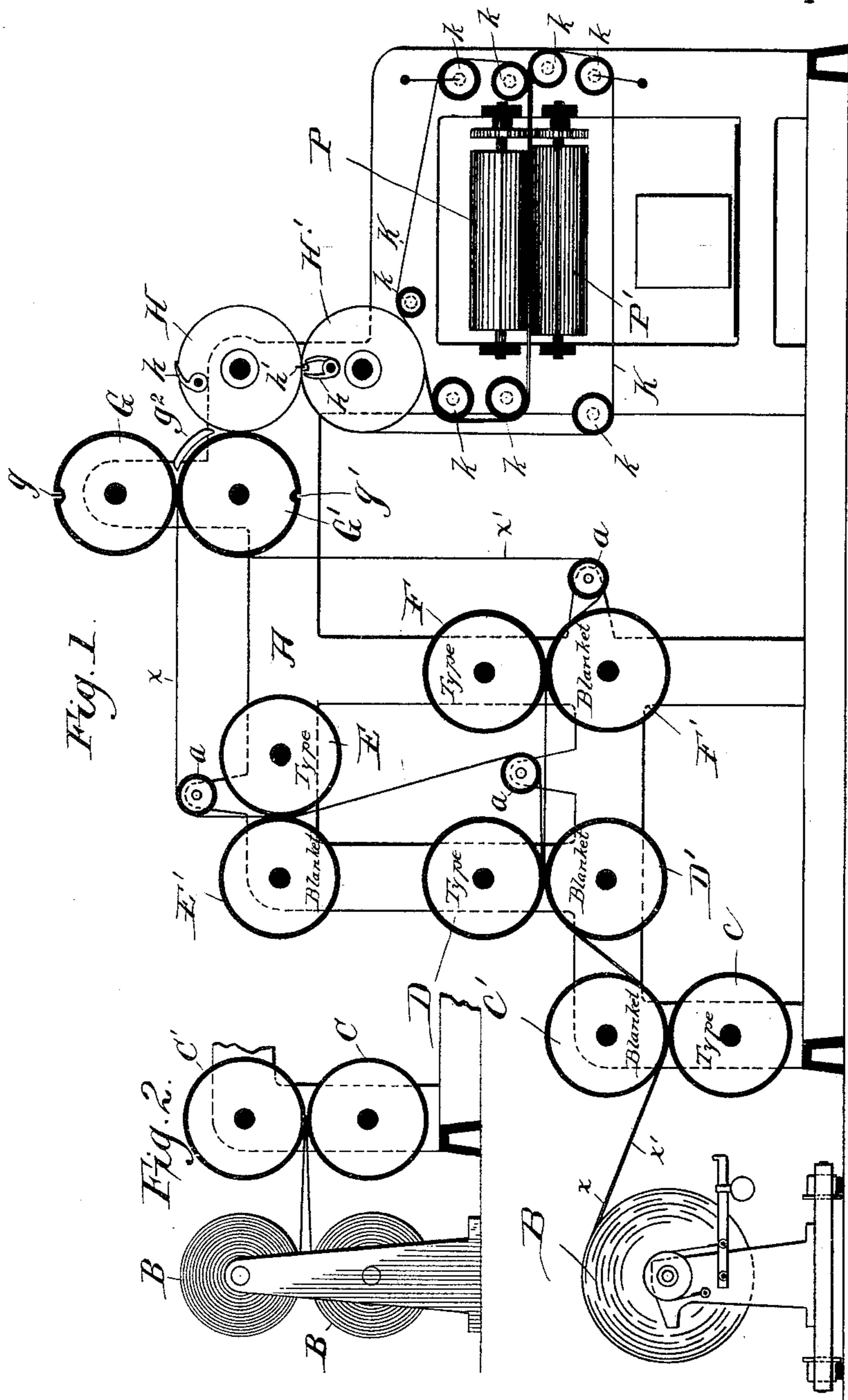


(No Model.)

J. J. CLAUSE.
ROTARY PRINTING MACHINE.

No. 410,576.

Patented Sept. 10, 1889.



WITNESSES:

Sew. C. Curtis
Mary M. Farr

INVENTOR:

John J. Clause
By Munday, Evans & Adeock
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN J. CLAUSE, OF CHICAGO, ILLINOIS.

ROTARY PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 410,576, dated September 10, 1889.

Application filed May 10, 1888. Serial No. 273,407. (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 Printing-Machines, of which the following is a specification.

My invention relates to web - printing presses, and is designed especially for printing newspapers.

