

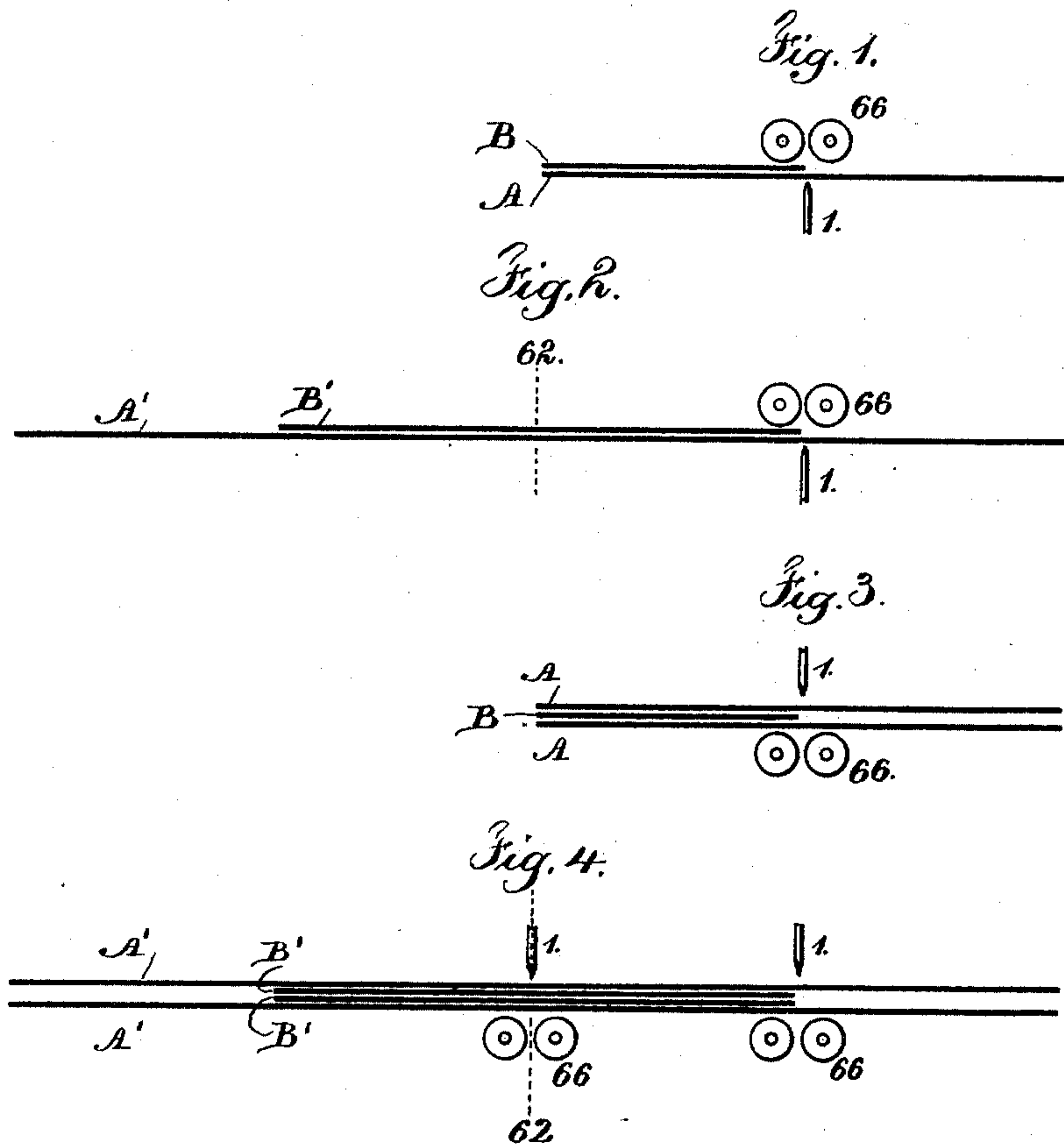
(No Model.)

W. SCOTT.

METHOD OF ASSOCIATING AND FOLDING PRINTED SHEETS.

No. 498,033.

Patented May 23, 1893.



Witnesses

Chas H. Smith

J. Stair

Inventor

Walter Scott

for Lemuel W. Ferrell
att'y

UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY.

METHOD OF ASSOCIATING AND FOLDING PRINTED SHEETS.

SPECIFICATION forming part of Letters Patent No. 498,033, dated May 23, 1893.

Application filed January 9, 1888. Serial No. 260,176. (No model.)

To all whom it may concern:

Be it known that I, WALTER SCOTT, of Plainfield, in the county of Union and State of New Jersey, have invented an Improved Method of Associating and Folding Printed Sheets, of which the following is a specification.

