

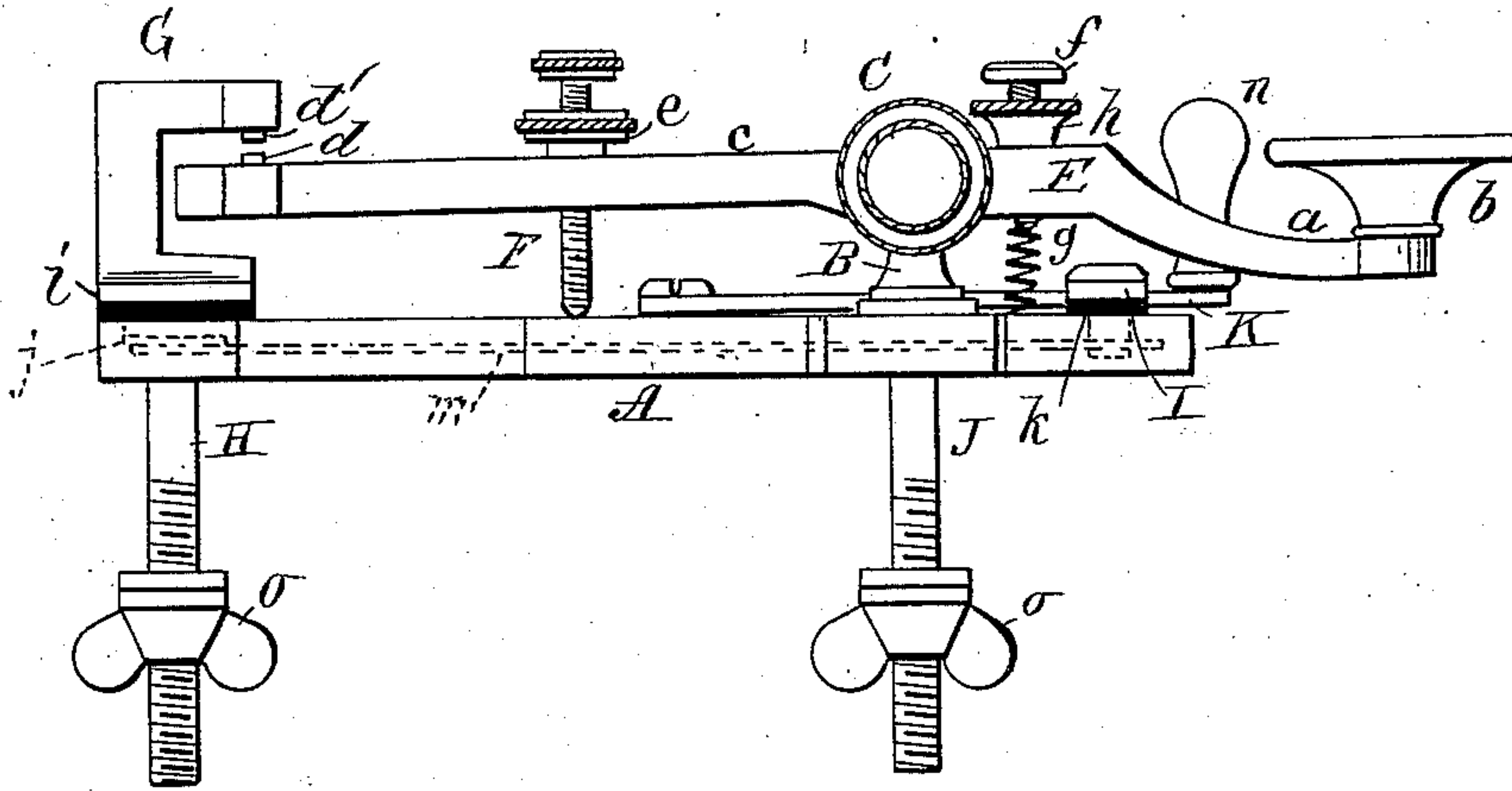
(No Model.)

