H. M. FERRY.

MACHINE FOR COMBINING AN ADDING MACHINE AND TYPE WRITER.

APPLICATION FILED JUNE 4, 1907.

920,940.

Patented May 11, 1909.

2 SHEETS—SHEET 1.

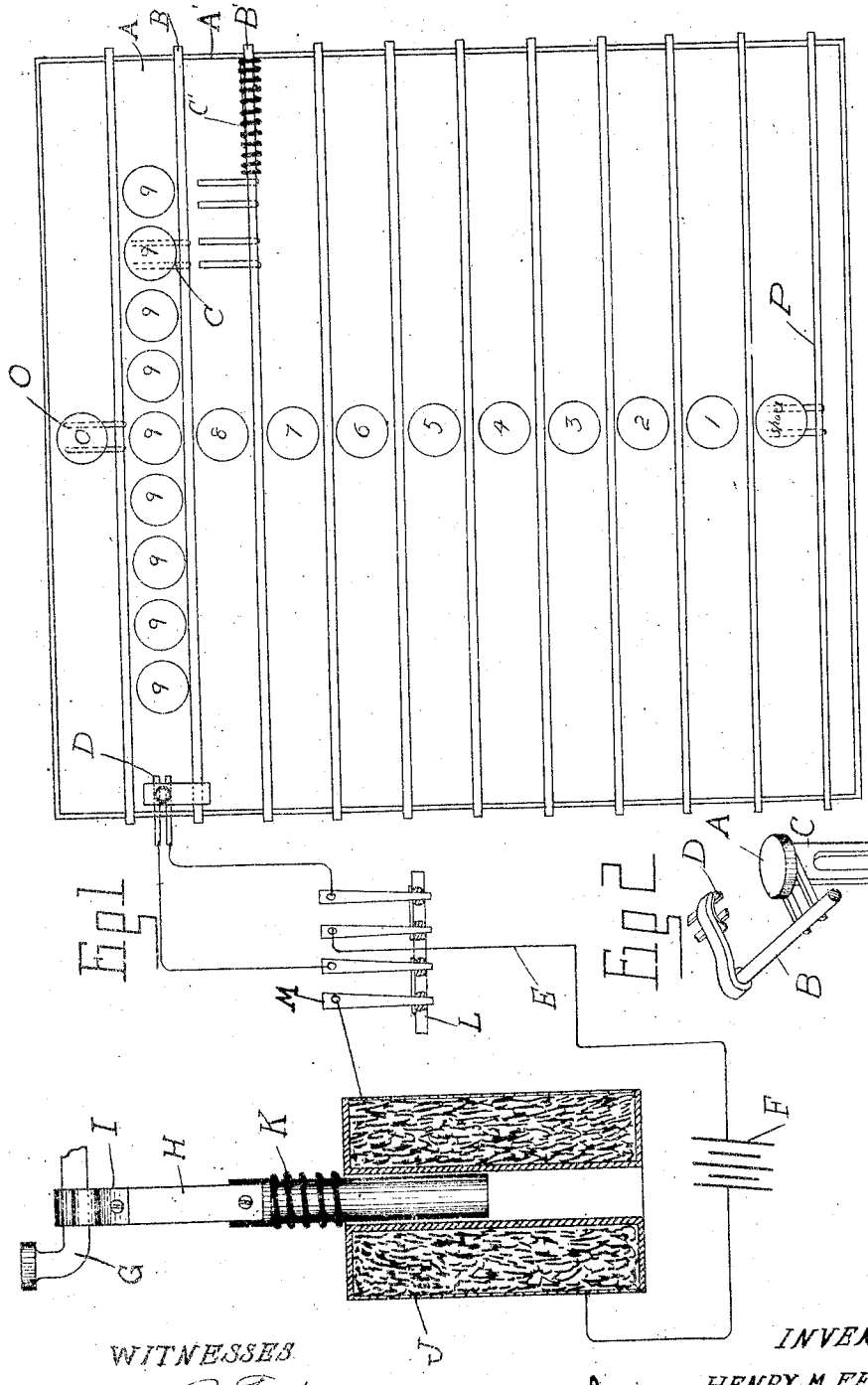


Fig 1

Fig 2

WITNESSES

W. R. Ford

Nellie Kinsella

By

INVENTOR

HENRY M. FERRY.

