(No Model.)

R. HARTE.

TYPE WRITING MACHINE ATTACHMENT FOR WRITING AND TRANSLATING MESSAGES IN CIPHER.

No. 527,112. Patented Oct. 9, 1894.

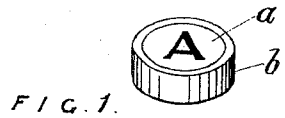
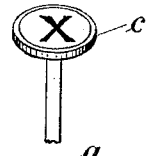


FIG. 1.



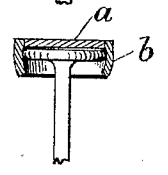


FIG. 2.

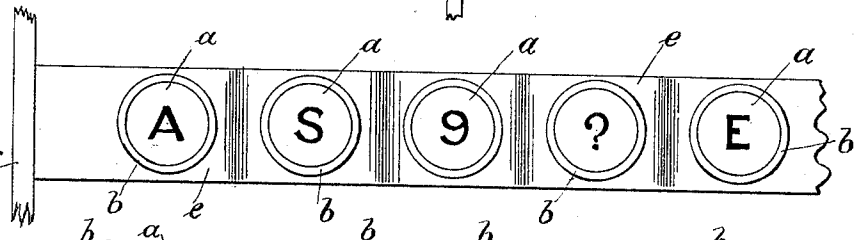


FIG 3

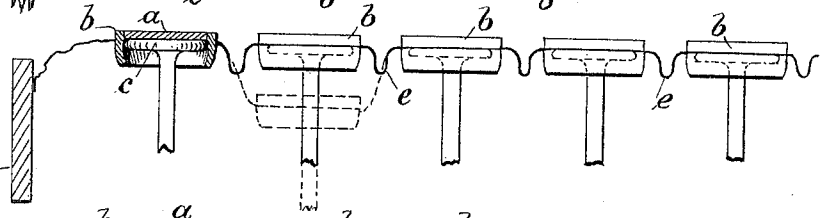


FIG 4

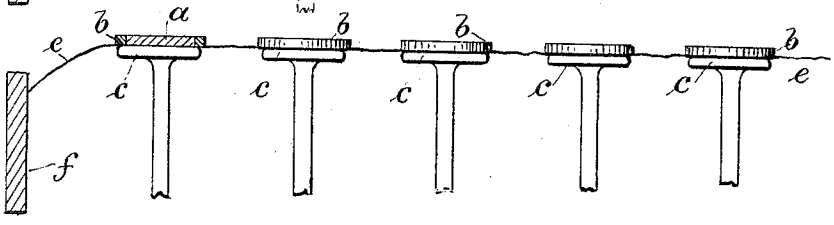


FIG. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

RICHARD HARTE, OF CROYDON, ENGLAND.

TYPE-WRITING-MACHINE ATTACHMENT FOR WRITING AND TRANSLATING MESSAGES IN CIPHER.

SPECIFICATION forming part of Letters Patent No. 527,112, dated October 9, 1894.

Application filed January 18, 1894. Serial No. 497,246. (No model.)

To all whom it may concern:

Be it known that I, RICHARD HARTE, journalist, of 7 Fairfield Road, Croydon, in the county of Surrey, England, have invented new and useful Improvements in Machines for Writing and Deciphering Communications in Cipher, of which the following is a full, clear, and exact description.

My invention has for its object to enable communications to be inscribed in cipher and cipher communications to be deciphered and transcribed into ordinary language without mental effort other than that required for operating a type-writing machine in the same way as for ordinary communications.

