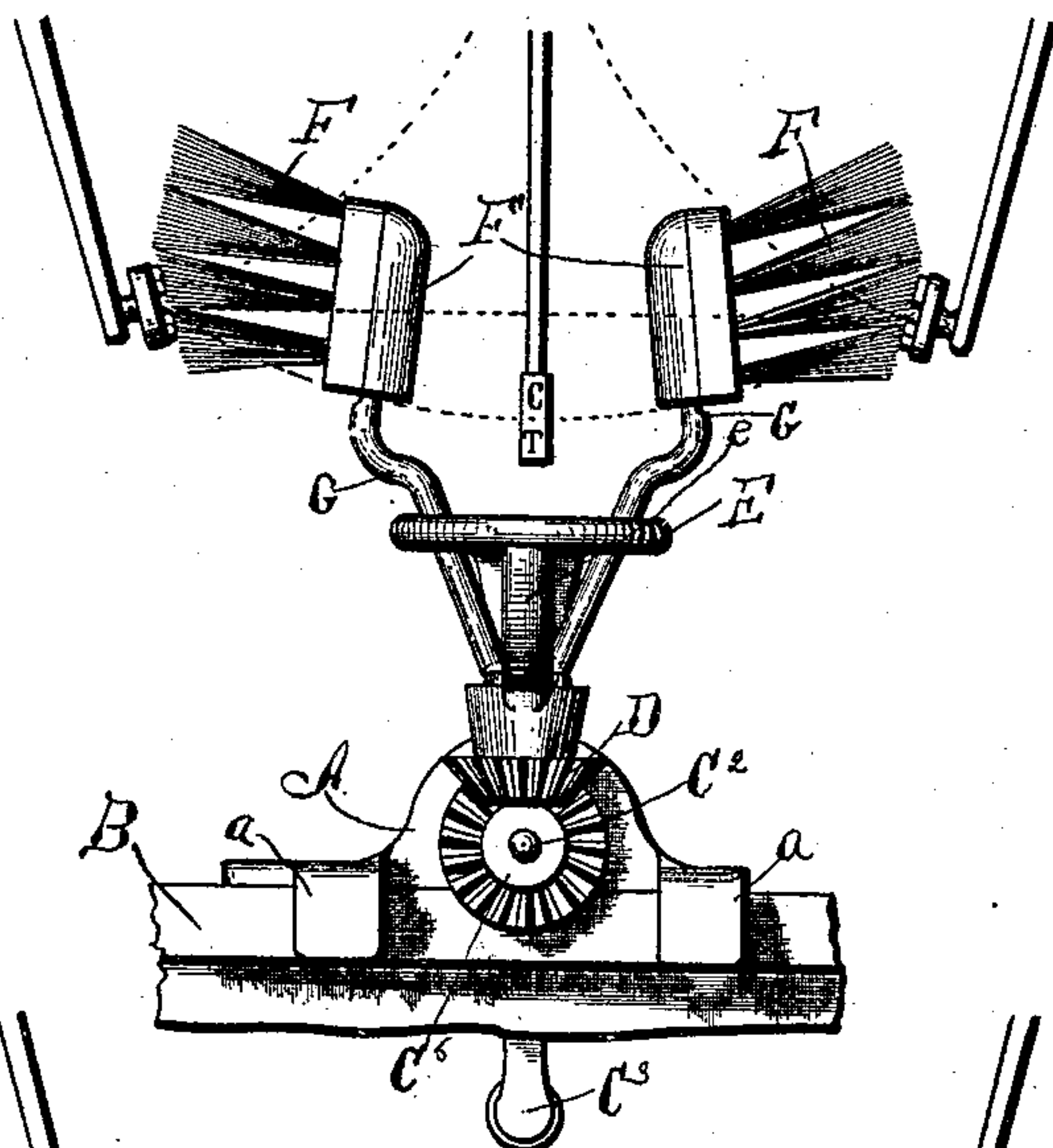


Fig. 5.

