

Wilson & Outwater,

Motor.

No. 97,741.

Patented Dec. 7, 1869.

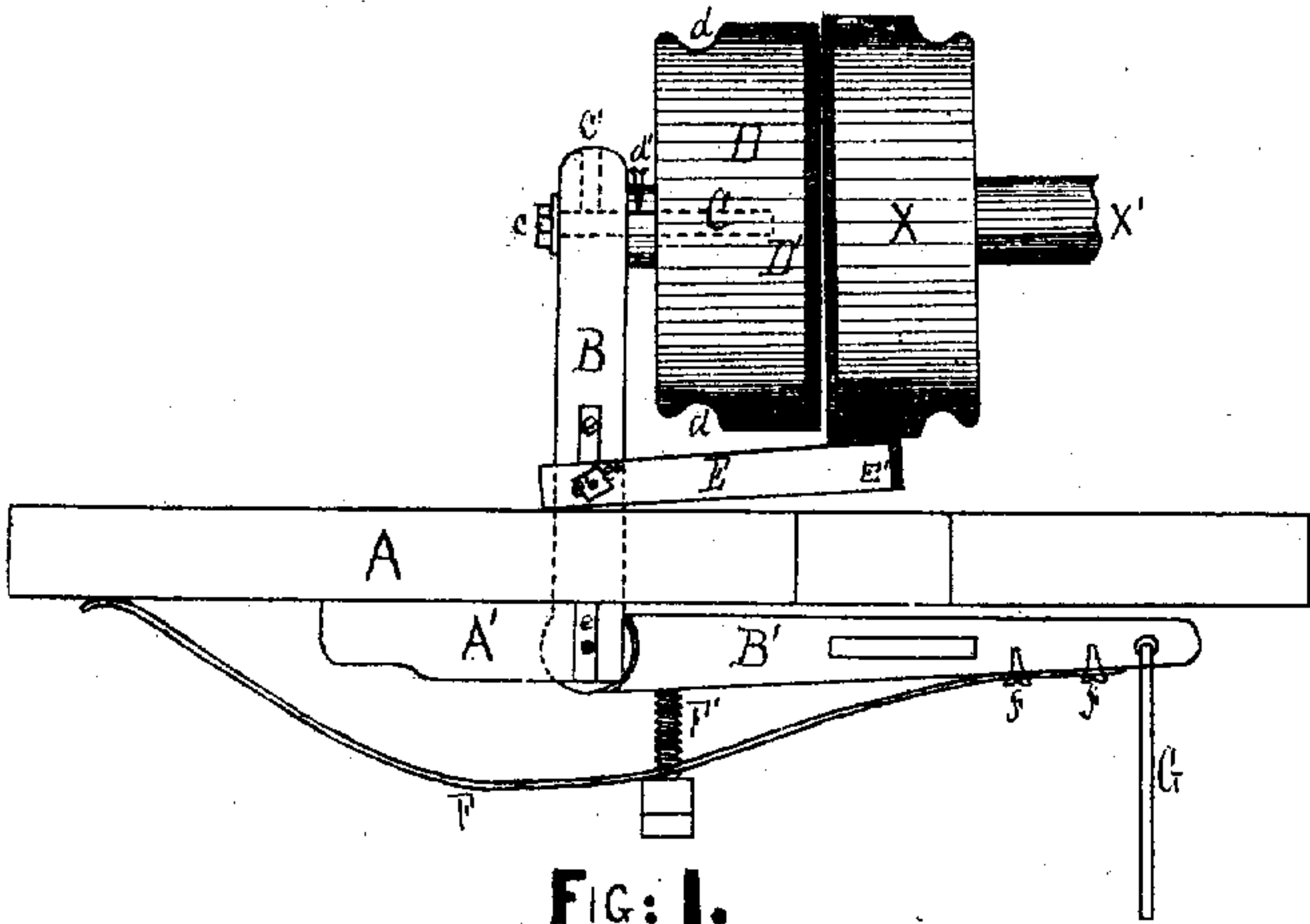


FIG: 1.

