July 23, 1963 L. L. CRUZEN 3,098,649

SHEET STOPPING MECHANISM

Filed Dec. 21, 1961 4 Sheets-Sheet 1

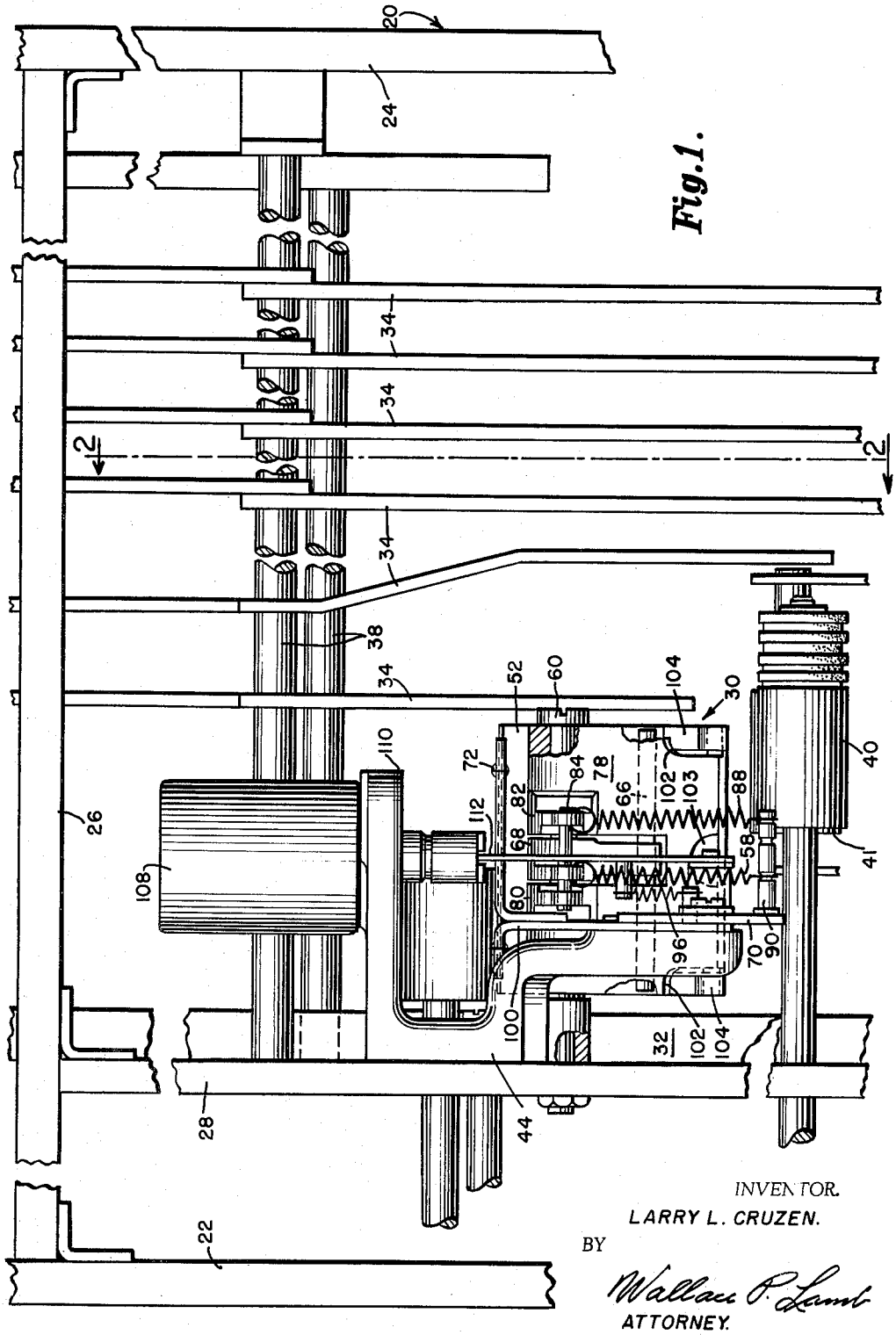


Fig. 1.

INVENTOR.
LARRY L. CRUZEN.

BY

Wallace P. Lamb
ATTORNEY.

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Filed Dec. 21, 1961 4 Sheets-Sheet 2

Fig. 2.

