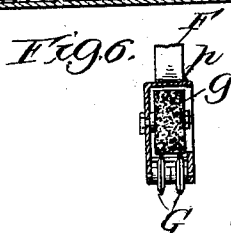
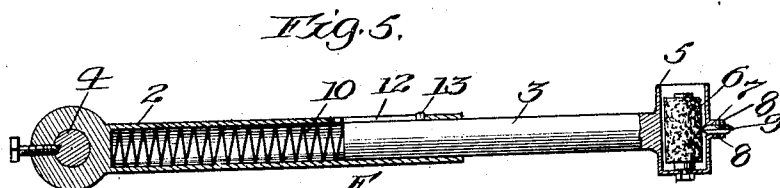
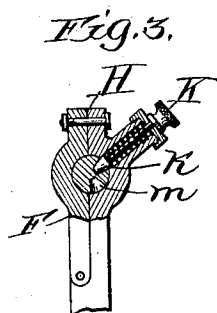
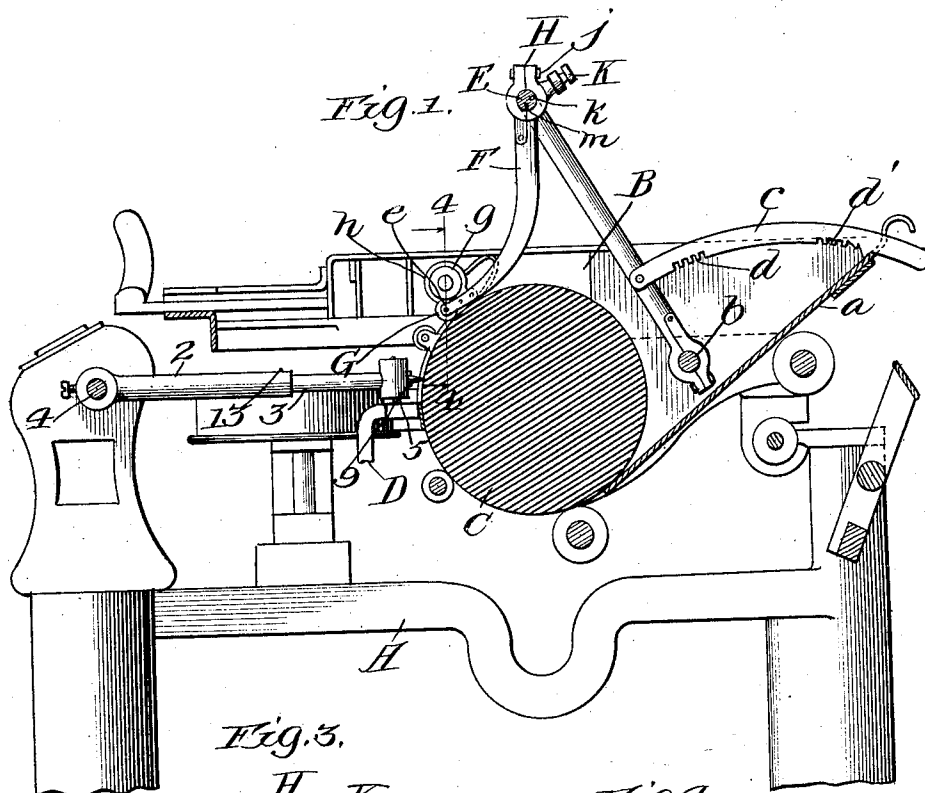


No. 845,234.

PATENTED FEB. 26, 1907.

J. W. HAYS.
TYPE WRITING MACHINE.
APPLICATION FILED SEPT. 24, 1906.

2 SHEETS—SHEET 1.



Witnesses:
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E. A. Lundy.