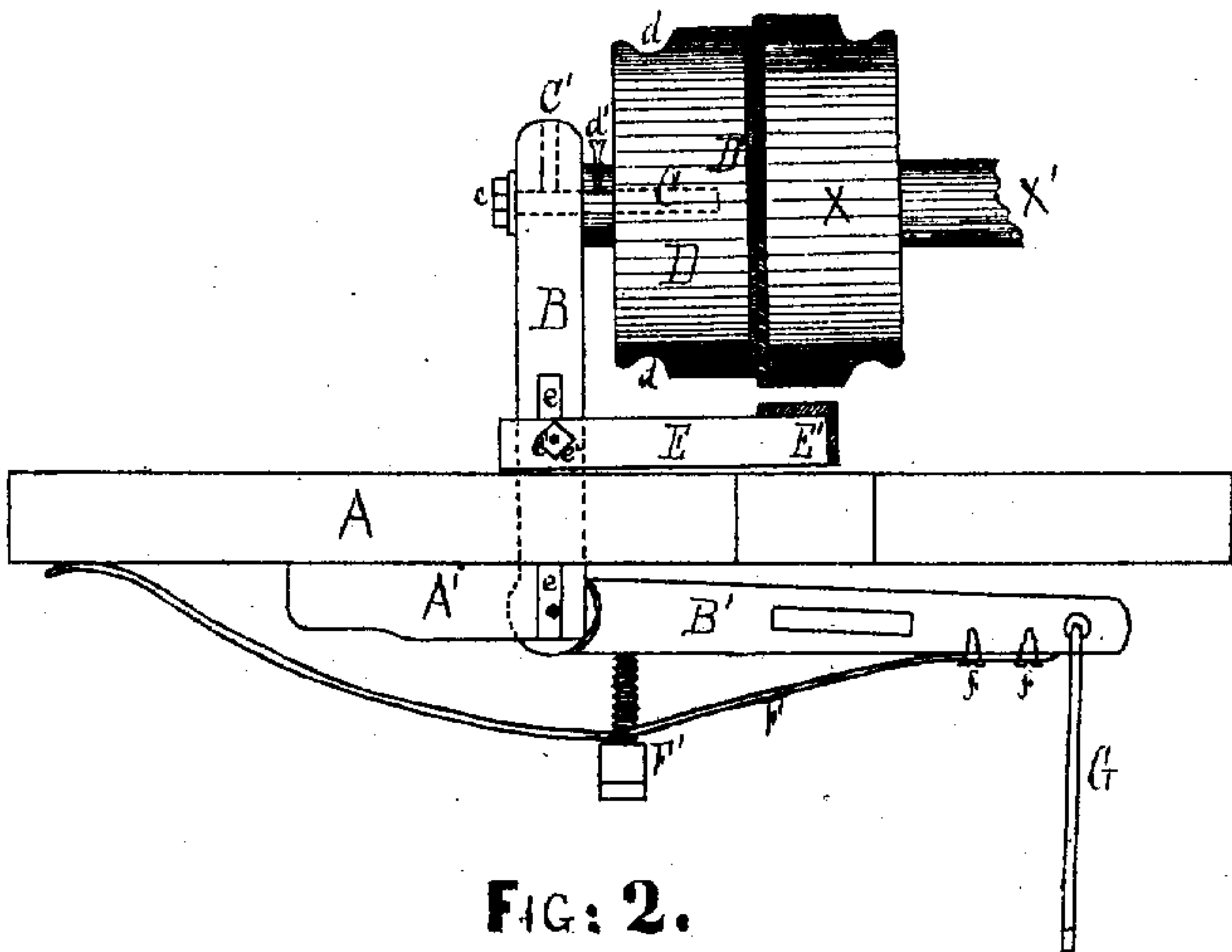


FIG: 2.

