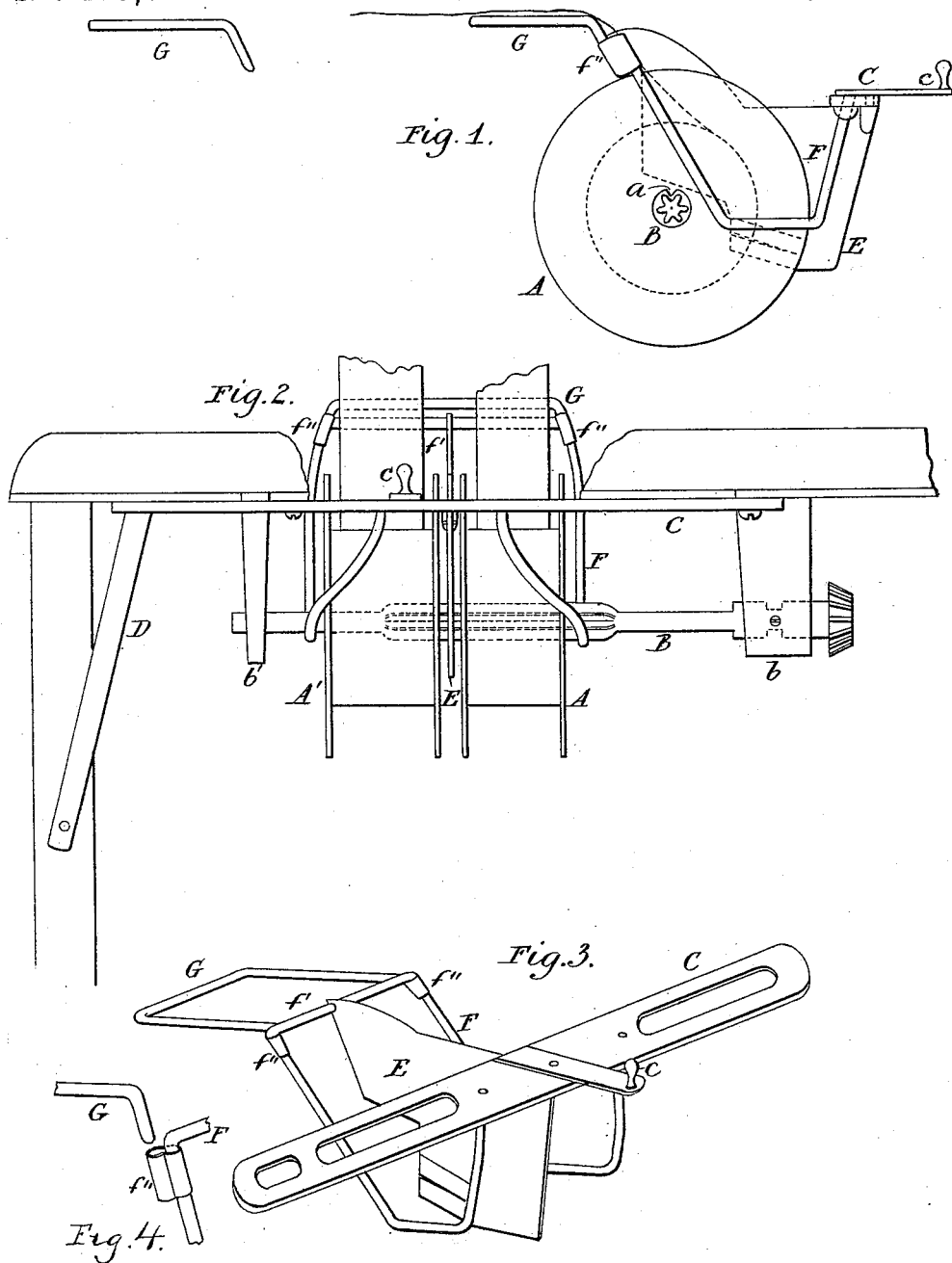


(No Model.)

M. B. HARRIS.
TYPE WRITING MACHINE.

No. 489,306.

Patented Jan. 3, 1893.



Witnesses:
O. S. Kline
J. W. Jones

Inventor:
M. B. Harris
By J. H. Crown - Atty

UNITED STATES PATENT OFFICE.

MARY B. HARRIS, OF NEW ALBANY, INDIANA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 489,306, dated January 3, 1893.

Application filed April 21, 1892. Serial No. 430,105. (No model.)

