

[54] **PRINTING SYSTEM EMPLOYING AN INK WEB**

[75] Inventor: **Edward K. Bullock**, Marblehead, Mass.

[73] Assignee: **Polaroid Corporation**, Cambridge, Mass.

[22] Filed: **Nov. 13, 1972**

[21] Appl. No.: **305,875**

Related U.S. Application Data

[62] Division of Ser. No. 93,136, Nov. 27, 1970, Pat. No. 3,774,538.

[52] U.S. Cl. **101/244**, 101/336

[51] Int. Cl. **B41j 35/28**, B41f 31/00

[58] Field of Search 101/136-140, 101/141, 142-145, 147, 148, 202, 205, 206-209, 216-218, 96, 100, 102, 107, 243, 244, 274, 281, 332; 197/151, 175, 168; 242/194, 71.1, 197-200

[56] References Cited

UNITED STATES PATENTS

191,696	6/1877	Maurice	101/337
1,050,638	1/1913	Gammeter	101/244
2,054,264	9/1936	Möller	197/172
2,631,533	3/1953	Schreiner	101/216
3,096,038	7/1963	Fundingsland	242/55.14
3,231,060	1/1966	Newman	197/172

3,260,344	7/1966	Doyle	197/151
3,356,202	12/1967	Goff, Jr.	197/151
3,396,828	8/1968	Moshier et al.	197/151
3,593,659	7/1971	Brackett	101/348
3,606,836	9/1971	Colwill	101/244
3,690,252	9/1972	Sokolov	101/147

Primary Examiner—J. Reed Fisher

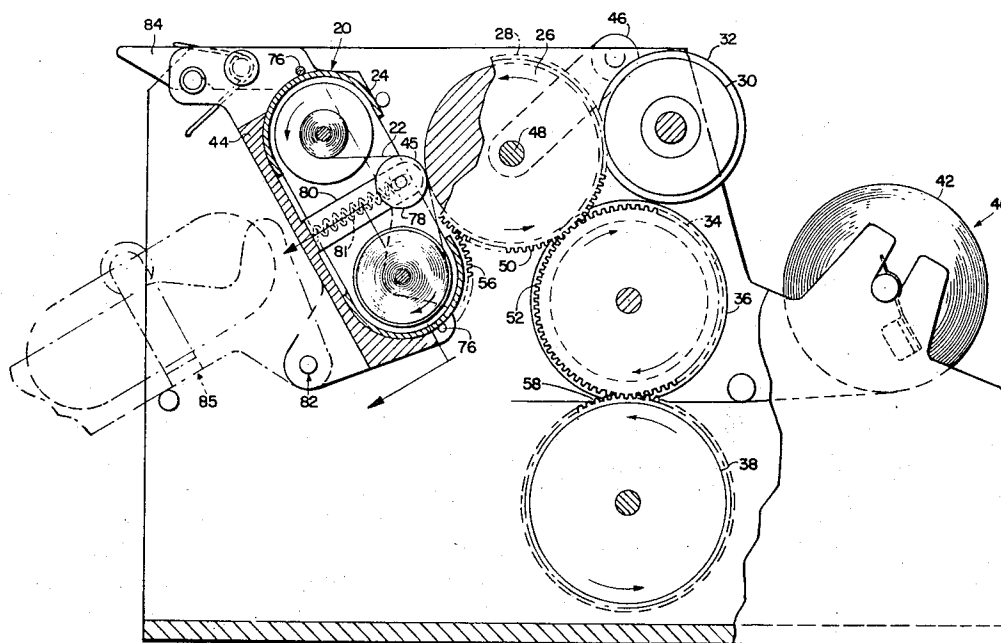
Attorney, Agent, or Firm—David R. Thornton

[57]

ABSTRACT

A printing system, particularly adapted for clean, economic printing of small quantities with a minimum of makeready, employs a disposable ink web for providing a source of ink preworked to proper printing consistency. The ink web, which is an elongated strip of flexible material carrying preworked printing ink, is supplied in pre-inked form and is adapted to be mounted in the printing press and fed by the press drive in synchronism with the rotary motion of the plate cylinder for application of ink of proper printing consistency from successive portions of the web to the press plate throughout the length of the web. Preferably, the web is supplied in a disposable cassette which is releasably mounted in the press in connection to the drive thereof, and includes at least one opening for exposing portions of the web for inking of the press-plate.

