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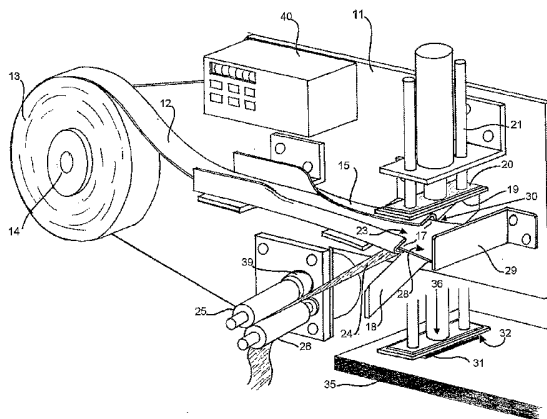
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(54) Title: FLEXIBLE MAGNETISED PORTION APPLICATOR DISPENSING APPARATUS AND METHOD



(57) Abstract: A flexible magnetised portion applicator is disclosed. The apparatus applies a portion of flexible self-adhesive magnetised material (31) onto a card that is typically promotional in nature, for it to be held magnetically against a metal surface, via the method of pulling the magnetised material's adhesive release-coated backing paper (28) between rollers that grip the material (25) and (26), which when correctly rotated, draw suitably wide, adhesive-backed magnetised material (12) from a roll (13) into the apparatus (11) to project the material (28) over a stationary lower blade (18) and then cut a portion via a shear action (30) between a descending upper blade (19) mounted on a linear actuating ram (21) and the stationary lower blade (18), to then carry via the magnetism possessed within each portion (32) and press-apply (36) the self-adhesive portion of magnetised material (31) onto the upper-most card in a stack of cards (35) residing beneath the apparatus positioned to receive the said portion.

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**Title; Flexible Magnetised Portion Applicator
 Dispensing Apparatus and Method**

Associated Provisional Application No; 2004905914

**The following statement is a full description of this invention, including
the best method of performing it known to me.**

Flexible Magnet Portion Applicator, Dispensing Apparatus and Method

The provided invention is an apparatus to execute the method of cutting, dispensing and applying particularly a portion of flexible, adhesive-backed magnetised material to any item typically required to be magnetically held against a metal surface.

5 Most commonly an article to be magnetically held is made of light card, is promotional or novel in nature and the surface against which it is to be held is the exterior panelling of a refrigerator.

Other examples could include an instruction card being magnetically held against the panelling of a machine's safety enclosure or a card listing emergency telephone
10 numbers being held against a common office filing cabinet, etc.

Typically and for reference hereinafter, the article to be applied with the magnetised material is a calendar promotional card and is to be fitted with a magnet portion.

Previously the application of the magnet portion is a manual, one-at-a-time procedure, requiring individuals to peel the pre die-cut magnet portion by hand from
15 adhesive-release-coated backing paper and place the portion onto the promotional card in a consistently uniform and optimum position.

The group of individuals begin hand-applying the magnet portions at as brisk a rate as they can but soon tire to a slow, easily distracted pace due to the monotony of the task. This leads to inaccurate application of the magnet portion, possible rejection by
20 the client of the production quantity that is inconsistent and prolonged boredom and repetitive strain injuries encountered by the individuals subjected to the task. Some businesses employed solely for the task, are contracted to apply magnet portions to promotional cards by hand and usually limit the quantity to be applied to 50,000. To apply this quantity by hand would take 62.5 hours by one person at the
25 optimum, though intensive rate of 800 per hour, excluding packing for delivery.

The disclosed method permits an apparatus in its preferred embodiment to perform the task in less than 7.25 hours at approximately 7000 per hour, delayed only by periodic operator attention to replenish the promotional cards stacked beneath the apparatus and rolls of flexible magnetised material to be consumed, upon the
30 apparatus. Over a daily work time average of 7.5 hours, the difference is 8.3 days to 1 day, a saving of approximately 7.3 days. This lesser time also includes box packing of the processed stock ready for delivery.

More recently a rate of 8100 magnet portions dispensed and applied per hour, was

attained when the disclosed apparatus was approximated to, and its function was triggered by, the pick up and pass through paper transport means of a typical printing machine, increased to its maximum speed.

5 Previously for an individual, the manual handling of the magnet portion after peeling the flexible magnet portion upward from the adhesive release-coated backing paper, requires, if only miniature in actuality, separating the adhesive gum by stretching it until breaking away from the subsequent portions, holding the magnet portion over the card on which it is to be adhered and pressing it down onto the card to engage the adhesive. If automated however, the handling of the portion presents problems due to
10 one side of the portion being magnetic and one side being coated minutely with stretching and stringy adhesive gum.

Liken the process and materials to that of mozzarella cheese, melting back together on a pizza after it has been cut. To lift a slice of pizza one has to gauge how fast it can be removed via tension, vision and feel, to stretch and tear the cheese until
15 separated free from subsequent slices.

Similarly, the varying resistance in adhesive thickness or viscosity and magnet portion position, has encouraged only human touch and judgment over that of a machine, to separate each portion from various quantity-diminishing locations remaining on a sheet of die-cut magnet portions.

20 It is known that adhesive labels are applied to cartons or packaging via roller pressure application devices which require 'distance-increment sensing' so as not to roll two labels onto a package. This also requires that the labels be pre-cut, with space between each label to suit incremental delivery from the device or the addition of further cutting mechanisms.

