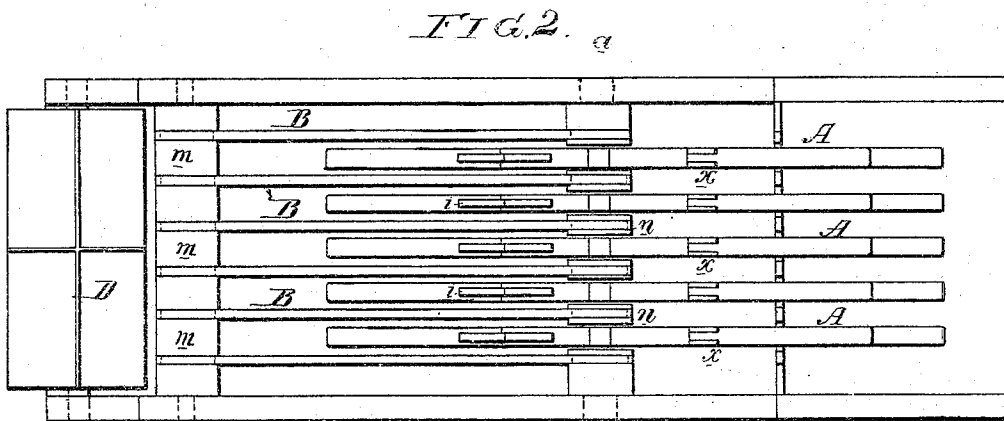
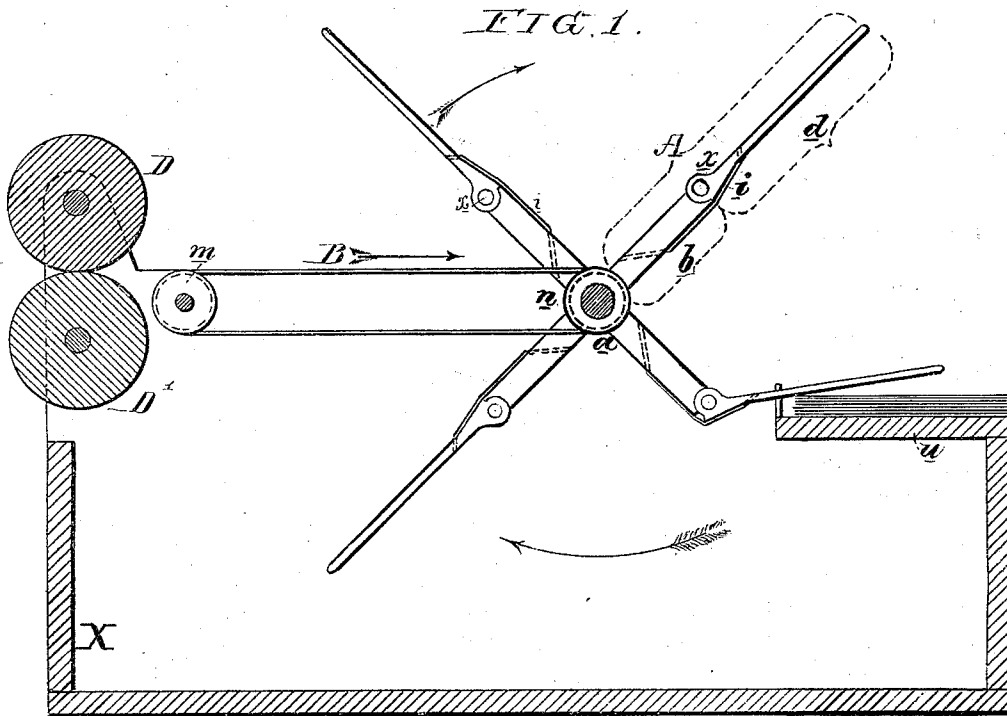


W. J. SWAIN & W. E. TODD.
Fly-Frames.

No. 148,000.

Patented Feb. 24, 1874.



Witnesses, Hubert Howson
Harry Smith

William J. Swain
and William E. Todd
by their Attys.
Howson and Son

UNITED STATES PATENT OFFICE.

WILLIAM J. SWAIN AND WILLIAM E. TODD, OF PHILADELPHIA, PA.

IMPROVEMENT IN FLY-FRAMES.

Specification forming part of Letters Patent No. 148,000, dated February 24, 1874; application filed December 15, 1873.

To all whom it may concern:

Be it known that we, WILLIAM J. SWAIN and WILLIAM E. TODD, of Philadelphia, Pennsylvania, have invented an Improvement in Fliers for Printing-Presses, of which the following is a specification:

Our invention relates to mechanism for receiving sheets of paper from a printing-press or from severing-rolls, and placing them on a platform; and the object of our invention is to perform this duty rapidly and effectively by means of a rotating fly having one or more sets of hinged arms shown in the vertical section, Fig. 1, and plan view, Fig. 2, of the accompanying drawing.

X represents the frame-work or foundation of the machine, and consists, in the present instance, of a simple quadrangular box, in opposite sides of which a shaft, *a*, has its bearings, and to this shaft are secured the above-mentioned arms A, there being, in the present instance, four sets or rows of these arms, each arm consisting of two portions, namely, the rigid portion *b* and the outer movable portion *c*, the two being hinged together at *x*, and combined with a spring, *i*, which tends to maintain the hinged portion of the arm in line with the rigid portion *b*. A series of endless bands, B, pass round a roller, *m*, which has its bearings in the frame of the machine, and round pulleys *n*, which are loose on the shaft *a*. The fly is caused to revolve, and the endless bands to traverse, in the direction pointed out by the arrows, and sheets of paper from a printing-press or from severing-rollers D and D', re-

ferred to hereafter, are received and carried forward by the bands until they are in a position to be elevated by one or other of the sets of arms A, and carried round the same, and deposited on the platform *u*, in passing which the hinged portions of the sets of arms will yield, as shown in Fig. 1, to recover their former condition by the aid of the springs *i* the moment they are free from the platform.

Although the above-described fly can be applied to ordinary presses for receiving and laying the printed sheets, it is more especially applicable to that class of printing-presses in which a continuous web of paper is printed. In such cases we combine with the fly severing-rollers D and D', which are provided with longitudinal knives to sever the paper into proper lengths; or with both longitudinal and transverse knives when the printed web of paper has to be severed both longitudinally and transversely, the severed sheets being disposed of by the fly, in the manner above described.

We claim as our invention—

A rotating fly having one or more sets of jointed spring-arms, A, in combination with a system of endless bands, B, and a platform, *u*.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WM. J. SWAIN.
WM. E. TODD.

Witnesses:

WM. A. STEEL,
J. SHERBORNE SINGER.