7 Claims, 10 Drawing Figures



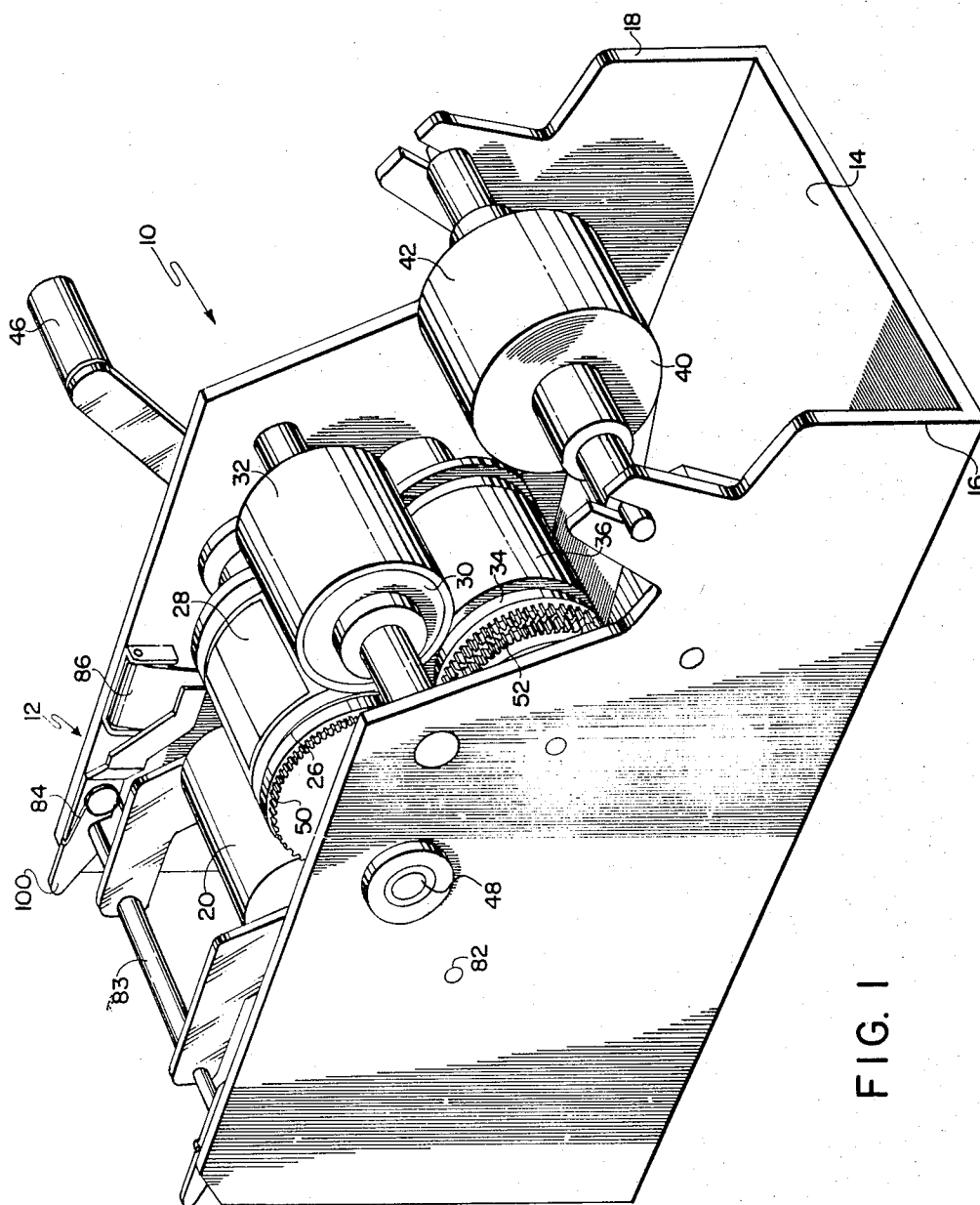


FIG. 1

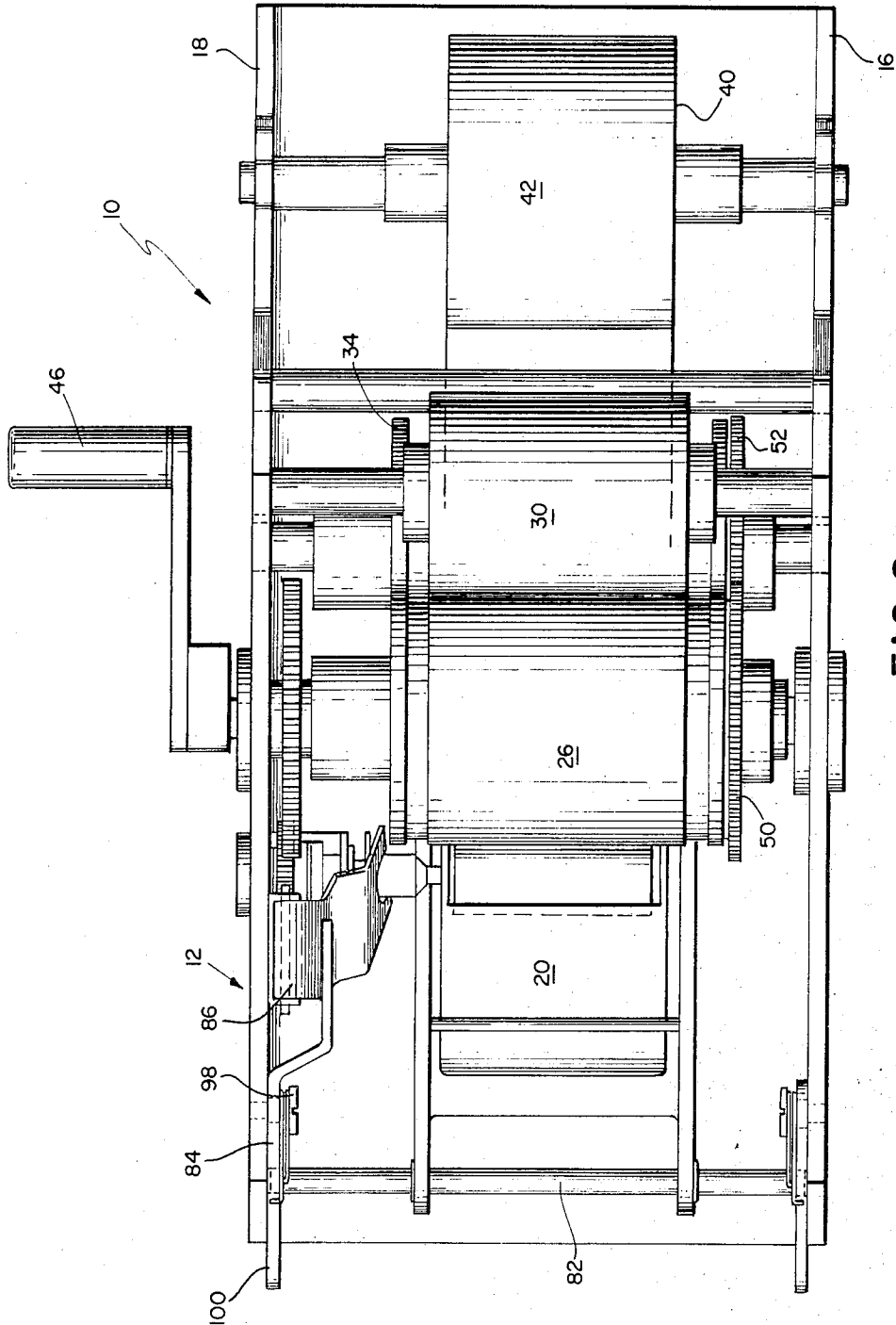


