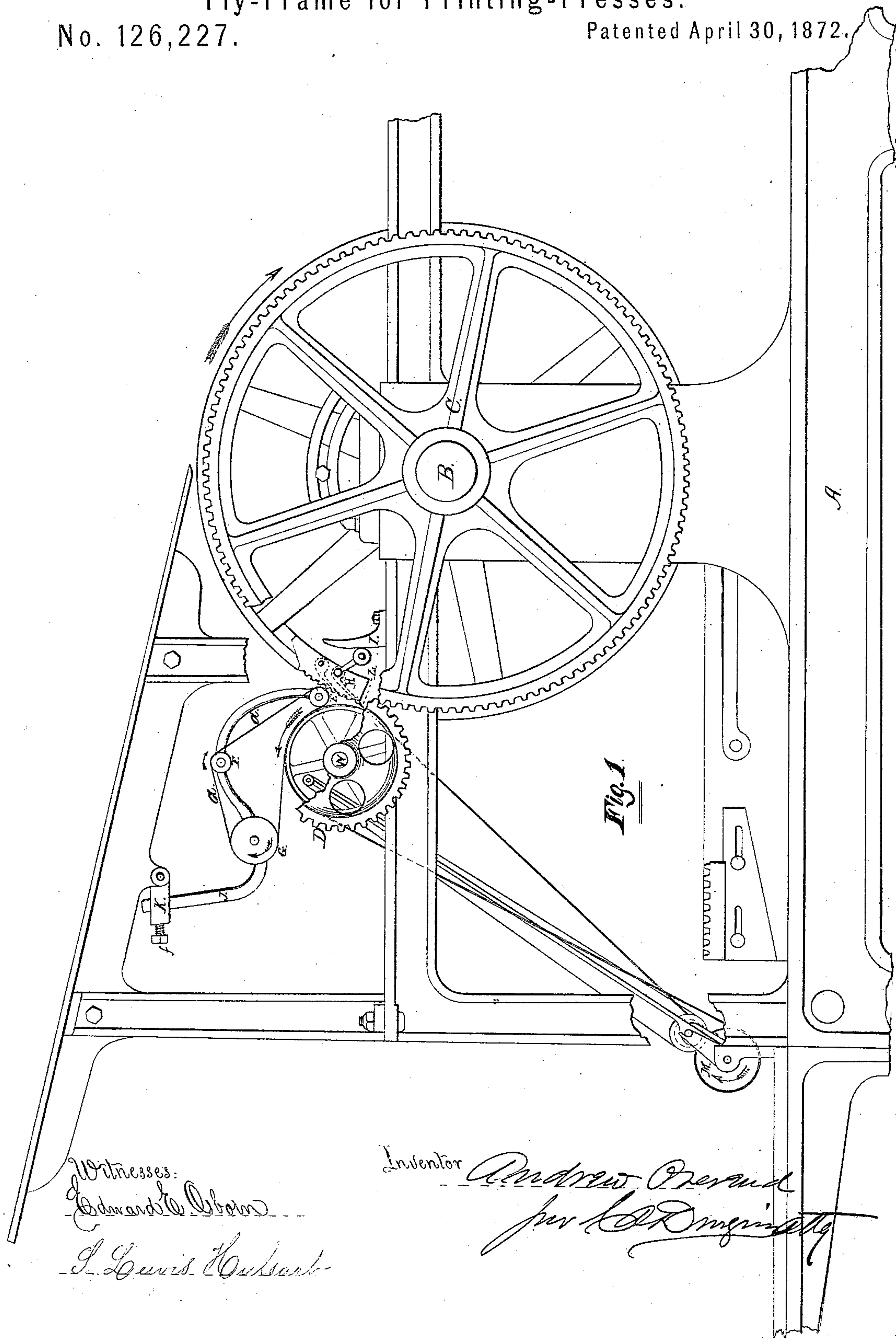


A. OVEREND.  
Fly-Frame for Printing-Presses.  
No. 126,227.

Patented April 30, 1872.