In my patent No. 373,487, I have represented a press in which sheets of two different sizes can be brought together for folding the same, and the sheets are conveyed along adjacent to the edge of the folding blade and are moving parallel thereto.

In printing presses that have heretofore been made in which the folder comes across the web or sheet and hence is at right angles to the direction of movement of the sheet, a second folded sheet has been carried in between the folding rolls by the act of folding a sheet transversely, but in this instance the momentum of the sheets aids in carrying the same in between the rolls, and in fact the sheets continue to move in the same direction both before and during the folding operation. In presses such as shown in my aforesaid patent the sheets have to be arrested before folding and carried off at right angles to their previous movement. Hence it has been difficult to start the narrow width sheet and draw it into the folding rolls because the edge of such narrow width sheet has substantially coincided with the opening between the folding rolls and with the edge of the folding blade. In my improvement I bring the sheets together in such a manner that the wider sheet that is to be folded is next the folding blade and the narrower width sheet is between the wider sheet and the folding rolls, so that the folding blade as it comes down on the wide and quiescent sheet not only creases the same but gives a movement to the narrow and quiescent sheet by pressing its edge toward or against the moving roll. Thereby the two sheets are simultaneously started at right angles to their previous movement and carried into the folder without the register of the sheets becoming defective.

In the drawings I have represented by diagrams some of the ways in which the sheets of two different widths can be brought together. In these diagrams the sheets of full width are marked A. and the sheets of half width marked B. and of double the respective

widths A' B'. The folding rollers are represented at 66. and the folding blade at 1.

In Fig. 1. the sheet B. of half width is brought into the folding apparatus in such a manner that it coincides with one half of the full width sheet A. so that when the fold is made by the blade carrying the sheets in between the rollers 66. the fold in the sheet A. will coincide with one edge of the sheet B. and the sheet B. will be brought outside of the folds of the sheet A. This operation will be the same whether the sheets A'. and B'. have been of double width as indicated in Fig. 2. and have been cut apart upon the line 62. or whether they have been only of the width shown in Fig. 1.

In Fig. 3. I have represented two sheets A. with one sheet B. between them; the sheet B. coinciding with one half of each full width sheet A. and the fold has to be made by the blade 1. upon the line of the inner edge of the sheet B.

In Fig. 4. I have shown two sheets B'. between two sheets A'. the inner edges of the sheets B'. being in line with the centers of the sheets A'. so that the fold is made upon the line of the inner edges of the sheets B'. and such sheets B'. are inclosed between the sheets A'. The sheet B. or B' is usually inclosed between the sheet or sheets A. or A' when folded and hence it is retained in place while subjected to subsequent folding operations and while being handled in binding or otherwise. Usually the sheets will be separated at the line 62. by a suitable cutter, the forms for printing being arranged in a proper manner so that the pages will come in the proper relative position, but if desired the sheets may remain uncut at the line 62. and be subjected to the folding operation at that line as indicated in Fig. 4.

My aforesaid patent illustrates the apparatus that may be made use of in printing, associating and folding the sheets and it is not necessary to repeat herein a description of the construction of such apparatus. In all instances the sheets will be printed and brought together and imposed in the manner aforesaid, previous to the cutting or folding operation. My said press however is available for printing and delivering sheets in which the method of my present invention is

not made use of, and it will also be apparent that the printed sheets may be brought together in the manner herein described when printed upon a press or presses of different construction from that set forth in my said patent.

The description and illustrations will enable a person skilled in the art to apply my invention under the different conditions that may arise; and it will be observed that in consequence of disposing the sheet of greater width next the folding blade, so as to extend across or bridge the faces of the folding rolls, and disposing the sheet of narrower width on the opposite side of the wide sheet to the folding blade and with one edge substantially coinciding with the opening between the folding rolls, the wider sheet carries the edge of the narrower sheet in between the folding rolls, and this feature pervades all the various arrangements of the sheets described and represented, whether the folding is upwardly or downwardly, and the folding operations are

not varied in consequence of the sheets being cut apart or not.

I claim as my invention—

The method herein specified of associating and folding printed sheets which consists in bringing the sheets into the folder adjacent to the folding blade and by a movement parallel with the folding blade and the edge of the narrower sheet substantially coincident to such blade and with a sheet of greater width between the blade and the sheet of narrower width, and carrying both sheets off at right angles to their previous movement by the blade acting upon the sheet of greater width and carrying with it the edge of the sheet of less width in between such folding rolls substantially as specified.

Signed by me this 29th day of December, 1887.

WALTER SCOTT.

Witnesses:

GEO. T. PINCKNEY,
HAROLD SERRELL.