T. HABERMANN.

MORSE TRANSMITTER.

APPLICATION FILED JAN. 14, 1911.

1,002,267. **Patented Sept. 5, 1911.**

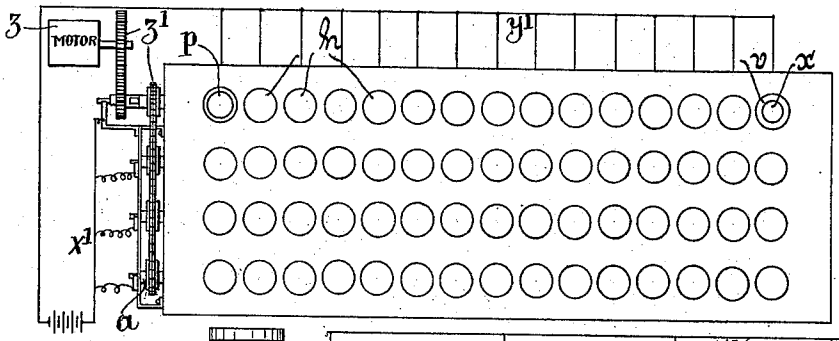

Fig. 1.

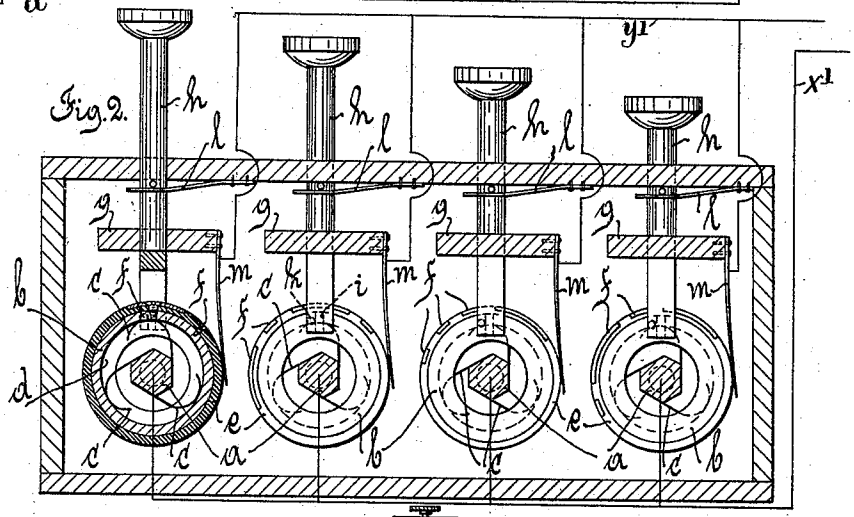

Fig. 2.

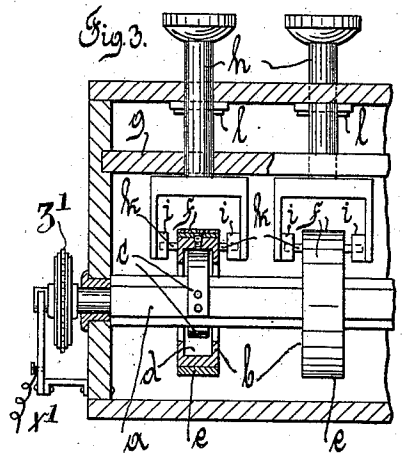

Fig. 3.

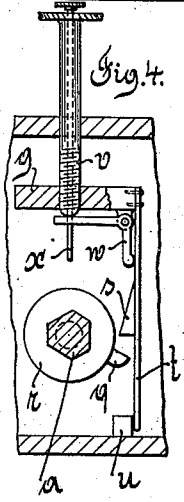

Fig. 4.

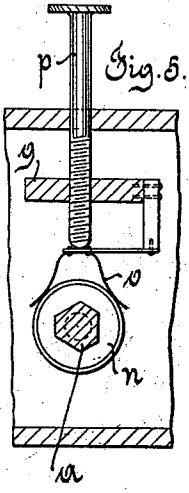

Fig. 5.