25 It is also known that these devices may employ a descending, air-suction-equipped ram, to reach and place a label on to different size and height cartons typically travelling on a conveyor belt underneath the device. Neither roller pressure, air suction nor incremental delivery of pre cut magnet portions solve the problems inherent in the dispensing and application of said portions due to the dual-sided,
30 adhesive and magnetic behaviour anomalies of each portion.

To most efficiently automate the task, the disclosed apparatus executes the method of cutting and placing the magnet portion onto typically a promotional card, when approximated for use above a stack of said cards residing in the feeding tray of a

typical printing machine or similarly operative paper feeding apparatus.

The magnet portion applied upper-most card in the stack can be removed via the printing machine's pick up and pass through operation typically suited to processing stacked quantities of paper or card. The magnet portion is applied by the disclosed apparatus prior to the card being transported through the printing machine and out in
5 to a typical collection chute.

The increased speed of magnet portion application and subsequent mechanical transport of the portion applied card is most efficiently obtained when the two operative mechanisms are synchronised.

10 Manually however, having mechanically cut and placed a magnet portion via a lever or foot pedal of a manually operated embodiment of the invention, it is the speed in which a person can remove by hand, the uppermost-card in a stack that ultimately decides the speed of the process.

The first 45,000 portions of magnetised material dispensed and applied automatically
15 on three occasions of 10,000, 15,000 and 20,000 respectively yielded high speed and repetitive consistency directly attained via the disclosed cutting and placing application method of the provided invention.

The end product, being typically a promotional card with a mechanically applied magnet portion, is recognisable by magnet portion size and placement accuracy and
20 is regarded as a value-added, professional example for the commissioning client due to the consistency attained via the method by which the magnet was applied and the high speed, low duration processing of the magnet-applied card quantity.

It is therefore an objective of the disclosed invention, to provide a suitable means for the mechanical, either manually initiated or automated application, of a portion of
25 particularly self adhesive magnetised material via first advancing the material with one movement, then cutting and placing of the portion in a second single movement, onto typically light card or other articles. -----

The provided invention method requires that the magnetised material stock be supplied to the disclosed apparatus from a continuous roll.

30 The roll is supplied to the consumer cut to an average 37mm width and can be cut to any width to suit the consumer. The apparatus via adjustment can dispense average and extended lengths also. For example hereinafter, all operational reference is made to the average width and length. The apparatus once triggered if automated or turn-

knob revolved if operated manually, draws the stock from the roll which is mounted on a hub and axle allowing it to unroll as required.

After the material is fed to the apparatus from a roll, the method of the provided invention exploits the flexible, cut-able properties of the vinyl-like magnetised material substrate to execute the application of the portion.

It achieves this by advancing the magnetised material from the roll into the apparatus and cutting the desired portion, employing the magnetism possessed within each portion to carry it after cutting and by the continued downward movement remaining from the cutting of the portion being halted upon contact, applies pressure, through the adhesive downward facing magnet portion to engage the adhesive, to typically the top card in a stack of promo cards residing beneath the apparatus.

An apparatus, to execute the method of the provided invention could employ manual, mechanical, electric, hydraulic or pneumatic components or a combination of all for its moving parts. For cleanliness of operation it is possible but not desirable to employ hydraulics for any driven component of the apparatus. For reference hereinafter, the operable components of the apparatus are rotational and linear actuators.

The disclosed method requires that an apparatus in its preferred embodiment employs two moving parts to operate, one has a rotational movement to manage the drawing of the material from the roll and advance the magnetised material into the apparatus and the other has a linear movement set vertically, to downwardly cut and subsequently place the magnet portion. The apparatus can work on any angle and could also be inverted to approximate it for use, near a bottom sheet removing, paper transport device to dispense a magnet portion upward onto the lower surface of a card or paper sheet if necessary.

Being possibly pneumatic or electric, each requires a management circuit to ensure each actuator functions in sequence. Or if manual in operation, the apparatus operator coordinates a rotational movement with a linear movement. Each movement can be initiated by either hand, or a foot pedal and appropriate turn knobs and linkages. Whether manual or automated, for example hereinafter, either means employs substantially similar rotational or downward linear actions.

In function, the apparatus in its preferred embodiment, exploits the strength of the magnetised material's adhesive release-coated backing paper, to draw the material off

of the roll and into the apparatus by pulling only the backing paper. Alternatively, sandwiching rollers or belts may push the material with a stripper blade appropriated to separate and guide away the adhesive backing paper.

In the preferred embodiment of the invention the flexible magnetised stock strip is
5 fed into a guide channel for orientation that is twisted along its length to give a slight angle of approximately 20 degrees from horizontal.

The angle delivers the magnetised material over a fixed lower shear blade, mounted upon the apparatus at the same angle. The angle creates a shear action between the fixed lower blade and a flat horizontal plate, the edge of which acts as an upper shear
10 blade, that is attached to the lower end of a linear actuated ram mounted vertically above and offset from the lower blade. Substantially the operative function is that of an inverted guillotine.

At the exit end of the guide channel (opposite to the end being fed from the roll) the magnetised material is separated from its adhesive backing paper. The paper is peeled
15 downward and pulled back on an angle under the guide channel from which it has travelled and is then fed between a drive roller and a pinch roller, both of which preferably being rubber-coated to create a sandwiching grip upon the backing paper.

When the drive roller is actuated, it pulls the paper between it and the pinch roller and as a result the magnetised material is drawn from the roll and along the guide
20 channel, the required distance of which can be achieved by intermittent rotation of the drive roller, resulting in incremental material advancement, or by the material hitting an adjustable stop.

