

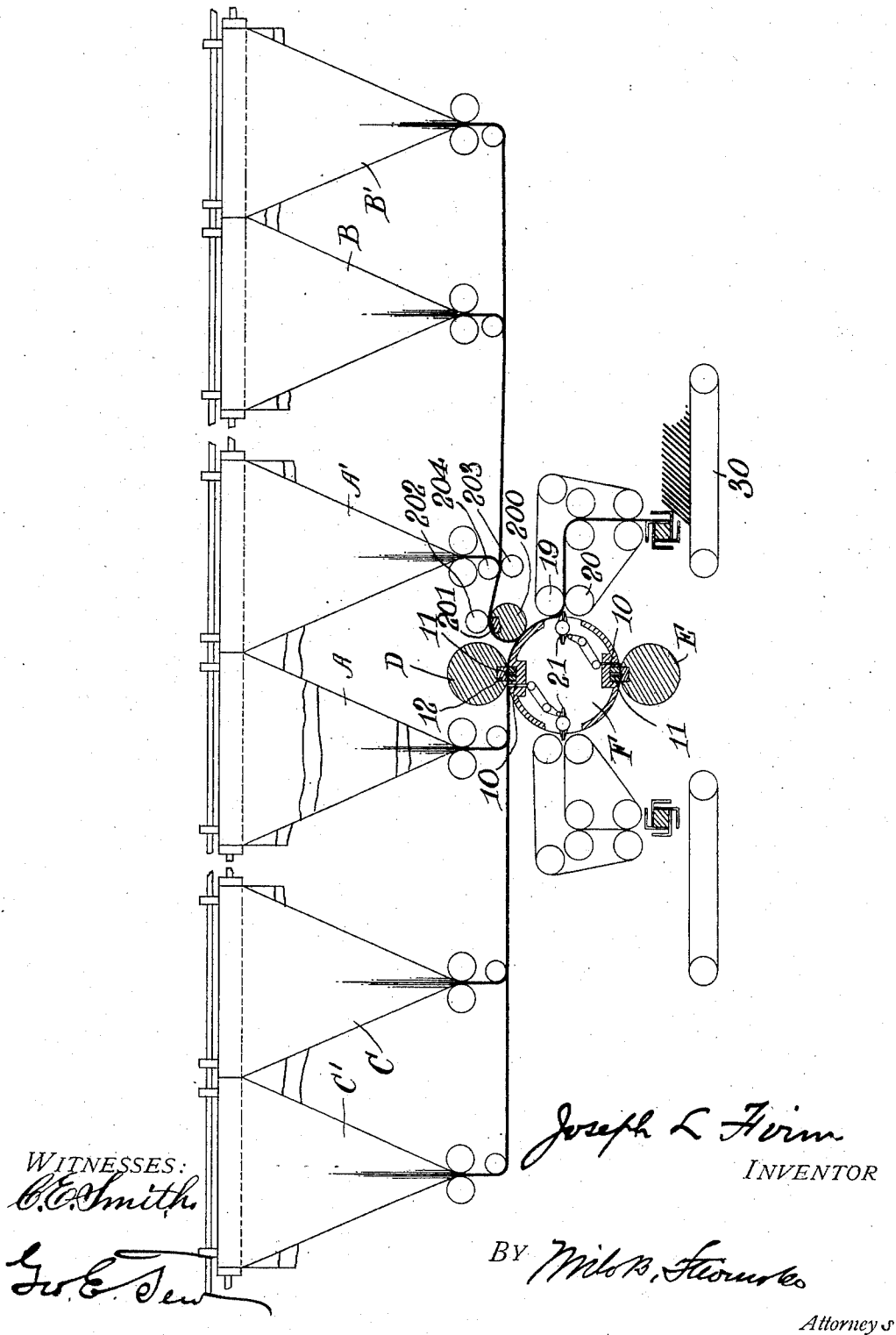
No. 868,918.

PATENTED OCT. 22, 1907.

J. L. FIRM.

ASSOCIATOR AND FOLDER FOR PRINTING MACHINES.

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UNITED STATES PATENT OFFICE.

JOSEPH L. FIRM, OF BERWYN, ILLINOIS, ASSIGNOR TO THE GOSS PRINTING PRESS COMPANY,
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ASSOCIATOR AND FOLDER FOR PRINTING-MACHINES.

No. 868,918.

Specification of Letters Patent.

Patented Oct. 22, 1907.

Application filed June 19, 1907. Serial No. 379,726.

To all whom it may concern:

Be it known that I, JOSEPH L. FIRM, a citizen of the United States, residing at Berwyn, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Associators and Folders for Printing-Machines, of which the following is a specification.

In my pending application Serial Number 354101 there is disclosed a double rotary carrier for use in associating, folding and delivering printed webs. This carrier is provided on opposite sides with cutting, folding and delivering devices and is arranged to operate on two lines or leads of webs which are fed to opposite sides thereof and delivered as two products from opposite sides thereof.