FIG. 2

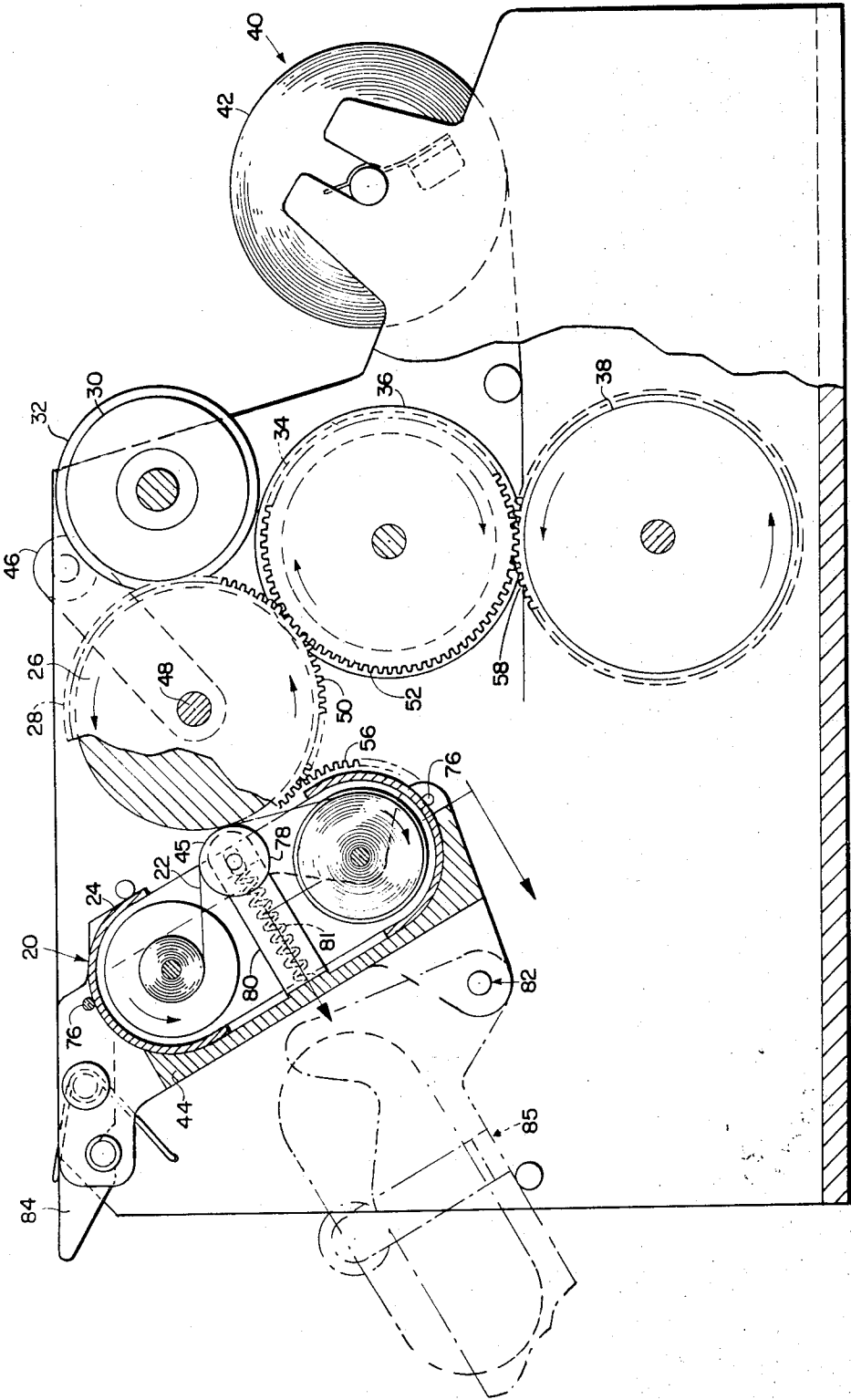
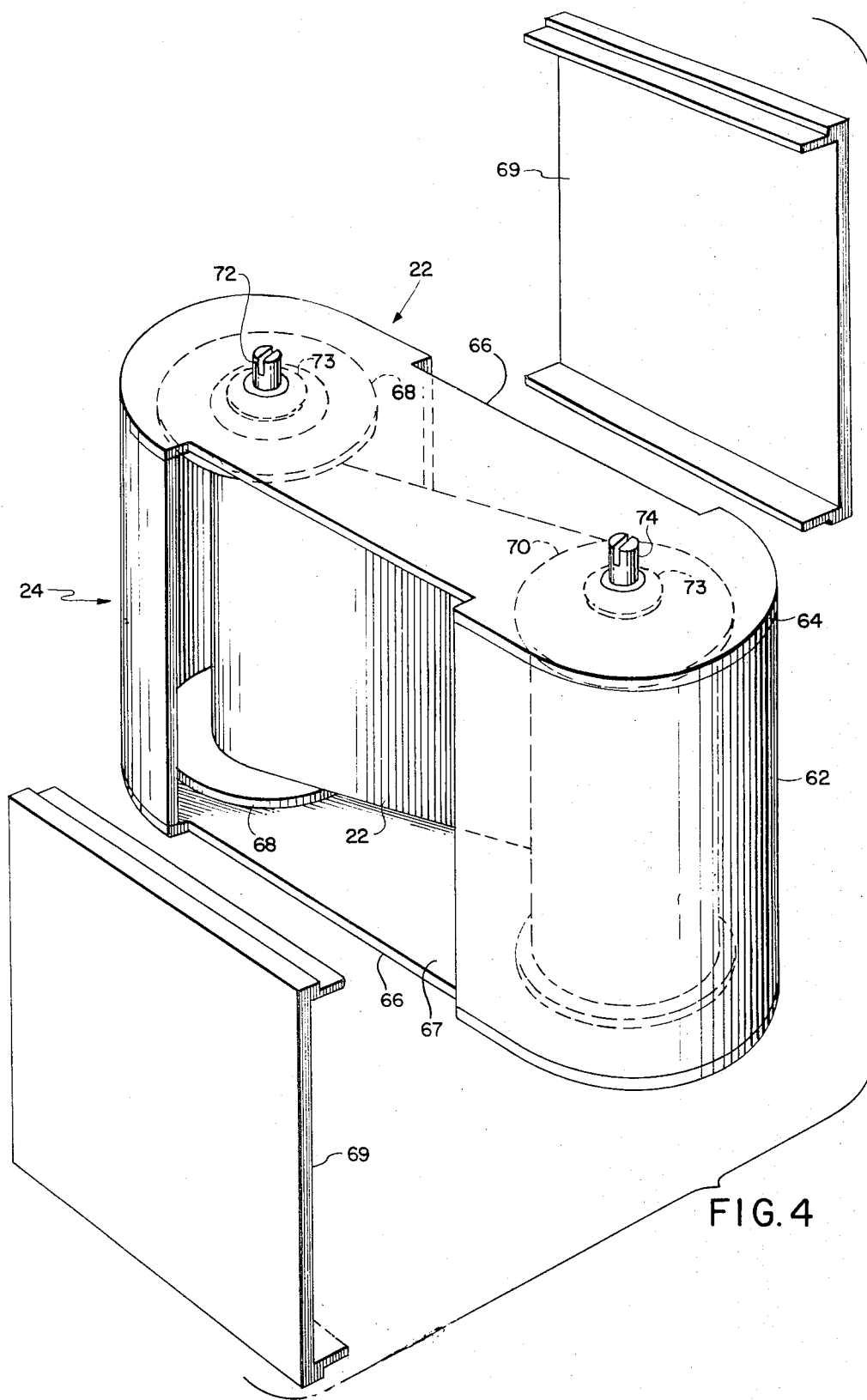
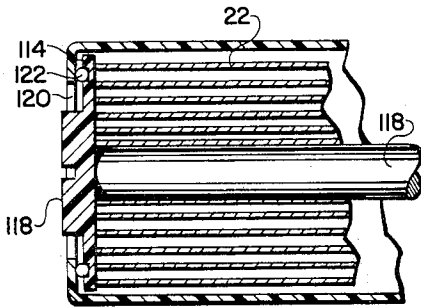