As the backing paper is being drawn downward, the resiliently self-supporting magnetised material is projected outward from the supporting guide channel for the
25 required distance and over the lower shear blade. The material is then cut in a descending shearing motion by the edge of the horizontal plate that forms the upper shear blade attached to the lower end of the linear actuator ram. At this point the magnet portion is held by its own magnetism, up to, under and flat against the descending horizontal plate shear blade.

30 The card stock to which the magnet portion is to be applied resides in a stack formation beneath the descending ram of the vertical actuator. The magnet portion carrying, descending vertical actuator ram, provides temporary pressure upon contacting the uppermost card in the stack, before a pressure-increase or a pressure-

decrease sensing valve or switch, reverses the travel of the linear actuator ram which ascends away from the now magnet portion applied, upper-most card in the stack.

The magnet portion has enough magnetism to hold itself and the card against the ascending blade should it ascend slowly but it is held down by surrounding air
5 pressure if the ram-mounted blade ascends quickly, or, a simple bracket foot can hold the portion-applied card down which easily overcomes the ascending magnetic hold. Upon full ascent of the linear actuator ram the apparatus is now at rest and ready to repeat the process.

Should the automated apparatus be initiated and actuated electronically, an array of
10 timers, proximity sensors, solenoids or limit switches would be incorporated in a typical governing circuit and if the apparatus were pneumatic, an array of typical air manifolds, switches and valves would be incorporated to initiate and govern its progress.

A combination of pneumatic and electric control offers convenience in as much as
15 counters, speed control or stopping at desired quantities are afforded, though not essential for the mechanical dispensing duty that the method requires of an apparatus. Hand winding a turn knob, to advance the magnetised material beneath a descending blade which is then lowered via a connected foot pedal to cut and place the portion, are suitable means by which the provided invention method can be initiated in a
20 manually operated apparatus embodiment of the invention also.

The driven advancement of the magnetised material is most efficiently derived from a rotational action. If an electric motor is incorporated into the process of the apparatus it may rotate the drive roller with intermittent forward rotation. If it were pneumatic, it could be driven by a reciprocating movement rotary actuator, this
25 would require a forward-driving, free-reversing clutch bearing, be incorporated onto the drive roller to allow resetting of the actuator without reverse-rotating the drive roller.

Transmission of movement between driving and driven components may be via belts, chains, rack and pinion or shafts configured where most appropriate to give silent,
30 increment detectable, discrete or economic availability convenience option to its assembly.

Substantially, the disclosed invention method requires the apparatus in the disclosed apparatus embodiment perform two motions, the formality of initiating those motions

can be achieved in other embodiments via an abundance of typically available components and is therefore not limited to the disclosed or illustrated embodiment.

Any suitable material able to be drawn or advanced into the apparatus, stripped if necessary of support webbing, cut by the disclosed shearing or cropping function, carried and applied or positioned by way of means other than magnetism, may be introduced to the apparatus to be dispensed and placed via the disclosed method and operational attributes of the provided invention also.

The provided invention method of advancing, typically though not limited to, flexible magnetised material, between two blades with one movement to then dispense, carry and apply the resulting portion with a second movement, can be performed by an automatic or manually initiated apparatus, either of which can be assembled with present manufacturing techniques.

In order for the invention to be readily understood, a particular embodiment thereof will now be described by way of example only with reference to the accompanying drawings.

Fig.1 Is a perspective view of a magnet portion application apparatus.

Fig.2 Shows an illustrated plan view of the magnet portion application method.

Fig.3 Shows perspective view of drive and pinch rollers with the magnetised material's adhesive release-coated backing paper between them.

Fig.4 Shows flexible magnetised material projecting from the feeding guide channel and blades with partially cut magnetised material between them.

Fig.5 Shows horizontal flat plate blade attached linear actuator ram vertically descending to place magnet portion onto top card of stack residing beneath the apparatus.

The flexible magnet portion applicator 11 consisting of a suitable frame on which to mount operable components and a reserve of material, cuts, carries and places a portion of flexible, self adhesive magnetised material onto the upper most card in a stack of promotional cards or card-like materials residing underneath the vertically descending portion application ram of the apparatus.

The apparatus once initiated, draws the magnetised material stock 12 off of the roll 13 which is mounted on a hub and axle 14 allowing it to unroll as required. After it is fed to the apparatus from the roll 13 the magnetised material stock is drawn into a guide channel 15 for orientation that is twisted along its length 16 to give a slight

angle of approximately 20 degrees from horizontal 17. The angle 17 creates a shear action between a fixed lower blade 18 and a flat horizontal plate 19 the edge of which acts as an upper shear blade that is attached to a tool plate 20 at the lower end of a linear actuator ram 21 mounted vertically above and offset 22 from the lower
5 blade 18.