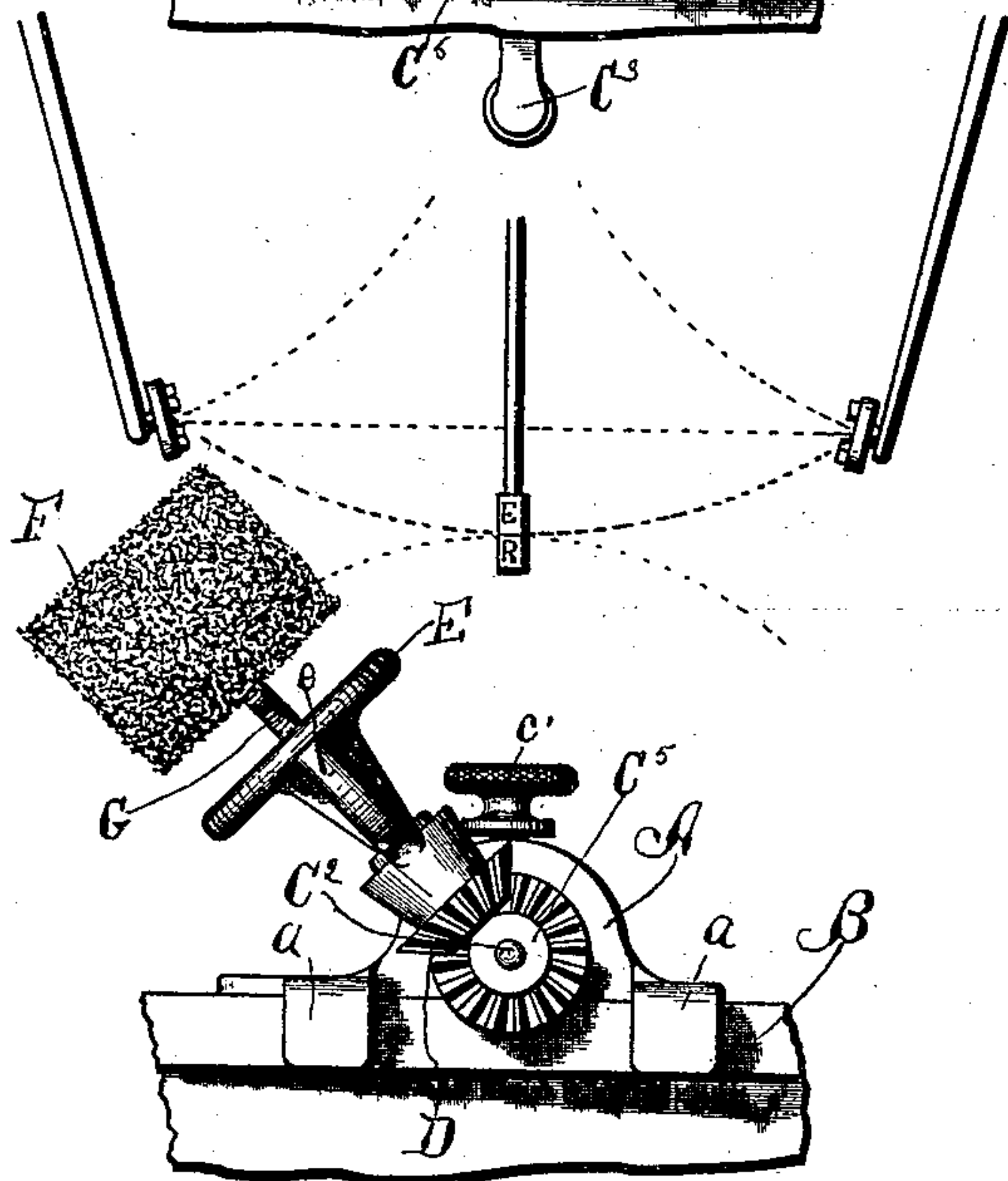


Fig. 6.

