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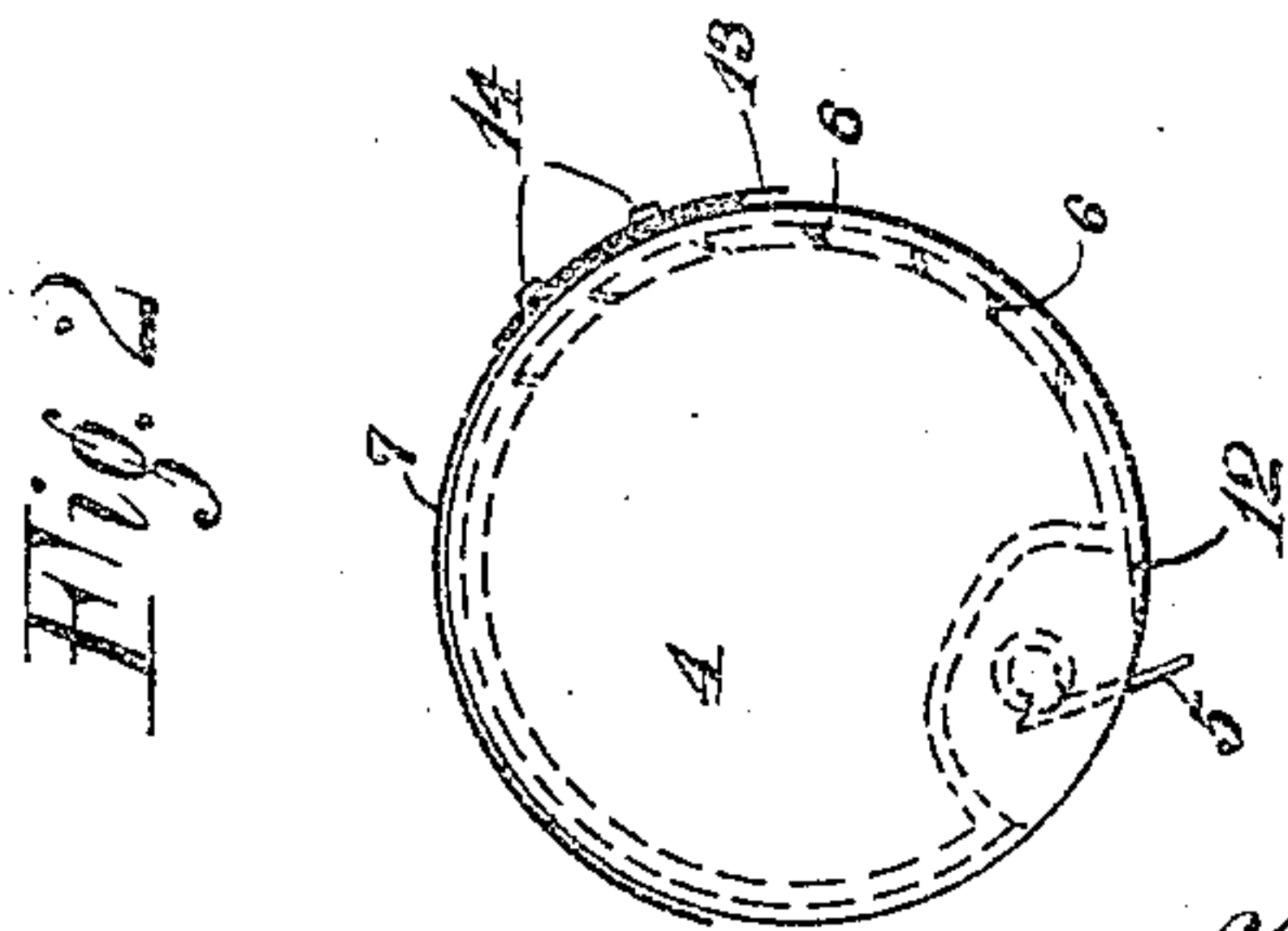
