No. 854,674. PATENTED MAY 21, 1907.

C. R. SPICER.

INKER.

APPLICATION FILED JUNE 4, 1906.

Fig. 1

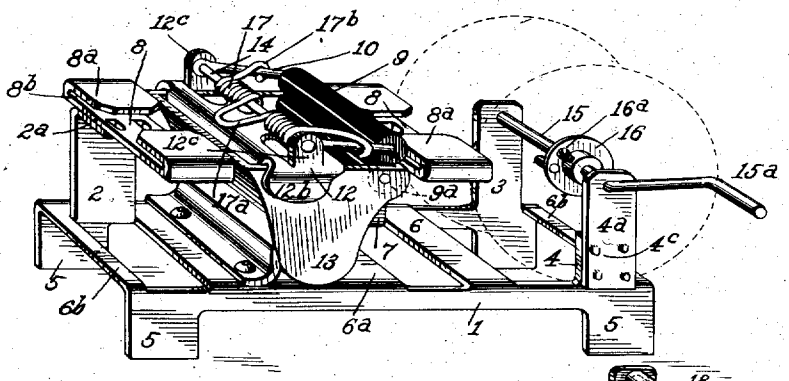


Fig. 4

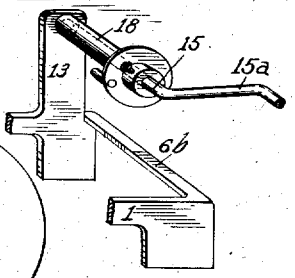


Fig. 2

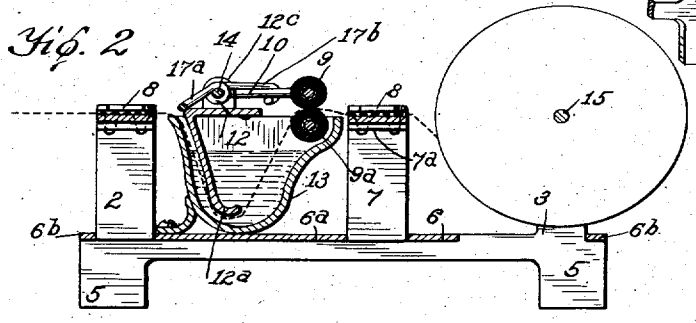
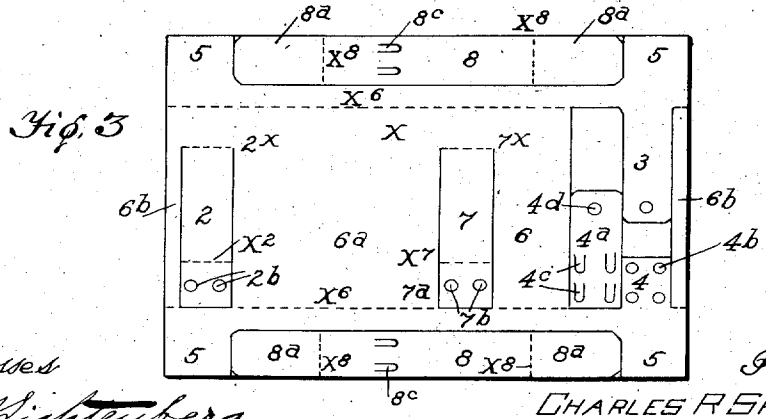


Fig. 3



Witnesses

E. Hochleuberg

O. A. Merkel

Inventor.

CHARLES R SPICER.

By Atty. N. DuBois.

UNITED STATES PATENT OFFICE.

CHARLES R. SPICER, OF SPRINGFIELD, ILLINOIS.

INKER.

No. 854,674. Specification of Letters Patent. Patented May 21, 1907.

Application filed June 4, 1906. Serial No. 320,125.

To all whom it may concern:

Be it known that I, CHARLES R. SPICER, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a certain new and useful Inker, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use my said invention.

This device is primarily designed for inking type-writer ribbons, but is obviously applicable for other analogous uses.

The purposes of this invention are to provide simple and effective means for immersing the ribbon in the ink: means for propelling the ribbon through the ink; means for squeezing superfluous ink from the ribbon; means for guiding the run of the ribbon, and means for winding the inked ribbon; also to provide a frame of novel and improved construction and in general to provide an inker of neat, simple and compact construction, of small cost, and convenient and effective in operation.

With these ends in view my invention consists in the novel features of construction and combinations of parts shown in the annexed drawings to which reference is hereby made, and hereinafter particularly described and finally recited in the claims.

Referring to the drawings, in which similar numerals designate like parts in the several views, Figure 1 is a perspective view of the complete machine: Fig. 2 is a vertical longitudinal section central to the machine, Fig. 3 is a plan of the blank from which the main frame is formed, and Fig. 4 is a perspective view of modified means for supporting the spool and the crank shaft.

The frame work is pressed from sheet metal of suitable rigidity, such as brass or steel.

The base 1 has integral vertical standards 2, 3, 7 and 4 and integral legs 5; it also has an integral table 6^a, and cross pieces 6 and 6^b.

A tank 13, preferably of the form shown, is suitably secured on the table 6^a.

