

J. DAVIS.
TELEGRAPHIC KEY.

Fig. 1.

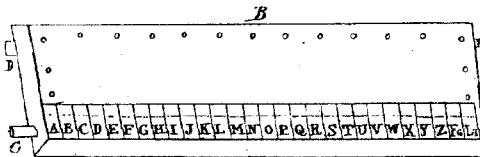


Fig. 2.

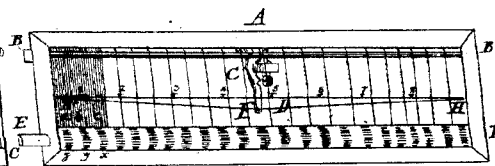


Fig. 3.

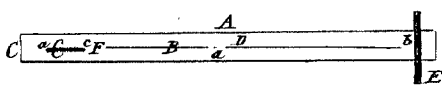


Fig. 4.

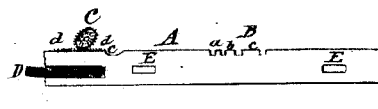
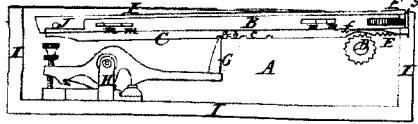


Fig. 5.



I V X
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I II III IV V VI VII VIII IX X XI XII XIII XIV XV XVI XVII XVIII XIX XX XXI XXII XXIII XXIV XXV XXVI XXVII
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

FIG. LET.

NOTE.

UNITED STATES PATENT OFFICE.

JOHN DAVIS, OF NEW BEDFORD, MASSACHUSETTS.

IMPROVEMENT IN TELEGRAPHIC KEYS.

Specification forming part of Letters Patent No. 11,690, dated September 19, 1854.

To all whom it may concern:

Be it known that I, JNO. DAVIS, of New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Operating Morse's Electro-Magnetic Telegraphic Register; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of a box or case containing twenty-eight (28) keys, in appearance the same as a melodeon. Fig. 2 is the same view of the same box or case with the top removed. Fig. 3 is the key E removed from Fig. 1 and inverted. Fig. 4 is the slide removed from the key.

Fig. 1: B is a box or case containing twenty-eight (28) keys, arranged across said case in a horizontal plane, on which is affixed consecutively the letters of English alphabet from A to Z, and also the dots, short and long marks (· —) with two (2) keys, one marked Fg. and the other Lt., to designate when the communication is to be changed from letters to figures, and vice versa. C C is a shaft extending horizontally through the case B from C to C under the keys A B C, &c., and which is designed to be a continuation of the roll in Morse's telegraphic register, which is propelled by the clock-work, or to be coupled to said roll, or caused to revolve with a separate clock-work with the same velocity as said roll. D D is a rod passing through the box or case horizontally and parallel with C C, on which the keys respectively are hung in movable joints.

Fig. 2: A is a perspective view of Fig. 1 with the top removed. B B is the rod on which the respective keys a b c, &c., are hung, corresponding to D D, Fig. 1. C is the well-known magnetic lever in common use, and its respective parts need no further description in this specification. D is a bar secured to the upper side of the arm of the well-known magnetic lever at F, at right angles with said lever, by a screw from the under side. Said bar extends from H to H under the center of the keys a b c, &c. The front edge is faced with a plate of steel, projecting one-sixteenth of an inch above said bar, forming a smooth edge from H to H, and secured to D by the screws 1 2 3, &c. E

E is a shaft passing through said box or case horizontally and parallel with B, and described by C C, Fig. 1, on which are affixed twenty-eight (28) pinion-wheels, z y x, &c., corresponding to and revolving under the respective twenty-eight (28) keys, said keys being held up from the said pinions by springs, as the keys in a melodeon. The diameter of the pinion is the same as the roll to which it is connected, and propelled with the same velocity as said roll.

Fig. 3: A is the key E, Fig. 1, removed from the box or case and inverted—twelve inches long, seven-eighths of an inch wide, and three-fourths of an inch thick, with a groove one-eighth of an inch thick and one-half of an inch deep cut through the center of said key from a to b. B is a brass slide ten inches long, one-eighth of an inch thick, and three-fourths of an inch wide, fitted to slide in the groove one-half of an inch from a to c. C are teeth cut in the edge of the slide from a to c, corresponding with the teeth, and when in operation working in the pinions z y x, &c., Fig. 2. D is a portion of the edge of the slide removed to form a point, as seen at d. E is a portion of the rod D D, Fig. 1, and of B B, Fig. 2, on which the respective keys are hung. F is a portion of the slide removed to permit the pinion to revolve freely when it has traversed the teeth from a to c.

