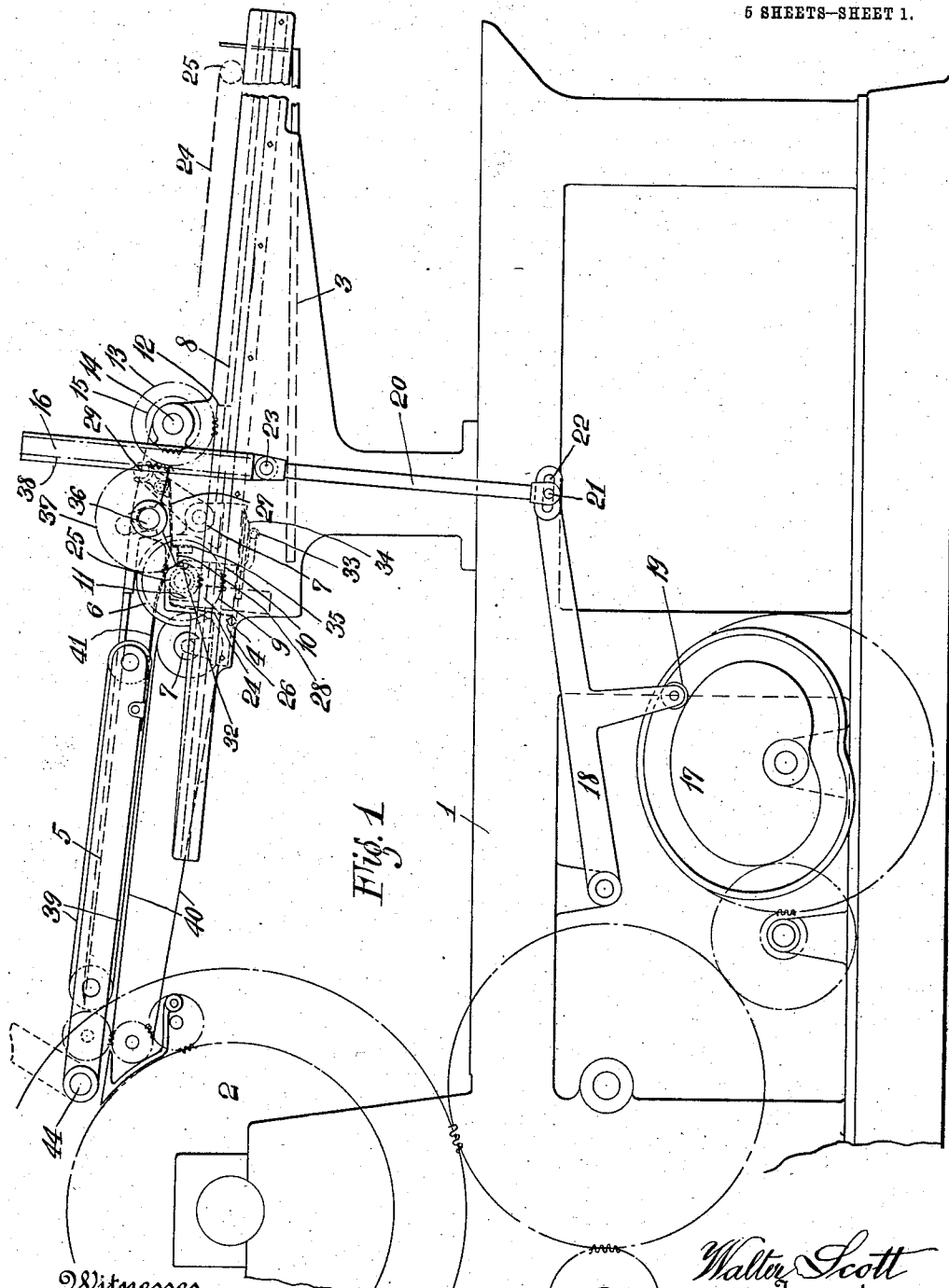


W. SCOTT, DEC'D.
I. & D. J. SCOTT, EXECUTORS.
DELIVERY MECHANISM.
APPLICATION FILED MAR. 9, 1905.

1,027,283.

Patented May 21, 1912.