To all whom it may concern:

Be it known that I, MARY B. HARRIS, a citizen of the United States, residing at New Albany, in the county of Floyd and State of Indiana, have invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement of that portion of type-writing machines embracing the reels carrying the inked ribbons and their adjuncts; and its purpose is to provide for, and facilitate writing or printing with inks of different colors or of different qualities, by means of such machines. I accomplish this purpose by employing more than one pair of reels, (each pair being provided with a ribbon inked with a different kind or color of ink from the others,) and arranging the machinery actuating the reels in such manner that while one pair of reels with its ribbon is moving and being used for printing, another pair and its ribbon are stationary and not in use, thus avoiding unequal use of the ribbons.

The accompanying drawings illustrate my improved device, as shown at one end of a type-writer; the device at the other end being an exact duplicate of that thus illustrated.

In the drawings like letters indicate like parts, and Figure 1 represents an end view of a reel, ribbon, ribbon support, and the shifting device; Fig. 2 is a side view of the same and part of the type-writer frame; Fig. 3 is a perspective view of the ribbon support and shifting device.

A A' are the reels, in the outer disks of which is formed the tooth *a*, and Fig. 4 is a detail showing the manner of connecting the frames.

B is the reel spindle, having the middle portion grooved longitudinally and the ends smooth, and supported by the lugs *b b'*, and held in position by a screw passing through the lug *b*, and into an annular groove in the spindle B as shown.

C is the slotted shifting bar moved by the handle *c*.

D is a lever, which by means of a connect-

ing bar actuates a similar lever at the other end of the machine, which in turn when the reels of one side are shifted, gives a corresponding movement by like devices to similar reels there.

E is a plate with two springs pressing on the interior heads of the reels, preventing those not in use from the slight movement which would otherwise be caused by the revolution of the spindle, and thereby preventing the ribbon not in use from sagging.

F is the reel support, and is so formed as to impinge against the outer heads of the reels, so as to keep the interior heads in contact with the springs on the plate E, and the part *f'* serves to guide the ribbon to the ribbon support G, which is detachable (as shown in Fig. 1) from the socket *f''* formed upon the reel support F. The ribbon support G is detachable so that my device can be more readily attached to or detached from the type-writer.

In use, the ribbons are shifted by means of the handle *c*, which may be placed on one or both ends of the type-writer, so as to be used by one or either hand. In the position of the machine as shown in Fig. 2, the tooth *a* of the reel A is engaged in one of the longitudinal grooves of the spindle B, and the corresponding tooth of the reel A' is disengaged from such groove, and consequently, when the machine is operated, the reel A will revolve with the spindle B, while the reel A' will remain stationary. When the reels are shifted to the right in Fig. 2, as shown, the tooth of the reel A is disengaged from the grooves of the spindle B, and the corresponding tooth of the reel A' engaged with them, and when the machine is operated, the reel A' will revolve with the spindle B, and the reel A remain stationary. The smooth portion of the spindle B is of the same diameter, and level with the inner portion or depth of the grooves, and the ends of the projections of the longitudinal grooves on the spindle B are sloped or beveled, to more readily allow the tooth of a reel to become engaged in the grooves which entirely surround the spindle, in order that the tooth may slip from the smooth to the grooved part in whatever position the reel may be turned. The ribbon support facilitates the shifting of the ribbons

by preventing their catching on the type bar screws.

Having thus fully described my improvement, what I claim as new and of my invention, and desire to secure by Letters Patent, is:

1. The combination of the ribbon reel A provided with the tooth *a* in the outer disk, with the spindle B furnished with grooves in its middle portion and smooth ends, substantially as, and for the purpose set forth.

2. The combination of the ribbon reel A provided with the tooth *a* in its outer disk, with the spindle B furnished with grooves in its middle portion and smooth ends, and the spring-plate E, substantially as, and for the purpose set forth.

3. The combination of the ribbon reel A provided with the tooth *a* in its outer disk, with the spindle B furnished with grooves in its middle portion and smooth ends, the spring-plate E and the reel support F, substantially as, and for the purpose set forth.

4. The combination of the ribbon reel A provided with the tooth *a* in its outer disk, with the spindle B furnished with grooves in its middle portion and smooth ends, the spring plate E, the reel support F, and the detach-

able ribbon support G, substantially as, and for the purpose set forth.

5. The combination of the ribbon reel A provided with the tooth *a* in its outer disk, with the spindle B furnished with grooves in its middle portion and smooth ends, the spring-plate E, the reel support F, the detachable ribbon support G, the slotted shifting bar C, and the lever D, substantially as, and for the purpose set forth.

6. The combination of the reel support F having the sockets *f* thereon, and the detachable ribbon support G having downwardly projecting ends adapted to fit within said sockets, substantially as and for the purpose set forth.

7. The combination of the spring-plate E, the reel support F, and the detachable ribbon support G, substantially as, and for the purpose set forth.

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

MARY B. HARRIS.

Witnesses:

JAMES A. BEATTIE,
JAMES W. BEATTIE.