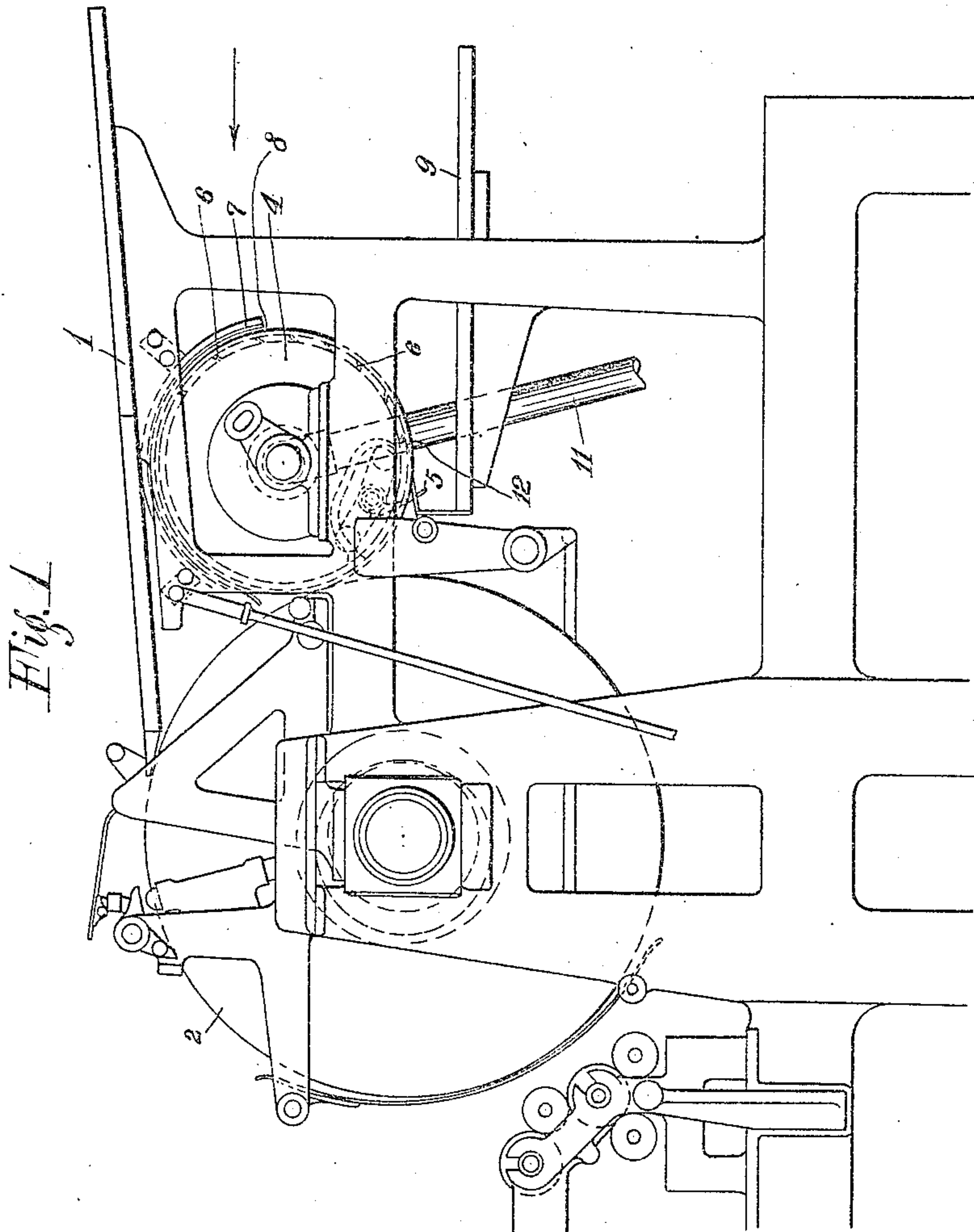
PATENTED JUNE 26, 1906.