Inventor.
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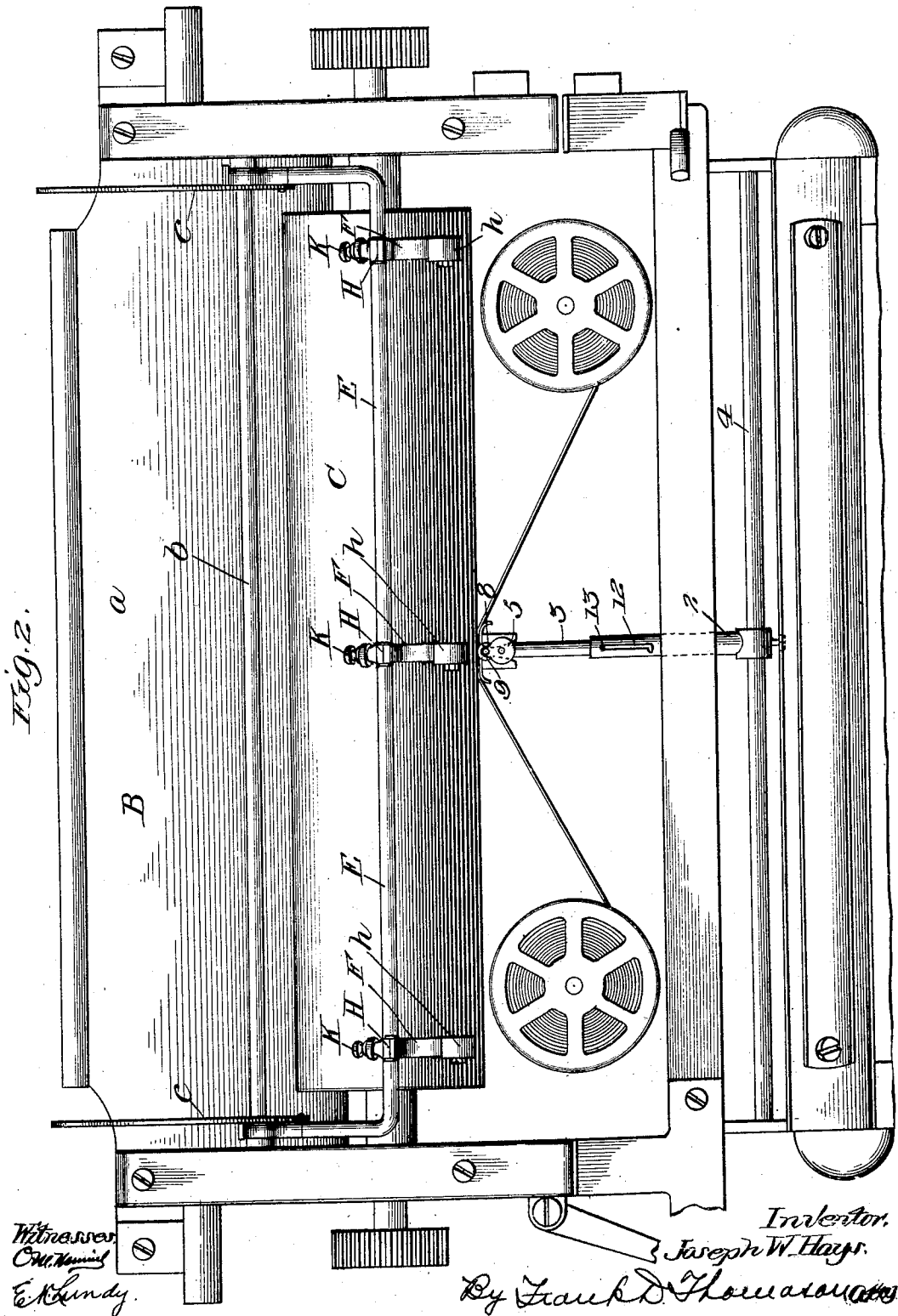
By Frank D. Thompson
Att'y.

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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JOSEPH W. HAYS, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
GEORGE L. SIMONDS, OF CHICAGO, ILLINOIS.

TYPE-WRITING MACHINE.

No. 845,234.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed September 24, 1906. Serial No. 335,900.

To all whom it may concern:

Be it known that I, JOSEPH W. HAYS, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a full, clear, and exact specification.

My invention relates to type-writing machines, and particularly those having revolving cylindrical platens and a reciprocal carrier in which the platen is journaled.

The object of my invention is to provide means for producing a vertical line or lines and also horizontal lines which can be applied to the office machines now in extensive use and rule the paper as well as print upon it, and thus make the machine useful for a large and extensive class of work from which it is now debarred. This I accomplish by the means hereinafter fully described and as particularly pointed out in the claims.

In the drawings, Figure 1 is a vertical longitudinal section through the upper portion of a type-writing machine having my improvements applied thereto. Fig. 2 is a plan view of the same. Fig. 3 is a detail view of the arm carrying the ruling-disk that makes the vertical lines, drawn to a larger scale. Fig. 4 is a transverse section of the same, taken on dotted line 4 4, Fig. 3. Fig. 5 is a side view of the telescopic arm carrying the disk for ruling horizontal lines. Fig. 6 is a detail view of a modified construction, showing "twin" vertical-line-ruling disks.

The drawings represent portions of a well-known type-writing machine now in extensive use, in which A is the supporting-frame, B the carrier supported thereby and is reciprocal transversely back and forth in front of the operator, and C the platen, journaled in the ends thereof.

