P. A. COTTER.

Fan Fly Attachments for Cylinder Presses.

No. 137,597. Patented April 8, 1873.

Fig. 1.

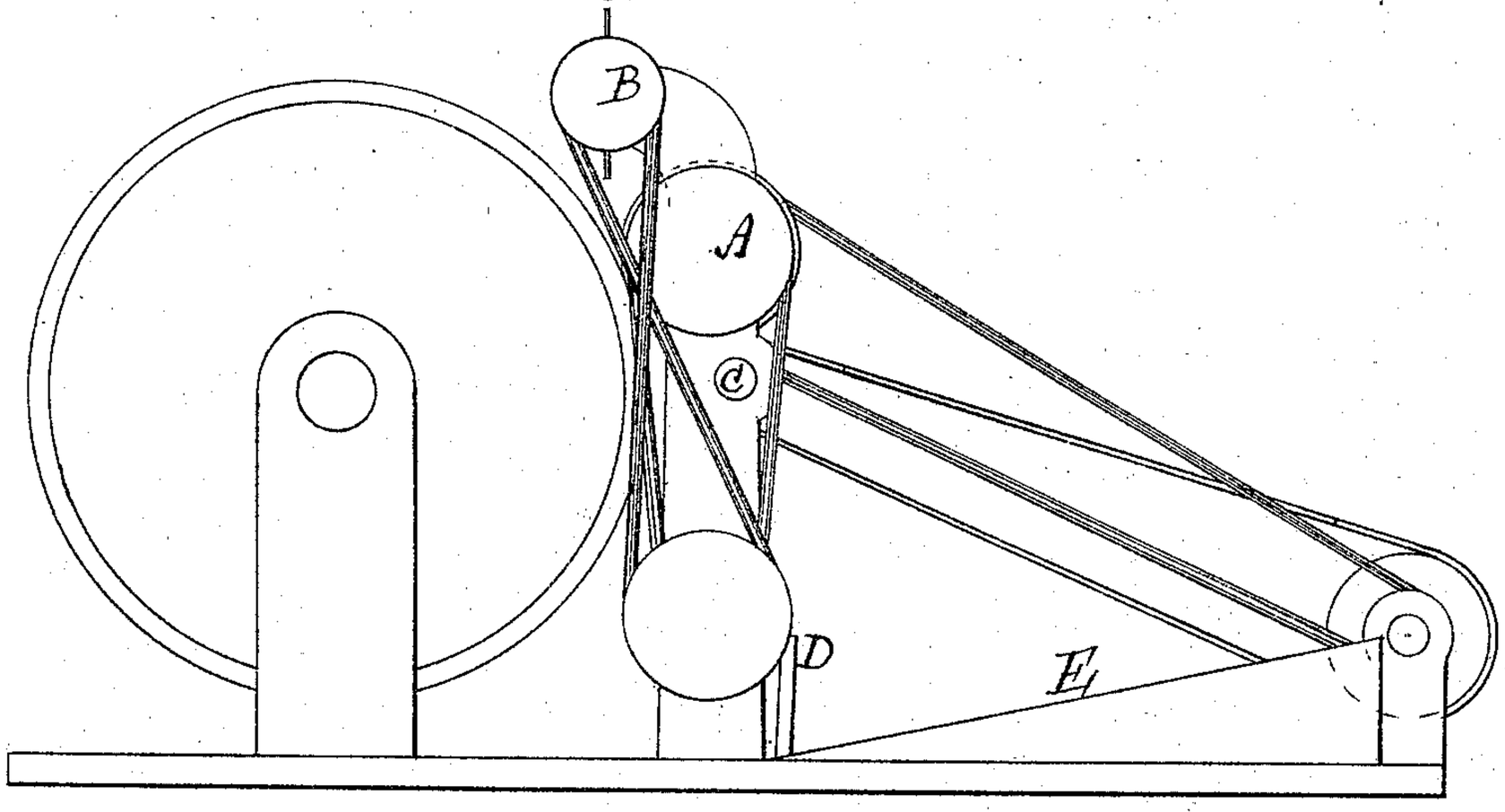
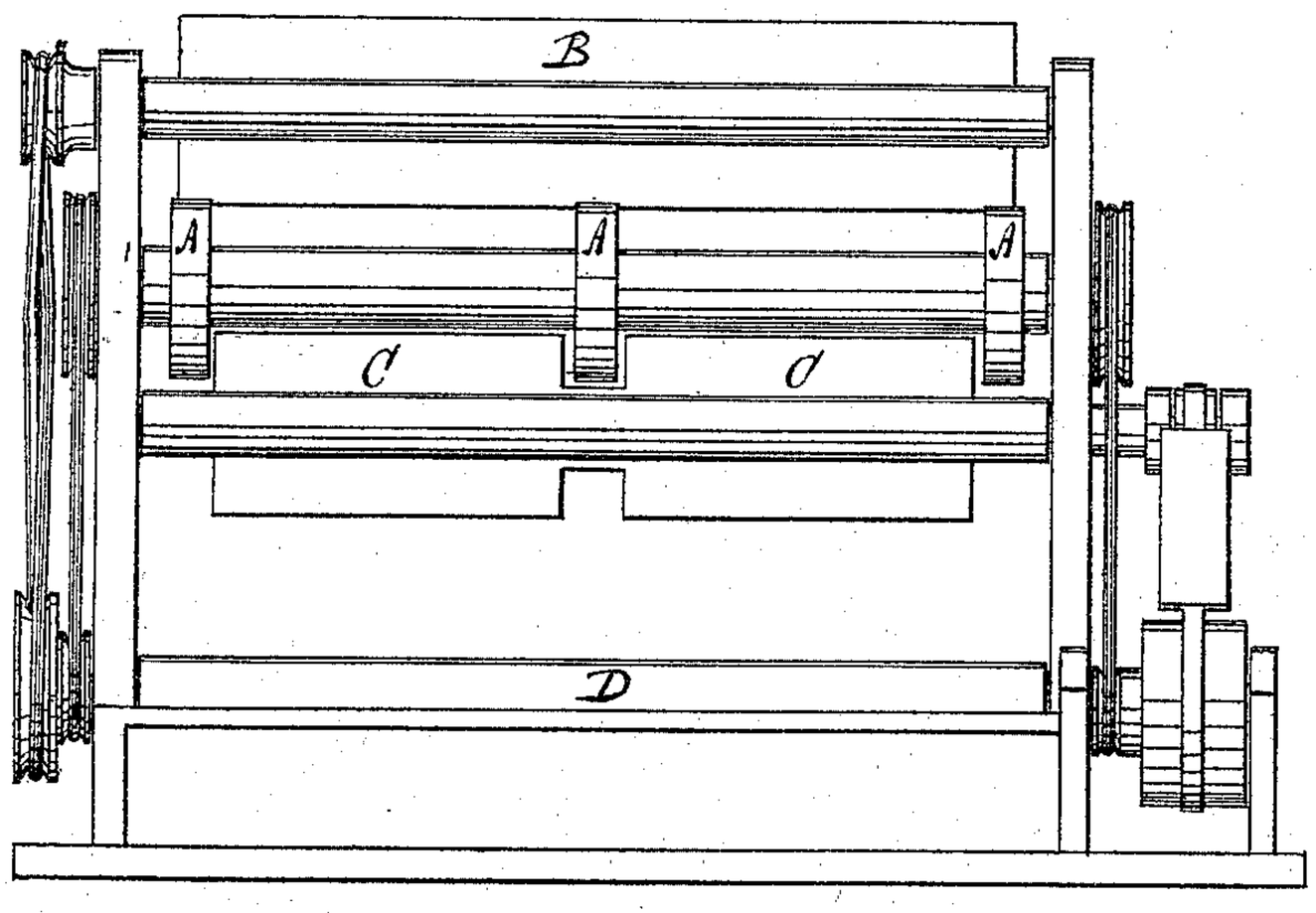


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

PATRICK A. COTTER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FAN-FLY ATTACHMENTS FOR CYLINDER-PRESSES.