5 SHEETS—SHEET 1.



Witnesses
Evan Konigsberg
Anna Wassermann

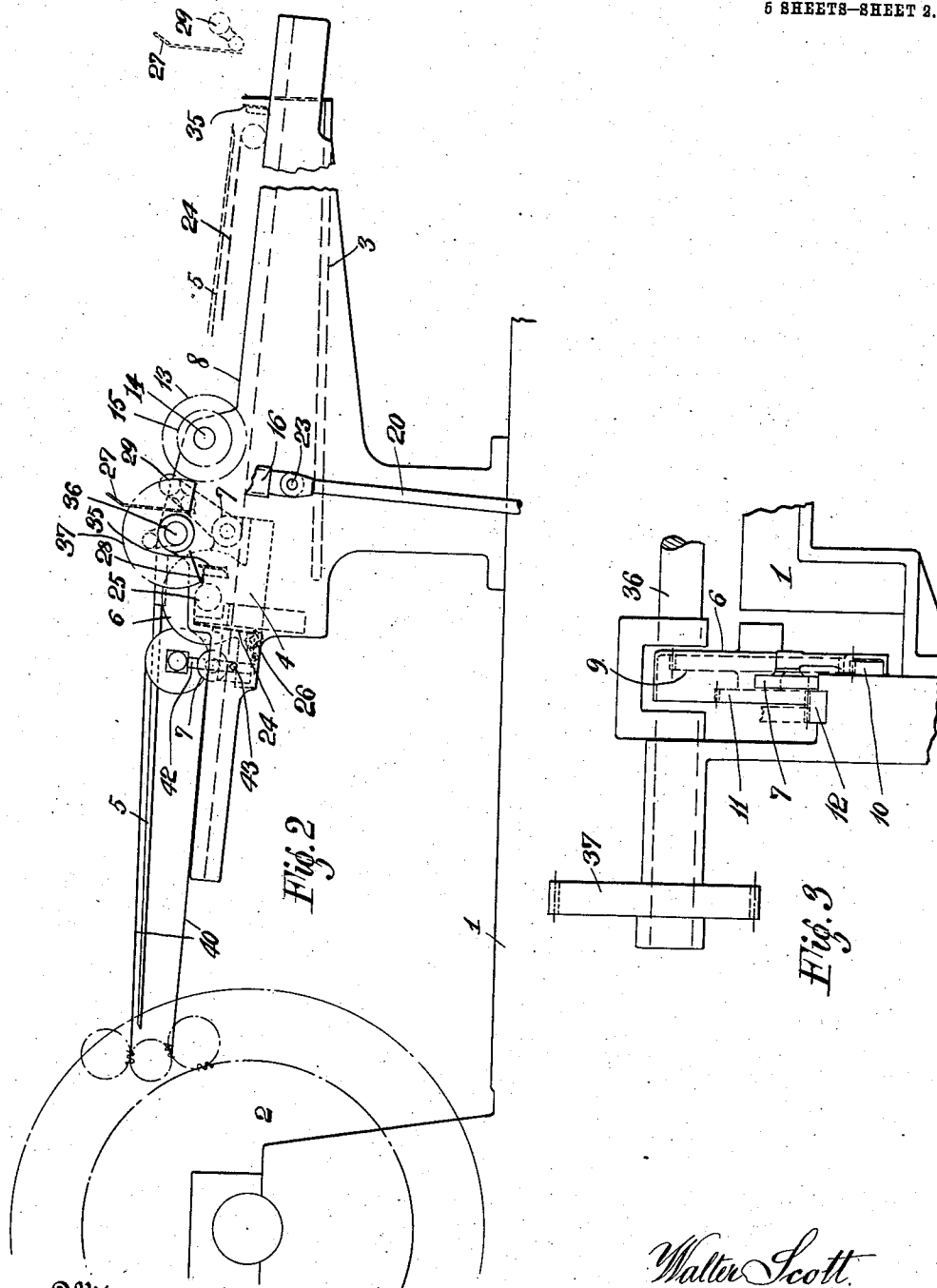
Walter Scott
Inventor
By his Attorneys
Decker & Spaulding

W. SCOTT, DEC'D.
I. & D. J. SCOTT, EXECUTORS.
DELIVERY MECHANISM.
APPLICATION FILED MAR. 9, 1905.

1,027,283.

Patented May 21, 1912.

6 SHEETS—SHEET 2.



Witnesses
Joan Horigsburg.
Anna Horigsburg.