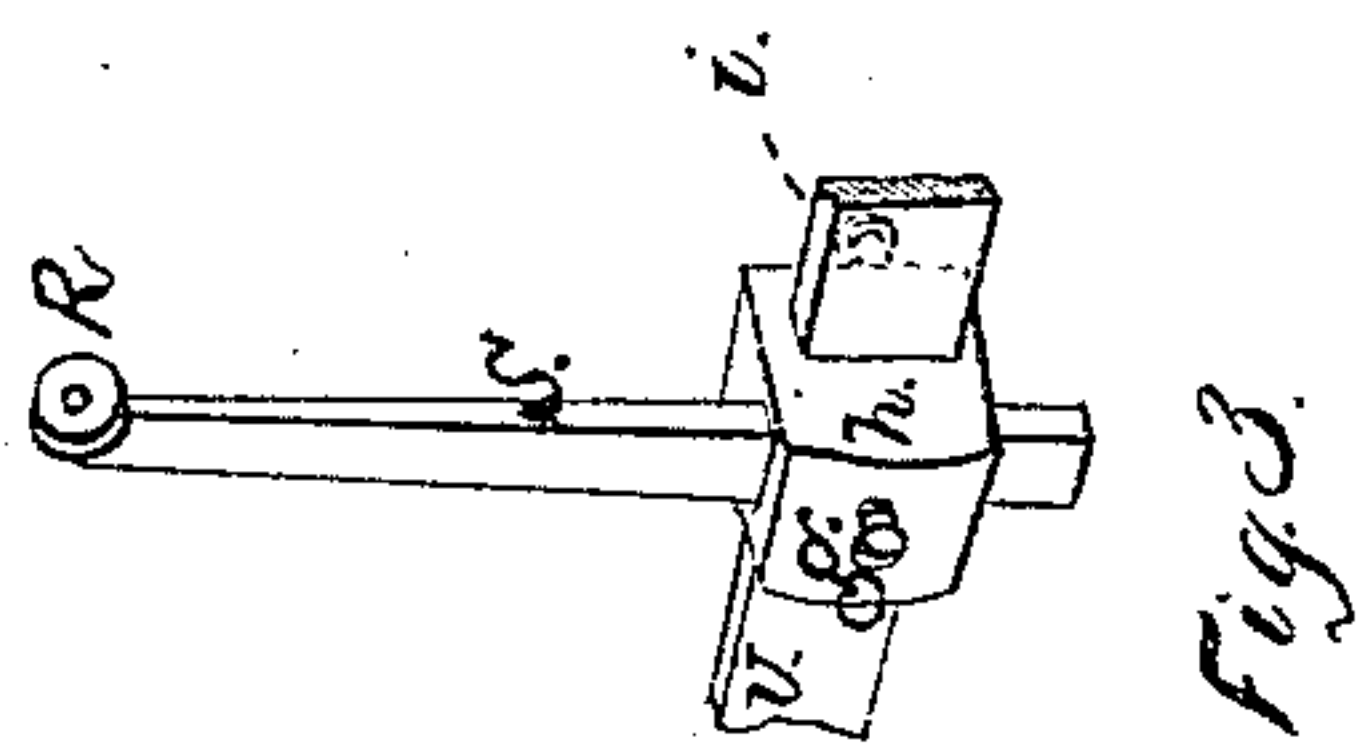