In the machine selected to illustrate the construction and operation of my invention the paper is passed under the platen C, and the printing is done in front of said platen by type carried by type-bars D, where the impression can be readily seen. The paper passes up and backward over the platen, and an inclined shield *a*, located parallel with and to the rear of said platen, guides the paper as it is fed to and as it leaves the carriage.

Extending from one end of the carriage to

the other, above and parallel with the platen, is a cylindrical bar E, the ends of which are bent downward parallel to each other and have their ends loosely and removably mounted on a longitudinally-disposed stationary shaft *b*, arranged between platen C and shield *a*. The position of bar E is determined by means of segmental arms *c*, that are pivotally connected at one end to the downturned ends of said bar and extend to the rear thereof and have their under edge provided with teeth *d* and *d'*, which latter are adapted to catch upon the upper edge of shield *a*. When teeth *d* are caught upon the edge of the shield, the bar E will be raised up away from the platen, and when teeth *d'* of said segmental arms are so caught the vertical-line-marking devices will engage the paper on the platen at a point above the point of contact of the type carried by the type-bars. These marking devices comprise downwardly-projecting arms F, the lower portions of which are preferably curved forward and have their lower ends bifurcated and provided with bearings for the short horizontal spindle *e* for one or more ruling-disks G. The peripheries of these disks G are just wide enough to make a line of the width desired, and as when in operation they normally rest against the work on the platen by revolving the latter said disks make a vertical line on the work. At a point about opposite their point of engagement with the work on the platen disks G have circumferential engagement with a small circular ink-pad *g*, which is journaled on a stud secured in and projecting laterally from the center of the inner surface of the closed end of a small metallic case *h*. This case is secured to and supported by arms F and inclose all but one side of the ink-pad, one side being left open to permit of the removal or replacing of said pad whenever desired. There may be as many of said marking-disks G used as desired. The ends of the arms F secured to bar E are slit lengthwise in the plane of the axis of said bar, and on one side of this slit the end of the arm is jointed to the reach of the same to form a jaw H, which clamps the bar against the fixed end of the adjacent end of the arm when the bolt *j*, passed through their extremities, is tightened. It will thus be seen that the marking-

disks can be adjusted laterally to whatever position required, and, if necessary, several vertical lines can be made at the same time.

In order to maintain disks G in or out of engagement with the work on the platen, as desired, I provide bar E with two longitudinal grooves *k m*, which are located so that when a spring-depressed bolt K, housed in a stub projecting from the boss of arm F, is shot into groove *k* said arm will be in such position as to make the marking-disk engage the work—that is, after the position of bar E is properly adjusted by means of the segmental arms *c*—and when said bolt is withdrawn from groove *k* and the arm rotated until said bolt shoots into groove *m* said disks will be raised from engagement with the work.

In most of the type-written work requiring vertical lines horizontal lines are also necessary, so that some means should be provided that can cooperate with the mechanism hereinbefore fully described. I accomplish this result by employing a telescopic arm consisting of a tubular part 2 and a male part or forearm 3, engaging the same. The tubular part has one end upturned and pivoted on a transverse horizontal rod 4, connected to the supporting-frame of the machine and located near the front of the same or pivoted to any other part of said supporting-frame near the center of width thereof. The forearm 3 has its outer end terminate in a case 5, in which a circular inking-pad 6 is journaled by means of a vertical spindle 7. This inking-pad has its circumference engaged by a small revolving ruling-disk 9, the axis of which is parallel to that of the pad 6 and which has the bearings of its spindle journaled between two bearing-lugs 8 8, projecting from the extremity of said forearm 3. When it is desired to rule horizontal lines, the telescopic arm is swung into the horizontal position, (shown in Fig. 1 of the drawings,) in which position the ruling-disk 9 will bear against the platen, preferably at a point above the type contact. The carriage of the machine is then moved longitudinally to the necessary extent to get the length of horizontal line desired. In order to keep the ruling-disk 9 normally pressing against the platen when in use, I insert a coil-spring 10 in the core of the tubular part 2 of said telescopic arm between its closed end and the inserted end of forearm 3. This spring 10 provides sufficient pressure to insure disk 9 making a good impression on the work. To retain said disk 9 in a withdrawn position when not in use, I provide the tubular part 2 with a longitudinal slot 12 of sufficient length, having a lateral offset at its end nearest the pivot of the arm, and provide forearm 3 with a radially-projecting pin 13, that moves in slot 12. By moving forearm 3 back into part 2 until pin 13 is at the limit of its movement inward the pivot of the arm

and then turning said forearm until said pin is seated in the offset of the slot the forearm can be securely retained in its withdrawn position.

What I claim as new is—

1. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a ruling device adjustable longitudinally of said platen, and an inking device therefor.

2. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of independent ruling devices adjustable longitudinally of said platen, and inking devices therefor.

3. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a ruling device adjustable longitudinally of said platen, and an inking device attached thereto and adjustable therewith.

4. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of independent ruling devices adjustable longitudinally of said platen, and individual inking devices for each of said ruling devices, which are connected thereto and movable therewith.

5. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a revolving ruling-disk adjustable longitudinally of said platen, and an inking device therefor.

6. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a revolving ruling-disk adjustable longitudinally of said platen, and a revolving inking device therefor.

7. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of independent revolving ruling-disks adjustable longitudinally of said platen, and inking devices therefor.

8. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of independent revolving ruling-disks adjustable longitudinally of said platen, and revolving inking devices therefor.

9. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a revolving ruling-disk adjustable longitudinally of said platen, and an inking device therefor connected to and adjustable therewith.

10. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a revolving ruling-disk adjustable longitudinally of said platen, and a revolving inking device

therefor connected to and adjustable therewith.

11. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of revolving ruling-disks adjustable longitudinally of said platen, and revolving inking devices connected thereto and adjustable therewith.

12. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, an arm rotatable at an angle to the axis of said platen and adjustable on its own axis parallel to said platen, a ruling device carried by said arm, and an inking device therefor also carried by said arm.

13. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of arms independently rotatable at an angle to the axis of said platen and each adjustable on its own axis parallel to said platen, ruling devices carried by said arms, and an inking device for each ruling device also carried by said arms.

14. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of arms independently rotatable at an angle to the axis of said platen and each adjustable on its own axis parallel to said platen, revolving ruling-disks carried by said arms, and a revolving inking-pad for each ruling-disk also carried by said arms.

15. The combination in a type-writing machine with a reciprocal carriage, a revolving platen journaled therein, and a longitudinal bar parallel to said platen, of a series of arms independently rotatable and adjustable longitudinally on said bar, ruling devices and inking-pads therefor carried in the end of each of said arms.

16. The combination in a type-writing machine with a reciprocal carriage, a revoluble platen journaled therein, and a laterally-adjustable longitudinal bar parallel to said platen, of a series of arms independently rotatable and adjustable longitudinally on said bar, ruling devices, and inking-pads therefor carried in the end of each of said arms.

17. The combination in a type-writing machine with a reciprocal carriage, a revoluble platen journaled therein, and a laterally-adjustable longitudinal bar parallel to said platen, of a series of arms independently adjustable longitudinally on said bar, ruling devices and inking-pads therefor each carried in the end of each of said arms.

18. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, an arm rotatable at an angle to the axis of the platen and adjustable parallel with the same, a re-

volving ruling-disk journaled in the end of said arm, a revolving ink-pad circumferentially engaged thereby, and a case connected to said arm in which said pad is journaled and inclosed.

19. The combination in a type-writing machine with a reciprocal carriage, a revoluble platen journaled therein, and a longitudinally-disposed bar having longitudinal grooves therein, of an arm removably mounted and longitudinally adjustable on said bar, a spring-depressed bolt in the boss of said arm adapted to engage said grooves, a revolving ruling-disk carried by said arms, and revolving inking-pad connected thereto.

20. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a ruling device connected to said supporting-frame and normally pressing toward said platen with which it is adapted to engage when operated, and an inking-pad therefor.

21. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a telescopic ruling device connected to said supporting-frame and normally pressing toward said platen with which it is adapted to engage when operated, and an inking-pad therefor.

22. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a spring-elongated telescopic ruling device connected to said supporting-frame and normally pressing toward said platen with which it is adapted to engage when operated, and an inking-pad therefor.

23. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a longitudinally-adjustable vertical-line-ruling device, and inking device therefor, a ruling device connected to said supporting-frame adapted to engage said platen, and an inking-pad therefor.

24. A type-writing machine comprising a supporting-frame, a reciprocal carrier, a revolving platen carried thereby and journaled therein, a longitudinally-adjustable vertical-line-ruling disk and inking device therefor, a ruling device connected to said supporting-frame adapted to engage said platen, and an inking-pad therefor.

25. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a longitudinally-adjustable vertical-line-ruling device, and inking device therefor, a ruling-disk connected to said supporting-frame adapted to engage said platen, and an inking-pad therefor.

26. A type-writing machine comprising a

supporting-frame, a reciprocal carrier, a revolving platen carried thereby and journaled therein, a longitudinally-adjustable vertical-line-ruling disk and inking device therefor, a
5 ruling-disk connected to said supporting-frame adapted to engage said platen, and an inking-pad therefor.

In testimony whereof I have hereunto set my hand this 12th day of September, A. D. 1906.

JOSEPH W. HAYS.

Witnesses:

FRANK D. THOMASON,
E. K. LUNDY.