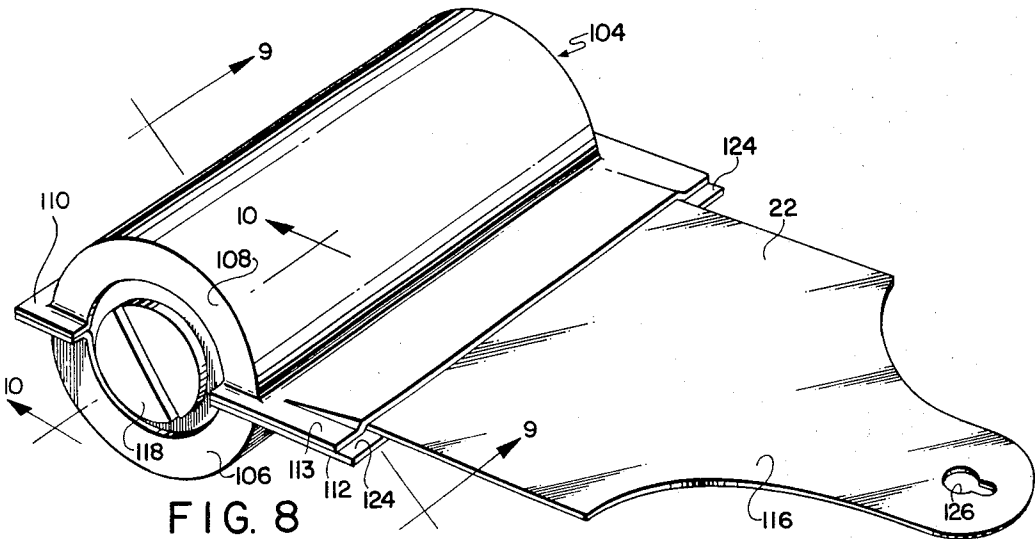
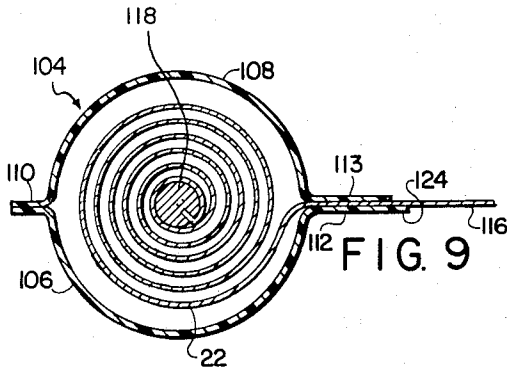
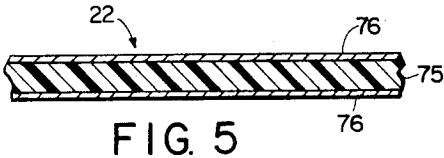