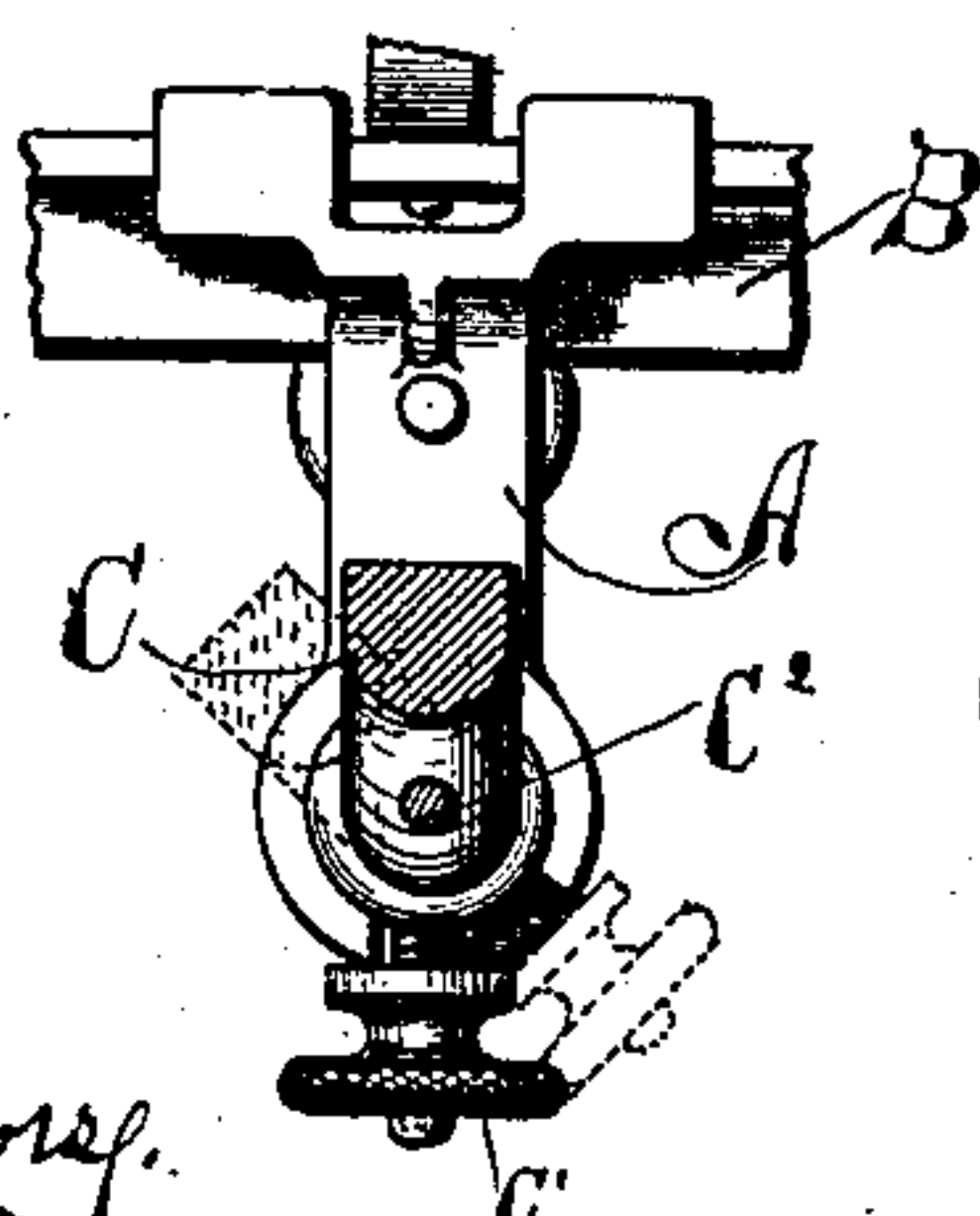
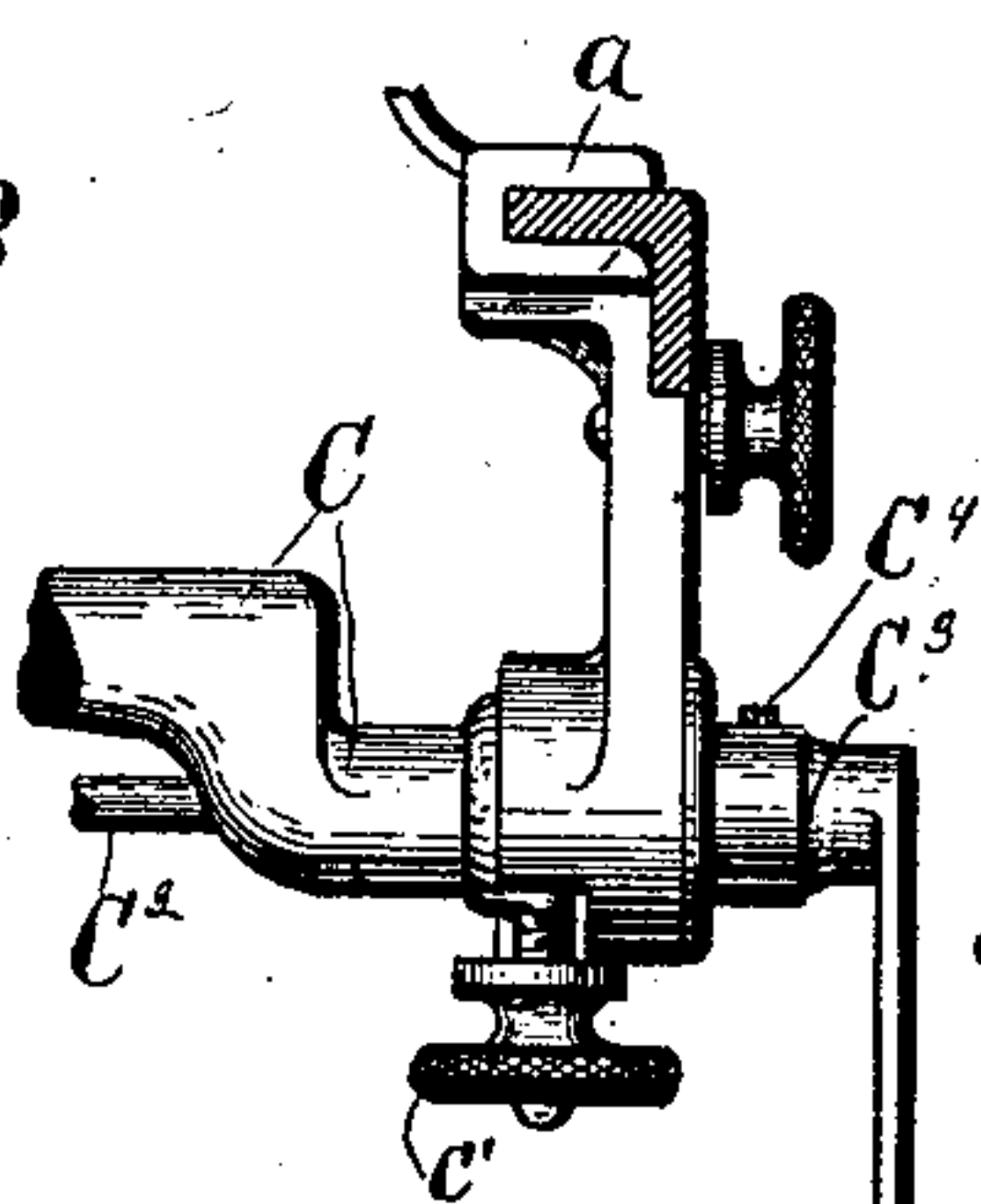