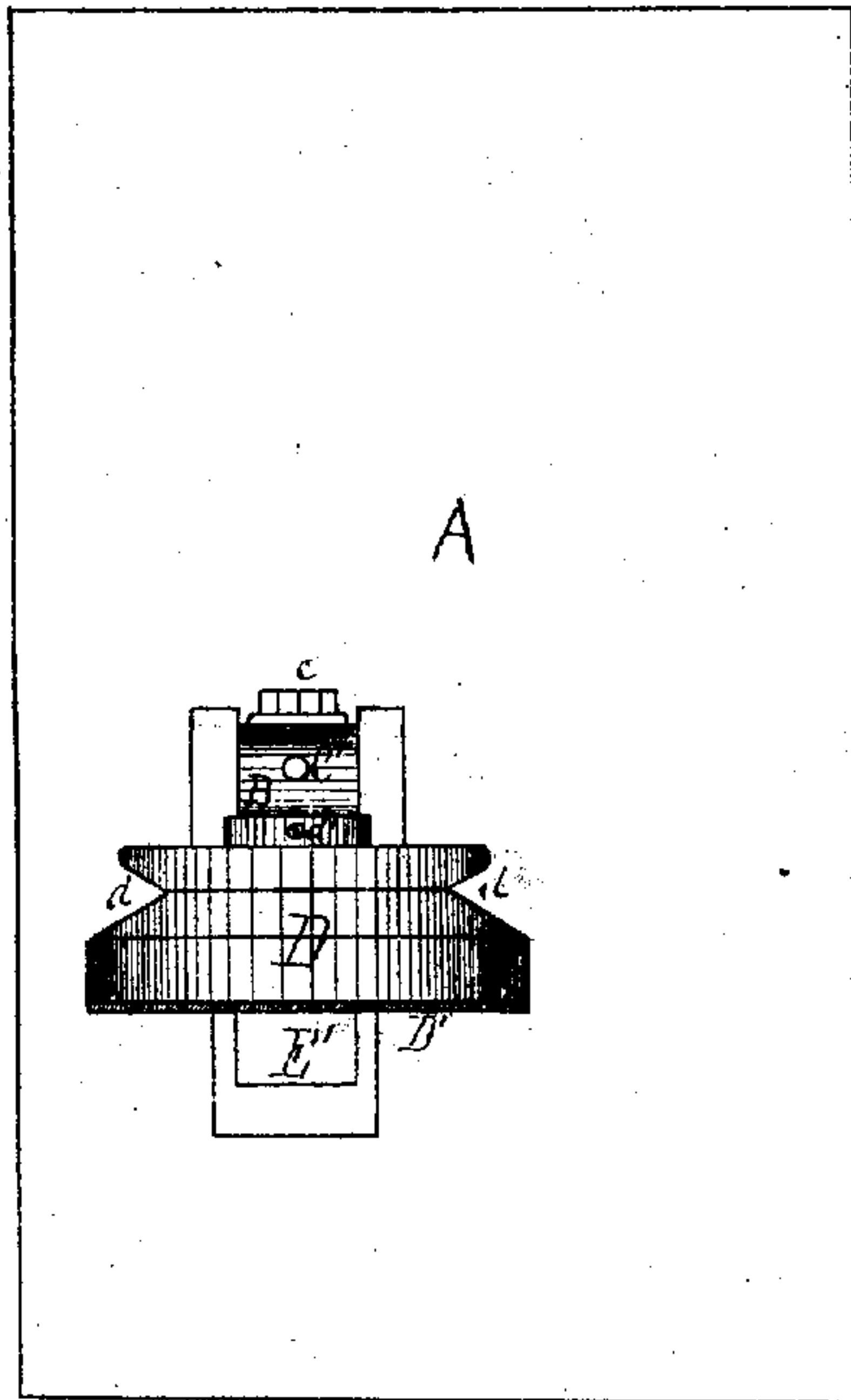


FIG: 3.