Wetherill Hulbert & Wetherill

Attys

H. M. FERRY.

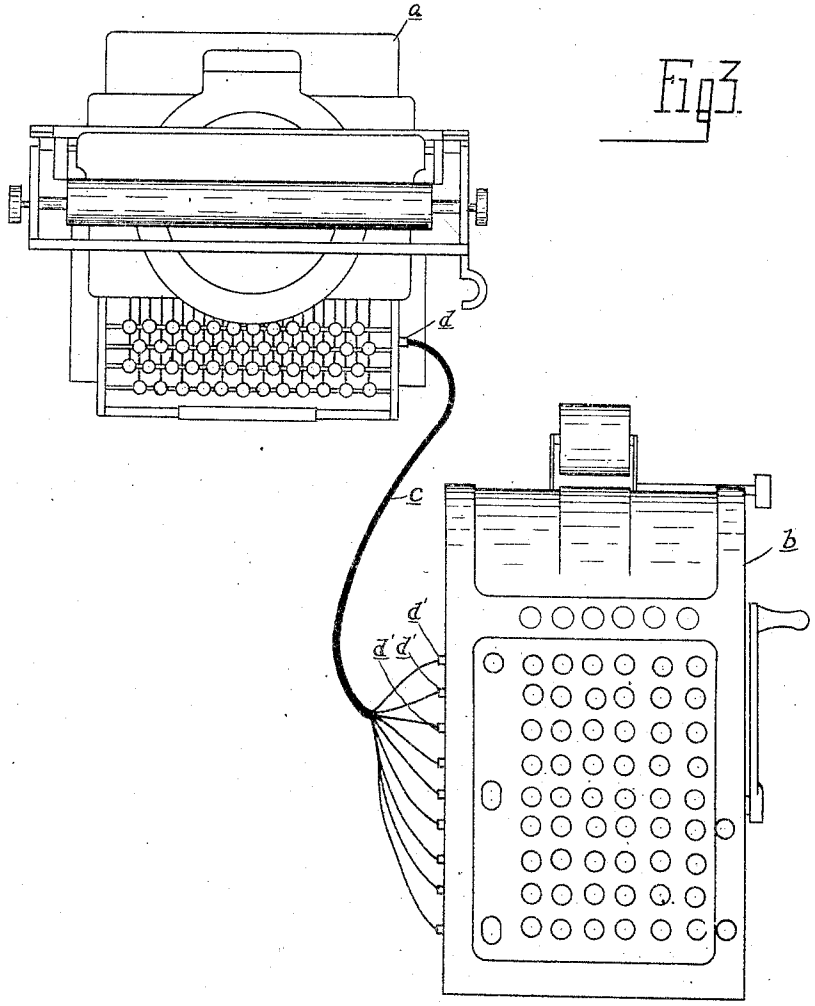
MACHINE FOR COMBINING AN ADDING MACHINE AND TYPE WRITER.

APPLICATION FILED JUNE 4, 1907.

920,940. **Patented May 11, 1909.**

2 SHEETS—SHEET 2.

Fig 3.



Witnesses
W. C. Ford
James O. Barry.

Inventor
Henry M. Ferry
By Whittemore Hulbert & Whittemore
Atty's

UNITED STATES PATENT OFFICE.

HENRY M. FERRY, OF DETROIT, MICHIGAN.

MACHINE FOR COMBINING AN ADDING-MACHINE AND TYPE-WRITER.

No. 920,940. Specification of Letters Patent. Patented May 11, 1909.

Application filed June 4, 1907. Serial No. 377,181.

To all whom it may concern:

Be it known that I, HENRY M. FERRY, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Machines for Combining an Adding-Machine and Type-Writer, of which the following is a specification, reference being had therein to the accompanying drawings.

It is the object of the invention to provide means whereby a column of figures in a letter or invoice, prepared upon an ordinary typewriter, may be mechanically added. In the present state of the art, adding machines are usually provided with a printing mechanism by which the different items, together with the sum total, are recorded upon a strip or ribbon of paper. These machines are not, however, adapted for printing their record in the body of a letter or invoice, and, as a consequence, there is a chance that the items of the invoice printed on the ordinary typewriter may not correspond to those which have been added on the adding machine. By my improvement, an adder-machine and a typewriter, which are ordinarily independent of each other, may be quickly thrown into coöperative association, assuring an exact correspondence in the record of each, so far as they have items in common.