J. M. BIGGS.  
TELEGRAPH KEY.

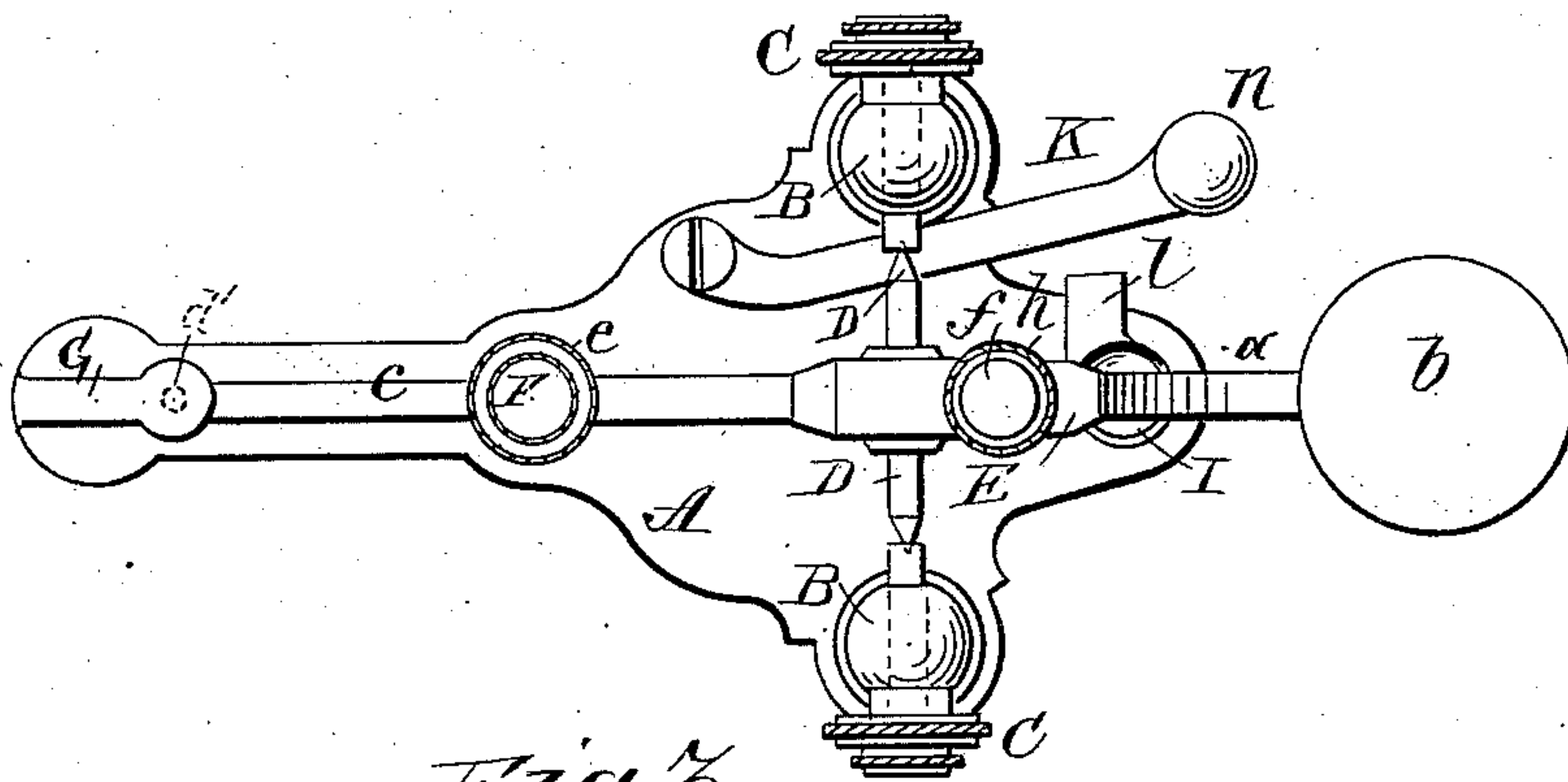
No. 351,485.

Patented Oct. 26, 1886.