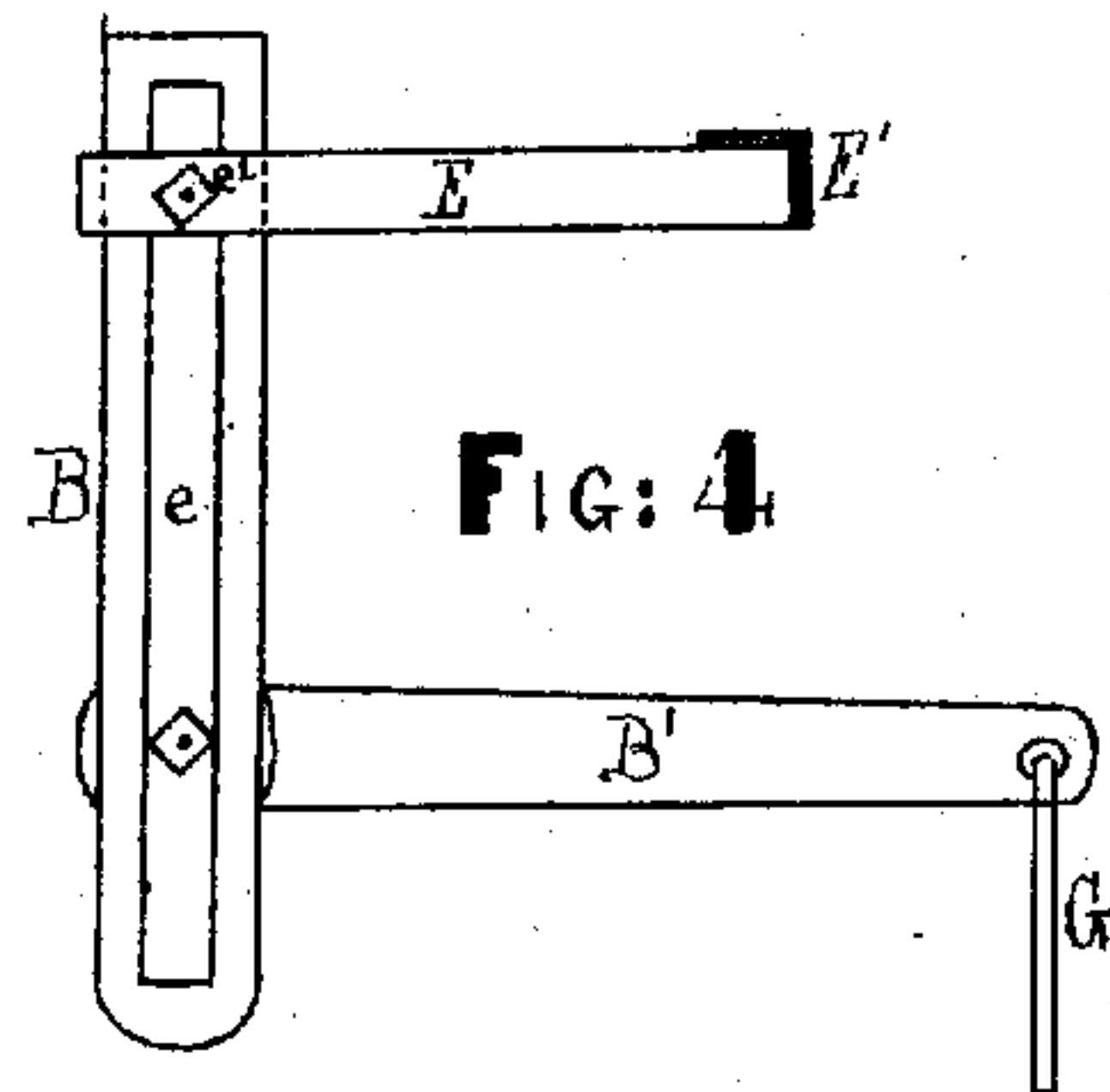


FIG: 4.

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UNITED STATES PATENT OFFICE.

JOHN H. WILSON, OF PHILADELPHIA, PENNSYLVANIA, AND J. D. C. OUTWATER, OF NEWARK, NEW JERSEY.

IMPROVED MECHANISM FOR DRIVING SEWING-MACHINES.

Specification forming part of Letters Patent No. 97,741, dated December 7, 1869.

To all whom it may concern:

Be it known that we, JOHN H. WILSON, of the city and county of Philadelphia, and State of Pennsylvania, and JACOB D. C. OUTWATER, of the city of Newark, county of Essex, and State of New Jersey, have invented a new and useful improvement to be used in connection with sewing or other machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a horizontal sectional view showing the brake forced against the periphery of the fly-wheel. Fig. 2 is a horizontal sectional view showing the brake free and the friction-wheel pressing against the fly-wheel. Fig. 3 is a top view of the table with mechanism attached. Fig. 4 is a view of the elbow-lever and brake.

This improved driver and brake is intended for machines driven by steam or other like power, and, while chiefly designed for sewing-machines, is also admirably adapted to other classes of machines.