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES E. TOMLINSON, OF ROCHESTER, NEW YORK, ASSIGNOR TO FRANCIS B. KENDRICK AND FRED L. BARNEY.

CLEANING ATTACHMENT FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 464,221, dated December 1, 1891.

Application filed November 15, 1890. Serial No. 371,589. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. TOMLINSON, of Rochester, in the county of Monroe, in the State of New York, have invented new and useful Improvements in Cleaning Attachments for Type-Writing Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in type-cleaners for type-writing machines, and has for its object the production of a simple and effective device for performing the desired function quickly and thoroughly, and capable of being shifted or moved into and out of operative position with great ease and without affecting the operation of the type; and to this end the invention consists, essentially, in a hanger secured to the type-writer frame, a supporting-arm pivoted to the former support, and a pair of movable brushes mounted on said supporting-arm.

The invention also consists in a guide for governing the movement of the brushes, said guide being shaped into conformity with the line formed by the type, a revoluble oscillating arm or lever for carrying the brush, and a spring for causing the movement of the brush to conform with the shape of the guide.

The invention still furthermore consists in the detail construction and arrangement of its parts, all as hereinafter more particularly described, and pointed out in the claims.

In describing this invention reference is had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 represents a top plan view of my improved invention as operatively mounted on a portion of the type-writer frame, with a few of the type shown in their normal position in relation to the type-cleaning brushes. Fig. 2 is a side elevation of the parts as illustrated in Fig. 1. Fig. 3 is a similar view to Fig. 2, illustrating in section the guide for governing the movement of the brushes, and the rear extremity of the supporting arm or bracket for the brushes. Fig. 4 is a transverse sectional view taken on line $x x$, Fig. 1, illustrating the cleaning-brushes in a position at right angles to that shown in the

preceding figures. Fig. 5 is a similar view to Fig. 4, illustrating the type-cleaner as swung out of operative position; and Figs. 6 and 7 are respectively front view and elevation of a modified form of hanger or support for the brush-supporting bracket.