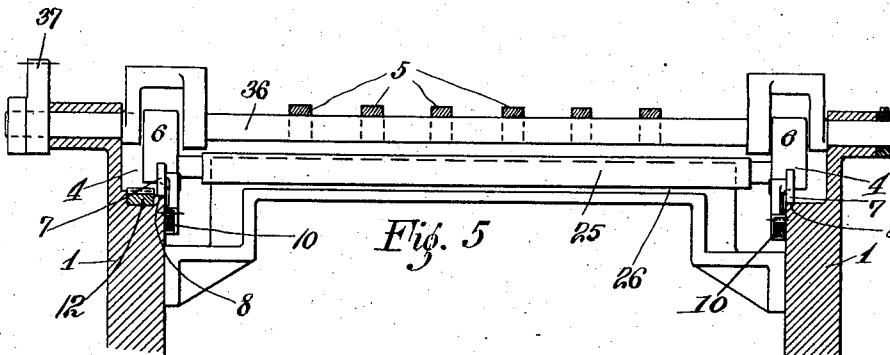
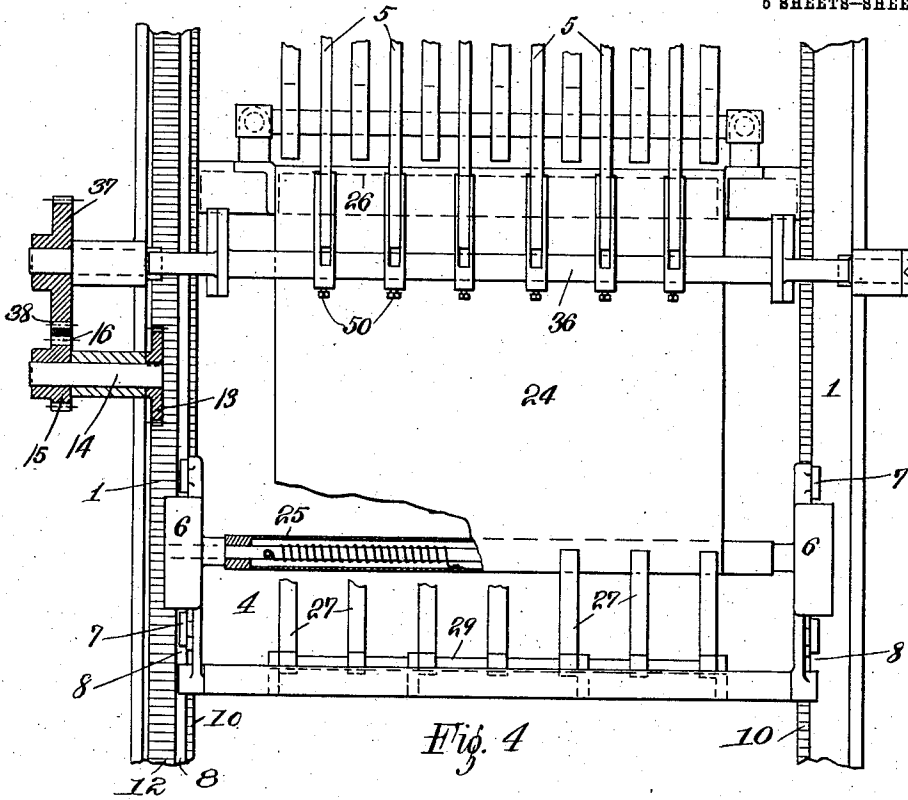
Walter Scott.
Inventor
By his Attorneys
Becker & Spaulding

W. SCOTT, DEC'D.
I. & D. J. SCOTT, EXECUTORS.
DELIVERY MECHANISM.
APPLICATION FILED MAR. 9, 1905.

1,027,283.

Patented May 21, 1912.