Specification forming part of Letters Patent No. **137,597**, dated April 8, 1873; application filed March 14, 1873.

To all whom it may concern:

Be it known that I, PATRICK A. COTTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a Fan-Fly Attachment for Cylinder-Presses, of which the following is a specification:

My invention is designed as an improvement upon the ordinary mechanism now in common use on cylinder-presses for carrying the sheet from the main cylinder to the table on which the sheets are laid one upon another. It is, so far as I know, entirely new in principle; and consists in the substitution of friction-rollers and a constant current of air for the tapes which carry the sheet from the main cylinder to the fly, and an intermittent current of air for the fly which spreads the sheet upon the table.

In the drawing I have shown my attachment as I construct it for application to presses in use.

The friction-rollers A A A are brought into close contact with the main cylinder of the press at the three points on its periphery, where the carrying-tapes, which are dispensed with, were in contact with it, so that the sheet will be nipped between these friction-rollers and the main cylinder on its way from the main cylinder. These friction-rollers are revolved by contact with the main cylinder, and consequently the sheet is carried along as long as it remains between them and the main cylinder. These friction-rollers should be rubber-tired, or else their shaft should turn in boxes mounted on springs, which press the shaft toward the cylinder; but it is necessary, of course, that the sheet should be properly directed; and the main novelty of my invention consists in my means for directing it—namely, by a current of air—so applied that as the edge of the sheet begins to project beyond the friction-rollers it will be blown onto the friction-rollers, and caused, by its own weight, to travel downward as it is fed forward by being nipped between the friction-rollers and the main cylinder until its edge strikes the table on which it is to be laid. This current of air is produced in the attachment shown by the fan B, which is belted to the shaft of the friction-rollers. After the edge of the sheet has reached the table a second current of air from the fan C acts upon it in such a manner as to spread it out flat upon the table. The operation of this last-named current is somewhat peculiar, as it does not cause any sidewise motion of the entire sheet, but seems to press down upon that part of the sheet which is in contact with the table, and, as it were, to clamp it in place, so that the sheet moves over from the friction-rolls upon that edge as an axis. This edge of the sheet is guided to its place on the table by the guide-board D. This current of air performs precisely the same office as that of the fly, while the first-named current and the friction-rollers perform the office of the carrying-tapes, which carry the sheet into the proper relation to the fly; and either of these currents can, obviously, be used without the other. It is also obvious that rods or guides extending upward from the table toward the friction-rollers on which the edge of the sheet shall strike as it descends, and by which it shall be guided to its place on the table, may be used; but in practice I find the guide-board D all that is necessary. The current which spreads the sheet out upon the table must, of course, be intermittent. This is accomplished in the attachment shown by means of the three pulleys on the fan-shaft, the middle one of which is loose, and by the belt, which is so narrow that it drives only the loose pulley along part of its length, but wide enough to drive all three pulleys, and consequently the fan C along the rest of its length.

The details of construction and the manner of producing the currents of air may, of course, be varied largely, especially where my attachment is built with the press.

What I have described is the best form of my attachment known to me for application to presses already running.

What I claim as my invention is—

1. The fan-fly attachment above described, its essential features being the friction-roll-

ers A A A and the two fans B and C, when constructed and operating substantially as described.

2. The combination of the friction-rollers A A A and the fan B, when they act as a substitute for the carrying-tapes of a cylinder-press, in the manner described.

3. The combination of the intermittent fan C and the table E, when the fan acts as a substitute for the fly of a cylinder-press, in the manner described.

Signed this 11th day of March, 1873.

PATRICK A. COTTER.

Witnesses:

GEO. H. MCGREW,

J. E. MAYNADIER.