FIG. 3





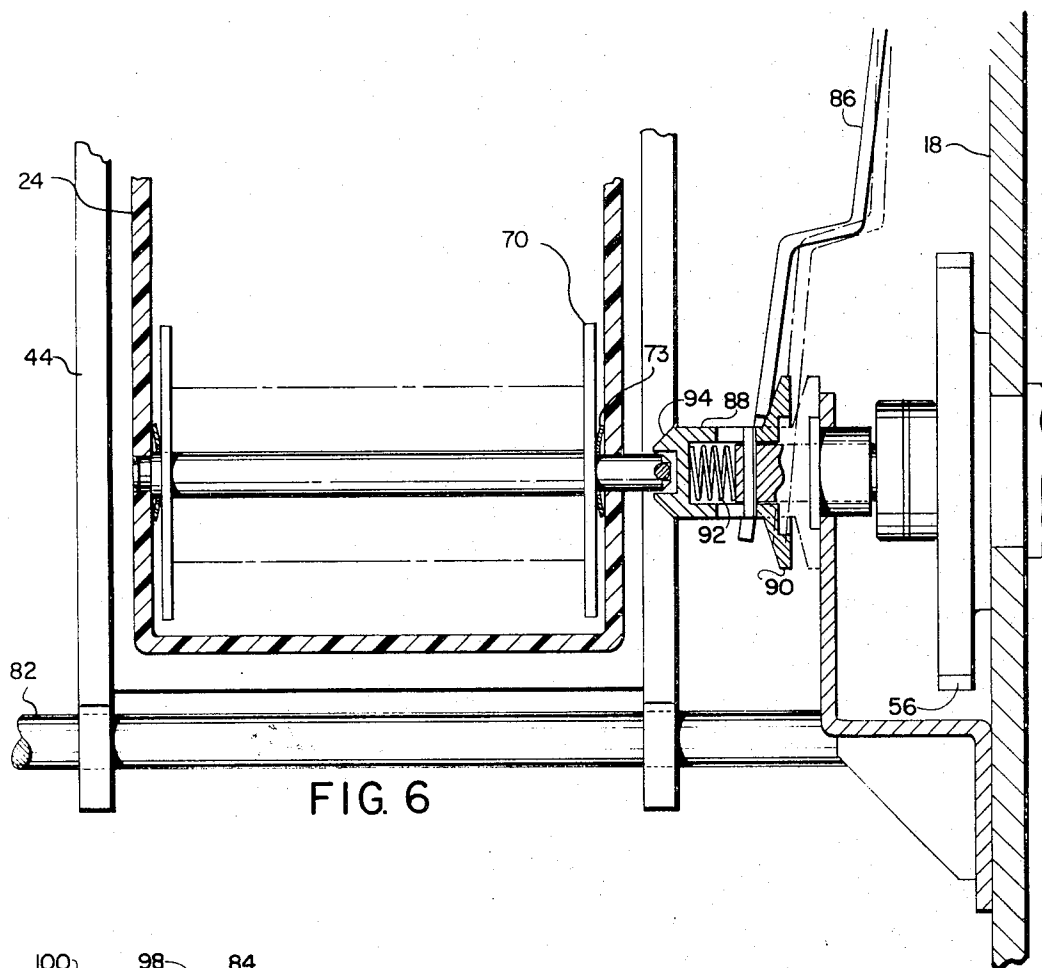


FIG. 6

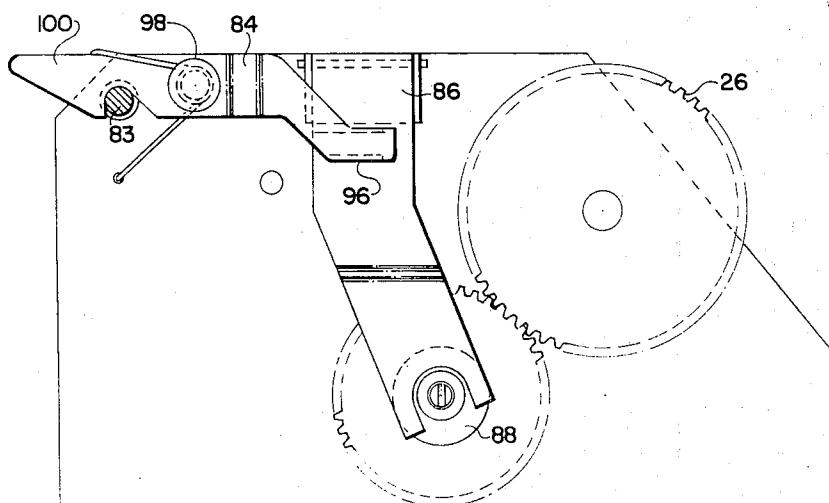


FIG. 7

PRINTING SYSTEM EMPLOYING AN INK WEB

RELATED APPLICATIONS

This application is a division of application Ser. No. 93,136, filed Nov. 27, 1970, now U.S. Pat. No. 3,774,538 issued Nov. 27, 1973.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to a printing system and, more particularly, to a simplified lithographic printing system and method employing a disposable ink web and to an ink web cassette for the same.

2. Description of the Prior Art

It is often desirable to reproduce an image in relatively small quantities. For example, photographs produced from rapid processing or so-called self-developing film materials of the type involving a diffusion-transfer method of image-formation may be used as the image carrier or so-called press-plate in a lithographic press to provide printed reproductions of the image. However, printing by means of a conventional lithographic press is generally a messy, untidy operation which requires considerable makeready and start-up operations, as well as constant attention by a highly skilled operator during the printing run. Primarily, these difficulties are caused by a complicated inking system in which ink is supplied to the press-plate from an ink fountain or the like through a plurality of milling and inking rolls, etc. Initially, the inking system is adjusted by the operator during a trial run to provide ink of proper printing consistency and not only requires particular operative skill and experience, exceeding the capabilities of the amateur, but also results in a relatively large number of initial prints of unsatisfactory quality so as to be excessively wasteful in small production runs. Moreover, once proper reproductions have been achieved, constant control of the inking apparatus is required for the duration of the printing run.

Accordingly, it is an important object of this invention to provide a printing system suitable for efficient operation by an amateur.

Another object of this invention is to provide a printing system and method of printing requiring a minimum of makeready.

Still another object of this invention is to provide a printing system having a clean, disposable source of ink of proper printing consistency.

A further object of this invention is to provide a printing system employing disposable inking material supplied in pre-inked form.

An additional object of this invention is to provide a unique ink storage applicator system and method for proper, consistent inking of a press-plate during a printing operation.

A further object of this invention is to provide an efficient method of printing.

SUMMARY OF THE INVENTION

The invention concerns a press-plate printing system employing a disposable source and carrier including an ink web made up of elongated strip material carrying printing ink preprocessed to proper printing consistency. The system includes means for advancing the web from a storage location into a given location so as to progressively present successive portions of the ink

surface thereat, and means for transferring ink from the presented portions of the web to the image carrier for inking thereof. Preferably, a nonskinning ink is employed with a strip of flexible, substantially inelastic material which, while wettable by the ink, is otherwise chemically inactive therewith and substantially impervious thereto such that the ink is carried as a thin coating on the strip surface.

In the illustrated embodiment, the web is supplied in pre-inked form within a disposable cassette which is adapted for web storage, plate inking, and web disposal. A pair of reels to which opposite ends of the web are attached, are mounted within the cassette housing for rotation about spaced parallel axes, and the web is initially coiled on one reel and extends across a passageway of the housing which permits incremental sections of the web to be progressively exposed for inking of the press-plate. Both reels are adapted to be externally driven such that the web may be reversibly transported across the passage. Hence, the web may be driven in one direction for repeated inking of the press-plate and then returned to the original spool for reuse or disposal. The web is tightly wound on the reels so as to reduce drying and to provide ink reworking during winding and unwinding. Preferably, the cassette is a symmetrical unit which may be reversibly mounted in the printing press for plate inking from the opposite side of the web during rewind to the supply reel, and the passage is configured to accept an inking pressure roller which supports the web portions exposed at the open end of the passageway so as to provide pressure contact between these web portions and the press-plate.

In another embodiment, the cassette takes the form of a single spool cannister from which the web may be dispensed for inking purposes and then returned for reuse and disposal.