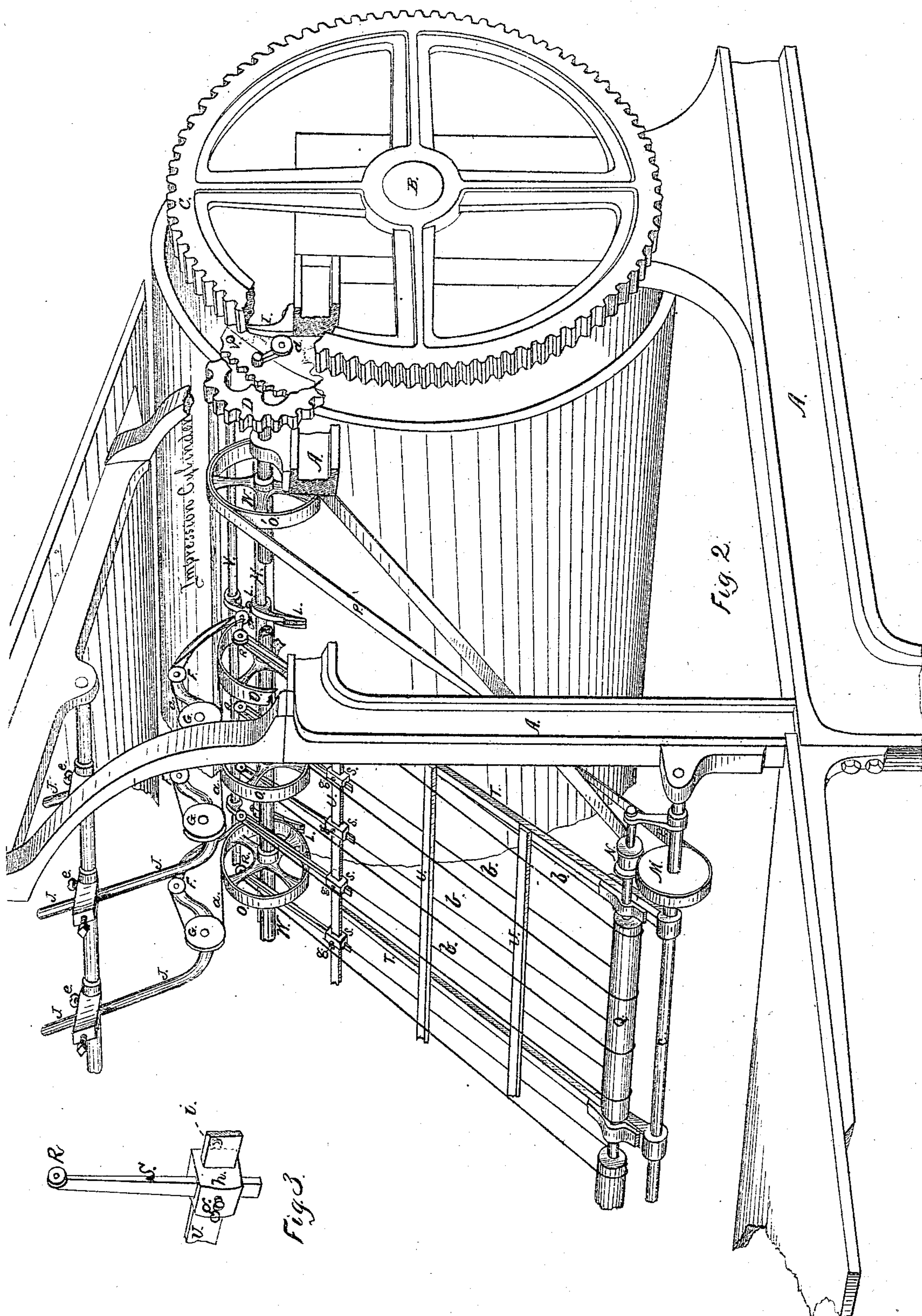