W. SCOTT.

PAPER TRANSMITTING AND CONTROLLING DEVICE.

APPLICATION FILED JAN. 25, 1904.

2 SHEETS—SHEET 1.



Witnesses  
Fran Koenigsberg  
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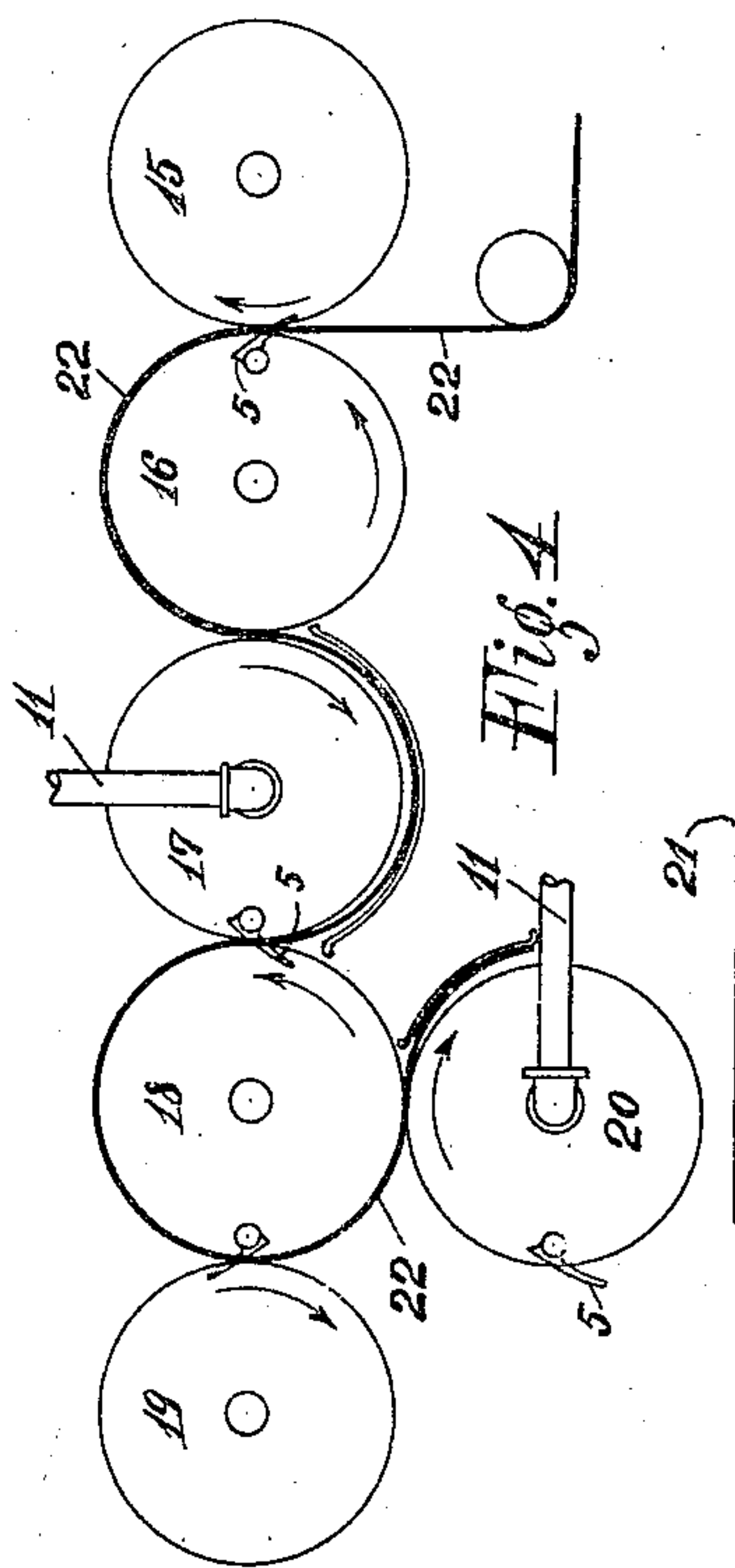
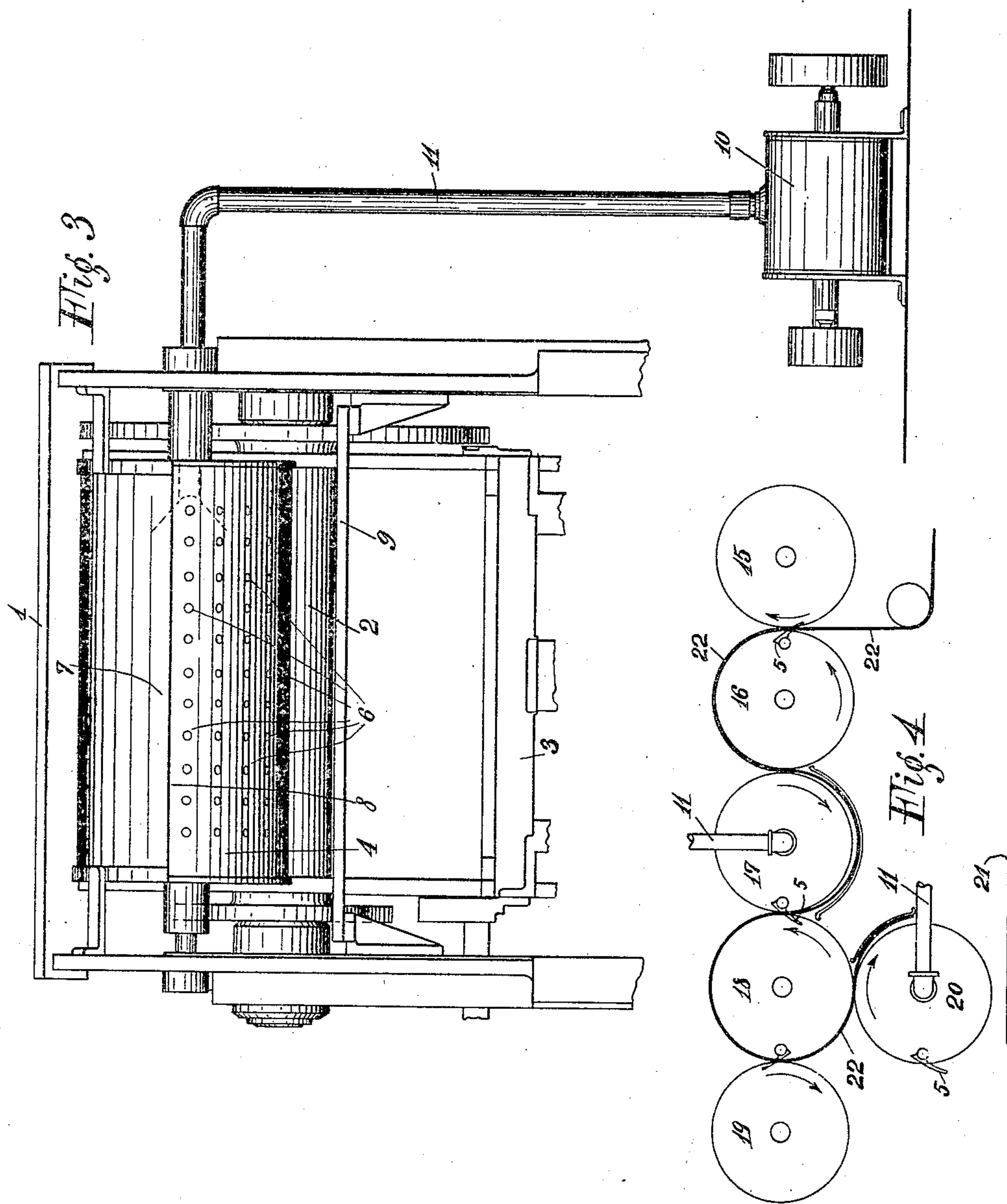
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2 SHEETS—SHEET 2.