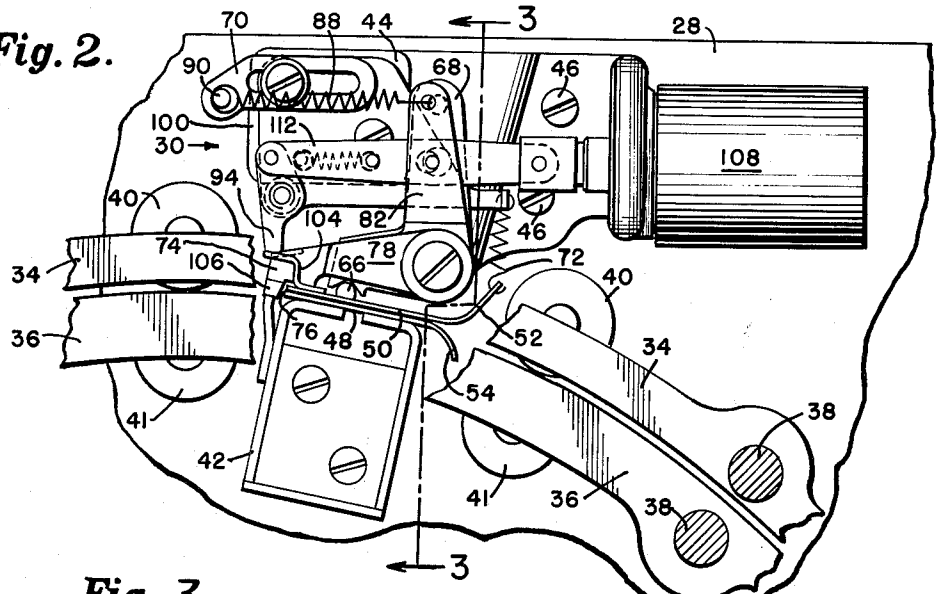
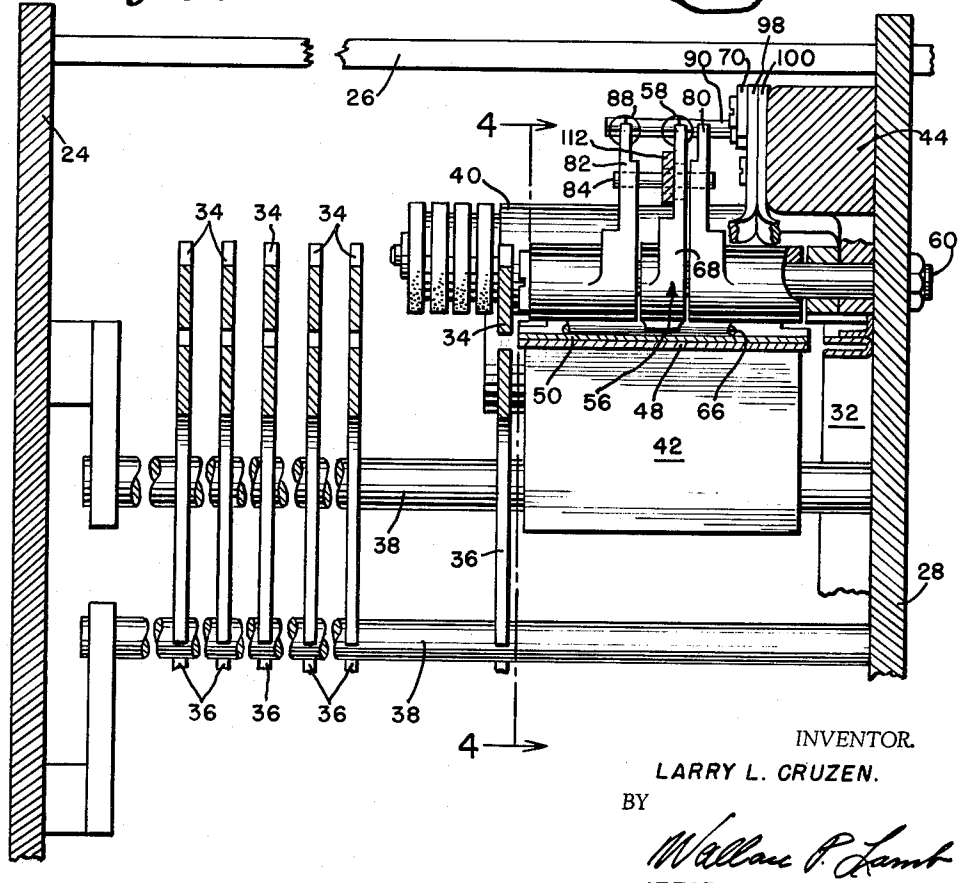


Fig. 3.



INVENTOR.
LARRY L. CRUZEN.
BY
Wallace P. Lamb
ATTORNEY.

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Filed Dec. 21, 1961 4 Sheets-Sheet 3

Fig. 4.

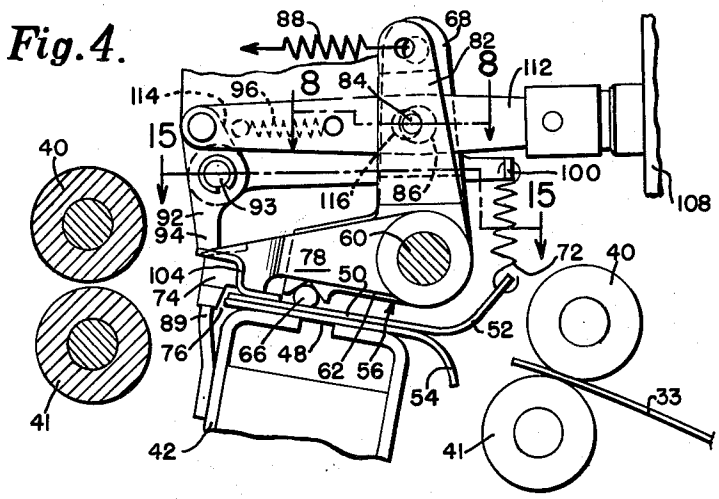


Fig. 8.

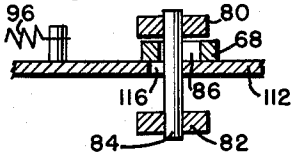


Fig. 9.

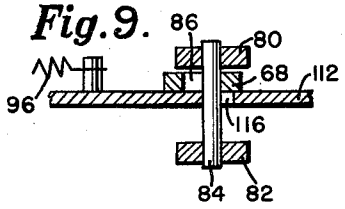


Fig. 5.

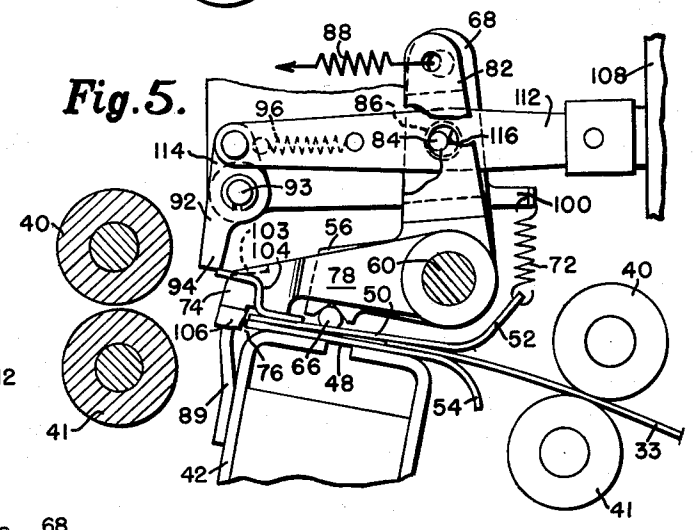
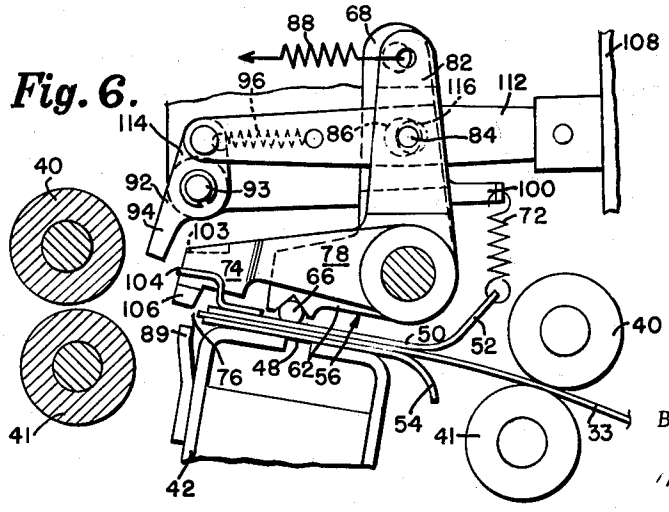


Fig. 6.