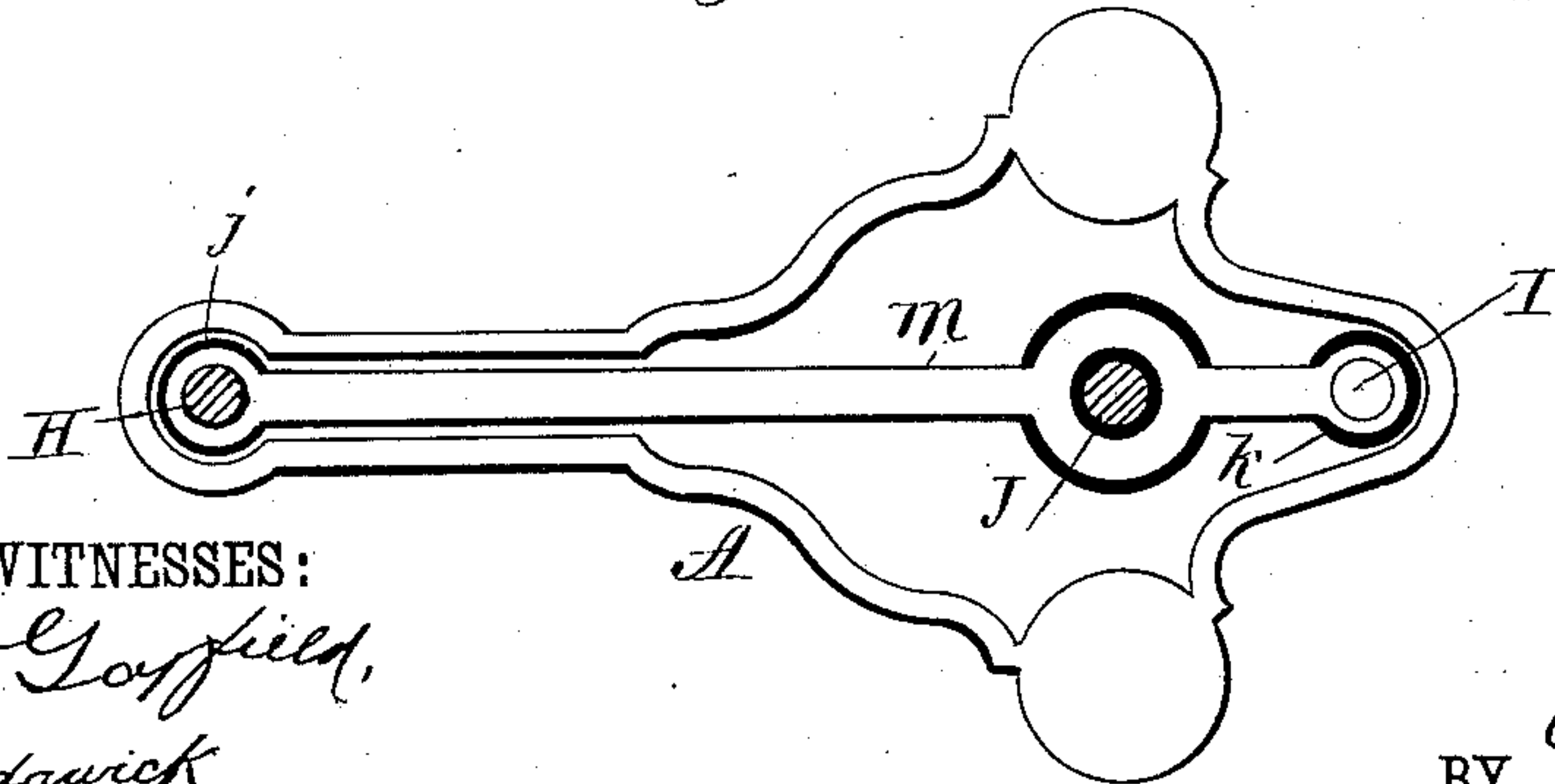
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN MARION BIGGS, OF LOUISVILLE, KENTUCKY.

## TELEGRAPH-KEY.

SPECIFICATION forming part of Letters Patent No. 351,485, dated October 26, 1886.

Application filed May 10, 1886. Serial No. 201,708. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MARION BIGGS, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Telegraph-Keys, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side elevation, partly in section. Fig. 2 is a plan view. Fig. 3 is an inverted plan view.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

The object of my invention is to provide a telegraph-key in which a slight movement of the fingers will produce a greater movement in the contact-point of the key, thereby insuring greater certainty and rapidity in writing and diminishing the movement of the hand required for operating the key.