Witnesses  
 Ivan Honigsberg.  
 Annie Wissemann.

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By his Attorneys

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# UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY.

## PAPER TRANSMITTING AND CONTROLLING DEVICE.

No. 824,313.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed January 25, 1904. Serial No. 190,630.

*To all whom it may concern:*

Be it known that I, WALTER SCOTT, a citizen of the United States of America, and a resident of Plainfield, Union county, New Jersey, have invented certain new and useful Improvements in Paper Transmitting and Controlling Devices, of which the following is a specification.

My invention relates to printing or other machines, and has more particular reference to means for transmitting and controlling sheets.

The object of my invention is to prevent the smutting of the printed sheet while passing through the machine and to deliver the said sheet with the printed side up.

In transferring a sheet from the impression or other cylinder to the transfer or other cylinder the parts are generally so arranged that the printed sheet travels around the said transfer-cylinder with the printed side adjacent to or in contact with the said cylinder. In this way the sheet frequently smudges. To prevent this, I employ a circumferential and stationary guide or guides adjacent to the cylinder, against which guide the sheet is blown by air-pressure from within the cylinder around which it travels and is, furthermore, in the present instance delivered with the printed side up. This delivery operation is effected by having the guide extend only part of the way around the cylinder or by cutting away a portion of the said guide at the delivery-point. A delivery-table or other means is placed adjacent to the delivery-point, so that as the sheet comes adjacent to the same the air-pressure will blow the sheet outward and downward, thus delivering the sheet with the printed side up. The cylinder is, as is usual, provided with grippers or with other means for carrying the sheet around with it. These grippers take the sheet as it passes from one cylinder to the other, so that it will travel around with the said cylinder, the air-pressure blowing the sheet out of contact with the said cylinder and up against the guide, which confines it as it travels around the said cylinder. When the delivery-point is reached, the grippers release the sheet and the air blows it downward, with the printed side up, on the delivery-table or other means of a similar nature.

In the present application I have shown my invention adapted to be used in connection with a bed-and-cylinder press; but it is

obvious that it may be applied to other forms of presses as well.

In the drawings, Figure 1 is a side elevation of parts of a printing-machine embodying my invention. Fig. 2 is a detail view in section of the transfer-cylinder. Fig. 3 is an end view of a press looking in the direction of the arrow in Fig. 1. Fig. 4 is a diagrammatic view showing a modification of my invention.

Similar characters of reference indicate corresponding parts in the different views.

1 indicates a feed-table, while 2 is the impression-cylinder, and 3 the reciprocating bed, all of any usual or suitable construction. Placed adjacent to the impression-cylinder is in this case a delivery-cylinder 4, provided with the grippers 5 of any suitable construction and constructed with a plurality of apertures 6 for the emission of air under pressure, acting against substantially the entire surface of the sheet, so as to keep the body thereof out of contact with the cylinder. These apertures, while they could extend all the way around the cylinder, are in this case placed only at a point immediately in the rear of the grippers and extend for a distance equal to the length of the sheet to be acted upon. The apertures 6 are preferably disposed at an angle to the radius of the cylinder 4, as shown in the drawings.

Adjacent to the cylinder 4 there is located a circumferential and stationary guide 7, extending in this instance only part of the way around the cylinder 4—namely, from the point where the grippers 5 of the cylinder 4 seize the sheet and to a point 8, located some distance away from the point at which the grippers 5 release the sheet—so that the said sheet is free to move outward and downward by reason of the air-pressure issuing from the apertures in the cylinder 4. 9 is the delivery-table, located below the cylinder 4.