INVENTOR.
LARRY L. CRUZEN.
BY
Wallace P. Lamb
ATTORNEY.

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SHEET STOPPING MECHANISM

Filed Dec. 21, 1961 4 Sheets-Sheet 4

Fig. 10.

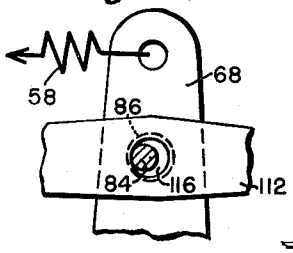


Fig. 7.

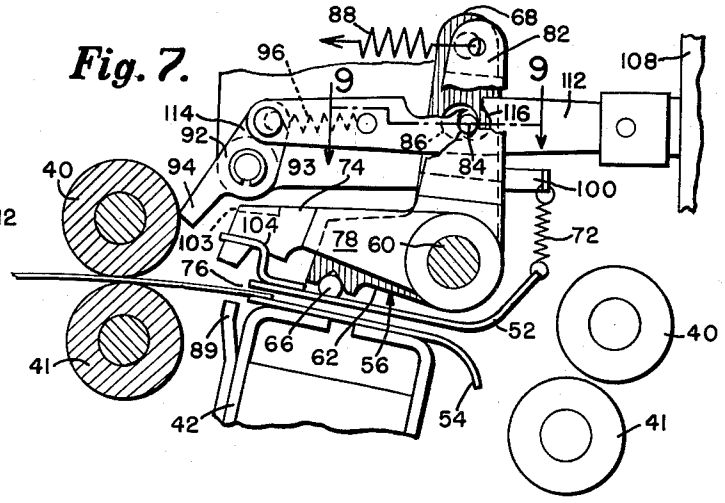


Fig. 11.

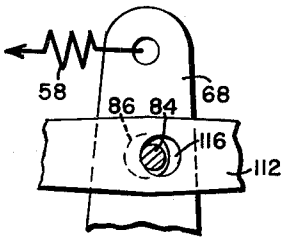


Fig. 13.

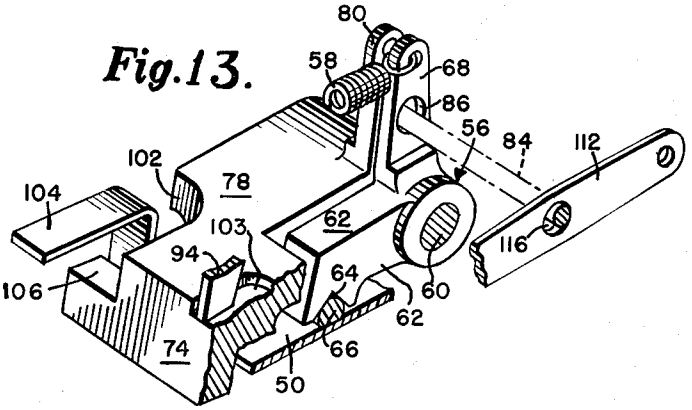


Fig. 12.

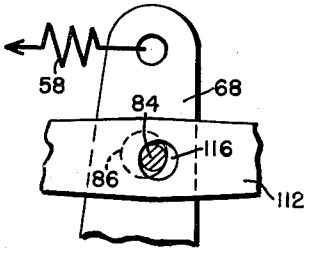


Fig. 15.

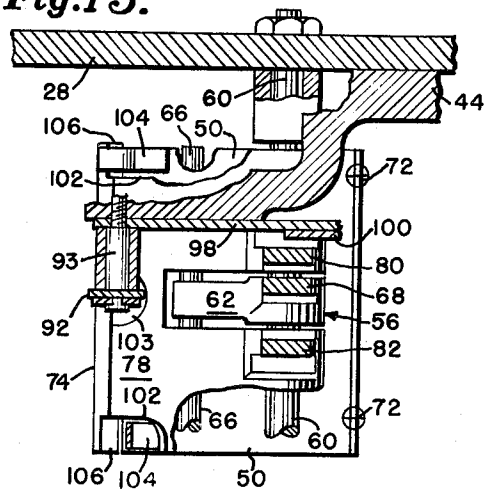
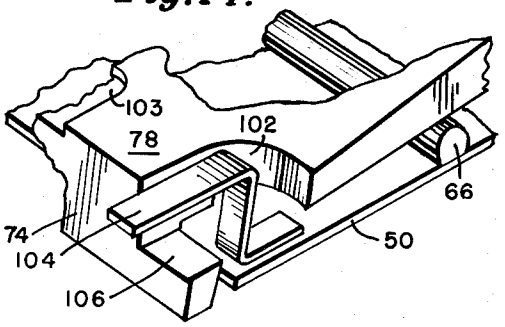


Fig. 14.



INVENTOR.
LARRY L. CRUZEN.

BY

Wallace P. Lamb

ATTORNEY.

United States Patent Office

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SHEET STOPPING MECHANISM

Larry L. Cruzen, Livonia, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 21, 1961, Ser. No. 160,999
20 Claims. (Cl. 271—46)

This invention relates generally to high velocity sheet transporting apparatus and particularly to a sheet brake mechanism therefor.

This application is a continuation-in-part of my co-pending application Serial No. 96,192, entitled "Sheet Stopping Mechanism," filed March 16, 1961.

