

(No Model.)

A. E. JOHNSON.
TELEGRAPH KEY.

No. 411,198.

Patented Sept. 17, 1889.

Fig. 1.

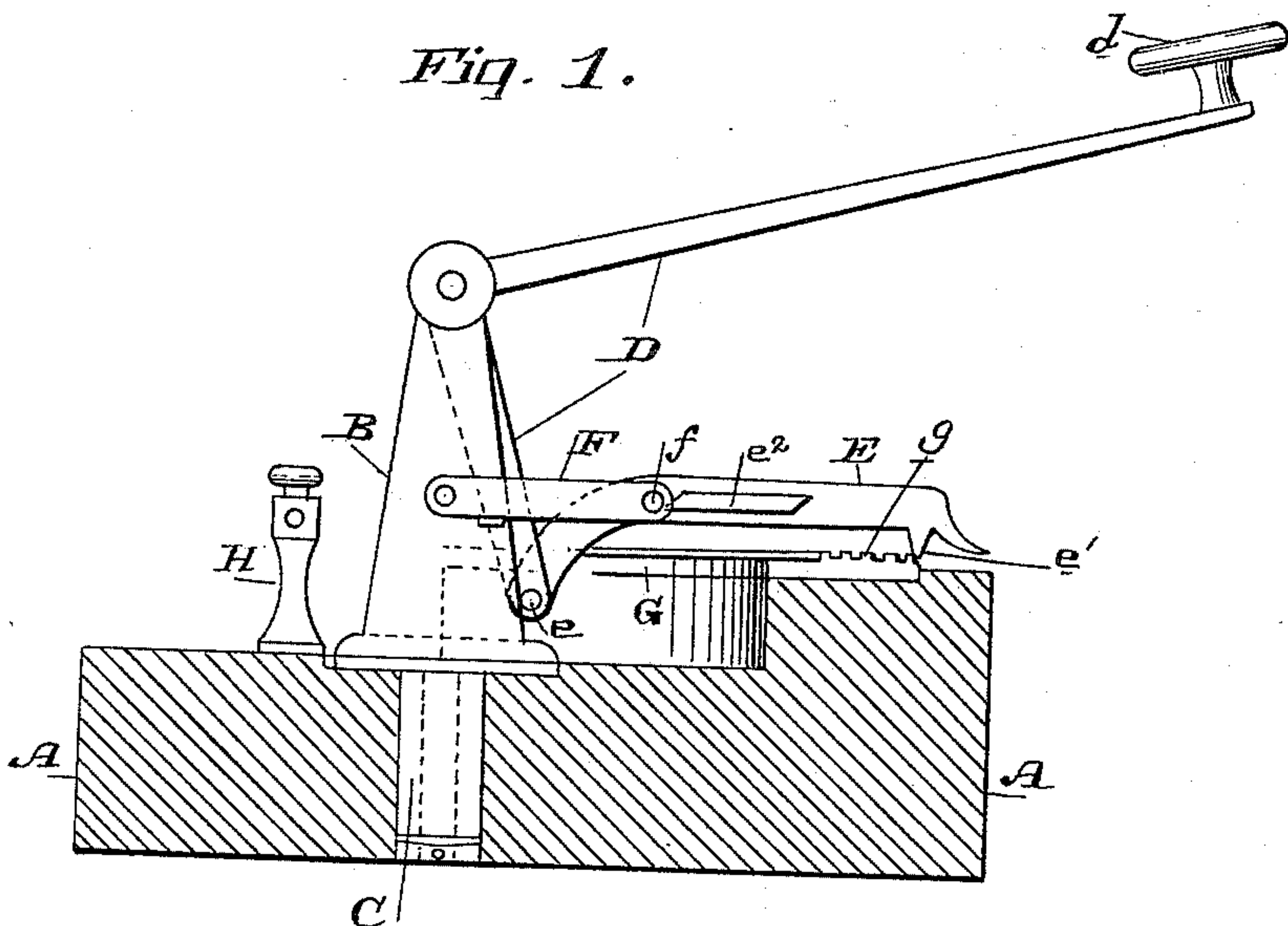
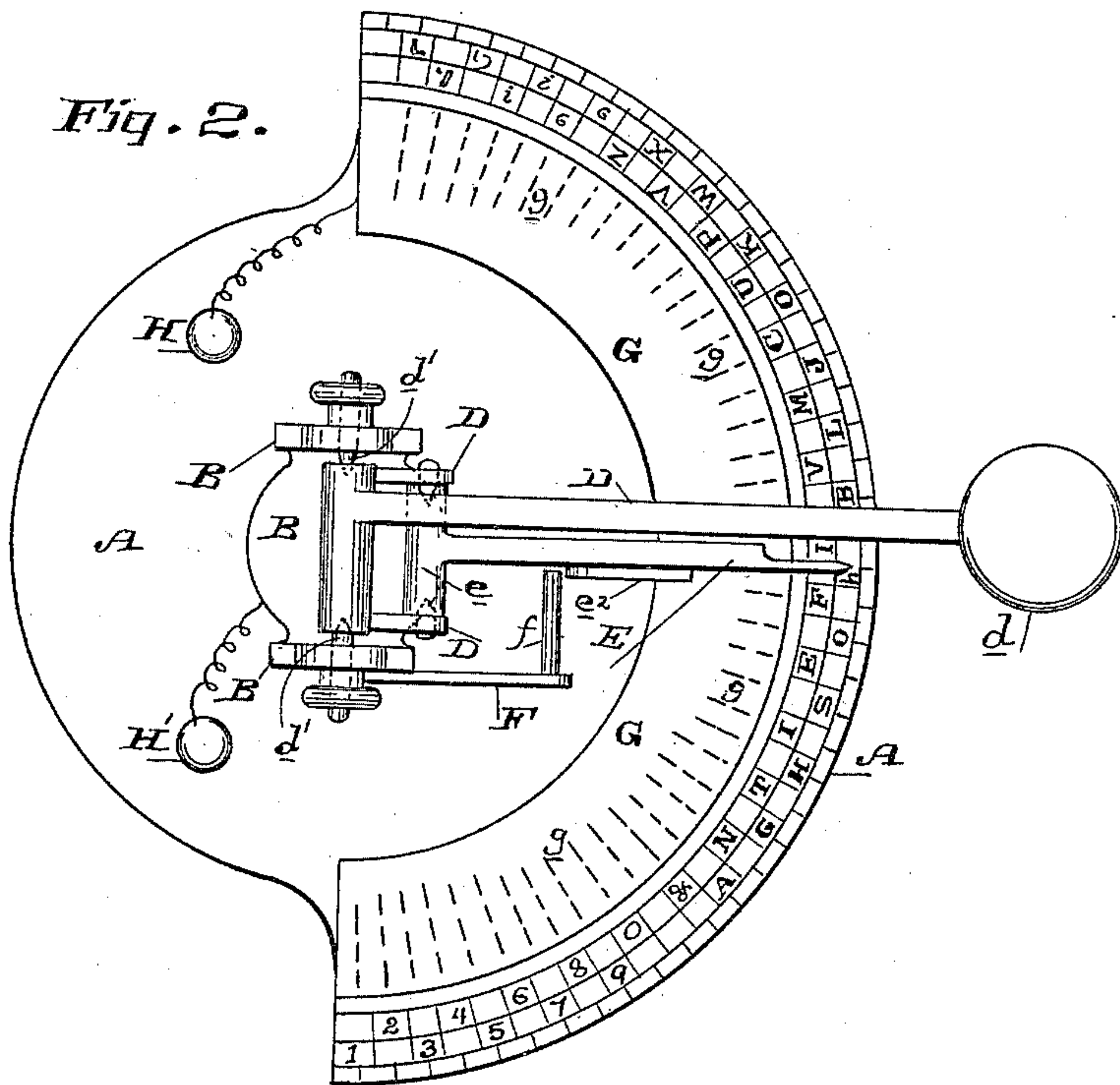