5 SHEETS—SHEET 3.



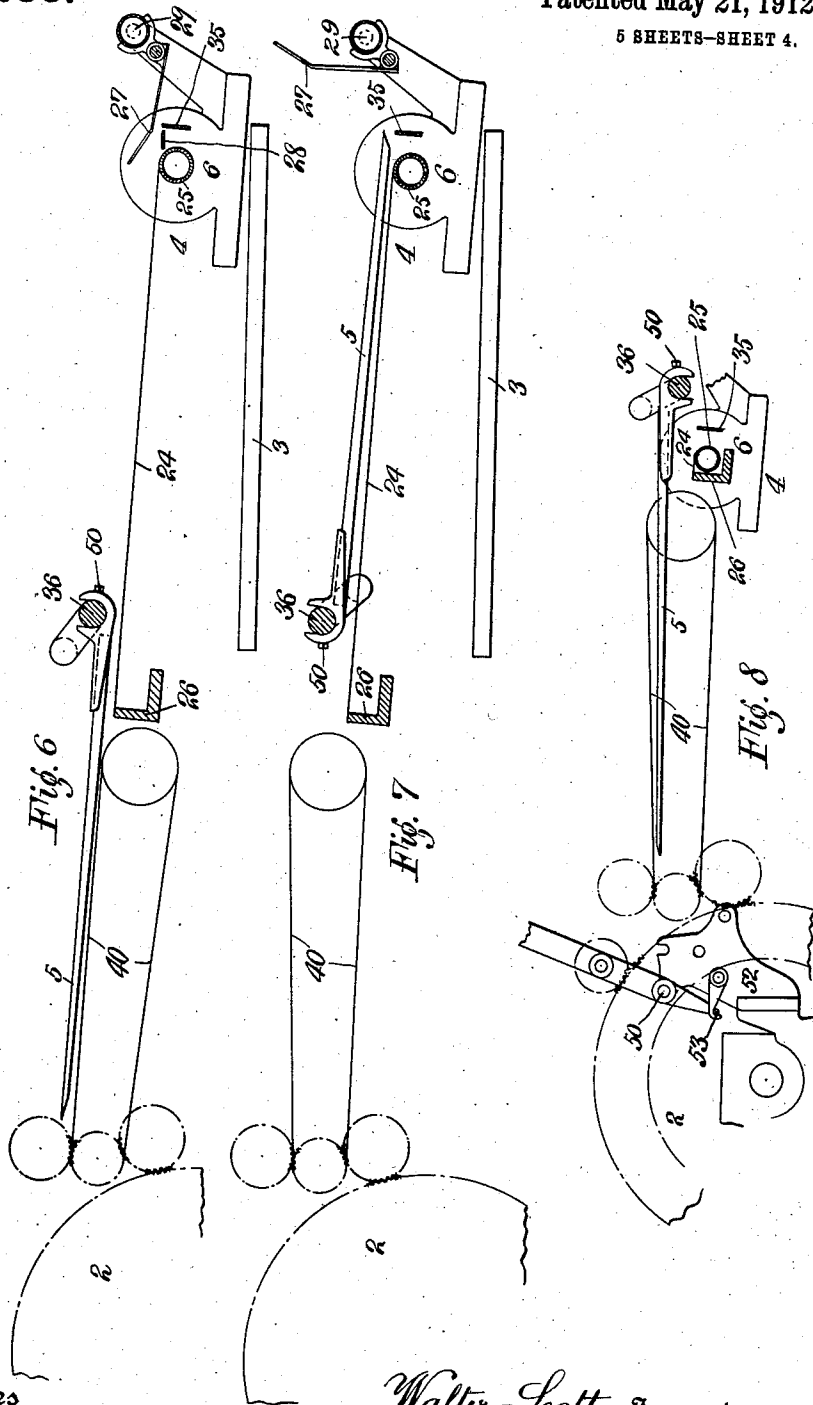
Witnesses
Fran Jönigberg.
Anna Stasemann.

Walter Scott Inventor
By his Attorneys
Becken & Spaulding

W. SCOTT, DEC'D.
I. & D. J. SCOTT, EXECUTORS.
DELIVERY MECHANISM.
APPLICATION FILED MAR. 9, 1906.

1,027,283.

Patented May 21, 1912.
5 SHEETS—SHEET 4.