In my invention two webs of paper are led together between two pairs of printing-cylinders, which print the outsides of both webs, and then the two webs are separated and passed in divergent paths between printing-cylinders which print the insides of both webs, and, finally, the two webs pass together between a single pair of cutting-cylinders, by which they are simultaneously cut into sheets and delivered to the folding mechanism, whereby they are simultaneously folded. The two webs are preferably fed from a single roll of paper, upon which they are wound parallel to each other and one on top of the other. They may, however, be fed from two separate rolls of paper, the two webs being led together as they pass to the series of printing-cylinders which print the outsides of the two webs. By this means, without increasing the speed of the press or of the folding or sheet-delivery mechanism, the capacity of the press and folder may be doubled, and the more or less complicated and troublesome mechanism in the folder for imposing one sheet on top of the following sheet is entirely dispensed with, so that with my invention I not only double the capacity but also render it practicable to run the press and folding mechanism at a much higher speed, owing to the omission of the sheet-imposing mechanism.

In the accompanying drawings, which form a part of this specification, I have shown at Figure 1 a longitudinal vertical section or diagram view of a printing-press embodying my invention. Fig. 2 shows a modification in which two separate rolls are employed for the two webs.

In said drawings, A represents the frame of the machine, which may be of any suitable construction.

B is the paper-roll having two webs of paper x and x' wound thereon, or the two webs may be wound on separate rolls, in which case one of the rolls will be placed back of or above the other, so that the two webs may pass together to the printing-cylinders one on top of the other.

C C' are the first pair of printing-cylinders, and D D' the second pair, the cylinders C D, being type-cylinders and C' D' blanket-cylinders.

As the two webs $x x'$ pass together along the same path between the cylinders C C' and D D', the former print the outside of the lower web x' and the latter print the outside of the upper web x . After leaving the printing-cylinders D D' the two webs $x x'$ pass in divergent paths between the printing-cylinders E E' and F F', by which the insides of both webs are printed, the cylinders E F being type-cylinders and E' F' blanket or plain cylinders. The two webs, being now each printed on both sides, are brought together and pass next between a single pair of cutting-cylinders G G', the cylinder G carrying a knife or blade g , and the cylinder G' having a corresponding groove g' , whereby the two printed webs are simultaneously cut into sheets and delivered into the folder to be simultaneously folded.

The folder may be of any well-known construction to those skilled in the art. That which I have for convenience indicated in the drawings consists of the ordinary pair of folding-cylinders H H', furnished with grippers h and folding-blade h' . After being folded by the cylinders H H' the folded sheets are conveyed by the carrying-tapes K to the transverse folding-cylinders P P', which form the final or transverse fold.

$k k$ are the tape pulleys, and $a a$ are guide-rollers for the paper webs $x x'$.

Any suitable device known to those skilled in the art may be employed to guide the severed sheets from the cylinder G' to the folding-cylinder H, as, for example, a curved guide g^2 .

The printing-cylinders C C' D D' E E' F F', the cutting-cylinders G G', and the folding-cylinders H H' and P P' are all geared to-

gether in any suitable manner. As the gearing is well-known to those skilled in the art and requires only mechanical skill, I have omitted the gears from the drawings in order
5 to more clearly illustrate the parts to which my invention relates and in which it is involved or embodied. For the same reason I have not here given a detailed description of the folder, as any ordinary folder may be employed, the sheet-imposing mechanism of the
10 folder being omitted and the folder combined directly with the cutting-cylinders, as shown in the drawings and as before described.

I claim—

15 1. The combination, with a series of printing-cylinders arranged in the same path to print the outsides of two webs passing together between them, of a series of printing-cylinders arranged in divergent paths to print
20 the insides of the two webs, substantially as specified.

2. The combination, with two pairs of printing-cylinders in the same path to print the outsides of two webs passing between them,
25 of two pairs of printing-cylinders in divergent paths to print the insides of said webs, and a single pair of cutting-cylinders for si-

multaneously cutting both webs into sheets, substantially as specified.

3. The combination, with two pairs of printing-cylinders in the same path to print the
30 outsides of two webs passing between them, of two pairs of printing-cylinders in divergent paths to print the insides of said webs, a single pair of cutting-cylinders for simultaneously cutting both said webs into sheets,
35 and a sheet-folding mechanism into which the sheets are simultaneously delivered from said cutting-cylinders, substantially as specified.

4. The combination, with a paper-roll having two webs of paper wound thereon, of two
40 pairs of printing-cylinders arranged in the same path to print the outside of each web, two pairs of printing-cylinders arranged in divergent paths to separate the two webs and
45 print the inside thereof, and a pair of cutting-cylinders between which both webs are fed and by which they are cut simultaneously, substantially as specified.

JNO. J. CLAUSE.

Witnesses:

EDMUND ADCOCK,
EDWARD S. EVARTS.