Witnesses:
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THEODOR HABERMANN, OF HEMSLINGEN, NEAR BROCKEL, GERMANY.

MORSE TRANSMITTER.

1,002,267. Specification of Letters Patent. Patented Sept. 5, 1911.

Application filed January 14, 1911. Serial No. 602,718.

To all whom it may concern:

Be it known that I, THEODOR HABERMANN, a subject of the German Emperor, residing at Hemslingen, near Brockel, Bezirk Bremen, in the German Empire, have invented certain new and useful Improvements in Morse Transmitters, of which the following is a specification.

The object of this invention is to provide a Morse transmitter having over the transmitters heretofore known the advantages of greater simplicity in regard to operation and of greater reliability in regard to the accuracy with which messages are transmitted.

To this end the invention substantially consists in using, for transmission of each code character, a movable series of electric contacts representing, by their length, the dots and dashes constituting said character, so that the latter is transmitted by moving said contact series so that each contact therein is successively operative. In using the term "length" as applied to the contacts, I am referring to the relative durations of contact produced by uniform movement of the several contact pieces.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a diagrammatic plan-view of the key-board, Fig. 2 a cross-section of the transmitter, and Fig. 3 a partial longitudinal section. Fig. 4 is a cross-section showing an audible signal and locking device, and Fig. 5 a device for regulating the speed.

The apparatus comprises a box containing a plurality of spindles a, which collectively carry as many metal contact rings b as there are characters to be telegraphed, the rings being supported by springs c which are fixed to the spindles a and engage annular grooves d in the rings. Each ring b has a vulcanite jacket e with short and long strips f of brass sunk therein at intervals, to represent dots and dashes, the strips on each ring representing in this manner one character of the code. The strips f are fastened by metal screws which traverse the vulcanite and make conductive connection to the rings b and thence through the springs c to the spindles a. Keys h forked at their lower ends work in bearings g above the contact rings. The forked end of each key has two inwardly directed projections i which, when the key is elevated, lie in the paths of pins k laterally projecting from the contact ring below the key. The keys are normally held in elevated position by springs l. Springs m depending from the bearings g bear against the outer surfaces of the contact rings, so that during uniform rotation of the latter electric connection between the spindles a and springs m is made at intervals, for periods corresponding to the dots and dashes represented by the brass strips f. The spindles a and springs m are severally connected in series in the transmitter circuit, as diagrammatically indicated by the wires x^1, y^1. Each spindle carries a fixed ring n in contact with brake springs o manually regulatable by means of a screw p.

The spindles a are collectively rotated by a motor z and train of toothed and chain gear z^1 and the sliding of the springs c in the grooves d enables the spindles to rotate while the contact rings are locked by the keys. But when a ring a is released by depression of a key, that ring is rotated by friction with the clutch springs c.

Each spindle a has a projection q, which, in the course of each revolution of the spindle, strikes an abutment s having an inclined surface, so that the projection q in sliding over said surface, thrusts back a spring t to which the abutment s is fixed. When the projection q clears the abutment s, the bent spring t snaps back against an abutment u fixed in the casing, and the noise of the impact is a signal to the operator that the transmission of a character has been completed by completion of a revolution of the operated contact ring. A screw v abutting against a bell crank w allows of manually adjusting the spring t to regulate the force of the impact thereof with the abutment u. A pin x traverses the shank of the screw v and can be screwed down into the path of the projection q, for the purpose of locking the spindle.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

In a Morse transmitter the combination of a plurality of series of electric contacts, the contacts in each series representing, by their length and order of sequence the dots and dashes constituting one of the code

characters, means for severally moving said contact series, means whereby the contacts in each moved series successively close the transmitter circuit, and audible signal devices automatically actuated on completion of the movements of the contact series.

In witness whereof I have signed this specification in the presence of two witnesses.

THEODOR HABERMANN.

Witnesses:
CARL DEGENER,
JOHANN F. LAHMEYER.