The nature of our invention consists in securing in the upright arm of an elbow-lever the journal or shaft of a friction-wheel, and also the arm of the brake-shoe. The friction-wheel is connected by an endless belt with the motive power, and is so arranged that by simply depressing a treadle motion is transmitted to the fly-wheel of the machine by frictional contact, and so soon as the pressure is relieved from the treadle through a spring that is attached to the horizontal arm of the elbow-lever the fly-wheel is freed from contact with the friction-wheel and the brake-shoe is forced against the periphery of the former. The great advantage of this improvement consists in its simplicity and durability, which is owing to the entire absence of all complicated mechanism, and also in the fact that the machine can readily be driven at the highest rate of speed and stopped on the instant simply by removing the pressure from the treadle.

To enable others skilled in the art to make and use our invention, we will now proceed to describe its construction and operation.

A is a table to which the entire mechanism is attached. On the under side of this table

is secured a bearing-block, A'. To this block A' is pivoted so as to work freely an elbow-lever, B B'. The upright arm B of this lever passes up through an opening in the table. In the upper section of the arm B is an aperture or hole, in which is secured by the nut *c* a short journal, C. To this shaft or journal C is attached by a screw, *d'*, a grooved wheel, D. In the groove *d* of this wheel D works an endless belt, which is connected with a driving-shaft or pulley of steam or other motive power. This wheel D is faced with leather D' or other equivalent material, which not only greatly facilitates the frictional contact between the wheel D and the fly-wheel X, but also protects each of said wheels from being unduly worn thereby. In the upright arm B of the elbow-lever there is cut a slot, *e*, in which is secured by bolt *e'* the brake-arm E and shoe E'. The shoe E' may be formed by facing the end of the arm E with leather or other equivalent material, or the shoe may be made in an independent piece and attached by any convenient means. The bolt *e'*, by which the arm E is secured, is held by nuts *e² e²*, which enables the operator to adjust the arm E to any desired point in the slot *e*, whereby the machine can readily be made to accommodate itself to machines having fly-wheels of different diameters.

To the under surface of the horizontal arm B' of the elbow-lever is secured by screws *f f* one end of a metal spring, F. The other end of this spring is left perfectly free, resting against the under surface of the top of the table. Through an aperture in this spring passes a set-screw, F', by means of which the tension of the spring is regulated. When the machine is in its normal condition the tension of this spring always drives the brake-shoe E' against the periphery of the fly-wheel X of the sewing or other machine, as clearly shown in Fig. 1. To the outer end of the horizontal arm B' is attached a treadle-arm, G. Through the head of the arm B is cut an opening, C', which communicates with the opening in which the shaft C works. By means of this opening the shaft C can be conveniently lubricated at any desired moment.

In the drawings, F is a flat metal-plate spring, but of course any other style of spring adapted to the purpose may be used; and in-

stead of the spring being attached as shown its attachment may be reversed, leaving its free end resting on the arm B'.

The mechanism is described as attached to the table A. This is of course when the device is used in connection with a sewing-machine. When applied to other classes of machinery it may be desirable to dispense with the table. This can readily be done simply by securing the mechanism to a beam, girder, or other suitable support, the same being so mortised as to allow of the working of the several parts, as described. Also, the elbow-lever B B', instead of being constructed as described, may be made as shown in Fig. 4. In this figure it will be observed that the slot *e* extends nearly the whole length of the upright arm B, which enables the horizontal arm B', as well as the brake-arm E, to be adjusted therein at any desired point.

The operation is as follows: The machine is in the position as shown in Fig. 1, the brake-shoe E' bearing against the fly-wheel X. Through the endless belt motion is communicated to the wheel D, and the same is rapidly revolved, when simply by drawing down the treadle-arm G the brake-shoe is freed from the wheel X, and the wheel D is drawn against the same, as shown in Fig. 2, when through frictional contact motion is imparted to the

wheel X, and through the shaft X' transmitted to the sewing or other machine. This movement continues so long as the pressure is applied to the treadle-arm G; but the moment the same is relieved the spring F throws the brake-shoe E' against the wheel X and the wheel D away therefrom, the former with such power that the revolution of the fly-wheel is instantly checked.

Having thus fully described our invention, what we claim therein as new, and desire to secure by Letters Patent of the United States, is—

1. The grooved friction-wheel D and brake-arm E and shoe E', when they are secured to the arm B in such manner that the brake-arm shall be adjustable, substantially as described.

2. Elbow-lever B B', wheel D, brake-arm E, spring F, and treadle-arm G, when the same are so combined and arranged as to operate substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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JACOB D. C. OUTWATER.

Witnesses:

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GEO. W. HESSON.