One of the objects of my invention is to provide for high velocity sheet transporting apparatus, an improved brake mechanism for stopping a sheet at a station of the apparatus.

Another object of the invention is to provide for a sheet stopping station of a high velocity sheet transporting apparatus having sheet feed means continuously acting to propel the sheet, an improved sheet handling mechanism including a sheet braking pressure plate and a positive sheet stop member relatively retractable in a manner to insure release of the sheet from the station without obstruction by the stop member.

More specifically, it is an object of the invention to provide in a sheet handling mechanism of the above mentioned character for delayed release of the brake pressure plate to allow the positive stop member to retract and clear the sheet.

Other objects of the invention will become apparent from the following description, taken in connection with the accompanying drawings in which:

FIG. 1 is a fragmentary plan view of a sheet transporting apparatus embodying features of the invention;

FIG. 2 is a vertical cross sectional view partly in elevation and taken along the line 2—2 of FIG. 1;

FIG. 3 is a vertical cross sectional view taken along the line 3—3 of FIG. 2;

FIG. 4 is a vertical cross sectional view of the sheet handling mechanism with the operating parts shown in their normal positions;

FIGS. 5, 6, and 7 are views similar to FIG. 4 with the parts of the mechanism in the different positions they will assume in operation;

FIG. 8 is a horizontal sectional view, taken along the line 8—8 of FIG. 4;

FIG. 9 is a horizontal sectional view, taken along the line 9—9 of FIG. 7;

FIGS. 10, 11 and 12 are fragmentary detail views showing relative positions of certain parts during operation of the device;

FIG. 13 is a fragmentary perspective view of certain parts of the device;

FIG. 14 is another fragmentary perspective view showing other details of the device of FIG. 13 and

FIG. 15 is a horizontal sectional view, partly in elevation, taken along the line 15—15 of FIG. 4.

Referring to the drawings by characters of reference there is shown a fragment of a sheet or ledger card transport apparatus including supporting means, such as, a frame type supporting structure 20 having oppositely disposed side plates 22 and 24 rigidly connected together by suitable cross members 26. Rigidly mounted on the frame structure 20, between the side plates 22 and 24, there is an upright supporting plate 28 on which my sheet brake mechanism, designated generally by the numeral 30, is mounted. Welded or otherwise suitably secured to the inner face of the mounting plate 28 there is a channel guide member 32 for side edge guiding of the sheets, one of the sheets being shown and designated by numeral 33,

FIGS. 4, 5 and 6. On the other side of the brake mechanism 30 from guide member 32, a number of laterally spaced upper guide members 34 and a number of similar laterally spaced lower guide members 36 co-operate with each other and with side edge guide member 32 to provide support and guidance for the sheets 33. As shown, the guide members 32, 34, and 36 guide the sheet through a desired path of travel including a sheet stopping station where the guideway is interrupted to receive my sheet brake mechanism 30. The guideway forming rails 34 and 36 may be supported and suitably spaced apart on cross rods 38 which may be mounted at the opposite ends thereof in plate 28 and side plate 24. Suitably spaced along the sheet guideway are pairs of sheet feeding rollers including upper drive rollers 40 and lower pressure rollers 41.

My sheet braking mechanism 30 has a lower supporting member or anvil 42 and an upper supporting member or bracket 44. The supporting member 42 and the bracket 44 are both mounted on the plate 28, respectively above and below the sheet guideway, the bracket being rigidly secured by screws 46 to the inner face of the plate 28.

As is shown more clearly in FIG. 2, the supporting member 42 has a brake member or plate 48 affixed flat to the top thereof such that the upper surface of plate 48 substantially aligns with the upper edges of the lower guideway forming rails 36. In general, the sheet braking mechanism comprises the stationary braking plate 48 and a floating pressure plate 50, the latter overlying the former in broadside relationship thereto. The forward edges of the plates 48 and 50, with respect to the direction of travel of the sheets, are flared outwardly away from each other, as at 52 and 54 respectively, to form a guide or pilot entrance for directing the leading edge of a sheet between the brake plates. The plate 48 provides a fulcrum for the rear edge of the plate 50 which is pivoted thereon by and when a sheet 33 enters between the plates, as shown for example in FIG. 5.

Directly above the pressure plate 50 there is a movable thrust transmitting member or lever 56 which operatively connects the pressure plate 50 with a thrust member or helical coil spring 58. The lever 56 is pivoted on a shaft 60 which is mounted at one end thereof in and to the bracket 44. One arm 62 of the lever 56 extends forwardly from the shaft 60 with respect to the direction of sheet travel and constitutes a movable fulcrum member, the pressure plate 50 being fulcrumed on the underside of the lever arm 62, adjacent the free end thereof. Specifically, the lever arm 62 has a transverse notch or socket 64 forming a retainer and fulcrum for a transverse rod 66 which is secured, such as by welding, to the upper side of the pressure plate 50. To an upwardly extending arm 68 of the lever 56 is attached one end of the spring 58, the other end of the spring being attached to an adjustment member 70, mounted on the bracket 44. The spring 58 is tensioned to provide the braking force to decelerate a sheet passing between the plates 48 and 50. Normally, the force exerted by the spring 58 holds the pressure plate 50 flat against the cooperating brake plate 48, as shown in FIG. 2. A pair of laterally positioned springs 72, attached to the front end of the pressure plate 50, urge this end of the plate upwardly, the force exerted by the springs 72 being considerably less than the force exerted by spring 58.

The rod 66 is located closer to the rear edge of the pressure plate 50 than to the front edge so as to provide a leverage advantage at the front end of the pivotal pressure plate 50 and so that the effective applied force of spring 58 will increase as a sheet approaches the fulcrum of pressure plate 50. That is, the lever arm from the fulcrum rod 66 to the forward edge of the pressure plate 50 is greater than the lever arm from the pin 66 to the rear

edge of the pressure plate so that the effective braking force on a sheet passing under plate 50, gradually increases and reaches a maximum when the sheet passes under the pin 66.

