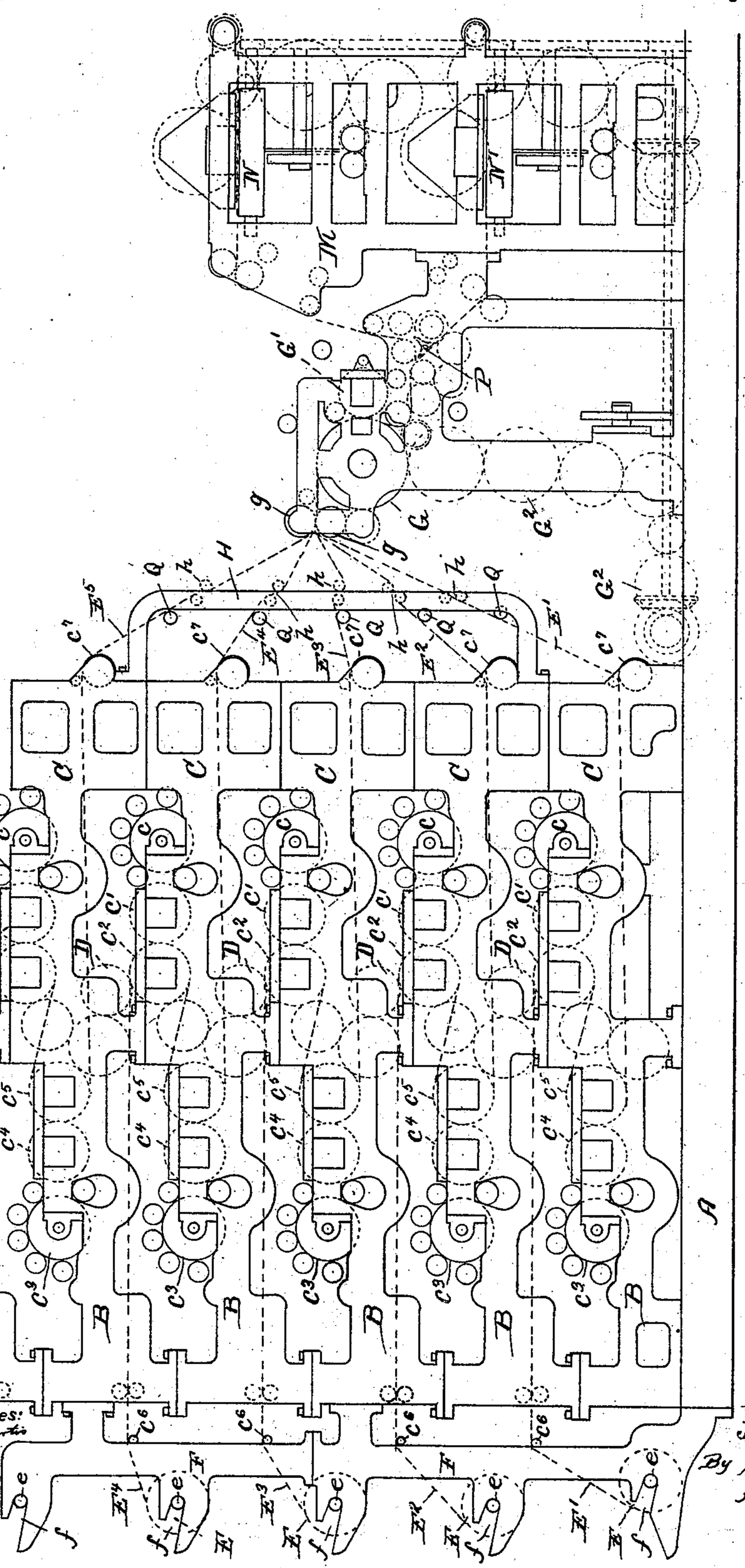
(No Model.)

J. J. CLAUSE.

ROTARY WEB PRINTING MACHINE.

No. 501,921. Patented July 25, 1893.



UNITED STATES PATENT OFFICE.

JOHN J. CLAUSE, OF CHICAGO, ILLINOIS.

ROTARY WEB-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 501,921, dated July 25, 1893.

Application filed July 16, 1891. Serial No. 399,682. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. CLAUSE, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Rotary Web-Printing Machines, of which the following is a specification.

My invention relates to web printing presses.

The object of my invention is to provide a printing press or machine which will simultaneously print, cut into sheets and deliver to the folding mechanism any desired number of webs from one upward, to the end that the newspaper or product produced may be composed of any desired number of pages or sheets as occasion may require from day to day.

To this end my invention consists of a multiplex automatic web printing press or machine, comprising a single pair of cutting cylinders for severing the printed web or webs into sheets, and a series of automatic printing cylinders or mechanisms adapted each to print a separate web and arranged in a series of similar horizontal sections or layers one upon another, said sections or layers having each a separate and similar frame adapted to be imposed upon the one below it and to support the one above it, whereby the completed machine may be conveniently and cheaply made of any desired number of layers or sections. These series of printing cylinders or mechanisms are geared together by removable connecting gears so that one or more of the series may be readily disconnected when desired, thus adapting the machine to print simultaneously any desired number of webs.

My invention also consists in the novel devices and novel combinations of parts and devices herein shown and described and more particularly pointed out in the claims.

In the accompanying drawing, which forms a part of this application, I have shown a side elevation of a machine embodying my invention.