At the exit end 23 of the guide channel 15 the magnetised material 12 is separated from its adhesive backing paper 24. The paper 24 is peeled downward and pulled back on an angle under the guide channel 15 from which it has travelled and fed between a drive roller 25 and a pinch roller 26. When the drive roller 25 is
10 actuated by rotation, 27 it pulls the paper between it and the pinch roller 26 and as a result, the magnetised material 12 is drawn from the roll 13 and advanced along the guide channel 15. The magnetised material 12 is resilient enough to be self supporting and by being advanced intermittently or by hitting a stop, 29 is projected outward 28 from the supporting guide channel 15 for the required distance and
15 over the lower shear blade 18. It is then cut by the edge of the said horizontal plate above 19 that forms the upper shear blade in a descending shearing motion, 30 through the flexible magnetic material 12. The apparatus exploits the strength of the magnetic material's adhesive backing paper, 24 to draw the material 12 off of the roll 13 and into the apparatus by pulling only the backing paper 24. After cutting
20 the required portion 31 from the roll 13 the apparatus employs the magnetism possessed within each cut portion 32 to carry it after cutting and by the continued downward movement 33 remaining from the cutting of the portion 32 places and applies pressure 34 through the adhesive downward facing magnet portion 31 onto the promo card stock 35 to engage the adhesive. The travel of the linear actuator
25 ram, 21 reverses 34 to ascend away from the now magnet portion applied uppermost card in the stack 36. Upon full ascent of the linear actuator ram 21 the apparatus is now reset and ready to repeat the process. The drive roller 25 if driven via a reciprocating forward and back movement rotary actuator, requires a forward-driving
27 free-reversing 38 clutch bearing 39 be incorporated onto the drive roller 25 to
30 allow resetting of the actuator without reverse-rotating the drive roller. A typical pneumatic, electric or combination management circuit, 40 may be housed upon the mounting frame of the apparatus 11 to coordinate its moving components.

Claims defining the invention are as follows.

1. An apparatus once initiated, to dispense and apply a portion of flexible, adhesive-backed magnetised material typically onto a piece of card for it to be held magnetically against a metal surface, via the method of drawing suitably wide
5 adhesive-backed magnetised material from a roll into the apparatus to then cut, magnetically carry and press-apply the self-adhesive portion of magnetised material onto typically the upper-most card in a stack of cards residing beneath the apparatus positioned to receive the said portion by drawing the self adhesive magnetised material off of a roll, in to the apparatus and along a guide channel for orientation
10 toward a fixed, approximately 20 degree-angled lower shear blade where just before reaching said blade it is separated from its adhesive backing paper and the paper is peeled downward and pulled back on an angle under the guide channel from which it has travelled and fed between a drive roller and a pinch roller which when correctly rotated, pulls the paper between it and said pinch roller resulting in the magnetised
15 material being resiliently projected straight outward from the end of the supporting guide channel for the required distance, over said lower shear blade after which a flat, horizontal plate, the edge of which acting as an upper shear blade that is attached to the lower end of a linear actuator ram mounted vertically above and offset from the lower blade, descends past the lower blade, to shear through the flexible magnetised
20 material substrate and employs the magnetism possessed within each cut portion to carry it after cutting and with the continued downward movement remaining from the cutting of the portion, places and applies pressure through the adhesive downward facing said portion to engage the adhesive on to the upper-most card in a stack of cards typically promotional in nature or other items residing beneath the apparatus in
25 a position to receive the portion prior to the ram-end-mounted horizontal plate shear blade ascending away from the now magnetised portion-applied card to complete the dispensing and application process of the apparatus.
2. An apparatus according to Claim 1 whereby the functions of feeding and cutting the flexible magnetic material when automated are performed by pneumatic actuators
30 incorporated upon the apparatus.
3. An apparatus according to Claim 1 whereby the functions of feeding and cutting the flexible magnetic material when automated are performed by electric actuators or solenoids or hydraulic actuators incorporated upon the apparatus.

4. An apparatus according to Claim 2 & 3 whereby when automated, a typical; pneumatic management circuit comprising of valves, manifolds, pressure sensing valves or an electric management circuit comprising of switches, proximity sensors, timers and speed controllers or a hydraulic management circuit comprising of valves, manifolds etc or combinations thereof may be approximated on or near the apparatus
5 to coordinate its moving components.
5. An apparatus according to Claim 1 whereby the magnetised material's adhesive release-coated backing paper is directed between drive and pinch rollers, that sandwich and then pull upon said paper via the correct rotation of the drive roller.
- 10 6. An apparatus according to Claim 5 whereby the adhesive release-coated backing paper is gripped and pulled between drive and pinch rollers that are rubber or soft polymer coated.
7. An apparatus according to Claim 1 whereby the magnetised material advancement drive roller, when driven by a reciprocating, forward and back movement rotary
15 actuator, includes a forward-driving, free-reversing clutch bearing upon the drive roller, to allow resetting of the actuator without reverse-rotating the drive roller.
8. An apparatus according to Claim 1 whereby the magnetised material is drawn into the apparatus via a reciprocating linear mechanism that pulls or pushes the flexible magnetised material or the material's adhesive release-coated backing paper.
- 20 9. An apparatus according to Claim 1 whereby the magnetised material may be advanced by being sandwiched between rollers or belts and the adhesive backing paper is subsequently stripped from it by a suitably approximated blade.
10. An apparatus according to Claim 1 whereby the magnetised material's adhesive release-coated backing paper is alternatively fastened to, inserted through or wrapped
25 around a take-up roller to pull upon said paper by the correct rotation of said roller.
11. An apparatus according to Claim 1 whereby the cutting each of portion of flexible magnetised material from a continuous roll is permitted via a shear action between a fixed blade and a moving blade of the apparatus that can both be set to cut laterally or on a given angle, across the magnetised material travelling in a
30 longitudinal or lateral direction through the apparatus.
12. An apparatus according to Claim 1 whereby the drawing of magnetised material along the apparatus' material feeding guide channel by the backing paper being separated and pulled downward from the end of said channel, projects the magnetised

material in a straight outward path from the guide channel.

13. An apparatus according to Claim 1 whereby the drawing of magnetised material along the apparatus' material feeding guide channel by the backing paper being separated and pulled downward from the end of said channel, projects the magnetised material in a straight outward path from the guide channel, over the fixed lower blade.