Fig. 2.



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UNITED STATES PATENT OFFICE.

ALFRED E. JOHNSON, OF CARSON CITY, NEVADA, ASSIGNOR OF ONE-HALF
TO MOSES M. COHN, OF SAME PLACE.

TELEGRAPH-KEY.

SPECIFICATION forming part of Letters Patent No. 411,198, dated September 17, 1889.

Application filed April 3, 1889. Serial No. 305,885. (No model.)

To all whom it may concern:

Be it known that I, ALFRED E. JOHNSON, of Carson City, of the county of Ormsby, State of Nevada, have invented an Improvement in Automatic Telegraph-Keys; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of telegraph-keys; and my invention consists of a pivotally-mounted swinging key-lever, a movable contact-finger connected with said key-lever, a series of contacts formed to represent telegraphic characters, over which the contact-finger is moved by the key-lever, and details of construction and arrangement, all of which I shall hereinafter fully describe.

The object of my invention is to provide a telegraph-key adapted for the use of beginners, to give them familiarity with the form and sound of the telegraphic characters, and also for the use of any person who is unable to send messages with ordinary keys.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a side elevation of my key, the base-plate being in section. Fig. 2 is a plan of my key.

A is the base-piece, preferably made of wood, on the outside edge of which the Roman alphabet, punctuation-points, and numerals are printed or attached.

B is a forked standard fitted to turn in a sleeve or thimble C, so as to swing in a horizontal plane.

C is the sleeve or thimble mounted in base A.

D is an elbow or right-angle key-lever with insulated button *d*. The lower end or short arm of this lever is forked to receive the trunnion of contact-finger E, and said lever is pivoted to standard B by pointed screws *d'*, so as to swing in a vertical plane.

E is the contact-finger, pivoted at trunnion *e* to the key-lever D, and it is pointed on its outer end and formed with a V-shaped contact-point *e'* on lower outside end. *e²* is a lug formed on side of finger E.

F is an arm with stud *f*. It is pivoted to

standard B, so as to rise above the position shown, but is not allowed to drop lower. 50

G is a semicircular ring or plate, of suitable material, on which is formed raised metallic letters or characters *g* of, say, the Morse system. These are radial to the center of the circle and correspond with ordinary characters printed on the outside edge of the base A. The upper surface of plate G is lacquered or glazed for insulation, except on the surface of the letters. 55

H H' are binding-posts connected with plate G and sleeve C. 60

In operation the key-lever D is swung around until the point of finger E stands over the letter wanted. The lever is then depressed, which moves the finger E, with its V-shaped point *e'*, across the face of the letter under it. While passing over the raised parts, an electric current can pass from the post H through plate G and raised parts of the letter, through finger E and connections to post H', and to the line or sounder. When the V-point passes over the depressed portion of the letter, the current is broken. The result of the contacts and breaks, when connected with an ordinary sounder, produces the sound of the letter indicated. When the key-lever D is being depressed, the backwardly-moving contact-finger E carries its lug *e²* under stud *f* of arm F, thereby raising said arm until, when the finger has moved fully back, the stud of said arm drops down in front of the lug. Now, when the key-lever is raised and the finger begins to return, the lug *e²*, coming in contact with the stud, travels upon it, so that the finger is raised and is thereby prevented from coming in contact with the raised letters on the return-stroke. The lug *e²* is beveled on its ends to effect the contact easily. 65 70 75 80 85

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is— 90

1. The combination, with the bed-piece having electric contact-surfaces thereon and representing telegraphic characters, of a key-lever mounted in a rotary standard, and a single contact-finger pivoted to the short arm of the 95

key-lever and adapted to move backward over the contact-surfaces when the key-lever is depressed, said contact-finger having also a vertical movement on an independent axis, substantially as described.

2. In a telegraphic key, the bed-piece having upon it the series of electric contact-surfaces representing telegraphic characters, in combination with the standard mounted on a vertical axis in the bed-piece, the elbow key-lever pivoted on the standard, whereby said lever may be moved in vertical and horizontal planes, and the contact-finger pivoted to the key-lever, so that it may be turned to and passed in electrical contact over any of the electric surfaces, substantially as described.

3. In a telegraphic key, the bed-piece having upon it the series of electric contact-surfaces representing telegraphic characters, in combination with the vertically and horizontally swinging key-lever, the contact-finger pivoted to said key-lever and adapted to be turned to and passed in electrical contact over any of the electric surfaces, said finger having a lug on its side, and the pivoted arm F, hav-

ing a stud *f*, engaging the lug of the finger, for holding said finger out of contact with the electric surfaces on its return movement, substantially as described.

4. An automatic telegraph-key consisting of the bed-piece having the electric contact-surfaces representing telegraphic characters, the sleeve mounted on the bed-piece, the rotary standard carried by the sleeve, the elbow key-lever pivoted to the standard, the contact-finger pivoted to the key-lever and operating over and in contact with the electric surfaces in one direction, the pivoted arm F, having stud *f*, the lug on the contact-finger, for holding said finger out of contact in the other direction, and an electric circuit, including the contact surfaces and finger, all arranged and adapted to operate substantially as described.

In witness whereof I have hereunto set my hand.

ALFRED E. JOHNSON.

Witnesses:

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