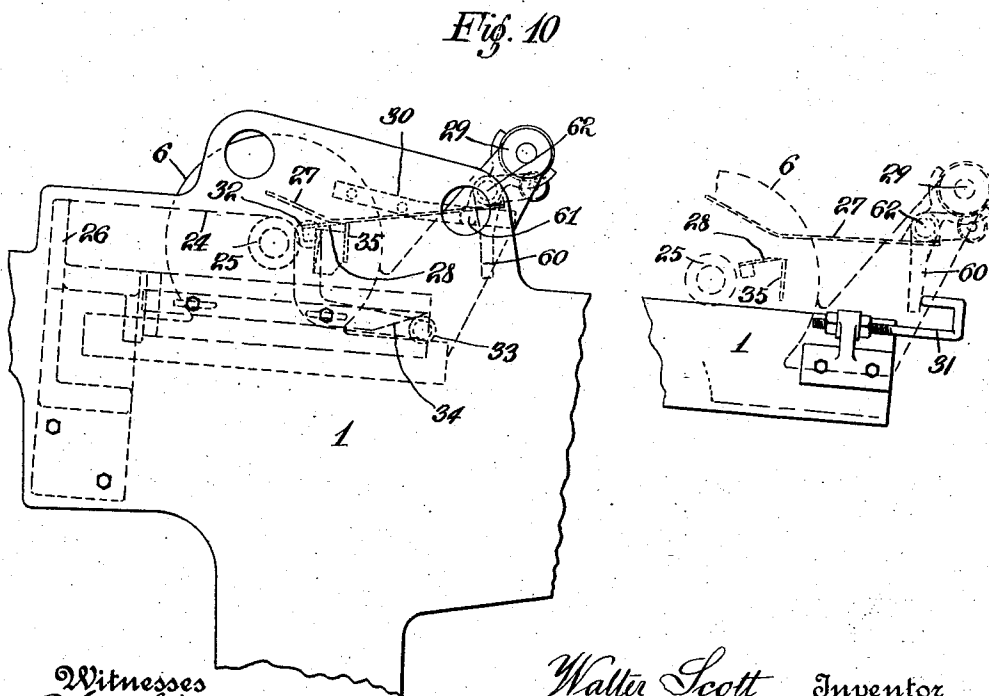
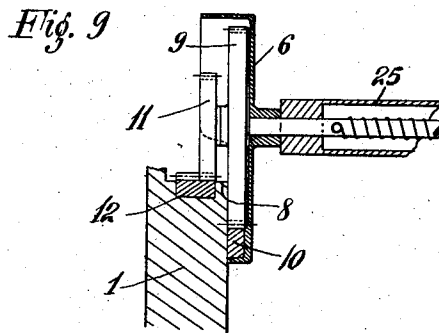
Witnesses
Fran Kruegerberg
Anna Kuefermann

Walter Scott Inventor
By his Attorneys
Parker & Spaulding

W. SCOTT, DEC'D.
I. & D. J. SCOTT, EXECUTORS.
DELIVERY MECHANISM.
APPLICATION FILED MAR. 9, 1905.

1,027,283.

Patented May 21, 1912.
5 SHEETS—SHEET 5.



Witnesses
Ernst Koenigsberg
Anna Weissmann

Walter Scott Inventor
By his Attorneys
Deeken & Spaulding

UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY; ISABELLA SCOTT AND DAVID JOHN SCOTT EXECUTORS OF SAID WALTER SCOTT, DECEASED.

DELIVERY MECHANISM.

1,027,283.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed March 9, 1905. Serial No. 249,214.

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 Delivery Mechanisms, of which the following is a specification.

The present invention relates generally to delivery mechanisms, and has more particular reference to delivery mechanisms used in printing or other machines.

In delivering sheets of paper from a printing machine of the character known as a "stop cylinder," "two revolution," etc., it is sometimes desirable that the sheets should be delivered with the printed side up and sometimes with the printed side down.

The object of the invention is the production of means whereby this can be done in the same machine at will and so constructed as to require a small amount of labor and time in making the change from one style to the other.

In a companion application executed by me on the 2nd day of March, 1905, there is shown a combination of a delivery board, a reciprocating delivery mechanism, preferably having a collapsible sheet support, for delivering sheets to the said board, and a fly for turning the sheet over and delivering it with the printed side down to the reciprocating delivery mechanism.

In the present application are shown means in combination with the above whereby sheets may be delivered with the printed side up or down at will in the same machine.

To this end the invention comprises broadly a delivery board, a reciprocating delivery mechanism for delivering sheets to the board, and means whereby sheets may be delivered with the printed side up or down to the said reciprocating delivery mechanism.

In the accompanying drawings are shown means whereby this result may be obtained in a concrete structure, but the invention may of course be widely varied.

In the said drawings: Figure 1 is a side elevation of a machine embodying the invention and showing the parts arranged to deliver sheets with the printed side up. Fig. 2 is a partial side elevation showing the parts arranged to deliver the sheets with the printed side down. Fig. 3 is a partial end elevation. Fig. 4 is a plan view of the fly shaft and adjacent elements, partly in sec-

tion. Fig. 5 is a sectional end elevation taken forward of the roller 25. Fig. 6 is a diagrammatic view showing the arrangement of the parts when the sheet is to be delivered with the printed side up; the reciprocating delivery being shown in its position farthest away from the impression cylinder and the fly fingers being reversed so as to form upper guides for the sheets. Fig. 7 is a diagrammatic view showing the arrangement of the parts when the sheet is to be delivered with the printed side down and showing the fly as having delivered the sheet onto the reciprocating delivery mechanism. Fig. 8 shows the position of the fly when receiving the sheet from the impression cylinder. Fig. 9 is a sectional detail view through the axis of the roller 5. Fig. 10 is a detail view showing more particularly the grippers on the reciprocating delivery mechanism and the means for operating the same; the said reciprocating delivery mechanism being shown in its two extreme positions.