The air-pressure issuing from the cylinder 4 may be obtained in any suitable way and can, as shown in the drawings, be received from a source of supply, as the blower 10, suitably connected with the inside of the cylinder 4 by means of the pipe 11.

The sheet passes from the feed-board around the impression-cylinder and receives an impression between the said impression-cylinder and the bed, after which it is carried up to the delivery-cylinder 4, where it is seized by the grippers 5, thereby transferring



the sheet from one cylinder to the other. As the cylinder 4 rotates, the grippers 5 will carry the sheet around with them; but the sheet will be held away and out of contact with the said cylinder 4 by reason of the air-pressure issuing from the said cylinder 4, which will blow the sheet up against the stationary and circumferential guide. The continued motion of the cylinder 4 will bring the grippers to the position shown in Fig. 1, where they will open and release the sheet, the air-pressure blowing the sheet outward and downward upon the delivery-table below. In this way it will be observed that although the printed side of the sheet is adjacent to the cylinder 4 it is held out of contact with the same by reason of the air-pressure, and yet travels around with the said cylinder by means of the grippers 5 or by other sheet-carrying means. It will also be observed that when the sheet arrives at the proper point the grippers release the sheet and the sheet is delivered with the printed side up.

The cylinder 4 will conveniently be provided with a high surface, as 12, at the point where the grippers 5 seize the sheet, or the main portion of the cylinder 4 will be turned down except at the point where the grippers are located. This is done to give the sheet sufficient space to be free from contact with the cylinder.

The confining-guide 7 can be made as one or more members and can, further, as shown in Fig. 2, be made adjustable, so as to provide for different lengths of sheets. In the said Fig. 2, 13 indicates a telescoping portion on the guide whereby its length can be increased or decreased, the screws 14 being utilized to properly secure it in position after it has been adjusted.

The cylinder 4, as previously pointed out, may be a transfer or other cylinder. In Fig. 4 I have shown my invention applied to a two-color press, in which 15 indicates the first plate-cylinder, 16 the first impression-cylinder, 17 a transfer-cylinder similar to the cylinder 4, 18 the second impression-cylinder, 19 the second plate-cylinder, and 20 a delivery-cylinder similar to cylinder 4. 21 is a delivery-table or other delivery means. The path of the sheet is indicated by the black line 22. The cylinder 4 is further susceptible of being used in any other combinations for the manipulation of sheets found useful.

The means for carrying the sheets around with the cylinder 4 will preferably be grippers, as that is the most positive means. If impaling-pins were used, the sheet might blow off the same.

What I claim is—

1. The combination with a cylinder, of sheet-carrying means on the same, means for exerting an air-pressure from within the cylinder on the same so as to keep that surface of the sheet which is adjacent to the cylinder

out of contact with the same as it travels around with the said cylinder, a delivery-table on which the sheet is adapted to fall when the sheet-carrying means release the same, and means for confining the sheet adjacent to the cylinder during a portion of its travel only so that the air-pressure can blow the sheet down on the feed-table when the said sheet is released by the sheet-carrying means.

2. The combination with a cylinder, of sheet-carrying means on the same, means for exerting an air-pressure from within the cylinder upon the sheet so as to keep that surface of the sheet which is adjacent to the said cylinder out of contact with the same as it travels around with the said cylinder, and a stationary and circumferential guide adjacent to the said cylinder.

3. The combination with a cylinder, of sheet-carrying means on the same, means for exerting an air-pressure from within the cylinder on the same so as to keep that surface of the sheet which is adjacent to the cylinder out of contact with the same as it travels around with the said cylinder, a delivery-table on which the sheet is adapted to fall when the sheet-carrying means release the same, and a stationary and circumferential guide adjacent to the said cylinder extending only part of the way around the said cylinder so that the air-pressure can blow the sheet down on the delivery-table when the said sheet is released by the sheet-carrying means.