BRIEF DESCRIPTION OF THE DRAWINGS

The novel features that are considered characteristic of the invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and its method of operation, together with additional objects and advantages thereof, will best be understood from the following description of the preferred embodiment when read in connection with the accompanying drawings wherein like numbers have been employed in the different figures to denote the same parts and wherein:

FIG. 1 is a diagrammatic view in perspective of a compact printing press embodying the features of this invention;

FIG. 2 is a plan view of the printing press of FIG. 1;

FIG. 3 is a view in elevation of the press of FIG. 1 with the sidewall partly cut away to illustrate the ink web cassette and other components;

FIG. 4 is a view in perspective of the preferred embodiment of the ink web cassette;

FIG. 5 is a view in section of the inking web utilized in the preferred embodiment;

FIG. 6 is a fragmentary view illustrating the clutch arrangement adapted to drive the ink cassette;

FIG. 7 is a fragmentary view illustrating the cassette release mechanism;

FIG. 8 is a view in perspective of another embodiment of the ink cassette provided in accordance with the invention;

FIG. 9 is a fragmentary sectional view taken generally along line 9—9 of FIG. 8; and

FIG. 10 is a fragmentary sectional view taken along line 10—10 of FIG. 8.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in FIGS. 1—3, the printing system preferably takes the form of an offset printing press 10 having a rigid U-shaped frame 12 with a base 14 and upwardly extending sides 16 and 18, between which elements of the press are mounted. As more fully shown in FIG. 3, the elements include: a web cassette 20 which carries an ink web 22; a plate cylinder 26 adapted to receive an image carrier 28, for example, a conventional aluminum press-plate or a press-plate derived from high speed self-developing film; a dampening cylinder 30 having a water absorbant surface 32 of blotting paper material or the like; a blanket cylinder 34 having a resilient blanket 36 of rubber or the like; an impression cylinder 38; and a supply roll 40 carrying a continuous length of suitable print-receiving material 42 such as a strip of printing paper or the like.

The cassette 20 is supported in frame 12 by a support member 44, with an exposed web portion 45 in contact with plate cylinder 26. The cylinders 26, 30, 34, 38 and 40 are mounted within frame 12 on shafts extended between sides 16 and 18, for rotation of the cylinders about spaced parallel axes in a conventional arrangement for offset printing. Hence, the dampening cylinder 30 and the blanket cylinder 34 are disposed in peripheral contact with the plate cylinder 26; and the impression cylinder 38 is mounted adjacent the blanket cylinder with the printing material 42 extending between them such that during revolution of the plate cylinder in a counterclockwise direction, when viewed from the left side of the press as shown in FIG. 3, the press-plate 28 is sequentially contacted by the dampening surface 32, the ink web portion 45 and the blanket 36.

A manual drive is preferred because it is suited to the relatively small printing runs intended and to the minimum bulk, weight, and cost factors desired. However, an electric motor or other power means can be employed for this purpose. Preferably, the plate cylinder 26 is driven by means of a hand crank 46 which is affixed to the plate cylinder shaft 48. Upon turning of the hand crank 46, the cylinders are rotated and the tape driven in the directions indicated by the arrows as provided by a plurality of intermeshing gears or by frictional contact of the cylinder surfaces with one another or with printing material 42.

The gears, mounted at the end of their respective cylinders, are of proper diameter enabling a 1:1 drive ratio between the rotating cylinders. The gears comprise a drive gear 50 which is affixed to the plate cylinder 26 and which engages a blanket gear 52 and a cassette gear 56. In this embodiment, the impression cylinder 38 also carries a gear 58 which engages blanket gear 52 so as to draw the printing material 42 between the impression cylinder and the blanket cylinder 34. However, it should be understood that the printing material may be advanced by other means, such as conventional rollers or the like (not shown), in which case the im-

pression cylinder may be free-wheeling. Moreover, other impression means may be employed, such as a stationary low-friction surface or a travelling bed, or the like.

As is more fully explained with regard to the cassette description, the cassette gear is of smaller diameter than the other gears so as to provide a higher gear ratio, for example, 3:1, which, in conjunction with the changing diameter of the convolute winding and a clutch arrangement, drives the web at a constant speed equal to the motion of the press-plate, and substantially eliminates slippage between the web and the press-plate.

In the preferred embodiment, the cassette is a two-reel unit, shown more clearly in FIG. 4, in which a pair of housing members 62 and 64 are joined together to form housing 24 having openings 66 on each side thereof which define a passage 67 extending laterally through the cassette. A supply spool or reel 68 and a take-up spool or reel 70 are coplanarly mounted on either side of the openings for rotation about parallel axes. The pre-inked web 22 is initially coiled on the supply reel with the web ends affixed to both, such that the web extends lengthwise across the passage 67 and may be driven from one reel to the other past both of the openings 66. Shafts 72 and 74 extend from the respective reels through an end wall of the housing to permit access for coupling of either reel to cassette gear 56 which is rotatably mounted within frame 12. Disposed on each shaft, between it and the housing wall, are spring washers 73 which exert a light frictional drag on the reels to prevent web slack.

The reels 68 and 70 are mounted on either side of passage 67 such that the lateral axis of the web 22 is always substantially normal to the center line of the passage whereby the major surfaces of the web may be advanced across the openings 66. The shafts 72 and 74 are extended from one side of the cassette 24, the web 22 is wound in opposite directions around the reels, and the housing is externally configured such that the cassette is symmetrical about the plane which extends between the reels and bisects the passage. Consequently, the cassette may be reversed in its support 44 for printing from the opposite side of the web during rewinding to the initial supply reel 68. That is, the web may be reversibly transported across the passage in either direction with a particular surface exposed for inking of the press-plate in accordance with whichever reel is driven in a take-up direction. Hence, in actual use, the cassette may be reversed several times to drive the web back and forth until the ink is substantially depleted from both sides of the web. Advantageously, the convolute winding of the web redistributes the ink on both sides of the web during each printing run.

The cassette is supplied in a sealed condition, for example, within hermetically sealed package (not shown) or plastic or the like, and is also fitted with sealing covers 69 for sealing the openings 66. Sealing means can also be included around shafts 72 and 74. For example, washers 73 may be of gasket material or the like. Additionally, covers 69 may include gasket material for hermetically sealing the unit.