It is desirable and advisable at times to associate or stuff the webs to form a single product, and for this purpose the invention herein described and claimed has been made. The webs are led to the carrier from a plurality of longitudinal folders and are associated at the carrier and folded off as a single delivery, resulting in a product having a large number of pages or in the association or stuffing of several sections into an outer section which in existing newspaper work will or can be a colored or comic section.

The invention is illustrated in the accompanying drawing which is a diagrammatic front elevation thereof.

The drawings show three pairs of longitudinal folders or formers to which two or more superposed webs are carried from the printing mechanisms. These webs are or may be four pages wide, so that the webs when slitted will amount to twelve webs two pages wide; but the apparatus is capable of use with webs of other sizes or widths, and is not limited in its use to the number of webs herein particularly referred to. The longitudinal folders are shown side by side, but they may be set at a right angle to each other, or facing each other, or one above the other, or otherwise as desired, their products being led to the carrier and the transverse folder and cutter hereinafter described.

As shown in my said pending application the webs or sets of webs from the longitudinal folders A and A¹, B and B¹, C and C¹, are led by suitable guide rollers to the carrier cylinder F, and instead of being sent to opposite sides thereof, as in said pending application, they are all led to the same side and are folded off by the same transverse folder.

The webs from the folders A, C and C¹ are shown as led in between the carrier cylinder F and the female cutting cylinder D, where they are impaled on the pins 10 of the carrier and are then cut by the knife 11 co-acting with the matrix 12 in the female cutting cylinder. The webs from the right side, or from the folders A¹, B and B¹ are carried between the guide rollers

203 and 204 and 200 and 202 to the carrier F, and are in due course superposed upon the webs from the left side and are impaled by the pins 10 and cut by the knife 11 co-acting with the matrix 201 in the additional female cutting cylinder 200. The entire set of webs thus associated and cut pass to the transverse folder blade 21 which folds the superposed webs or product off between the rollers 19 and 20 whence it is delivered to the apron 30 by suitable tapes and guide rollers. It will be understood that when all the webs are so superposed and associated the product is delivered on one side only of the carrier, the delivery mechanism at the left, in the drawing, being idle.

Said pending application shows the carrier delivering double from six longitudinal folders. The present application shows the same carrier delivering single from the same number of folders. Obviously the number of folders, or the number of webs, may be increased or diminished as desired. The double or single arrangement gives large capacity and range of utility, and a saving of carriers and folders and also floor space.

The cylinder 200, having the matrix 201 is so timed as to meet the knife 11, and holds the paper that has already been pinned and cut at the cylinder D, the webs from the right hand formers being cut when they are superposed on the carrier. One, two, three or more webs may be superposed from the right hand folder or folders, and a feature is that the webs already on the carrier give a slightly greater radius, which makes the top web or webs somewhat longer or larger, when the sheets are folded is advantageous, as it forms a cover for the other webs or sections.

Preferably, the knife holders and the matrix blocks are made the same size, so as to be interchangeable. That is, the grooves or recesses in the cylinders F and D are made the same size, so that the boxes which hold the knives, and the matrix blocks, which are also made the same size, will fit in either groove or recess, so that the female cylinder D may when desired be used for holding the knives and the carrier F for holding the matrix. The knives are advantageously held by the female cylinders D and E when double delivery is used. When superposing and delivering on one side only, the knives will be mounted on the carrier.

By the construction shown a paper or product is folded off at one side at each half revolution of the carrier. This gives a high speed or delivery capacity, particularly as compared with a cutter or folder which acts on only one product at each rotation.

I claim:—

1. The combination with a rotary carrier, of primary and secondary cylinders beside the same, and arranged to superpose webs thereon, said carrier and cylinders having cooperating cutters and matrices, and delivery devices for the superposed webs, beyond said cylinders.

2. The combination with a rotary carrier, of a pair of

cylinders on opposite sides of said carrier, and a supplemental cylinder between said cylinders, adjacent the surface of the carrier, said carrier and cylinders having cooperating cutters and matrices.

- 5 3. The combination of a rotary carrier having web-cutters on opposite sides thereof, transverse-folding blades carried on opposite sides of the carrier, midway between said cutters, primary and secondary cylinders located adjacent each other on the same side of the carrier and each
- 10 having a matrix cooperating with the said cutters, and delivery devices on one side of the carrier, beyond said cylinders.

4. The combination with a rotary carrier, of a plurality

of cylinders adjacent each other on one side of the carrier, said carrier and cylinders having cooperating cutters and matrices, means to feed webs separately between each of the said cylinders and the carrier and thereby superpose said webs on the carrier, and delivery devices for the superposed webs, beyond said cylinders. 15

In testimony whereof I affix my signature, in presence of two witnesses.

JOSEPH L. FIRM.

Witnesses:

NELLIE FELTSKOG,
H. G. BATCHELOR.