In the drawings, Figure 1 is a diagrammatic view illustrating in plan view the key-board of an adder machine, and in sectional elevation one of the keys of the typewriter, together with the connections between the same and the adder; Fig. 2 is a perspective view of one of the electric couplers attached to the adding machine. Fig. 3 is a plan view of the adding machine and typewriter operatively connected to each other.

My invention is applicable to any type of adding machine and any type of typewriter. In the drawings, in Fig. 3, I have shown a plan view of a typewriter *a* as connected to an adding machine *b* by a cable connection *c* having the ordinary plug terminals *d d'*. I have also illustrated diagrammatically one construction of each machine.

With the construction of adding machine shown, there are nine banks of keys, A A' etc., for the corresponding numerals, each bank comprising a series of keys corresponding to the different denominations to be registered in the items recorded. B B' etc. are rock shafts journaled in the frame of the machine and extending adjacent to the respective bank of keys. These rock shafts are provided with a series of actuating arms C extending into the path of each key in the bank, so that the depression of any one of said keys will rock the shaft and C' is a spring for returning the rock shaft. D is a circuit closer, of any suitable construction, which is operated upon the rocking of the shaft B, and which controls an electric circuit E, including a battery or other suitable generator F.

G are the numeral printing keys of the typewriter. H are a series of rods respectively connected to the keys G, as by means of the clips I, and extending into operative relation to electro-magnets or solenoids J. Each of these magnets or solenoids is connected into one of the electric circuits E controlled by the circuit closer D of one of the banks of keys, and the arrangement is such that the operation of any one of the keys in a bank will close the circuit, energizing the solenoid, and, through the rods H, operating the key G of the corresponding numeral in the typewriter.

The rods H may be attached to the keys of the typewriter without any change in the construction thereof, and the solenoids J may be arranged beneath the frame without interference with the normal operation of the machine. Springs K are preferably employed for returning the core of the solenoid and the rods H. To permit of coupling different machines, and in different locations, a switch or coupling board L is preferably connected with one of the machines, as for instance, the adding machine, and any one of a number of different typewriters may be coupled therewith by suitable connections, such as the plug or cord connections M.

With the construction described in use, supposing a letter or invoice is being printed upon a typewriter; when the figures of the various items are to be printed, the operator performs his work upon the key-board of the adding machine which, through the electric connections described, causes the simultaneous operation of the keys of the typewriter. When all of the items have been printed, the operator finds the total upon the adding machine, and then copies this in the invoice by the manipulation of the keys of the typewriter. Thus, the items in each record are necessarily the same, and the only figures to be copied are those constituting the sum

total. It will be understood that in manipulating the keys of the adder machine, the numerals for the different denominations of an item are successively operated from left to right, so that the typewriter will be operated in the ordinary manner. The adder machine is further provided with a cipher key O and a space-operating key P, which are connected by corresponding electric circuits with the similar keys of the typewriter.

What I claim as my invention is:

1. The combination with a typewriter and an adding machine, of electrical connections therebetween, a rock shaft in said adding machine, a circuit closer secured to said shaft, and means on said shaft projecting into the path of the key of the adder for rocking said shaft to close the circuit upon the operation of said key.

2. The combination with a typewriter and an adding machine having a plurality of series of keys, each series comprising several keys of the same numeral, of a series of universal bars respectively actuated by all of the keys of the same numeral in the adding machine, a circuit closer operated by each universal bar, and an electro magnetic means controlled by said circuit closer for causing the simultaneous actuation of the key of the typewriter for the corresponding numeral.

3. The combination with a typewriter and an adding machine having a plurality of series of keys, each series comprising several keys of the same numeral, of electrical connections between said typewriter and adding machine, a rock shaft carried by said adder for each series of keys, a circuit closer secured to said shaft, and means on each shaft projecting into the path of each key of the series for rocking said shaft to close the circuit upon the operation of any key of the series.

4. The combination with a typewriter and an adding machine, having a plurality of series of keys, each series comprising several keys of the same numeral, of electrically-operated means operated universally by all of the keys for the same numeral of the adding machine for automatically operating the corresponding numeral printing key of the typewriter.

5. The combination with a typewriter and an adding machine, having a plurality of series of keys, each series comprising several keys of the same numeral, of electrical means for detachably coupling said machines to cause the automatic operation of the numeral printing keys of the typewriter by all of the corresponding keys of the same numeral of the adding machine.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY M. FERRY.

Witnesses:

NELLIE KINSELLA,

JAMES P. BARRY.