Web 22, a portion of which is shown in section in FIG. 5, is a flexible, thin strip 75 having surface coatings 76 of suitable ink. Preferably, the strip is a substantially inelastic material which is wettable with the ink but substantially chemically inactive therewith, and the ink is preferably a nonskinning ink which dries or be-

comes nonliquid upon partial absorption in the print paper. That is, the ink includes a drying inhibitor or anti-skinning agent which retards the action of ink driers. For example, small amounts of so-called antioxidants of the phenolic or oxine type, such as Hydroquinone or 2-butanone oxine, suitably delay drying of the ink until removal of the inhibitor by, for example, its absorption into the print-receiving material. That is, the inhibitor permeates the porous surface of the print-receiving material and consequently permits drying of the ink which remains on the exterior surface. For example, a non-skinning ink such as "Rubber Base Plus" made by Van-Son Holland Inc. is suitable. Consequently, in the preferred embodiment, the web strip is of material which is substantially impervious to the ink and is made, for example, of a polyester such as polyethylene-terephthalate film or the like. It should be understood, however, that other web materials, including woven fiber materials, and more conventional printing inks may also be employed. The ink may be deposited on the strip by any number of means, such as by brushing, spraying, dipping, rolling, or slot coating; and, since the web is convolutely wound in this embodiment, the ink may be initially spread on only one of its major surfaces. The ink may be preworked and preprocessed prior to coating of the strip or reworked after deposition, for example, by rolling or winding the strip, etc. In all cases, the ink is preprocessed before final packaging to a consistency suitable for immediate application to a press-plate.

As shown in FIG. 3, cassette 20 is designed to fit within the cradle-like support member 44 and is releasably secured therein by spring members 76 which hold the cassette firmly seated. Rotatably mounted on an extended arm 80 of the support member 44 is an inking pressure roller 78 which is adapted to fit within the passage 67 such that upon mounting the cassette, its web 22 is forced slightly out of opening 66 and exposed for facilitating transfer of the ink therefrom. Hence, the open ended passageway 67 and roller 78 cooperate to provide means for exposing incremental sections of the web exteriorly of the housing. Arm 80 is spring mounted in a conventional manner on spring 81 to provide resilient bias of the web against plate cylinder 26.

The support member 44 is displaceably mounted in the frame 12 to facilitate insertion and removal of the cassette. To accommodate this, member 44 is pivotably mounted on a shaft 82 at its lower end and is locked by a latch member 84 at its upper end so as to allow the support to be swung out of the frame, as shown at 85.

Cassette 20 and its extended shafts 72 and 74 are automatically coupled to cassette gear 56 when the support member 44 is pivoted to its locked position, and as shown more clearly in FIGS. 6 and 7, the latch member 84 cooperates with a release member 86 to decouple the cassette gear 56 simultaneous with the unlatching of support 44. Hence, the shaft 74 of the take-up reel 70 is adapted to engage a coupling 88 which extends from a conventional slip clutch 90, mounted on gear 56. Hence, the gear 56 and the coupling 88 provide an external force applying member for driving the web. The coupling is biased toward the cassette support 44 by a spring 92 and is tapered at its outer extremity 94 so that it is initially moved or driven toward gear 56 by the end of shaft 74, and then drops into position on

the shaft as the support member is locked in its operating position. For release of the drive arrangement, the coupling member 88 is laterally withdrawn from engagement with the shaft by the release member 86 in response to downward movement of the inward end 96 of the latch. The latch 84 is pivotally mounted as at 98 and spring biased to a horizontal position for engagement with the shaft 83 of the support member 44 such that lifting of its outwardly extended end 100, releases the support member and simultaneously disengages the coupling 88.

To avoid smearing, during plate inking it is desirable to drive web 22 at a constant speed approximately in synchronism with the press-plate 28. That is, although some motion of the web relative to the press-plate is permitted, for example, slight lateral motion of the web responsive to its being driven between the inking pressure roller and plate cylinder in pressure contact therebetween provides for additional redistribution of the ink and varies the ink surface exposed to the press-plate, it is preferable that the web be driven substantially at the same linear velocity as the press-plate 28. This necessitates a variable rate of rotation for the take-up reel in accordance with changing diameter of the convolute winding. To accomplish this, the cassette gear 56 is rotated at a rate appropriate to drive the belt at the desired speed when the take-up spool holds a minimum of web windings, and clutch 90 appropriately slips as the winding diameter increases. In this regard, the slip clutch 90 is preset to slip under a given load such that, in cooperation with spring washers 73 which provide drag on the reels, it applies substantially constant web tension and, consequently, constant web speed. Hence, as the take-up diameter increases, with increased winding, the drag and web tension tend to increase proportionately such that the clutch slips and belt speed remains constant.

In the preferred embodiment, the ink web is affixed to both reels of the cassette, and transported therebetween by rotation of at least one of the reels. However, many other arrangements are possible; for example, an endless web driven by an engaging sprocket or frictional drive roller or the like, may be employed. Moreover, the means for advancing the web may be separate from the reels, and external to the cassette. For example, the web may be advanced by pressure contact or other engagement (e.g., sprocket-type engagement) with the plate cylinder. The inking pressure roller may also be driven to advance the web.

In another embodiment, a single spool cannister as shown in FIG. 8 is utilized. Herein, web 22 is enclosed within a substantially cylindrical casing 104, constructed of two members 106 and 108 joined together at outwardly extending flanges 110, which also provide extended lip portions 112 and 113 for dispensing of the web. As shown in FIGS. 9 and 10, web 22 is convolutely wound within the casing on a single reel 114 with a leader 116 extending between lips 112 and 113. A shaft portion 118 of the spool extends through an opening 120 at one or both ends of the casing and provides access for connecting an external drive to the unit. Sealing means, such as an O-ring 122 of leather or the like, is also provided between the ends of the reel 114 and the casing 104 so as to seal the openings and retard ink drying. Preferably, lips 112 and 113 are formed so as to be biased toward one another and closely press against the web disposed therebetween. A portion 124

of the lower lip 112 is extended slightly outward beyond the upper lip 113 to provide leverage for displacing of one lip from the other so as to facilitate dispensing of the web. For example, the press may be designed to include a cam means (not shown) to open the lips only upon operation of the handcrank or other press drive means.

Cassette 104 is intended for use in a printing apparatus which provides a separate take-up reel. For example, in the press shown in the preferred embodiment, cassette 104 may be releasably mounted over a take-up shaft by means of spring-loaded shafts or the like which engage the ends of the cassette shaft. Leader 116 is then drawn from the cassette, passed between a suitable inking pressure roller and plate cylinder 26, and attached to a take-up shaft or spool (not shown) by means of fastening loop 126 such that, during press operation, the web is drawn from the cassette and stored on the take-up spool. For reuse or disposal of the web, shaft 118 is then utilized to drive the supply spool of the cassette in the reverse direction and to rewind the web within the cassette. For example, a separate crank could be employed to drive the supply spool in a reverse direction, or, with suitable gearing, the described crank drive could be reversed in direction for rewinding of the web, etc.