My invention consists of a key having short and long arms, the short arm being provided with a finger-piece, the longer arm carrying a contact-point, and in the combination, with the key arranged in this manner, of a switch and conductor for conveying the current from the switch to the stationary contact-point of the key.

The base A, which supports all of the parts of the key, is recessed on its under surface and supports the standards B for receiving the screws C, in the inner ends of which are journaled the trunnions D of the key E. The key E is a two-armed lever, with a short arm, *a*, projecting beyond the end of the base A and provided with the usual finger-piece, *b*, the long arm *c* projecting in the opposite direction from the trunnions, and carrying the contact-point *d*. The long arm of the key is provided with an adjusting-screw, F, which passes downward through the key and touches the base A when the key makes the back stroke. The adjusting-screw F is prevented from becoming accidentally loosened by the jam-nut *e*.

Between the trunnions D and the finger-piece *b* the adjusting-screw *f* is received in the short arm *a*, and is bored axially to receive one end of the spiral spring *g*, the opposite end of which extends into a cavity in the base A. The screw *f* is prevented from accidental loosening by the jam-nut *h*.

Above the contact-point *d* is supported a contact-point, *d'*, by the right-angled arm G, which is formed integrally with the screw-threaded stud H, the arm G and stud H being insulated from the base A by the collar *i* and by the insulating-washer *j*. In the opposite end of the base is secured a stud, I, which is insulated from the base by the rubber collar *k*. The stud I supports the circuit-closing contact *l*, and is connected electrically with the stud H and arm G by the bar *m*, which is secured in place by riveting the stud I and shoulder of the stud H down upon the bar. The bar *m* is separated from the base by insulation, and is enlarged and apertured at a point below the trunnions D, to allow the binding-stud J to project from the under surface of the base.

To the base A is pivoted a circuit-closing switch, K, provided with a handle, *n*, of insulating material, which reaches upward above the end of the top of the finger-piece *b*, within convenient reach of the finger of the operator. The circuit-closer K is received under the contact *l* when it is desired to close the circuit. The studs H J are provided with wing-nuts *o*, by means of which the key is clamped to the table.

It will be seen that by making the arm *a* of the key-lever short and the arm *c* long that the movement of the hand required to operate the key will be very much reduced, and the contact between the contact-points *d* and *d'* may be more rapidly and certainly made. The key-lever may be made lighter, thus requiring less spring-power to move it after being operated by the fingers. This construction also reduces the wear upon the trunnions or pivots of the key. It secures a wide separation of the contact-points, thus avoiding sparking at the contact-points and consequent adhesion of the points.

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

1. In a telegraph-key, the base A, having its under surface recessed to receive the bar *m*, combined with the arm G, having a contact-point key-lever, the stud I, bar *m*, connecting stud I and arm G, and the circuit-closer, substantially as set forth.

2. In a telegraph-key, the combination of the key-lever E, provided with the long arm *c* and the short arm *a*, the adjusting-screw F, inserted

in the longer arm, the adjusting-screw *f*, inserted in the shorter arm, the spring *g*, placed between the adjusting-screw *f* and the base, the base A, the arm G, having threaded stud H and secured to the base, but insulated therefrom, the contact-points *d d'*, carried by the arm and the key-lever, the stud I, connected electrically with the arm G, insulated from the base A and supporting the circuit-closing contact-point *l*, and the circuit-closing key K, pivoted to the base A and adapted to engage the circuit-closing contact-point *l*, substantially as herein shown and described.

3. The combination of the base A, the key-lever pivotally supported thereon, the arm G,

having threaded stud H and provided with a contact-point, and secured to but insulated from the base, substantially as set forth.

4. In a telegraph-key, the combination of the base, the key-lever, the arm G, provided with a contact-point and having a threaded stud, H, the stud I, having a contact, the bar *m*, connecting the studs H and I, and the circuit-closing switch pivoted to the base and movable into contact with the stud I, substantially as set forth.

JOHN MARION BIGGS.

Witnesses:

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