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

1 indicates a framework suitably supporting the various parts comprising the machine.

2 indicates the impression cylinder, 3 the delivery board, 4 the reciprocating delivery mechanism, and 5 is the fly.

The reciprocating delivery mechanism is of the usual or any other suitable construction and consists, in the present instance, of the carriage 6 having the hangers 7 traveling on the rails 8, and provided with a gear 9 engaging with the stationary rack 10 on both sides of the framework. Motion is imparted to this gear 9 by means of the pinion 11 mounted on the same shaft with the gear 9 and engaging with the reciprocating rack 12 in mesh with the gear 13 mounted on the shaft 14. This shaft 14 also carries the pinion 15 engaging with the rack 16 operated from the cam 17 by means of the pivoted lever 18 and friction roll 19 connected with the rod 20 by means of the adjustable pin or screw 21 in the slot 22. This rod 20 is pivoted to the rack 16 at 23. The cam 17 makes one revolution to each two revolutions of the impression cylinder and is suitably geared to the same in a well known manner.

The reciprocating delivery mechanism carries a sheet support, preferably in the

form of a collapsible apron 24 wound around the roller 25 and fastened with its other end to the fixed bar 26. The reciprocating delivery mechanism further carries the usual grippers 27 and 28 adapted to be rendered inoperative. The grippers 27 are mounted on the shaft 29 and turn around the center 62. An arm 60 is adapted to engage with the stop 31 at the end of the forward stroke to open the grippers, and is adapted to engage with the projection 61 on the stop 30 at the end of the return stroke to close the grippers. The grippers 28 are pivoted at 32 and are provided with the roller 33 adapted to engage the stationary cam 34 to lower the said grippers when the sheet is fed into the bite of the grippers. A gage 35 is likewise provided adjacent to the said grippers against which the sheet is fed.

The fly is mounted on the shaft 36 which is cranked at one point on each side of the machine, as shown in Figs. 3 and 5, to clear the members of the reciprocating carriage. Mounted on the shaft 36 is a segment 37 which engages with the teeth 38 on the rack 16 whereby both the reciprocating delivery mechanism and fly are operated from the same cam and rack.

Interposed between the fly and reciprocating delivery mechanism and the impression or other cylinder are suitable sheet conveying means as the upper and lower tapes 39 and 40 receiving motion from a gear on the impression cylinder in the usual way. A guide 41 may also be used if desired. The lower tapes are made adjustable by means of the pin 42 adjustable in the framework by means of the screw 43 adjacent to the said fly and reciprocating delivery mechanism.

It is not always necessary to use the upper tapes especially when delivering the sheet with the printed side up. In the latter event, the fly may take the place of the upper tapes as shown in Fig. 6 by simply unloosening the screws 50 which hold the fly fingers in position, and reversing the fly fingers and attaching them again by the said screws to the fly shaft. If upper tapes are used, however, it is necessary to move them out of the way when the fly is used to deliver the sheets to the reciprocating mechanism. In that event, the upper tapes may be pivoted at the end adjacent to the impression cylinder on the pivot 51 and swung up out of the way and held in position by means of the hook 52 passing over the pin 53.

When it is desired to deliver the sheet with the printed side up, the lower tapes are brought into alinement with the reciprocating delivery mechanism and the fly is disconnected by moving the segment 37 out of mesh with the rack 16 or otherwise rendered inoperative. On the stroke of the reciprocating

delivery mechanism toward the impression cylinder, the stop 30 moves the grippers 27 downward while the cam 34 lowers the grippers 28 exposing the gage 35. The sheet moves into the bite of the grippers on the forward stroke, traveling faster than the reciprocating delivery mechanism by reason of the tapes, and when the said reciprocating delivery mechanism has traveled a certain distance forward, the cam 34 ceases to influence the grippers 28 and the said grippers move upward nipping the sheet. At the end of the movement in the forward direction, the stop 31 opens the grippers 27 and on the return stroke of the reciprocating delivery mechanism the sheet is rolled off onto the delivery board with the printed side up.

If it is desired to deliver the sheet with the printed side down, the fly is made operative, the upper tapes, if previously used, swing up out of the way and the lower tapes are raised up above the fly fingers. The grippers 27 are rendered inoperative by swinging them up out of the way of the fly as indicated in dotted lines in Fig. 2. The sheet moves out over the fly, which is held momentarily by reason of a dwell on the cam 17, and the fly then takes the sheet and turns it over on the collapsible sheet support of the reciprocating delivery mechanism with the printed side down. Upon the return stroke the reciprocating delivery mechanism is withdrawn, being operated in unison with the fly and the sheet then falls on the delivery board. The reciprocating delivery and the fly may be driven from different cams or cranks.