Fig. 4: A is the slide removed from the groove in the key, Fig. 3, ten inches long, one-eighth of an inch thick, three-fourths of an inch wide. B is a portion of the slide so fitted as to represent a dot, a short line, and a long line; a, the dot; b, the short line; c, the long line. C is a pinion-wheel corresponding to the twenty-eight (28) z, y, x, &c., on the shaft E E, Fig. 2, represented as operating on the rack d d. D is a spiral spring in a slit in the slide, having been removed from the end of Fig. 3, where, when in operation, it is secured by a cap on the end of the key at c, and which causes the slide to resume its proper position when the finger of the operator is removed from the key. E E are apertures cut through the slide, one-half inch long and one-eighth of an inch wide, through which are inserted, when the slide is placed in its proper position in the key, steel pins one-eighth inch diameter, on which the slide reciprocates. c c is a portion of the slide removed to permit the pinion-wheel when it has

traversed the length of the rack from *d d*, to freely revolve.

Fig. 5: A is a cross-section of the whole apparatus, made by a vertical plane passing through one of the keys, &c. B is the key. C is the slide in the key. D is the pinion or roll. E is the rack on the end of the slide. F is the spiral spring which causes the slide to react and assume its natural position when the finger of the operator is removed from the key. *f* is the spring which raises the key and the rack, &c., when the finger of the operator is removed from the key. *g* is a cap secured to the end of the key which causes the spiral spring to react. G is the bar secured at right angles to the arm of the well-known magnetic lever. I I I I is the box or case. H is the well-known magnetic lever. J is the rod on which the keys are hung in movable joints. *a b c* are the symbols on the slide which operates the magnetic lever. *m m* are apertures through the slide, which admit its reciprocation. *n n* are the bolts on which the slide reciprocates.

Operation: The box or case A, Fig. 1, with the machinery in it in its proper position, as herein described, being connected to Morse's telegraphic register in the manner set forth in this specification, the register connected with the battery in the usual manner, the operation then may commence by starting the clock-work, which draws the paper from the spool between the rolls, and which also revolves the shaft and pinion-wheel. (See E and *z, y, x*, &c., Fig. 2.) By putting the finger suddenly on the key A, Fig. 1, as in the act of playing the melodeon, brings the rack on the slide in contact with the pinion-wheel, the teeth of which draws the slide, which causes the symbol on the center of the slide, in passing over the bar D, Fig. 2, to press down the bar, and consequently causing the well-known magnetic lever or key to complete the battery-circuit. Thus, if a single point is caused to pass the bar D, Fig. 2, by drawing the slide, as herein set forth, a single and sudden connection of the battery-circuit will be completed and broken. As many points, therefore, as are affixed to the slide and caused to operate as

aforsaid, so many connections of the battery, circuit will be formed and broken. If, instead of a dot, a short mark is desired, a projection on the slide, as seen at *b*, Fig. 4, must be caused to pass over the bar. If a long mark, the projection must be longer, as seen at *c*, Fig. 4. Thus to produce any character which is represented by those marks the operator has but to pass his finger, as aforsaid, on the respective key aforsaid, and it is accomplished.

I do not confine my invention solely to the producing of the dots and marks which Morse uses in operating his telegraphic register. Any arrangement may be produced. Neither do I confine my invention to the operating of Morse's telegraphic register. It may be applied to any telegraphic registering apparatus where spaces, dots, long and short marks are used for transmitting and recording information by telegraph. Neither do I confine my invention to the working of the respective slide with its pinion and rack. It may be operated by passing the slide against the shaft or roll, friction producing the same as the rack. Neither do I confine my invention to the spiral spring. Any other may be used.

What, therefore, I do claim as my invention, and desire to secure by Letters Patent, is—

The construction of a bank of telegraphic keys, as herein described, and operated by their respective pinions, or by a roll with or without teeth, (said pinions or roll may be operated by clock-work or by any known motor,) and thereby operating the well-known magnetic lever, as herein set forth, causing the connections of the battery-circuit to be completed and broken a succession of times by a single operation of the operator, said connections to be of a longer or shorter duration, as the respective symbol on the respective slide shall indicate, disclaiming any right to other telegraphic keys and to other telegraphic operations for the producing of dots and marks.

JNO. DAVIS.

Witnesses:

J. H. W. PAGE,
EZEKIEL SAWIN.