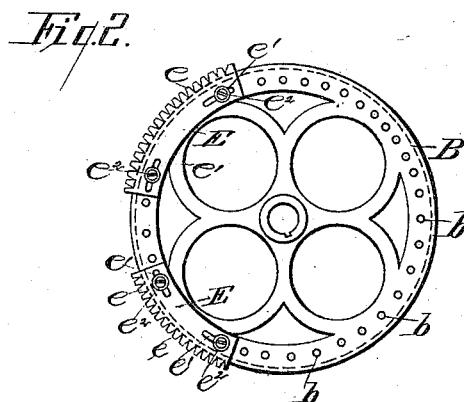
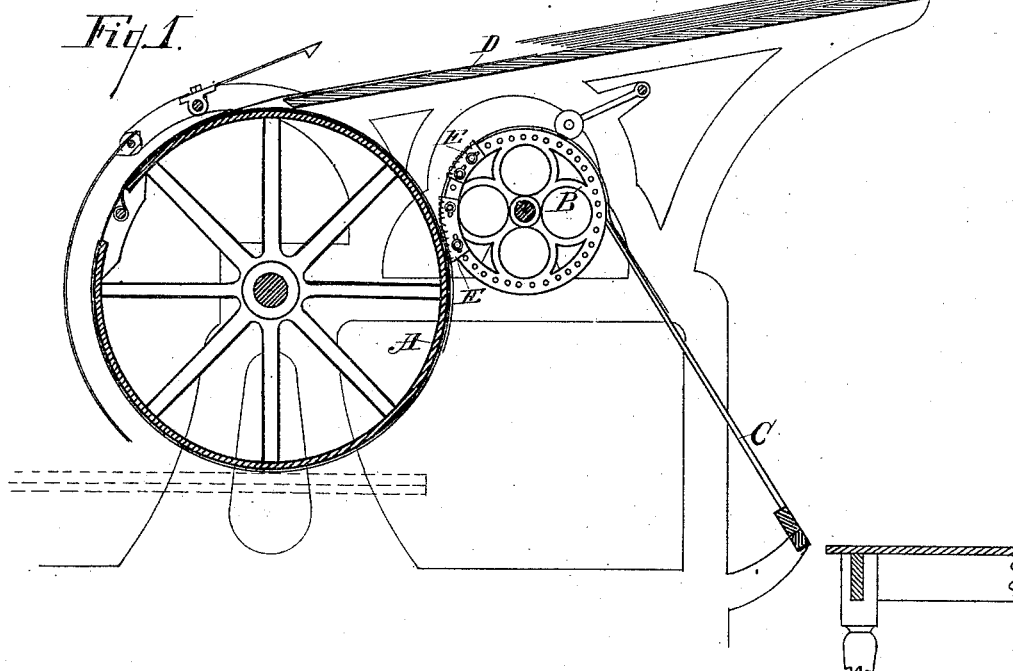


H. LOEWENBACH.

PERFORATING ATTACHMENT FOR PRINTING PRESSES.

No. 301,249.

Patented July 1, 1884.



*Witnesses:*  
*E. G. ...*  
*J. Bennett*

*Inventor:*  
*Hys Loewenbach*  
*By*  
*Stark & Underwood*  
*Attorneys.*

(No Model.)

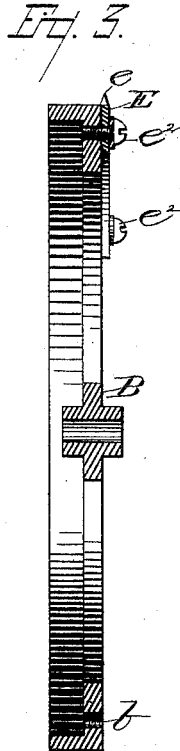
2 Sheets—Sheet 2.

H. LOEWENBACH.

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Witnesses:

E. G. Jones

M. A. Dumke

Inventor:

Hugo Loewenbach

By

John H. Underwood  
Attorneys.

# UNITED STATES PATENT OFFICE.

HUGO LOEWENBACH, OF MILWAUKEE, WISCONSIN.

## PERFORATING ATTACHMENT FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 301,249, dated July 1, 1884.

Application filed August 15, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, HUGO LOEWENBACH, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Perforating Attachments for Printing-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to devices for perforating sheets of paper, card-board, &c., with minute holes such as are used to separate stubs from checks or receipts, &c., or with slits or cuts; and it consists in certain peculiarities of construction, as will be more fully set forth hereinafter.

In the drawings, Figure 1 is a sectional view of a portion of a printing-press with my device attached thereto, and Fig. 2 is an elevation of my said device. Fig. 3 is a transverse central section of a delivery-wheel having my device attached thereto, drawn through the perforator at the slot and screw.

A represents the cylinder of an ordinary printing-press, under which is shown in dotted lines the bed supporting the type-form.

B designates one of the delivery-wheels which carry the printed sheets over upon the fly C; and D is the ordinary feed-board with unprinted sheets upon it. In my invention the sides of the rims or flanges of the delivery-wheels are made wide, and provided with a continuous series of holes, *b*, by means of which my segmental perforators E are secured thereto. These latter may be of any length or size desired, and vary in these respects, and also in the number and distance apart of their perforating points or punches *e e*, to suit the style of work demanded, and are further provided with adjusting-slots *e' e'*, and set-screws *e" e"*, whereby the said segments may be moved with the utmost nicety to any part of the wheel-flange desired to accomplish a perfect gage.

The operation of my device is very simple, but extremely effective. As one of the sheets F is fed from the feed-board D, it passes around the cylinder A in the usual manner, and then under said cylinder between it and the type-form, and is thereby printed, and thence up in the ordinary manner between

the cylinder and the delivery-wheels B, and at this point the segmental perforators E on said wheels come into action and perforate the said sheet, the points *e e* of the perforators pressing through the printed sheet and against the tympan-sheet which covers the cylinder A at that place, thereby protecting the said points from injury, and after the sheet has been thus perforated the wheels B deliver it over upon the fly C, which lays it upon the delivery-table.

By my device the sheets are printed and perforated in one continuous successive action between the feed-board and delivery table, and thereby a great saving of time, labor, and expense is effected.

It is obvious that the wheels B and perforators E could be cast solidly together in one piece, if desired; but I prefer to make them as represented, because I am thereby enabled to adjust the said perforators to suit different kinds of work; and, again, when I do not wish to perforate the sheets at all, I may readily remove the perforators E from the wheels B, when the latter will subserve their ordinary functions as simple delivery-wheels, and the wide side perforated flanges may be either cast solidly with the wheels or made separate and riveted thereto.

I do not limit myself to any style of cylinder-press or delivery-wheels, nor to any particular form of perforators, as these details may be varied indefinitely without departing from the spirit of my invention. There may be any number of delivery-wheels provided with my perforators that is desired, all on the same shaft, and adjusted to any required distance apart. In case I desire to make one single long cut or slit, the cutting-face of the perforator E may have a knife-edge instead of a series of points for special work, such as making paper boxes from card-board, &c.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the impression-cylinder of a printing-press, the delivery-wheels provided with adjustable segmental perforators, substantially as set forth.

2. In combination with the wheels B, having wide side flanges or rims provided with a series of holes, the segmental perforators E, having points *e e*, slots *e' e'*, and set-screws *e*<sup>2</sup>  
5 *e*<sup>2</sup>, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand on this 9th day

of August, 1883, in the presence of two witnesses.

HUGO LOWENBACH.

Witnesses:

S. S. STOUT,

H. G. UNDERWOOD.