A. CAMPBELL.

Improvement in Printing-Presses.

No. 114,105. Patented April 25, 1871.

Fig. 1

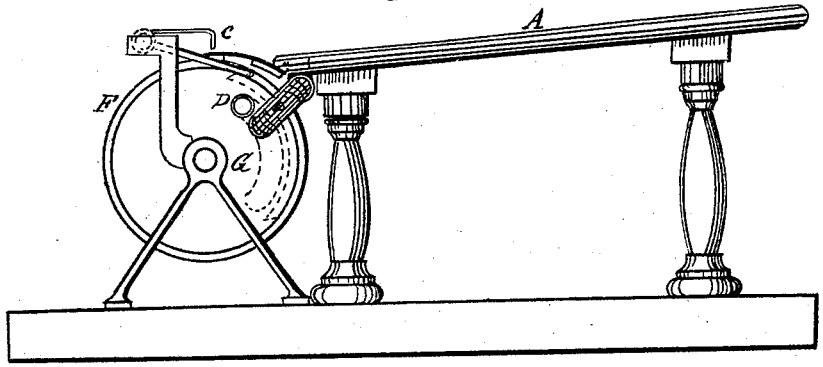


Fig. 2

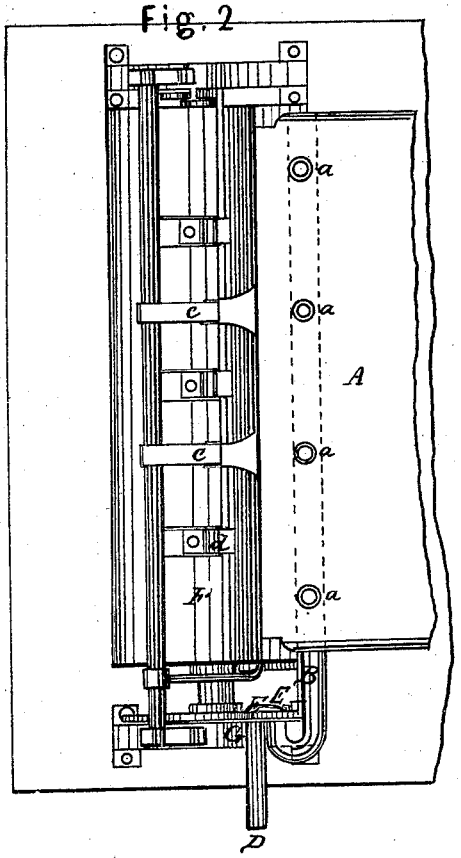


Fig. 3

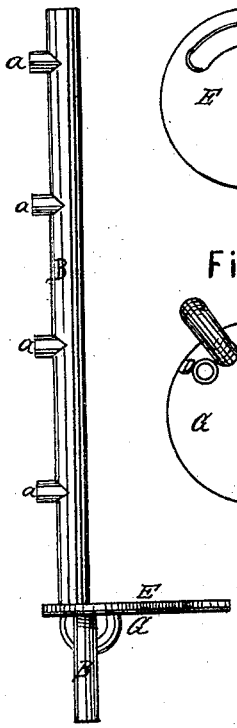


Fig. 4

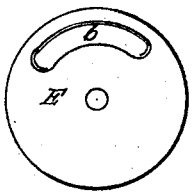
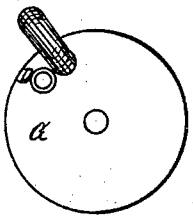


Fig. 5



Witnesses:

Alex. A. C. Klaucke

Henderson Willard

Inventor:

A. Campbell

by Forbush & Hyatt
his attys

United States Patent Office.

ANDREW CAMPBELL, OF BROOKLYN, NEW YORK.

Letters Patent No. 114,105, dated April 25, 1871.

IMPROVEMENT IN PRINTING-PRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

I, ANDREW CAMPBELL, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Printing-Presses, of which the following is a specification.

Nature and Objects of the Invention.

My invention relates to the feeding mechanism of printing-presses; and consists in arranging mechanism which will operate automatically to apply pressure to the sheets as they are laid upon the feed-table and hold them against slipping or displacement by currents of air, jar of the machinery, or other causes, during the interval of time which elapses between the lifting of the sheet-guides or the withdrawal of the registering-points and the grasping of the sheets by the gripers.

Description of Drawing.

Figure I is a side elevation of the impression-cylinder, feed-table, and concomitant appliances for carrying my invention into effect.

Figure II is a plan of same.

Figure III is a side elevation of a pipe having open tubes for withdrawing the air from the under side of the sheet.

Figure IV is a face view of a disk, which is keyed upon the shaft of the impression-cylinder to act as a valve to control the exhaustion of air from the lower side of the sheet of paper.

Figure V is a face view of a disk attached to the frame of the machine, to which disk the air-pipes are connected.

General Description.

A is the feed-table of a power-press, which table is constructed in most respects like those in common use, but which is in this construction provided with holes, through which the open-topped tubes *a a* extend to about the level of the upper surface of the table.

These tubes *a a* all connect with and open into the pipe B, which is closed at one end, and at the other is connected to the disk G; another pipe, D, extends from this disk G to a receiver, from which, when the press is in operation, the air must be kept exhausted by an appropriate air-pump.

Both pipes B and D are left open at the ends, which extend through the disk G; and the disk E, which is attached to the shaft of the cylinder F, is fitted to run in close contact with the disk G so as to form an air-tight joint between them.

The disk E has, however, an annular recess, *b*, shown in Fig. IV, which, when opposite the ends of both the pipes B and D, opens a communication between them, so that during that portion of the revolution of the cylinder in which said recess is opposite the ends of both of these pipes, the air will be exhausted through the tubes *a a*, from the under side of the sheet of paper, which is laid in position upon the feed-board, and cause the atmospheric pressure above to hold the sheet down upon the board, so that it cannot be displaced without overcoming considerable friction upon the feed-board.

It will be apparent that this exhaustion of the air from the under side of the sheet only takes place while the connection between the pipes B and D is open, and the arrangement of the annular recess *b* is such that this shall take place after the sheet has been laid in position to the guide *c* or upon the registering-points, and shall continue till the gripers *d* have firmly grasped the sheet.

The construction and arrangement of parts may also be such as to continue the exhaustion of the air from under the sheet during its passage from the feed-table, which would have a tendency to keep the sheet smoothly spread, especially if the upper surface of the feed-board were grooved diagonally outward from the middle downward.

When the construction I have described is employed pipes D leading to several presses may connect with the same receiver, and the air exhausted through all by a single pump.

This construction may, however, be modified in several different ways without changing the character of the invention, as, for example, the pipe B, instead of being connected to a continually-exhausted receiver, may connect to a pump worked by the press itself, the arrangement being such that the pump shall act during the time when pressure upon the sheet is required.

Another mode of applying pressure to the upper surface of the sheet and opposing friction to its displacement is by weights or springs made to bear upon the paper during the proper interval of time, and lifted by the action of the press at the proper time to allow the sheet to be placed in position.

Claim.

What I claim as my invention is—

The means herein described, or their equivalent, for automatically applying pressure to the sheet upon the feed-board to hold the same during the interval of time between the lifting of the sheet-guides or the withdrawal of the register-points and the taking hold of the gripers, so as to insure its proper delivery to the latter, substantially as hereinbefore set forth.

A. CAMPBELL.

Witnesses:

W. A. DONELLY,

THOS. P. HOW.