14. An apparatus according to Claim 1 wherein the angle of the fixed lower shear blade may be set at any angle to further optimise the cutting of the flexible magnetised material.

15. An apparatus according to Claim 1 whereby after cutting of each portion by the edge of a linear ram end-mounted flat plate blade, the flat blade then carries the portion via the magnetism possessed within each portion to transport the portion during the process.

16. An apparatus according to Claim 1 whereby after the cutting of each magnet portion by the edge of a linear ram end-mounted flat plate blade, the flat blade then carries the portion via an incorporated clip, groove or ledge, to transport the portion during the process.

17. An apparatus according to Claim 1 whereby after the cutting of each portion by the edge of a linear ram end-mounted flat plate blade, the flat blade then carries each portion during the process via a suction means and air suction cups or suction ports incorporated within the ram end and blade.

18. An apparatus according to Claim 4 whereby the automated application process management circuit is initiated via a trip switch, cam and cam follower switch, a press button or foot switch etc that may be approximated away from the apparatus or attached to and triggered remotely by, other apparatus or an operator.

19. An apparatus according to Claim 1 whereby the apparatus may be approximated for use above the paper feeding tray of a typical printing industry machine via a connectedly attached supporting arm or free standing floor stand.

20. An apparatus according to Claim 18 whereby the apparatus may be inverted to dispense a portion of flexible magnetised material upward toward the lower face of a sheet of card or paper, stacked in a feeding tray of a typical bottom sheet removing printing industry machine.

21. An apparatus according to Claim 1 whereby components of the apparatus may be

hinged or removably attached for cleaning or maintenance purposes.

22. An apparatus according to Claim 1 whereby operation is disabled by opening or removing enclosures or guards.

23. An apparatus according to Claim 1 whereby all components are selected for its
5 assembly with consideration to their magnetic or non magnetic properties.

24. An apparatus according to Claim 1 which may include magnetically attractive guide tracks or fins to support extended lengths of the magnetised material projected from the feeding guide channel to assist long and straight feeding when the resilience of the magnetised material is insufficient to be self supporting of greater lengths.

10 25. An apparatus according to Claim 1 which may include extended magnetically attractive horizontal plate blade or fins, to support extended, less resiliently self-supporting lengths of magnetised material projected from the feeding guide channel before and after cutting.

26. An apparatus according to Claim 1 whereby the functions of feeding or cutting of
15 flexible magnetised material are performed by pneumatic or electric, rotational or linear actuators or solenoids.

27. An apparatus according to Claim 1 whereby the hub, upon which the roll of flexible magnetised material is placed and from which it is unrolled, is powered, to actively unroll the material.

20 28. An apparatus according to Claim 1 whereupon the roll of flexible magnetised material is elevated and by which gravity is employed to influence the introduction of the magnetised material to the feeding guide channel of the apparatus.

29. An apparatus according to Claim 1 in an alternative embodiment can be operated manually, whereby the advancing, cutting and placing of the magnetised material
25 portion is initiated via the apparatus including common operator interfaces such as turn knobs, buttons, levers, foot pedals and linkages etc and all operable components are returned to their commencement positions by appropriately empowered springs.

30. An apparatus according to Claim 1 whereby any blade is of substantially harder material than that which they are to cut.

30 31. An apparatus according to Claim 1 whereby adjustability allows approximation and performance optimisation of the apparatus.

32. An apparatus according to Claim 1 whereby chains, rack and pinion, cogs, shafts or belts may connect driving components to driven components as a means to

translate motion.

33. An apparatus according to Claim 1 whereby the moving blade of the shear action is attached via a hinge.

34. An apparatus according to Claim 1 whereby its operable parts may be suspended
5 upon and by a repositionable plate, supporting frame, bench mounted or within a portable enclosure.

35. An apparatus according to Claim 1 whereby any suitable material able to be advanced into, stripped if necessary of support webbing, cut by the disclosed cropping function, carried and applied or positioned by way of means other than
10 magnetism, may also be introduced to the apparatus to be dispensed and placed via the disclosed operational attributes of the provided invention. -----

36. A method is disclosed of placing a portion of flexible, self-adhesive magnetised material onto the upper-most in a stack of cards, typically promotional in nature by
15 the disclosed advance, crop and place method of application, to be executed via an apparatus by: a) taking magnetised material from a continuous roll and inserting it into the feeding guide channel of the apparatus: b) separating the adhesive release-coated backing paper from the magnetised material and inserting said backing paper between or around drive rollers: c) rotating said rollers to draw the material through
20 said guide channel towards and project it resiliently over, a fixed lower blade: d) descend a second, linear-actuating-ram-attached, upper, horizontal plate shear blade past the said lower blade to shear through the magnetised material to dispense the portion: e) employ the magnetism possessed within each cut portion to retain the magnet portion, magnetically attached, up to, under and flat against said ram-attached
25 flat shear blade: f) continue the downward travel from the shear action to lower the ram-attached horizontal flat plate shear blade towards said cards stacked beneath the apparatus: g) impact the ram-attached magnet portion carrying flat plate shear blade upon the card on the top of the stack to press the adhesive downward facing portion on to the top card of the stack of said cards residing beneath the apparatus to place
30 the portion and engage the adhesive: h) release the downward force to allow the said ram and ram-attached blade to ascend away from the now magnet portion-applied upper-most card in the stack which returns the apparatus to rest: i) remove the upper-most card from the top of the stack either manually or automatically for the

application process to be repeated to the subsequent card in the stack.