What is claimed is:

1. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism for delivering sheets to the board, a fly for turning the sheets over so as to deliver the sheets with the printed side down to the reciprocating delivery mechanism, and means for delivering sheets with the printed side up to the fly or reciprocating delivery mechanism direct, at will.

2. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism for delivering sheets to the board, means for delivering sheets with the printed side up or down at will to the said reciprocating delivery mechanism, means for operating the fly and reciprocating delivery mechanism in unison or the reciprocating delivery mechanism only at will.

3. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism for delivering sheets to the board, a fly for turning the sheets over so as to deliver the sheets with the printed side down to the reciprocating delivery mechanism, means for delivering sheets with the printed side up to the fly or reciprocating

ating delivery mechanism direct, at will, means for operating the fly and reciprocating delivery mechanism in unison or the reciprocating delivery mechanism only at will.

4. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism having a collapsible sheet support for delivering sheets to the board, and means for delivering sheets with the printed side up or down at will to the said reciprocating delivery mechanism.

5. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism having a collapsible sheet support for delivering sheets to the board, a fly for turning the sheets over so as to deliver the sheets with the printed side down, to the reciprocating delivery mechanism, and means for delivering sheets with the printed side up to the fly or reciprocating delivery mechanism direct, at will.

6. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism having a collapsible sheet support for delivering sheets to the board, means for delivering sheets with the printed side up or down at will to the said reciprocating delivery mechanism, means for operating the fly and reciprocating delivery mechanism in unison or the reciprocating delivery mechanism only at will.

7. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism having a collapsible sheet support for delivering sheets to the board, a fly for turning the sheets over so as to deliver the sheets with the printed side down, to the reciprocating delivery mechanism, means for delivering sheets with the printed side up to the fly or reciprocating delivery mechanism direct, at will, means for operating the fly and reciprocating delivery mechanism in unison or the reciprocating delivery mechanism only at will.

8. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism for delivering sheets to the board, grippers on said reciprocating delivery mechanism adapted to be rendered inoperative, a fly for turning the sheets over so as to deliver the sheets with the printed side down to the reciprocating delivery mechanism adapted to be rendered inoperative, and means for delivering sheets with the printed side up to the fly or reciprocating delivery mechanism direct, at will.

9. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism for delivering sheets to the board, grippers on said reciprocating delivery mechanism adapted to be rendered inoperative, a fly for turning the sheets over so as to deliver the sheets with the printed side down to the reciprocating delivery

mechanism adapted to be rendered inoperative, means for delivering sheets with the printed side up to the fly or reciprocating delivery mechanism direct, at will, means for operating the fly and reciprocating delivery mechanism in unison or the reciprocating delivery mechanism only at will.

10. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism having a collapsible sheet support for delivering sheets to the board, grippers on said reciprocating delivery mechanism adapted to be rendered inoperative, a fly for turning the sheets over so as to deliver the sheets with the printed side down to the reciprocating delivery mechanism adapted to be rendered inoperative, and means for delivering sheets with the printed side up to the fly or reciprocating delivery mechanism direct, at will.

11. In a printing machine, the combination of a delivery board, a reciprocating delivery mechanism having a collapsible sheet support for delivering sheets to the board, grippers on said reciprocating delivery mechanism adapted to be rendered inoperative, a fly for turning the sheets over so as to deliver the sheets with the printed side down to the reciprocating delivery mechanism adapted to be rendered inoperative, means for delivering sheets with the printed side up to the fly or reciprocating delivery mechanism direct, at will, means for operating the fly and reciprocating delivery mechanism in unison or the reciprocating delivery mechanism only at will.

12. In a printing machine, the combination of a fly, a sheet delivery board, a reciprocating delivery mechanism adapted to receive sheets turned over by the fly or directly from the printing cylinder.

13. In a printing machine, the combination of a fly, an impression cylinder, tapes leading from the same arranged to deliver sheets to a fly, a reciprocating sheet delivery on which the sheets are laid by the fly or received direct from the said tapes, whereby the sheets are laid on to the delivery board with their printed sides up or down.

14. In a printing machine, the combination of an impression cylinder, tapes in front of the cylinder, a fly, a delivery board, a reciprocating delivery receiving sheets from the tapes with the printed side up or from the fly with the printed side down, whereby sheets are delivered onto the delivery board with the printed side up or down.