It is well known that at present great difficulty exists in cleaning type-writers in which the type, when in their normal position, are arranged in the form of an ellipse, as illustrated by dotted lines in Fig. 1. It is equally well known that the greater number of the highly-efficient type-writers are constructed with this arrangement of the type, since it has been found particularly applicable for affording the necessary qualifications of an efficient type-writer.

My invention is particularly applicable for cleaning type-writers having their type arranged in this manner, and can be attached to the type-writer frame without requiring any adaptability of the type-writer.

By changing the guide of my improved type-cleaner from an ellipse to a circle this invention is also equally applicable for machines in which the type are arranged in a circular form.

A represents the support or hanger, mounted upon the side bar B of the type-writer frame, which it is not necessary to further illustrate. This support is formed with the downwardly-extending ears a , that rest on either side of the frame-bar B and prevent lateral movement thereof.

C represents the supporting arm or bracket for the type-cleaning brushes, one extremity of which is formed with a hollow spindle c , which forms a bearing for the shaft C^2 , journaled in the upper portion of the hanger A, and held therein by a suitable clamp or screw c' . When desired to shift the brushes from operative position, as illustrated in Figs. 1, 2, and 3, the screw c' is loosened, the bracket C is rocked on its pivot, and the brushes are forced out of the path of movement of the type, as shown in Fig. 5, in which position they are normally held by again screwing down the clamp c' .

Depending beneath the frame C at its inner end is the arm C' , in which is journaled the inner end of the revoluble spindle C^2 , hav-

ing its opposite end journaled in the hollow spindle *c*. A crank C^3 is secured at C^4 to the outer end of the spindle C^2 , and a bevel-gear C^5 is secured at the inner end of said spindle or shaft. Above the gear C^5 is the gear D , which is journaled in the arm or bearing C^6 , formed upon the bracket C at right angles to the arm C .

E represents the guide rail or rib for governing the movement of the brushes. As previously set forth, this guide may be either circular or elliptical to conform to the arrangement of the type in the type-writer. As illustrated, however, it is elliptical and is mounted on arms *e*, projecting upwardly from the bearing or arm C^6 .

F represents the cleaning-brushes, which are preferably two in number, arranged diametrically opposite to each other and composed of the oscillating or movable supports or blocks F' and bristles or other suitable cleaning-surface F'' . These supports F' are preferably formed with arms having their lower extremities approximated and hinged at *g* to the spindle D' of the gear D , thus permitting said supports to oscillate on their hinges toward and away from each other. Interposed between the arms G is a spring G' , which constantly forces said arms against the walls of the guide, and thus governs the position of the brushes. With an elliptical form of guide it will be noted that when the brushes are at the opposite extremity of the ellipse they are somewhat lower than when brought into alignment with the short axis of the ellipse, when, as seen in Fig. 4, they become elevated and the lower beveled portion *f* of the outer face is brought into contact with the type. It will thus be noted that during their movement the brushes F move up and down and that this is a vital requirement of revoluble brushes adapted to clean the elliptically-arranged type, as the central type-bars are shorter than those at the ends of the ellipse.

At Figs. 6 and 7 I have shown a form of hanger A having its upper extremity secured to the frame B and its lower provided with a journal for supporting the bracket B .

The operation of my invention will be readily perceived from the foregoing description and upon reference to the drawings, and it will be noted that the construction of the parts is very simple; that the hanger, whether of the preferable form illustrated in Figs. 1, 2, and 3 or shown in Figs. 6 and 7, is readily attached to the frame of the type-writer without necessitating change or adaptability in its construction; that by merely rotating the spindle C^2 the type-cleaning brushes are compelled by the guide E to conform with the arrangement of the type, whether it be circular or elliptical, and that the adaptability of the type-cleaning brushes to an elliptical arrangement of type is produced by enabling the brushes to move toward and away from each other.

It is evident that if the type are not circularly or elliptically arranged, it is only necessary to conform the guide E to the line formed by the type, whereupon all of the type will be thoroughly cleaned.