A retractable stop member 74 is provided and is normally positioned over the exit, as at 76, of the brake. In the present construction, the stop member 74 is a downwardly extending flange of a plate-like lever arm 78 which is pivotally mounted on the shaft 60, the lever arm 78 being bifurcated to receive and clear the thrust transmitting lever arm 62, such that normally these arms lie in substantially the same horizontal plane, as shown in FIGS. 13 and 15. The lever arm 78 has a pair of laterally spaced arms 80 and 82, positioned respectively on opposite sides of the arm 68, and carried by and adjacent to the upper ends of the arms there is an abutment member 84 which extends through an aperture 86 in and adjacent the upper end of lever arm 68. As shown, the abutment member 84 may be a pin which may have its opposite ends press fitted or otherwise secured in and to the lever arms 80 and 82. Also, the diameter of the aperture 86 is made larger than the diameter of the pin 84 so as to provide for relative movement between the levers, or a lost motion connection therebetween. A helical coil spring 88 functions to urge the stop member 74 to the normal position over the sheet exit from the brake plates 48, 50, or against the stop 89, the spring 88 having one end attached to the upper end of the lever arm 82 and the other end attached to the adjustment member 78, or specifically to a transverse pin 90 of the adjustment member, as shown in FIG. 1.

In order to insure that the stop member 74 will remain in its normal or "down" position under the impact of the leading edge of a sheet, I provide a latch member 92 which normally latches the stop member in the "down" position thereof. The latch member 92 is pivoted on a stub shaft 93, directly above the stop member 74, and has a downwardly directed latch arm 94, the lower end of which engages the upper surface of the lever arm 78, adjacent the end thereof. A coil spring 96 is provided to urge the latch member 92 to latched position. As is shown more clearly in FIG. 15, the stub shaft 93 is secured at one end thereof to a sheet metal bracket 98 which in turn is secured to the main bracket 44. An extension 100 of the sheet metal bracket 98 provides an anchor to which the upper ends of the springs 72 are attached, the springs thus tending to raise the forward end of the pressure plate 50.

At its end, the plate-like lever arm 78 is formed with a pair of clearance recesses 102, one at each of its rear corners, to respectively receive abutment members 104 on pressure plate 50 for abutment by underlying lugs 106 on the ends of stop flange 74. Normally, the lugs 106 are in spaced apart relation to the abutments 104 to allow for predetermined upward movement of lever arm 78 before the lugs 106 engage the abutments 104 and lift the rearward end of the pressure plate 50.

A power element or solenoid 108 is provided to release the brake and may be mounted on an arm 110 of the bracket 44, as shown in FIG. 1. The solenoid 108 is operatively connected to the latch member 92 by a link member 112 which has one end thereof pivotally connected to the armature of the solenoid 108 and the other end pivotally connected to an upwardly directed arm 114 of the latch member 92. Intermediate its ends, the link 112 has an aperture 116 therethrough to receive the abutment member or cross pin 84, carried by the lever arms 80 and 82. The aperture 116 in link 112 is slightly smaller in diameter than the aperture 86 in lever arm 68, but provides for predetermined relative movement or lost motion with respect to both the stop lever 78 and the thrust transmitting lever 56. In FIG. 10, the parts are shown in the positions they will assume just after the link 112 has been moved to the right to release the latch 92. In FIG. 11, the link 112 is moving to the right and through engagement with the pin 84 is pivoting the stop lever 78 away from the sheet exit, and in FIG. 12, the pin 84 has engaged the lever arm to pivot the thrust transmitting lever 68 to the released brake position of the pressure plate 50.

Operation

Assuming that the operating parts of the brake mechanism are in their normal positions, as shown in FIG. 4, it will be seen that a sheet or card will be fed by the feed rollers 40, 41 between the outwardly flared ends 52, 54 of the brake plates 48 and 50, forcing the pressure plate 50 to pivot on its rear edge counterclockwise, facing FIG. 4, against the opposing force of the spring 58. The force exerted by the fast traveling sheet 33 is capable of pivoting the pressure plate 50 against the opposing force of the spring 58 because of the lever advantage effected by the locating of the pivot pin 66 near the rear edge of plate 50. As a consequence, the minimum effective braking force of the spring 58 is applied to the sheet 33 at the sheet entrance between the plates 48, 50, but as the sheet proceeds, the effective lever advantage decreases with corresponding increase in the effective braking force of spring 58. By this arrangement, as a sheet proceeds along its path of travel between the brake plates 48 and 50, deceleration of the sheet is effected at an increasing rate of deceleration until the sheet reaches the area of the fulcrum pin 66 where the maximum braking force of the spring 58 is effective. As the sheet proceeds past the fulcrum pin 66, the pressure plate is caused to pivot clockwise about the fulcrum pin 66 from the position shown in FIG. 5 to the position shown in FIG. 6. Adjustment of the spring 58 is made such that the sheet can proceed between the brake plates 48 and 50 until the leading edge of the sheet abuts the stop member 74. Following the stopping of the sheet by the stop member 74, the solenoid 108 is energized and moves link 112 to the right, facing FIG. 4, and the initial movement first pivots the latch member 92 to release the stop lever 78, there being lost motion between link 112 and pin 84 until the link is in the position shown in FIG. 10. Thereafter, through engagement of link 112 with pin 84, the stop lever 78 is pivoted to remove the stop flange 74 from the sheet exit of the brake plates 48 and 50. The stop lever 78 is pivoted relative to the thrust transmitting lever 56 by reason of the lost motion connection between the parts through pin 84, the spring 58 still holding the sheet at the station. Finally, the pin 84, moving within aperture 86, engages the lever arm 68, as shown in FIG. 9, and pivots lever 56 clockwise which allows springs 72 to raise the front of plate 50 by pivoting it counterclockwise about its rear edge. At this stage, the ledger sheet begins to move out of the stop station because the influence of arresting spring 58 has been removed by the solenoid 108. Only the force of the light springs 72 remains on the ledger sheet to maintain it against plate 48 thus preventing the ledger sheet from striking the lug 74 of arm 78. Continued movement of arm 78 causes lugs 106 to engage members 104 of plate 50 and lift the plate to the position shown in FIG. 7. In this open position, it is a function of the rear edge of plate 50 to prevent a passing ledger (one that has not been stopped in the ready gate) from striking the lug 74 of arm 78.