37. A method according to Claim 36 wherein each portion is dispensed from a continuous roll.

38. A method according to Claim 36 wherein the strength of the magnetised
5 material's adhesive release-coated backing paper is employed to draw the material from the continuous roll via the said paper being inserted between drive and pinch rollers or around a take-up roller and said rollers are then correctly rotated.

39. A method according to Claim 36 wherein the resilience of the magnetised material is employed to project it outward from a supporting guide channel.

10 40. A method according to Claim 36 wherein the magnetised material is drawn from a continuous roll and subsequently advanced over the lower of two blades.

41. A method according to Claim 36 wherein the edge of a horizontal flat plate shear blade, being the second of two blades, descends past the first blade to shear through the magnetised material to create a portion.

15 42. A method according to Claim 36 wherein once sheared, a portion is separate from the continuous roll and is now held by the magnetism it possesses, up to under and flat against the descending shear blade.

43. A method according to Claim 36 wherein once sheared, the resulting portion is of an average length and width though reduced or extended portion length and width
20 may be achieved via adjustment of the disclosed apparatus.

44. A method according to Claim 36 wherein the continued descending movement of the horizontal flat plate shear blade, carries the adhesive downward facing portion until pressing upon it to engage the adhesive on to the said card or other article beneath the said blade, attached to the end of the descending linear actuating ram.

25 45. A method according to Claim 36 that permits the execution of advancing, dispensing and placing of the magnetised material to be initiated manually via an apparatus that includes typical operator interfaces such as turn knobs, levers, linkages or foot pedals etc and all operable components are returned to their commencement positions by appropriately empowered springs.

30 46. A method according to Claim 36 wherein once descended and pressed downward on to the now magnet portion applied card or other article, the horizontal plate blade ascends away to complete the process leaving the magnet portion-applied card or other article to be removed either by hand or mechanically.

47. A method according to Claim 36 wherein the apparatus can process any suitable material able to be advanced into, stripped if necessary of support webbing, cut by the disclosed cropping function, carried and applied or positioned by way of means other than magnetism, if it were introduced to the apparatus to be dispensed and placed via the disclosed operational attributes of the provided invention.
48. A method according to Claim 36 that can be performed by an apparatus that is automated.
49. An apparatus according to Claim 38 whereby the adhesive release-coated backing paper is gripped and pulled between drive and pinch rollers that are rubber or soft polymer coated.
50. An apparatus according to Claim 48 wherein when automated requires an apparatus-linked, initiating trigger, pulse or start signal to engage its operation.
51. An apparatus according to Claim 36 and 45 wherein all of its components may be suspended upon or by a repositionable plate, supporting frame, bench mounted or within a portable enclosure.
52. An apparatus according to Claim 36 and 45 whereby all components are selected for its assembly with consideration to their magnetic or non magnetic properties.