15. In a printing machine, the combination of an impression cylinder, tapes in front of the cylinder, a fly whose shaft has a cranked portion on either side of the machine, and a reciprocating sheet delivery mechanism adapted to pass under the said cranked portions of the said shaft.

16. In a printing machine, the combination of an impression cylinder, a collapsible sheet support located a distance away from the same, a fly adapted to deliver the sheets
5 from the impression cylinder to the collapsible sheet support when the latter is in a position farthest away from the impression cylinder, and tapes interposed between the impression cylinder and the collapsible
10 sheet support whereby the sheets may be delivered directly from the impression cylinder to the said sheet support, or to the fly and thence to the said sheet support.

17. In a printing machine, the combination of a collapsible sheet support, adjustable tapes interposed between the collapsible sheet support and the impression cylinder forming under guides for the sheets, a fly having reversible fly fingers adapted, when
20 in one position, to project below the tapes so as to receive the sheet and deliver it to the collapsible apron, and when in its reversed position, to project above the tapes so as to form upper guides when the sheet
25 is passed directly to the collapsible sheet support.

18. In a delivery mechanism, the combination of a reciprocating delivery, means for transferring sheets thereto printed side
30 up, and fly fingers for transferring sheets thereto printed side down.

19. The combination of a primary sheet receiving device, a reciprocating delivery coöperating therewith, fly fingers for turning
35 the sheets over between the primary sheet receiving device and the reciprocating delivery, and means whereby the fly fingers can be rendered inoperative so that the sheets will pass from the primary sheet receiving device to the reciprocating sheet
40 delivery without being turned over.

20. The combination of a set of tapes, a set of fly-fingers intermeshed therewith, a reciprocating sheet delivery and connections
45 whereby the fly fingers can be rendered inoperative, whereby the sheets can be transferred to the reciprocating delivery either side up and whereby the reciprocating delivery may act to deliver the sheets either
50 side up.

21. The combination of a set of tapes, a set of fly fingers intermeshed therewith, a reciprocating carriage carrying a sheet delivery mechanism and means whereby the
55 fly fingers can be thrown into and out of operation, the whole so arranged that the sheets will pass from the set of tapes onto the sheet delivery device and be carried forward and delivered by the delivery device
60 when the fly fingers are thrown out of operation, and so that when the fly fingers are in operation the same will turn the sheet over from the tapes and deposit the same on

the sheet delivery device which will act to deliver the sheet on the forward movement
65 of the carriage.

22. The combination of a set of tapes, a set of fly fingers intermeshed therewith, a reciprocating carriage carrying a delivery apron, means for actuating said apron so that if
70 the sheet passes from the set of tapes thereon it will be carried forward over the delivery table, and so that on the backward movement the apron will peel from under the sheets, and means for throwing the fly
75 fingers into and out of operation so that if in operation the sheets will be turned thereby and deposited on the delivery apron.

23. In a delivery mechanism, the combination of a collapsible apron and means
80 for transferring sheets thereto either side up.

24. In a delivery mechanism, the combination of a collapsible apron, means for transferring sheets thereto printed side up, and fly fingers for transferring sheets there-
85 to printed side down.

25. The combination of a primary sheet receiving device, a reciprocating delivery coöperating therewith, fly fingers for turning
90 the sheets over between the primary sheet receiving device and the reciprocating delivery, and means whereby the fly fingers can be rendered inoperative so that the sheets will pass from the primary sheet receiving device to the reciprocating delivery
95 without being turned over.

26. The combination of a set of tapes, fly fingers intermeshed therewith, a collapsible apron, and connections whereby the
100 fly fingers can be rendered operative, whereby the sheets can be transferred to the collapsible apron either side up, and whereby the collapsible apron may act to deliver the sheets either side up.

27. The combination of a set of tapes, a set of fly fingers intermeshed therewith, a collapsible apron carrying a sheet delivery mechanism, and means whereby the fly
105 fingers can be thrown into and out of operation, the whole so arranged that the sheet will pass from the set of tapes onto the collapsible apron and be carried forward and be delivered by the same when the fly fingers are thrown out of operation and so that
110 when the fly fingers are in operation the latter will turn the sheet over from the tapes and deposit it on the collapsible apron which will act to deliver the sheet on the forward movement of the collapsible apron.

Signed at New York this 2nd day of
120 March 1905.

WALTER SCOTT.

Witnesses:

IVAN KONIGSBERG,
GEO. A. HOFFMAN.