While I have shown and described my sheet brake mechanism in considerable detail, it will be apparent to those skilled in the art that many variations may be made therein without departing from the spirit or scope of the invention.

What is claimed is:

1. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising supporting means, a brake plate supported by said supporting means, a pressure plate overlying said brake plate in broadside relationship thereto, said plates having corresponding front edges defining a sheet entrance therebetween and corresponding rear edges defining a sheet exit,

a fulcrum member mounted for movement on said supporting means toward and away from said brake plate and disposed on the other side of said pressure plate from said brake plate, said pressure plate pivotal on said fulcrum member by the action of a sheet passing between said plates, said fulcrum member disposed closer to said exit than to said entrance, a yieldable thrust member acting on said fulcrum member in a direction normally holding said pressure plate flat against said brake plate, a retractable stop member on said supporting means normally overlying the sheet exit, a power element operatively connected to said stop member and operable when activated to retract said stop member and lost-motion connecting means operatively connecting said power element to said fulcrum member to effect movement of the latter away from said brake plate subsequent to retraction of said stop member.

2. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising supporting means, a brake plate supported by said supporting means, a pressure plate overlying said brake plate in broadside relationship thereto, said plates having corresponding forward ends defining a sheet entrance therebetween and corresponding rearward ends defining a sheet exit, a fulcrum member mounted for movement on said supporting means toward and away from said brake plate and disposed on the other side of said pressure plate from said brake plate, said pressure plate pivotal on said fulcrum member by a sheet passing between said plates and said fulcrum member disposed closer to the sheet exit than to the sheet entrance, a yieldable thrust member urging said fulcrum member in a direction to normally hold said pressure plate flat against said brake plate, a retractable stop member normally overlying the sheet exit, spring means urging the forward end of said pressure plate away from said brake plate and normally overcome by said yieldable thrust member, means on said stop member operable on retraction thereof to move the rearward end of said pressure plate away from said brake plate, a power element operatively connected to said stop member and operable when activated to retract said stop member, and lost-motion connecting means connecting said power element to said fulcrum member to move said fulcrum member away from said brake plate subsequent to retraction of said stop member by said power element.

3. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising supporting means, a brake plate supported by said supporting means, a pressure plate overlying said brake plate in broadside relationship thereto, said plates having corresponding forward ends defining a sheet entrance therebetween and corresponding rearward ends defining a sheet exit, a fulcrum member mounted for movement on said supporting means toward and away from said brake plate and disposed on the other side of said pressure plate from said brake plate, said pressure plate pivotal on said fulcrum member by a sheet engaging between the forward ends of said plates, said fulcrum member disposed closer to the sheet exit than to the sheet entrance, a yieldable thrust member exerting a braking force on said pressure plate, said fulcrum member interposed between said thrust member and said pressure plate and transmitting the force of said thrust member to said pressure plate to normally hold the latter flat against said brake plate, a retractable stop member normally overlying the sheet exit, a latch member normally latching said stop member in the normal position thereof, a power element operatively connected to said latch member and operable when activated to release said stop member, a lost-motion connection between and connecting said power element and said stop member to effect a delayed retraction of said stop member subsequent to release of said latch member, and a second lost-motion connection between and connecting said power element and said fulcrum member to effect a delayed movement of said culcrum member away from said brake plate subsequent to retraction of said stop member.

4. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising supporting means, a brake plate supported by said supporting means, a pressure plate overlying said brake plate in broadside relationship thereto, said plates having corresponding forward ends defining a sheet entrance therebetween and corresponding rearward ends defining a sheet exit, a fulcrum member mounted for movement on said supporting means toward and away from said brake plate and disposed on the other side of said pressure plate from said brake plate, said pressure plate pivotal on said fulcrum member by a sheet engaging between the forward ends of said plates, said fulcrum member disposed closer to the sheet exit than to the sheet entrance, a yieldable thrust member exerting a braking force on said pressure plate, said fulcrum member interposed between said thrust member and said pressure plate and transmitting the force of said thrust member to said pressure plate to normally hold the latter flat against said brake plate, a retractable stop member normally overlying the sheet exit, a latch member normally latching said stop member in the normal position thereof, a power element operatively connected to said latch member and operable when activated to release said stop member, a lost-motion connection between and connecting said power element and said stop member to effect a delayed retraction of said stop member subsequent to release of said latch member, and a second lost-motion connection between and connecting said power element and said fulcrum member to effect a delayed movement of said fulcrum member away from said brake plate subsequent to retraction of said stop member, and means holding said pressure plate in engagement with said fulcrum member as the latter is moved away from said brake plate.

5. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising supporting means, a brake plate supported by said supporting means, a pressure plate overlying said brake plate in broadside relationship thereto, said plates having corresponding forward ends defining a sheet entrance therebetween and corresponding rearward ends defining a sheet exit, a fulcrum member mounted for movement on said supporting means toward and away from said brake plate and disposed on the other side of said pressure plate from said brake plate, said pressure plate pivotal on said fulcrum member by a sheet engaging between the forward ends of said plates, said fulcrum member disposed closer to the sheet exit than to the sheet entrance, a yieldable thrust member exerting a braking force on said pressure plate, said fulcrum member interposed between said thrust member and said pressure plate and transmitting the force of said thrust member to said pressure plate to normally hold the latter flat against said brake plate, a retractable stop member normally overlying the sheet exit, a latch member normally latching said stop member in the normal position thereof, a power element operatively connected to said latch member and operable when activated to release said stop member, a lost-motion connection between and connecting said power element and said stop member to effect a delayed retraction of said stop member subsequent to release said latch member, and a second lost-motion connection between and connecting said power element and said fulcrum member to effect a delayed movement of said fulcrum member away from said brake plate subsequent to retraction of said stop member, spring means suspending the front end of said pressure plate from said supporting means and normally overcome by said thrust member, and means on said stop member operable to lift the rear end of said pressure plate and normally spaced therefrom.

6. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising supporting means, a stationary brake plate supported by said

supporting means, a pressure plate overlying said brake plate in broadside relationship thereto, said plates having corresponding forward ends defining a sheet entrance therebetween and corresponding rearward ends defining a sheet exit, a shaft overlying the forward end of said pressure plate, a fulcrum member pivotal on said shaft toward and away from said brake plate and disposed on the other side of said pressure plate from said brake plate, said fucrum member disposed closer to the sheet exit than to the sheet entrance, a yieldable thrust member exerting a predetermined braking force on said pressure plate, said fulcrum member interposed between said thrust member and said pressure plate and transmitting the force of said thrust member to said pressure plate to normally hold the latter flat against said brake plate, a plate-like lever pivoted at one end on said shaft and bifurcated to receive said fulcrum member to normally lie in substantially the same plane therewith, a sheet stop member on the other end of said plate-like lever and normally overlying the sheet exit, a latch member normally holding said stop member in overlying relation to the sheet exit, and a power element operatively connected to said latch member, stop member and fulcrum member and operable when activated to operate said members in the order named.

7. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising a support having a flat braking surface to form a part of a sheet guideway, a flat floating pressure plate overlying the surface of said support in broadside relationship thereto, said support and pressure plate having forward ends forming a sheet entrance therebetween and rearward ends forming a sheet exit with respect to the direction of sheet travel, said pressure plate fulcrumed at its rearward end on said support, a yieldable thrust member normally holding said pressure plate flat against the surface of said support with the force of the thrust member exerted at a point adjacent said rearward fulcrumed end of said pressure plate, spring means urging and tending to float said pressure plate away from said support and normally overcome by said thrust member, and a power element operatively connected to said thrust member and operable when activated to overcome said thrust member.

8. A sheet braking mechanism for a high velocity sheet transporting apparatus comprising a support having a braking surface for alignment with a sheet guideway at an interruption thereof, a floating pressure plate overlying the surface of said support in broadside relationship thereto, said support and pressure plate having forward ends forming a sheet entrance and rearward ends forming a sheet exit, said pressure plate fulcrumed at its rear end on said support, a yieldable thrust member urging said pressure plate flat against the surface of said support and applying the thrust at a point closer to said fulcrum than to the forward end of said pressure plate, a movable stop member normally held over said exit by said thrust member, a latch member biased normally to hold said stop member in stop position, and a power element operatively connected to said latch member and to said thrust member and operable when activated to release said latch member and overcome said thrust member.

9. A sheet braking mechanism for a high velocity sheet transporting apparatus comprising a stationary support having a braking surface for association with a guideway, a movable pressure plate overlying the braking surface of said support in broadside relationship thereto, said support and said pressure plate having forward ends forming a sheet entrance and rearward ends forming an exit for the sheet, said pressure plate fulcrumed at its rear end on said support and pivotal about the fulcrum by the wedging action of a sheet entering between said support and the forward end of said pressure plate, a movable bearing member engaging said pressuring plate on the other side thereof from said support and extending transversely of said pressure plate and closer to the rearward than forward end thereof, and a yieldable thrust member applying a braking force on said bearing member in a direction to hold said pressure plate flat against the braking surface of said support.

10. A sheet braking mechanism for a high velocity sheet transporting apparatus comprising a stationary brake plate having a surface to receive a sheet, a pressure plate overlying said brake plate in broadside relationship thereto, said brake plate and said pressure plate having forward edges defining a sheet entrance therebetween and having rearward edges defining a sheet exit, a retractable stop member to close the exit, said pressure plate fulcrumed at its rear edge on said stationary brake plate, spring means suspending said pressure plate at its forward edge, a fulcrum member bearing against the outer side of said pressure plate adjacent and closer to the rear edge thereof than to the forward edge of said pressure plate, and a yieldable thrust member acting on said fulcrum member to urge said pressure plate against said brake plate to overcome said spring means and also to hold said stop member over the exit.

11. In a sheet braking mechanism for a sheet stop station of a high velocity sheet transporting apparatus, supporting means, a pair of cooperating brake plates in opposed broadside relationship, said plates having corresponding forward edges forming an entrance to receive a sheet edgewise and having opposite corresponding rear edges forming an exit, a round fulcrum member overlying and secured to one of said plates and movable toward and away from the other of said plates, said one plate fulcrumed on said fulcrum member between and closer to the exit than to the entrance of the plates, a force transmitting member pivotally mounted on said supporting member and having a socket receiving said rounded fulcrum member, yieldable brake force exerting means acting on said force transmitting member and normally holding said plates together, and spring means connected to said one plate and holding said rounded fulcrum member in said socket.

12. In a sheet braking mechanism for a sheet stop station of a high velocity sheet transporting apparatus, supporting means, a pair of cooperating brake plates in opposed broadside relationship, said plates having corresponding forward edges forming a sheet entrance and corresponding rearward edges forming an exit, a movable fulcrum member overlying one of said plates and movable toward and away from the other of said plates, said one plate fulcrumed on said fulcrum member between and closer to the exit than to the entrance of the plates, yieldable brake force exerting means acting on said movable fulcrum member and normally holding said plates together, and a fulcrum member on the other of said plates for the rear edge of said one plate.

13. In a sheet braking mechanism for a sheet stop station of a high velocity sheet transporting apparatus, supporting means, a pair of cooperating brake plates in opposed broadside relationship, said plates having corresponding forward edges forming an entrance to receive a sheet edgewise and having opposite corresponding rear edges forming an exit, a movable fulcrum member overlying one of said plates and movable toward and away from the other of said plates, said one plate fulcrumed at the rear edge on said supporting means and also fulcrumed on said fulcrum member between and closer to the exit than to the entrance of the plates, yieldable brake force exerting means acting on said movable fulcrum member and normally holding said plates together and stop means movable with said movable fulcrum member and relative to said one plate to close and open the sheet exit.

14. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising a supporting member along which sheets are fed singly to the station, a brake pressure plate overlying the supporting member in broadside relation thereto at the station and having front and rear edges with respect to the direction of travel of the sheets, a first fulcrum member pivotally

supporting said pressure plate adjacent the rear edge thereof, a second fulcrum member pivotally supporting said pressure plate between said first fulcrum member and the front edge of said plate and positioned closer to said first fulcrum member than to the front edge of said pressure plate, said pressure plate pivoted about said first fulcrum member by and upon movement of a sheet beneath the forward edge of said pressure plate and about said second fulcrum member by and upon movement of the sheet past said second fulcrum member, and thrust means yieldingly holding said pressure plate in effective braking relation to said supporting member.

15. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising a supporting member along which sheets are fed singly to the station, a brake pressure plate overlying the supporting member in broadside relationship thereto at the station and cooperable with said supporting member to provide opposed braking surfaces to receive a sheet fed therebetween, said pressure plate having a front edge and a rear edge with respect to the direction of sheet travel, a first fulcrum member on said supporting member pivotally supporting said pressure plate at the rear edge thereof, a second fulcrum member pivotally supporting said pressure plate and disposed between said first fulcrum member and the front edge of said plate, said second fulcrum member positioned closer to said first fulcrum member than to the front edge of said plate and movable toward and away from said supporting member, and a yieldable thrust member acting against said second fulcrum member to urge said pressure plate into engagement with said supporting member.

16. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising a supporting member at the station and onto which a sheet is fed, a brake pressure plate overlying said supporting member in broadside relationship thereto and having front and rear edges with respect to the direction of sheet travel, said pressure plate having its rear edge fulcrumed on said supporting member, a movable fulcrum member on the other side of said pressure plate from said supporting member and movable toward and away from said supporting member, said pressure plate fulcrumed intermediate its front and rear edges for pivotal movement about a transverse axis, said movable fulcrum member closer to the rear than to the front edge of said pressure plate, a yieldable thrust member acting on and urging said movable fulcrum member toward said supporting member normally to hold said pressure plate flat against said supporting member, means operatively connected to and operable for overcoming said thrust member, means acting on said pressure plate and operable to move said pressure plate away from said supporting member to a brake release position and operable upon the overcoming of said thrust member, and a stop member normally positioned at the rear edge of said pressure plate for abutment by the leading edge of a sheet and movable with said pressure plate by said last-named means to an ineffective position.

17. A sheet braking mechanism for a station of a high velocity sheet transporting apparatus comprising a supporting member at the station and onto which a sheet is fed, a floating brake pressure plate overlying said supporting member in broadside relationship thereto and having front and rear edges with respect to the direction of sheet travel, a first fulcrum member on the other side of said pressure plate from said supporting member and movable toward and away from the latter, said pressure plate mounted on said fulcrum member for pivotal movement about an axis transverse to the path of sheet travel, a yieldable thrust member urging said fulcrum member toward said supporting member to normally hold said pressure plate in effective braking relation to said supporting member, a fixed fulcrum member on said supporting member, said pressure plate having its front edge fulcrumed on said fixed fulcrum member, means including said movable fulcrum member operable to move said pressure plate away from said supporting member to release a sheet upon the overcoming of said thrust member, and a power element operatively connected to and for moving said movable fulcrum member to overcome said thrust member.

18. A sheet braking mechanism for a high velocity sheet transporting apparatus comprising a stationary support having a braking surface for association with the guideway, a movable pressure plate overlying the braking surface of said support in broadside relationship thereto, said support and said pressure plate having forward ends forming a sheet entrance and rearward ends forming an exit for the sheet, said pressure plate fulcrumed at its rear end on said support and pivotal about the fulcrum by the wedging action of a sheet entering between said support braking surface and the forward end of said pressure plate, a movable bearing member engaging said pressure plate on the other side thereof from said support and extending transversely of said pressure plate closer to the rearward than forward end thereof, a yieldable thrust member applying a braking force on said bearing member normally holding said pressure plate against the braking surface of said support, a stop member carried by said bearing member and normally overlying the exit for abutment by the leading edge of a sheet, and a power element operatively connected to said bearing member and operable to move said bearing member away from said pressure plate and said stop member away from said exit to release a sheet.

19. A sheet braking mechanism for a high velocity sheet transporting apparatus having a guideway comprising a support having a braking surface for association with the guide way to receive a sheet, a floating pressure plate overlying the braking surface of said support in broadside relationship thereto, said support and pressure plate having forward ends forming an entrance to receive a sheet and having rearward ends forming an exit for the sheet, said pressure plate fulcrumed at its rear end on said support and pivotal about the fulcrum by the wedging action of a sheet entering between said support braking surface and the forward end of said pressure plate, a bearing member on the other side of said pressure plate from said support acting against and movable relative to said pressure plate, said bearing member closer to said fulcrum than to the forward end of said pressure plate, a stop member movable with said bearing member and normally overlying and closing the exit, spring means connected to and urging the forward end of said pressure plate away from said support, said bearing and stop members movable between effective and ineffective positions, means movable with said bearing and stop members to the ineffective positions to lift the rearward end of said pressure plate away from said support, a yieldable thrust member acting against said bearing member in a direction to hold said pressure plate against the braking surface of said support and normally overcoming said spring means, a latch member biased normally to hold said bearing and stop members in their effective positions, and a power element operatively connected to both said latch member and said thrust member and operable when activated to release the former and overcome the latter.

20. A sheet braking mechanism for a station of a high velocity sheet transporting mechanism comprising, an anvil, a pressure plate overlying said anvil and forming therewith a portion of a sheet guideway having an inlet and an outlet, said pressure plate movable toward said anvil to a sheet braking position therewith and movable away from said anvil to a sheet clearance position, a lever arm having a transverse socket, a fulcrum member secured to said pressure plate and pivotal in said socket about an axis closer to the outlet than to the inlet, a first spring acting to pivot said arm in a direction to urge said

pressure plate against said anvil, a second spring urging the inlet forming end of said pressure plate away from said anvil and said fulcrum member in said socket, said second spring normally overcome by said first spring, a stop member on said lever arm normally overlying said outlet for abutment by the leading edge of a sheet, a second abutment on said lever arm operable to raise the outlet forming end of said pressure plate upon pivoting of said lever arm in the opposite direction and said stop member clear of said outlet, a latch member normally holding said lever arm in said sheet braking position with said stop member overlying said outlet, and a power element operatively connected to said latch member and

lever arm and operable on activation thereof to release said latch member and thereafter pivot said lever arm in the said opposite direction.

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