In this embodiment, the web is permanently affixed at its inner end to the supply reel. However, it should be understood that the web could be releasably mounted and completely drawn from cassette 104 into a similar cassette for disposal. For example, the web may be releasably affixed to the supply spool, and cassette sections could be so designed as to permit opening of the cassette after exhaustion of the ink material for use of the empty unit as a take-up cassette in the future operation.

Those familiar with the printing arts will readily appreciate the novel and highly unique advantages of this invention. A simple, inexpensive inking storage and applicator system is provided which facilitates rapid lithographic reproduction. This unique inking system is particularly well-suited for incorporation into a compact cassette which facilitates clean, efficient handling of the inking material and permits rapid startup and efficient intermittent use of the printing apparatus. Most importantly, it provides a clean, disposable source of ink of proper printing consistency suitable for the amateur printer and includes a simple and efficient means for applying the ink to the press-plate.

This invention may be practiced or embodied in still other ways without departing from the spirit or essential character thereof. The preferred embodiment described herein is, therefore, illustrative and not restrictive, the scope of the invention being indicated by the appended claims, and all variations which come within the meaning of the claims are intended to be embraced therein.

What is claimed is:

1. A printing system for repeatedly applying ink from an ink web of elongated strip material to an image carrier and transferring ink impressions of such image to print-receiving material, said system comprising:

means for mounting such image carrier for presentation of its image bearing surface;

means for receiving an ink web cassette, such cassette including an elongated, generally enclosed housing having a first and second web storage area

located at respective ends of the housing, a passageway interposed between such storage areas and extending between a pair of opposed sidewalls of such cassette housing, such passageway terminating in an opening in each of such sidewalls, an ink web disposed within such housing and extending across said passageway from said first to said second storage area such that an incremental section of at least one side of such web may be presented at one of such openings, and means for cooperating with drive means of said apparatus for advancing such ink web from such first storage area to such second storage area;

drive means located in operative relation to said receiving means and configured for cooperating with such web advancing means of such cassette for advancing such web therein;

means located in operative relation to such receiving means and configured to extend within such one opening and such passageway so as to support an incremental section of such ink web at the other of such openings of such cassette housing;

means for sequentially transferring ink from successive incremental sections of such ink web presented at such other opening to the image bearing surface of such image carrier for repetitive inking thereof, said transferring means including means for repetitively moving said carrier mounting means along a given path so as to bring such image carrier mounted thereon into contact with such incremental sections of such ink web as they are supported by said supporting means; and

means for transferring ink impressions of such image from such image carrier to such print receiving material following each transfer of ink to such image carrier.

2. The system of claim 1 wherein inking pressure means includes a resiliently mounted pressure roller.

3. The system of claim 1 wherein such cassette means for cooperating with said drive means includes a pair of spools rotatably mounted within such storage areas of such housing to either side of said openings and configured for rotation around axes substantially parallel to each other and such opposed sidewalls and means coupled to each of such spools for cooperating with said drive means of such apparatus for rotating said one spool so as to progressively advance such ink web across such passageway thereby progressively presenting incremental sections of the opposite sides of such ink web at such openings, and such housing is symmetrical around at least one of the major axes of said housing such that said cassette may be reversibly mounted in said apparatus for reversible transport of said web within said housing and utilization of opposite sides of said web for printing operations, said apparatus receiving means is configured for reversible mounting of such cassette, and said drive means is located in adjoining relation to one end of said receiving means and configured for cooperating with such coupling means of one of such spools when said cassette is mounted within said receiving means.

4. The system of claim 1 wherein said cassette includes:

a pair of spools rotatably mounted within such housing in each of said storage areas respectively and configured for coiling of such web thereon in accordance with rotation of said spools, at least one

of said spools including coupling means for cooperating with said drive means of said apparatus for rotating said one spool, and wherein said drive means of said apparatus is displaceably mounted thereon and configured for lateral movement away from such spool coupling means when such cassette is mounted in said apparatus, and selectively operable means for displacing said drive means away from said receiving means so as to permit removal of such cassette.

5. A printing system for repeatedly applying ink to an image carrier and transferring ink impressions of the image carried thereby to print receiving material, said system comprising:

an ink web cassette comprising:

a substantially enclosed cassette housing configured to be releasably mounted in other apparatus, said housing including a pair of opposed sidewalls joined together by at least one end wall, said cassette housing including a first and second storage area and a passageway interposed between said storage area, said passageway extending between said sidewalls and terminating in an opening in each of said sidewalls;

an ink web including an elongated strip carrying printing ink disposed within said cassette housing and initially substantially entirely located in said first storage area thereof with a portion of said web extending within said housing across said passageway to said second storage area such that an incremental section of one side of said web may be presented at a first of said openings of said side walls and the opposite side of said web may be presented at a second of said openings, and said passageway configured for receiving an inking pressure means of said other apparatus for supporting an incremental section of said web at

either of said openings;
means configured for cooperating with drive means of said other apparatus for progressively advancing said ink web from said first to said second storage area and across said passageway thereby progressively presenting incremental sections of a given side of said ink web at one of said openings for inking of such image carrier, said apparatus comprising:

means for receiving said ink web cassette;

drive means operatively associated with said receiving means for advancing such ink web from said first location to said second location;

means operatively associated with said receiving means so as to extend within said passageway of said cassette when said cassette is located in said receiving means to support said ink web at one of said openings of said sidewalls;

means for mounting such image carrier for presentation of its image bearing surface;

means for sequentially transferring ink from successive incremental sections of said ink web as they are presented at said one opening to the image bearing surface of such image carrier for repetitive inking thereof; and

means for transferring ink impressions of such image from such image carrier to such print receiving material following each transfer of ink to such image carrier.

6. The system of claim 5 wherein said strip is substantially impervious to said ink and said ink is carried by said strip as a thin surface coating of at least one major surface thereof.

7. The system of claim 6 wherein said strip is an organic polymer.

* * * * *

40

45

50

55

60

65