A combined detachable cover and ribbon-guide 12 fits on top of the tank 13 and has a downwardly extending curved member 12^a which serves to guide the ribbon through the ink contained in the tank, and downwardly extending springy ears 12^b which press against the ends of the tank and hold the cover in position on the tank, and upwardly extending lugs 12^c pressed from the metal of the cover. A horizontal shaft 14 is secured on the lugs 12^c. A bail 10 turns on the shaft 14, and a roller 9 turns on the central part of the bail. The roller 9 preferably consists of a metal tube covered with rubber or other suitable yielding material. A similar roller, 9^a, turns in suitable bearings on the tank. Guide plates 8 are secured in a horizontal position on the standards 2 and 7 respectively. The plates 8 have members 8^a turned back upon the body of the plate to form a horizontal way 8^b between the members 8^a and the body of the plate. A horizontal shaft 15, having a crank 15^a, turns in suitable bearings on the standard 3 and the extension 4^a. A head 16, adapted to engage a spool, is connected with the shaft 15 by a set screw 16^a.

The modified spool-support illustrated in Fig. 4 consists of a tube 18 secured on and projecting laterally from the standard 3. The shaft 15 turns inside of the tube 18. The tube 18 forms a sufficient support for the shaft 15 and when the tube is used the parts 4 and 4^a will be unnecessary and may be dispensed with. A spring 17, surrounding the shaft 14 has a rearwardly extending member 17^a which bears against the top of the cover 12, and forwardly extending members 17^b which clasp the side members of the bail 10; and the spring acts to press the bail downward and hold the roller 9 in uniform contact with the roller 9^a.

In making the main structure the procedure is as follows: A sheet-metal blank X of suitable dimensions being provided, the several parts of the base, the standards and the guides are produced by punching or pressing them from the blank and bending them as I will now explain. The dies used in making the frame will be adapted to press or punch out all of the parts at a single operation. The contours of the several parts are clearly shown in Fig. 3. The guide plates 8 are punched out and bent along the lines X^8. The member 4^a is pressed out of the plate and during the operation of pressing the hole 4^a is punched out and the ears 4^c are formed. The members 2 and 7 are pressed out of the plate and are bent upward along the dotted lines 2X and 7X and the holes 2^b and 7^b are punched out during the pressing of the plate, and the members 2 and 7 are bent along the lines X^2 and X^7 to form the horizontal members 2^a and 7^a respectively. The plate is then bent downward along the lines X^6 to

form the legs 5 supporting the structure. Ears 8^c are formed on the plates 8 during the operation of pressing.

In assembling the parts, the ears 8^c of the plates 8 are inserted and riveted in the holes 2^b and 7^b of the plates 2 and 7 respectively, and the ears 4^c of the member 4^a are inserted and riveted in the holes 4^b of the member 4. The shaft 15 is then mounted on the members 3 and 4^a and the tank 13 is secured on the table 6^a.

The operation of the inker is as follows: Preparatory to inserting the ribbon to be inked, the cover 12, carrying with it the upper roller 9, will be removed. The ribbon will then be placed on the guide 8 under the members 8^a and extending across the tank and one end of the ribbon will be connected with a spool (not shown) mounted on the shaft 15. The cover 12 will then be pressed downward on top of the ribbon and the downwardly projecting plate 12^a bearing on the ribbon, will press the ribbon downward into the ink, and when the cover is pressed downward the springy ears 12^b will hold the cover firmly on the tank. The crank 15^a will then be turned to wind the ribbon on the spool. As the ribbon progresses through the tank it will be saturated with ink, and passing between the rollers 9 and 9^a the surplus ink will be pressed from the ribbon and the ribbon will be delivered upon the spool in fit condition for use.

Having fully described my invention and explained the mode of operation, what I claim as new and desire to secure by Letters Patent is:

1. The combination of a base, a tank secured on the base, a springy cover fitting on the tank and having a downwardly extending guide-plate, guide plates contiguous to the tank, a roller having a springy connection with the cover and a roller mounted to turn in the tank and co-operating with said first named roller.

2. The combination of a base, a tank secured on the base, a springy cover fitting on the tank and having a downwardly extending guide plate, guide plates contiguous to the tank, a roller having a springy connection with the cover, a roller mounted to turn in the tank and co-operating with said first-named roller and means for winding the ribbon traveling between said rollers.

3. A combined cover and ribbon-guide having springy ears and a downwardly extending curved member; in combination with a tank on which said cover fits, yielding rollers mounted on the tank, and means for winding the ribbon traveling on the ribbon-guide and between said rollers.

4. The combination of a base, a tubular spool-support on the base, a shaft turning in the tubular spool-support and adapted to turn a spool mounted on the tubular spool support, a tank on the base adapted to contain ink, and means for guiding a ribbon through the ink in the tank during the winding of the ribbon on a spool mounted on the spool-support.

In witness whereof I have hereunto subscribed my name at Springfield, Illinois, this 1st day of June, 1906.

CHARLES R. SPICER.

Witnesses:
E. H. LICHTENBERG,
O. A. MERKEL.

Correction in Letters Patent No. 854,674.

It is hereby certified that in Letters Patent No. 854,674, granted May 21, 1907, upon the application of Charles R. Spicer, of Springfield, Illinois, for an improvement in "Inkers," an error appears in the printed specification requiring correction, as follows: On page 2, line 64, after the compound word "spool-support," a comma and the words *a head connected with the shaft* should be inserted; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 18th day of June, A. D., 1907.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.

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