Fig. 1

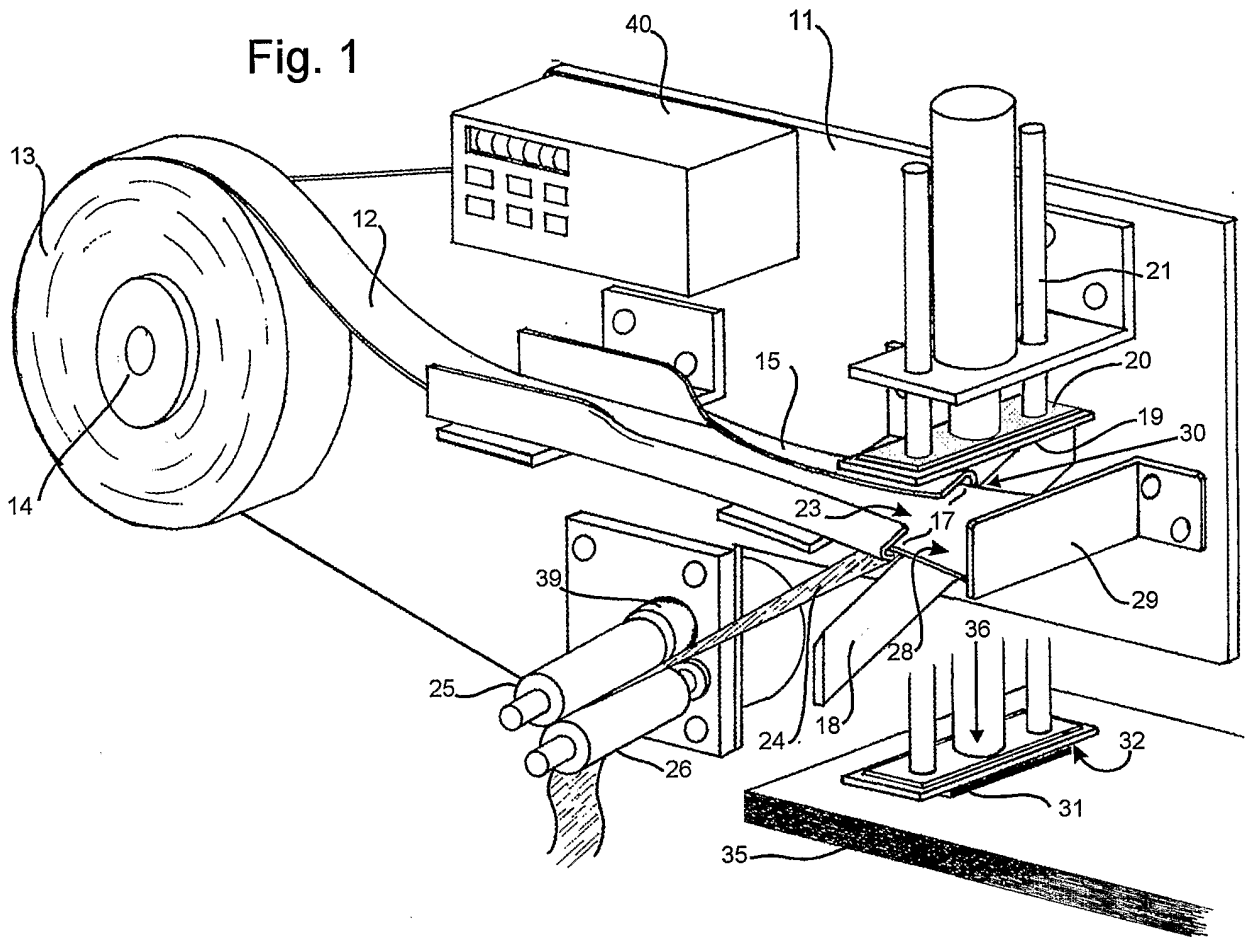


Fig. 2

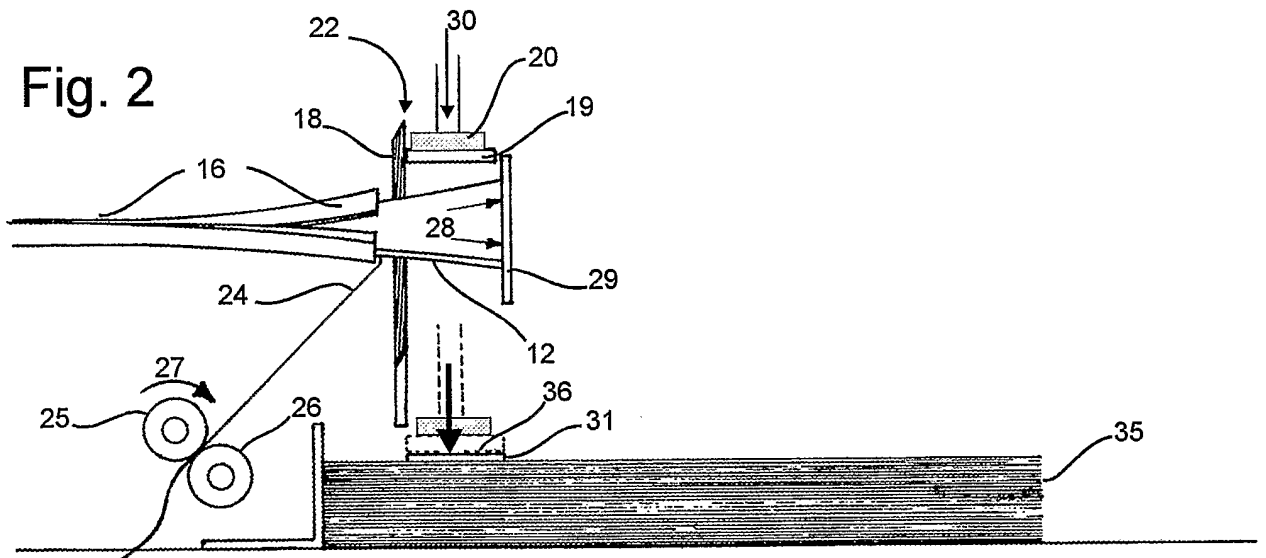


Fig. 3

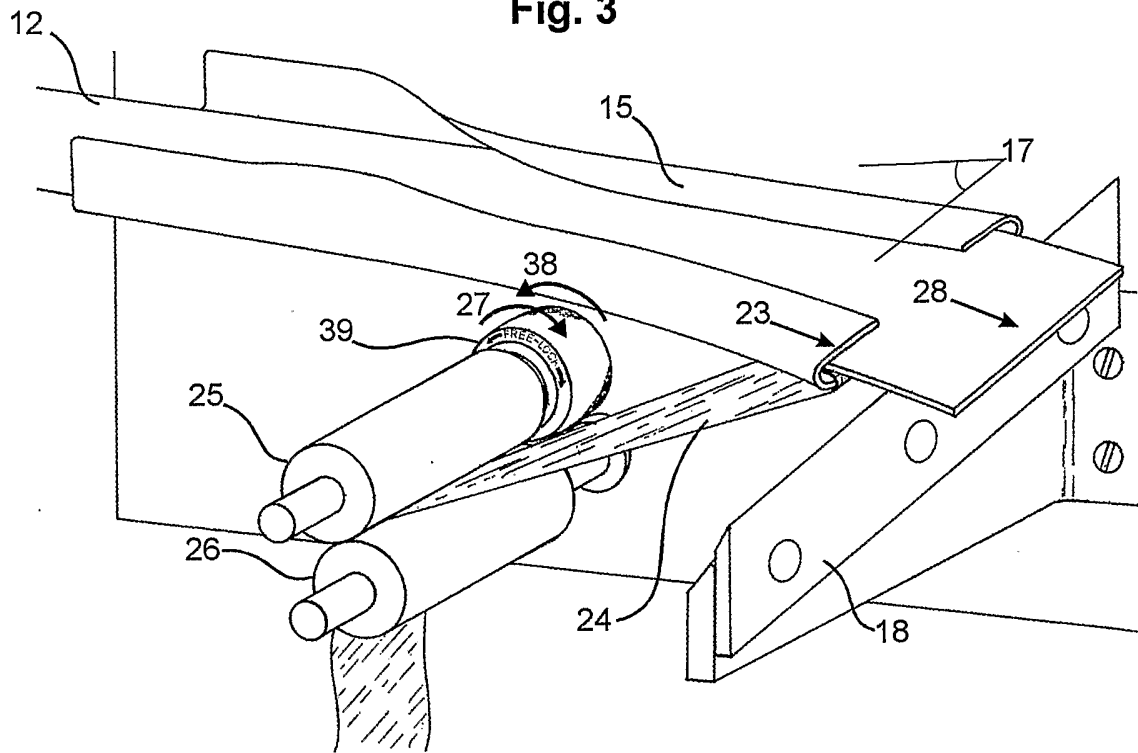


Fig. 4

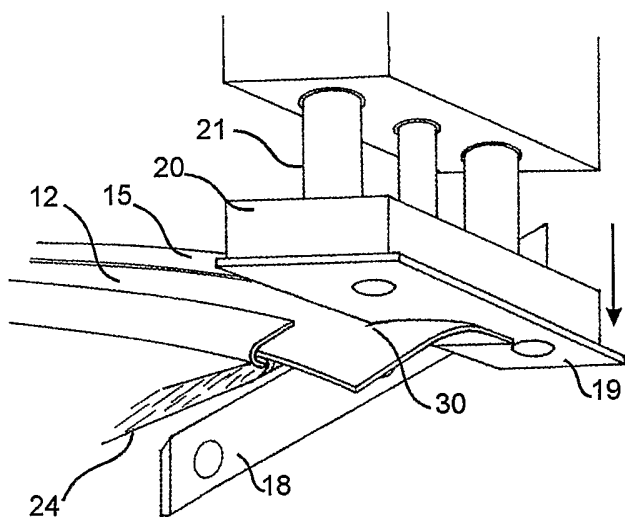
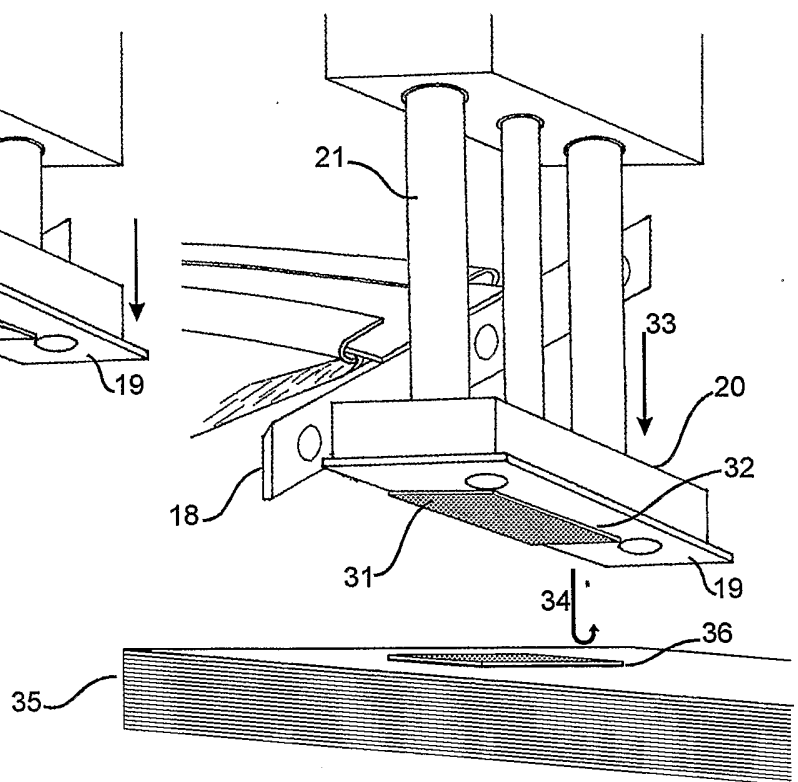


Fig. 5



INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2005/001583

A. CLASSIFICATION OF SUBJECT MATTER		
Int. Cl.		
<i>B65C 9/18</i> (2006.01) <i>B65C 9/36</i> (2006.01)		
<i>B65C 9/26</i> (2006.01) <i>B65H 35/07</i> (2006.01)		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
DWPI: dispense, magnet, spool, web, adhesive, cut and similar terms		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	Patent Abstracts of Japan, JP 2005-178814 A (TOPPAN PRINTING CO LTD) 7 July 2005 abstract	
A	Patent Abstracts of Japan, JP 2003-256796 A (TOPPAN PRINTING CO LTD) 12 September 2003 abstract	
A	FR 2806030 A1 (FOURNIER CHRISTIAN) 14 September 2001 entire document	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>		
Date of the actual completion of the international search 12 January 2006		Date of mailing of the international search report 17 JAN 2006
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@jpaustralia.gov.au Facsimile No. (02) 6285 3929		Authorized officer MANO RAMACHANDRAN Telephone No : (02) 6283 2166

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2005/001583

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CA 1234346 A (KNOGO CORPORATION) 22 March 1988 abstract	
A	Derwent Abstract Accession No. 2001-266699/28, Class Q31, CN 1279194 A (ZHU) 10 January 2001 abstract	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2005/001583

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member
JP 2005178814	
JP 2003256796	
FR 2806030	FR 2806029
CA 1234346	
CN 1279194	
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.	
END OF ANNEX	