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# UNITED STATES PATENT OFFICE.

ANDREW OVEREND, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
R. HOE & COMPANY, OF NEW YORK, N. Y.

## IMPROVEMENT IN FLY-FRAMES FOR PRINTING-PRESSES.

Specification forming part of Letters Patent No. 126,227, dated April 30, 1872.

Specification describing certain Improvements in Printing-Presses, invented by ANDREW OVEREND, of the city and county of Philadelphia and State of Pennsylvania.

My invention relates to that part of the mechanism of a printing-press which receives and conducts the printed sheet from the cylinder and transfers it to the receiving-table; and it consists in a novel construction and arrangement of parts, having for their object the more perfect delivery of the sheet upon the receiving-table, as will be fully described.

Figure 1 of the drawing is a side elevation of the cylinder and a portion of the frame of a printing-press, showing the arrangement of the apparatus for taking the printed sheet from the cylinder and delivering it to the fly. Fig. 2 is a view in perspective of a part of the cylinder and frame, showing the manner of constructing the "fly" and operating it to lay the sheet upon the receiving-table. Fig. 3 is a view in detail of the slotted adjustable piece in which the bars S S are held.

### *General Description.*

A represents the frame of the press. B is the cylinder-shaft. C is a toothed wheel secured upon the cylinder-shaft and driving the small gear D keyed to the shaft W. This shaft has its bearings in the side frames and receives a motion uniform with that of the cylinder. O O' are broad-face wheels secured upon the shaft W and turning in an opposite direction from the cylinder. The one O' nearest the frame serves as a band-wheel to drive the loose pulley M, and the others act to receive the sheet from the cylinder. Each wheel O has an endless cord, *a*, bearing upon a portion of its face and passing around the grooved pulleys E F G, which are held in position on the adjustable brackets J immediately above the wheels O. These cords receive motion from the wheels, and, with them, act to draw the sheet from the cylinder and convey it to the "fly;" but, in order to cause the edge of the sheet to enter between the wheels O and the cords around the pulleys E after it is released by the nippers, a series of fingers, L L, are employed to press against the under side of the sheet as the nippers open and force the edge against the wheels O and under the cords around the pulleys E.

The fingers L are secured upon the shaft H placed in the opening of the cylinder, just in front of the nipper-shaft V. They are operated by the crank *d* on the end of the shaft H and the cam I on the frame of the press, with which the crank *d* comes in contact at the proper time as the cylinder revolves. The face of the fingers L is covered with India rubber or other suitable substance, to prevent the sheet slipping when they press it against the wheels O, and the fingers are held upon the shaft by set-screws, so that they can be adjusted to suit any size of sheet. The wheels O are broad enough on their face to allow the fingers to bear against them at one side of the cords *a*.

When the cylinder is printing the fingers L lie below the sheet; but as the cylinder approaches the position shown in the drawing, Fig. 1, and the edge of the sheet is released by the nippers, the fingers are raised by the action of the cam I and press the sheet against the wheels O and under the cords or tapes around the pulleys E. After the sheet is taken by the wheels and their cords the fingers are returned to their former position below the surface of the cylinder by a spring acting upon the shaft H. The printed sheet is conducted in this manner from the cylinder to the "fly," which lays it upon the receiving-table.

This "fly" is clearly shown in Fig. 2 of the drawing. It is composed of a frame and a series of endless cords or tapes. The bars T T are secured to the "fly"-shaft *c* and are held together by the slats U U. The lower part of this frame has a small shaft upon which the "spool" or roller Q and the pulley N are secured, and the upper one of the cross-slats supports the adjustable bars S S, held in place in the slotted pieces *h* on the slat U by the set-screws *g*, to which the small pulleys R R are attached. The endless cords *b b* pass around the roller Q and the pulleys R and form the surface upon which the sheet is received. The bars S are adjustable, so that they can be lengthened, if required, and the cords *b* tightened. When the "fly" is in the position shown in the drawing, to receive the sheet from the cylinder, the pulley N bears against the belt P just above the loose pulley M and receives a rotary motion uniform with and in the same direction as the wheels O. This causes the cords to travel



and bring down the sheet in contact with them; but as the "fly" commences to throw the sheet the pulley N is raised from contact with the belt P and the motion of the roller Q, and the cords *b* are arrested, so that the sheet receives no motion from the cords while the "fly" is moving, but only when the "fly" is receiving it from the wheels O.

As thus arranged there is only a small surface of the "fly" in contact with the sheet, and, as that is moving with the paper, the liability of the ink to become smeared and blurred by the "fly" is obviated. The fly-frame now in common use soon becomes soiled and sticky, for the reason that the printed side of the sheet when received from the cylinder is next to the "fly," and it becomes necessary to clean the "fly" frequently, in order to prevent injury to the printed surface of the paper. My invention renders this unnecessary and removes all danger of the printed surface being destroyed or soiled by the "fly."

*Claims.*

1. Constructing the "fly" of a series of tapes or cords provided with an automatic intermittent movement, so that the printed sheet will be carried upon the cords or tapes to the proper point for delivery and then stopped and the sheet delivered, substantially as described and specified.

2. The mechanism for imparting an intermittent movement to the tapes, cords, or equivalents, which compose the "fly," consisting of the pulleys M N, roller Q, pulleys R, belt P, and pulley O, substantially as described and specified.

3. Adjusting the cords or tapes *b b* which compose the "fly" by the rods S, pieces *h h*, and clamp-screws *g i*, substantially as described and specified.

ANDREW OVEREND.

Witnesses:

MARTIN BOWES,  
THO. M. MOORE.