

UNITED STATES PATENT OFFICE.

JULIUS T. FREY, OF TOLEDO, OHIO.

IMPROVEMENT IN INKING APPARATUS FOR PAGING-MACHINES.

Specification forming part of Letters Patent No. **156,020**, dated October 20, 1874; application filed April 23, 1874.

To all whom it may concern:

Be it known that I, JULIUS T. FREY, of the city of Toledo, State of Ohio, have invented certain Improvements in Inking Attachments for Paging-Machines, of which the following is a specification:

My improvements relate to a machine for paging books, in which an inking-ribbon is employed; and consists of a novel arrangement of rollers for the inking-ribbon, ratchets, pawl, and pawl-shaft, and the frame thereof, whereby I obtain a cheap and serviceable machine for inking the paging-type.

In the accompanying drawing, Figure 1 is a view in perspective of my invention.

A is the frame, in each upper corner of which revolves a roller for holding the inking-ribbons. One of these rollers is marked B, and the other B'. Attached to the outer end of each roller-shaft, and working outside of the frame, are ratchet-wheels D D'. A reversible pawl, E, pivoted at the head of shaft F, is made of such length as to engage, at will, the teeth of either of the ratchet-wheels. A spring, G, projects from each side of the shaft and is so placed as to keep the pawl in place, and raise it from one tooth of the ratchet-wheel to the next above. Shaft F slides vertically through guides H and I, the distance of its movement being regulated by a shoulder on it at J, above guide H, and by a projection on it at K, below guide H. A spiral spring, R, placed around the shaft F, and compressed between the projection at K and the lower guide I, continually tends to keep the shaft elevated, and projection K against guide H. The inking-ribbon C, wound on roller B, passes therefrom, in a straight line, to roller L; then, passing around the latter, proceeds in a straight line to roller M, around which it passes, and proceeds in a straight line to roller B', on which latter roller it is wound. Between the front and rear sides of the frame is the paging-roll N, whose axis revolves in a journal in each side of the frame at O, and so placed that the type from which the number or letter is to be printed is close under the ribbon, and midway between rollers L and M.

While, in the present instance, a paging-roll, N, is employed of circular form, my invention is applicable to other paging or numbering machines.

Roll N is suitably operated by lever P. The latter is to be operated by reciprocating

mechanism, so as to successively bring each appropriate number or letter in position to be printed from.

The mechanism of the paging-machine is to be so arranged as that the shaft F shall, after each impression taken of the type, be depressed, so that the pawl E shall revolve the ratchet D' one tooth forward, thus winding up the inking-ribbon on roller B', and presenting a fresh surface of the ribbon under the type, which in turn comes into position to be printed from.

After each downward stroke of the shaft the mechanism is to be so arranged as to allow the shaft to return to its former position, which it will immediately be caused to do by spring R as soon as the superincumbent pressure is removed from the top of the shaft. As the shaft rises, the spring G will cause the pawl to rise, and, slipping over one tooth of the ratchet-wheel, come into engagement with the tooth next above, in readiness for the next downward stroke of the shaft.

As before mentioned, the pawl E is reversible, and may be turned from ratchet D' over the head of the shaft, and made to engage the teeth of the ratchet D.

It will be found desirable to reverse the pawl as soon as the inking-ribbon has all been wound upon the roller B', in order to rewind the ribbon on roller B. This winding the ribbon upon each roller alternately is to be continued till all the inking virtue of the ribbon has been expended in inking the type.

If preferred, the pawl E may be bent at its middle, its teeth in its end at the same time being changed to adapt it to engage either ratchet-wheel in the new direction it will assume. A pawl thus bent will be raised by the shaft F without the aid of the supplemental spring G, and the latter is then to be dispensed with.

What I claim as new, and desire to secure by Letters Patent, is—

An inking attachment for a paging-machine, consisting of ratchet-wheels D D', rollers B B', inking-ribbon C, rollers L M, shaft F, guideways H I, spring R, pawl E, and spring G, substantially as and for the purposes herein set forth.

JULIUS T. FREY.

In presence of—

GEORGE SCHENCK,
A. F. WENDT.