4. The combination with a cylinder, of sheet-carrying means on the same, means for keeping that surface of the sheet which is adjacent to the said cylinder out of contact with the same as it travels around with the said cylinder, a stationary and circumferential guide adjacent to the said cylinder extending only part of the way around the said cylinder so as to allow the sheet to drop on the delivery-table, and a delivery-table on which the sheet is adapted to fall when the sheet-carrying means release the same.

5. The combination with an impression or other cylinder, of a second cylinder adapted to receive the sheet from the said impression or other cylinder with the printed surface adjacent to the second cylinder, a delivery-table, means for keeping the printed surface of the sheet out of contact with the cylinder as it travels around with the same, and for delivering the said sheet with its printed side up on the said table, and a stationary and circumferential guide adjacent to the said cylinder extending only part of the way around the said cylinder so as to allow the sheet to drop on the delivery-table.

6. The combination with an impression or other cylinder, of a second cylinder adapted to receive the sheet from the said impression or other cylinder with the printed surface adjacent to the said second cylinder, a delivery-



table, means for exerting an air-pressure from within the cylinder so as to keep that surface of the sheet which is adjacent to the said cylinder out of contact with the same as it travels around with the said cylinder, and a stationary and circumferential guide adjacent to the said cylinder extending only part of the way around the said cylinder so that the air-pressure can blow the sheet down on the delivery-table when the said sheet is released by the sheet-carrying means.

7. The combination with a cylinder, of sheet-carrying means on the same, means for exerting an air-pressure from within the cylinder upon the sheet so as to hold that side of the sheet which is adjacent to the cylinder out of contact with the same, and means for confining the sheet adjacent to the cylinder extending a variably-predetermined length around the cylinder.

8. The combination with a cylinder, of sheet-carrying means on the same, means for exerting air-pressure against substantially the entire surface of the sheet so as to keep the body thereof out of contact with the cylinder as it travels around with the same.

9. The combination with a cylinder, of sheet-carrying means on the same, means for exerting air-pressure against substantially the entire surface of the sheet so as to keep the body thereof out of contact with the cylinder as it travels around with the same, and means for confining the sheet adjacent to the cylinder.

10. The combination with a cylinder, of sheet-carrying means on the same, and means for exerting an air-pressure from within the cylinder against substantially the entire surface of the sheet so as to keep the body thereof out of contact with the cylinder as it travels around with the same.

11. The combination with a cylinder, of sheet-carrying means on the same, means for exerting an air-pressure from within the cylinder against substantially the entire surface of the sheet so as to keep the body thereof out of contact with the cylinder as it travels

around with the same, and means for confining the sheet adjacent to the cylinder.

12. The combination with a cylinder, of sheet-carrying means on the same, a delivery-table, and means for exerting air-pressure against substantially the entire surface of the sheet so as to keep the body thereof out of contact with the cylinder as it travels around with the said cylinder and for assisting in delivering the sheet to the delivery-table.

13. The combination with a cylinder, of sheet-carrying means on the same, a delivery-table, means for exerting air-pressure against substantially the entire surface of the sheet so as to keep the body thereof out of contact with the cylinder as it travels around with the said cylinder and for assisting in delivering the sheet to the delivery-table, and means for confining the sheet adjacent to the cylinder.

14. The combination with a cylinder, of sheet-carrying means on the same, a delivery-table, and means for exerting air-pressure from within the cylinder against substantially the entire surface of the sheet so as to keep the body thereof out of contact with the cylinder as it travels around with the said cylinder and for assisting in delivering the sheet to the delivery-table.

15. The combination with a cylinder, of sheet-carrying means on the same, a delivery-table, means for exerting air-pressure from within the cylinder against substantially the entire surface of the sheet so as to keep the body thereof out of contact with the cylinder as it travels around with the said cylinder and for assisting in delivering the sheet to the delivery-table, and means for confining the sheet adjacent to the cylinder.

Signed at New York this 22d day of January, 1904.

WALTER SCOTT.

Witnesses:

AXEL V. BEEKER,  
H. S. DUELL.