I am aware that it is not new to rotate a revolving brush around a stationary gear, as shown in Brown's patent, No. 406,873, dated July 16, 1889; but such construction I do not herein claim.

It will be understood that without departing from the spirit of my invention its detail construction and arrangement may be somewhat varied. Hence I do not limit myself to the precise detail construction and arrangement of the type-cleaner as shown.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a type-cleaner, the combination of a brush consisting of a hinged support and a cleaning-surface adapted to revolve around the nest of type for cleaning the same, an endless guide-rib having an engaging face adapted to make contact with the brush-support for rocking the same on its hinge and for governing the position of the brush, and a gear for revolving the brush, substantially as and for the purpose set forth.

2. In a type-cleaner, the combination of a brush consisting of a support and a cleaning-surface adapted to revolve around the nest of type for cleaning the same, a revolving brush-support movable up and down during its revolution, and a guide for varying the position of said brush during its revolution, substantially as and for the purpose specified.

3. In a type-cleaner, the combination of a brush consisting of a support and a cleaning-surface adapted to revolve around the nest of type for cleaning the same, an endless guide-rib having a smooth engaging face adapted to make contact with the brush-support and permit the same to slide along said rib and govern the position of the brush, and a spring for forcing the brush-support into engagement with the guide, substantially as and for the purpose set forth.

4. In a type-cleaner, the combination of a brush consisting of a hinged support and a cleaning-surface adapted to revolve around the nest of type for cleaning the same, an endless elliptical guide-rib having a smooth engaging face adapted to make contact with the brush-support and permit the same to slide along said rib and govern the position of the brush, and a gear for revolving the brush, substantially as and for the purpose specified.

5. In a type-cleaner, the combination of a cleaning-face, a revolving support for the cleaning-face movable up and down during its revolution, and an endless elliptical guide rib or rail having an engaging face adapted to make contact with said support and govern the position of the cleaning-surface, substantially as and for the purpose set forth.

6. In a type-cleaner, the combination, with

the type, of a pair of brushes movable toward and away from each other, and an elliptical guide for governing the movement of the brushes, substantially as and for the purpose specified.

7. In a type-cleaner, the combination of a pair of cleaning-surfaces, a pair of supports for said surfaces movable toward and away from each other, a gear for revolving said supports, and an elliptical guide for governing the movement of the supports, substantially as and for the purpose specified.

8. In a type-cleaner, a pair of yielding revoluble brushes for cleaning the type, and a guide for governing the movement of the brushes, substantially as set forth.

9. In a type-cleaner, a pair of yielding brushes for cleaning the type, an elliptical guide for governing the movement of the brushes, and a spring for tensioning said brushes, substantially as described.

10. In a type-cleaner, the combination of a movable brush, a revolving oscillating support for the brush, and a guide for engaging said support and governing the movement of the brush, substantially as and for the purpose specified.

11. In a type-cleaner, the combination of a brush for cleaning the type, an oscillating support for the brush, and an elliptical guide for governing the movement of the brush, substantially as and for the purpose described.

12. In a type-cleaner, the combination of a pair of brushes, oscillating supports for the brushes, a guide for governing the movement

of the brushes, and a spring for tensioning said brushes, substantially as and for the purpose set forth.

13. In a type-cleaner, the combination, with a type-writer frame, of a bracket hinged to said frame, a support mounted on said bracket, a brush mounted on the support for cleaning the type, and an endless guide-rail for governing the movement of said support as the same is revolved, substantially as described.

14. In a type-cleaner, the combination, with a type-writer frame, of a bracket hinged to said frame, a revolubly-hinged support, a brush on said support for cleaning the type, a gear for revolving the support, and a guide-rail mounted on the bracket for governing the movement of the brush, substantially as specified.

15. In a type-cleaner, the combination, with a type-writer frame, of a support secured to said frame, an arm pivoted to said support, a lock for holding said arm in its adjusted position, a movable brush on said arm for cleaning the type, and a guide for varying the position of said brush also mounted on said pivoted arm, substantially as and for the purpose described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Rochester, in the county of Monroe, in the State of New York, this 16th day of October, 1890.

CHARLES E. TOMLINSON:

Witnesses:

S. A. FARNSWORTH,
HAMPDEN HYDE.