In the drawing A represents the base or bed plate of the machine.

B B B B B are a series of separate box or block-shaped frames adapted to be placed or piled one on top of another, and all substantially similar to each other, one for each separate section or layer C C C C C of the printing mechanism.

In each sectional printing mechanism C, c indicates the first distribution cylinder, c' the first printing cylinder, c^2 the first impression cylinder, c^3 the second distributing cylinder, c^4 the second printing cylinder and c^5 the second impression cylinder. All the cylinders or revolving shafts of each section of the printing mechanism are, or may be, geared together in any suitable or usual manner, and each section C of the printing mechanism is geared to its adjoining section by a sliding or movable gear D, so that by simply slipping or disconnecting any particular connecting gear D all the sections of the press above such disconnected gear D may be caused to remain idle while those below are running.

E E E E E represent the rolls of paper from which the several webs E' E^2 E^3 E^4 E^5 are fed to the separate sections C of the press. The shafts e of the paper rolls are journaled in slotted bearings or supports f on vertical brackets F attached to the series of frames B at the rear end thereof. In order that the several webs of paper may enter the several sections C of the press at about the same angle and under the same tension whatever the varying size of the paper roll, I provide each section C of the press with a deflecting bar or roll c^6. The frames B are also each provided with a guide roll c^7 for the web intermediate between the printing cylinders and the cutting cylinders or mechanisms G G' of the press.

H is a bracket secured to the series of sectional frames B and upon which are the take up devices h, each consisting preferably of one or more web deflecting rollers around or over which the web passes on its way to the guide rolls g g leading to the cutting cylinders G G'. By means of the take up devices h in the path of the several webs the length of all the paths may be so adjusted as to bring the printed pages or matter on the several webs into proper register with each other as the several webs are imposed or brought together one on top of another at the cutting cylinders of the press.

G^2 represents the gearing by which the cutting cylinders are driven in unison with the several sections of the press.

I find it convenient to make the frame K on which the cutting cylinders are journaled separate from each of the sectional frames B, and to secure the same to or mount it upon the bed A of the machine.

M represents the frame of the duplex folding machine N N'.

The two sections N N' of the folding mechanism are identical in construction and operation. As each section of the folding mechanism is, or may be, of a well known type familiar to those skilled in the art, and as my invention does not consist in the particular construction thereof it will not be necessary to describe the same in detail.

P is a switch located between the cutting cylinders and the duplex folding mechanism, and by which the piles or series of imposed sheets as delivered from the cutting cylinders are delivered alternately into each section N N' of the duplex folding mechanism. By this means I am enabled to run the folding mechanism at only about half of the speed of the printing mechanism or its cutting cylinders.

Q Q represent the customary pasting devices by which the several webs may be supplied with paste for pasting the imposed sheets together after they are severed from the webs by the cutting mechanism.

As all the sections B C of the press are alike and adapted to be placed one on top of another, and geared or ungeared the one from the other, the press or machine may not only be very readily constructed to permit any particular desired number of webs simultaneously, as two, three, four, five, or more, to be printed but any particular press, as for example a five web press as shown in the drawing, may very readily and conveniently and without loss of power be used for printing any less number of webs, such for example as one or two, by simply sliding or disconnecting the proper connecting gear D.

By means of my invention the manufacture of printing presses is very greatly simplified and cheapened, while at the same time the perfection and efficiency of the mechanism is greatly enhanced.

I claim—

1. A multiplex automatic web printing press or machine comprising a single pair of cutting cylinders and a series of automatic printing cylinders or mechanisms adapted each to print a separate web and arranged in a series of similar horizontal sections or layers one upon another, said sections or layers having each a separate and similar frame adapted to be imposed upon the one below it and to support the one above it, substantially as specified.

2. A multiplex automatic web printing press or machine comprising a single pair of cutting cylinders and a series of automatic printing cylinders or mechanisms adapted each to print a separate web, and arranged in a series of similar sections or layers one upon another, said series of printing mechanisms being all geared together by a series of removable connecting gears so that one or more of the series may be disconnected when desired, said sections or layers having each a separate and similar frame adapted to be imposed upon the one below it and to support the one above it, substantially as specified.

3. A multiplex or sectional automatic web printing press or machine, comprising a single cutting mechanism, and a series of automatic printing cylinders or mechanisms adapted each to print a separate web and arranged in a series of horizontal sections or layers one upon another, each layer or section having a similar separate block or box-shaped frame whereby the complete machine may be conveniently and cheaply made of any desired number of layers or sections, substantially as specified.

4. The multiplex or sectional automatic web printing press, composed of a series of sections or layers of automatic printing mechanisms one on top of another for simultaneously printing a number of webs, a common cutting mechanism for simultaneously severing the several webs into sheets, and take up devices located between said cutting mechanism and said printing mechanisms to cause the printed pages or matter of the several webs to properly register when the webs are brought together at said cutting mechanism, each of said layers having a separate and similar frame adapted to rest upon the one below it and support the one above it substantially as specified.

5. A multiplex automatic web printing machine or press comprising a series of printing cylinders or mechanisms adapted each to print a separate web, arranged in a series of similar sections or layers one upon another and provided with means for connecting or disconnecting the same with the other, each of said series having a separate frame adapted to be placed one on another, substantially as specified.

JOHN J. CLAUSE.

Witnesses:
H. M. MUNDAY,
EMMA HACK.