My invention consists in providing the keys of a type-writing machine with index letters and signs in a manner substantially as shown and described which index letters do not correspond with the letters or signs imprinted by the type operated by the respective keys, but which correspond with the impression of any other than the same letters and signs according to any accidental or arbitrarily selected system or key, so that in writing a communication although the operator will be guided in striking the keys by the index letters and signs which they bear, as in the ordinary way of type-writing, the letters printed thereby will be entirely different from those indicated upon the keys struck. Thus the translation of the communication into cipher will be effected automatically without any mental effort being required on the part of the operator to effect the conversion from the ordinary to the cipher form of the language. Similarly the deciphering of a communication in cipher may also by effected automatically or without mental effort being involved in translating or converting the cipher communication into ordinary language by merely transcribing the cipher communication by means of a type writing machine the keys of which have their distinguishing index letters or signs arranged according to the key of the cipher that is in such relation or correspondence to the characters imprinted by the type operated by said keys that when a key bearing a cipher index is depressed the true or orignal letter will appear, and thus the communication will be transcribed in ordinary language. The cipher employed is capable of variation, according to any possible combinations of the characters of the alphabets, punctuation marks, signs, and digits with which the keyboard of a type writing machine is usually provided, the effect of thus mingling capital and small letters, digits, punctuation marks, and all other signs commonly used in type-writing being to increase the apparent difficulty of deciphering the communication. In order, however, that the same type-writing machine may be used (without readjustment of the index letters and signs of its keys) for ciphering and deciphering in accordance with one and the same system of cipher and consequently that the sender and recipient of a cipher communication may use machines similarly arranged in this respect, it is necessary that in arranging the cipher the true letters, figures, or signs, and their corresponding cipher characters, should be reciprocal. That is to say if A is the cipher corresponding to the letter P then P should be the cipher corresponding to the letter A and if the sign ? is the cipher corresponding to the letter T then T should be the cipher corresponding to the sign ?, so that by transcribing the cipher characters in the order in which they appear in the cipher communication the proper characters will appear in legible order.

The cipher indexes are removably attached, in order to enable the cipher to be changed at will. With this object, and in order not to diminish the usefulness of the type-writer for ordinary communications, I provide, for the purposes of cipher communications, false or substitute indexes capable of being removably applied to the keys so as to conceal the true indexes.

Reference is to be had to the accompanying drawings, forming part of this specification.

Figure 1 is a perspective view of a single cap, shown disconnected from its supporting strip and of the key to which it is to be applied, and Fig. 2 a vertical section of the same showing the cap as applied to the key. Fig. 3 is a plan and Fig. 4 an elevation, partly in vertical section of my improved index. Fig. 5 is a similar view of another form.

a is a disk of any suitable material bearing a letter or sign and provided with any means

whereby it may be clipped onto the head *c* of the key, such for example as a ring *b* of india-rubber, in which the disk *a* is held and which fits over the key *c* and retains the disk *a* in place thereon so that it covers up the true letter, (say the letter X,) which corresponds to the letter printed by the type operated by such key and bears a false or substitute index, (A for example,) so that when A occurs in the original communication it will appear as X in the cipher and so on, and conversely, so that when X in the cipher communication is transcribed it will appear as A. To facilitate placing the false or substitute indexes in position on the keys, their rings *b* are connected by a flexible tape *e* which is loose enough to permit of any one key being depressed without affecting the others, as indicated in dotted lines in Fig. 4. The tablets are sprung into their rings *b* so that they can be interchanged for varying the cipher. The tape *e* may be a strip of very thin rubber, as in Fig. 5, elastic enough to admit of stretching sufficiently to allow one key to be depressed without depressing the adjacent keys. In either case all the tapes corresponding to the several rows of keys may be attached at their ends to a common frame *f* fitting removably on the frame of the machine.

By my invention I am enabled to produce a cheap and effective device, easy of application and capable of conforming to a great variety of work with the necessity of but little labor in accomplishment of adjustments required for the changes.

I claim—

In a type writing machine for translating communications into or out of cipher, the combination, with the type-operating key and the type operated thereby, of a set of tablets corresponding with and removably applied to, said keys, said tablets being connected in separate rows by flexible tapes fixed at the ends to a common frame, and the said tablets bearing characters or signs corresponding, according to a pre-arranged system, to the characters or signs imprinted by the operation of other than the keys to which the tablets are respectively applied, as specified.

Signed by the said RICHARD HARTE.

RICHARD HARTE.

In presence of—

W. M. HARRIS,

Notary Public, 17 *Gracechurch Street, London.*

THOMAS LAKE,

Notary's Clerk, 17 *Gracechurch Street, London.*