United States Patent

Kaplan

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[45] **June 6, 1972**

[54] PRINTING PUNCHING AND ENCODING APPARATUS FOR FILE FOLDERS AND THE LIKE

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[52] **U.S. Cl.** .....**101/19,** 101/93 C, 101/90

[51] **Int. Cl.**.....**B41j 11/58,** B41j 1/00, B41l 19/04

[58] **Field of Search**.....101/19, 20, 18, 90, 93, 66, 101/95

[56] **References Cited**

UNITED STATES PATENTS

2,874,632	2/1959	Collins	101/19
3,296,959	1/1967	Sewell	101/95 X
3,094,923	6/1963	Lobas et al.	101/93 R
3,517,612	1/1970	Stucchi	101/66 X
3,364,851	1/1968	Teichner	101/90
3,095,807	7/1963	Bone	101/19

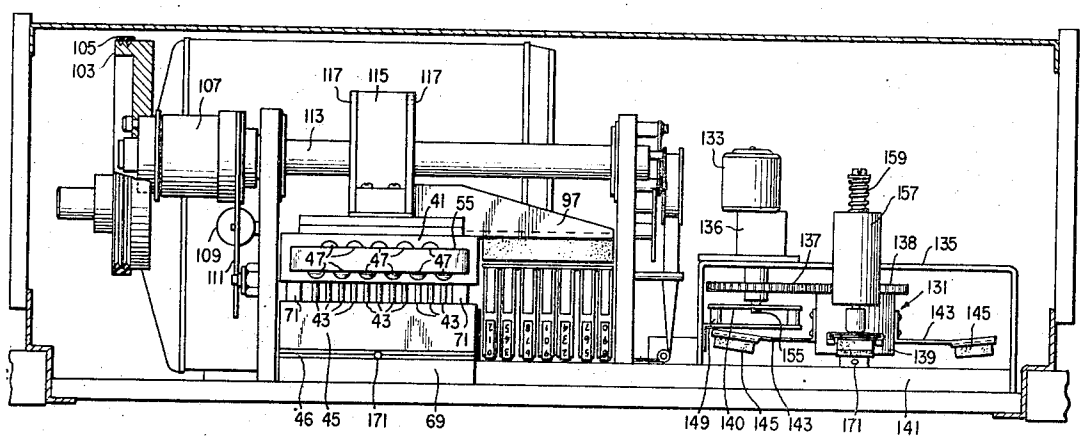
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[57] **ABSTRACT**

This disclosure describes an apparatus for encoding file folders and the like, said file folders having corresponding file folder containers in which the file folders are to be stored. The file folders are coded along one edge with perforated digital information, alpha numeric information and color code information by the apparatus of the invention. More specifically, the apparatus includes a means for punching digital perforations, a means for printing numbers and a means for printing a color code along the edge of a file folder and the like. The punching and printing are all done in accordance with input data derived from the container in which the encoded folder is to be ultimately stored.

9 Claims, 8 Drawing Figures



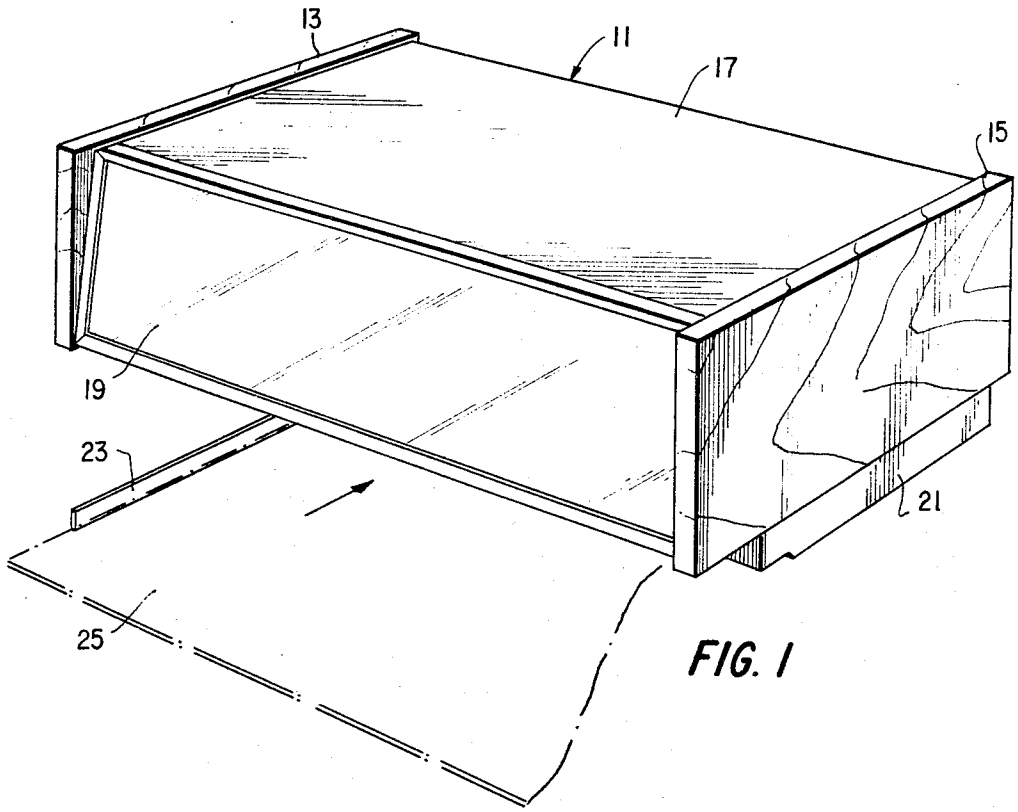


FIG. 1

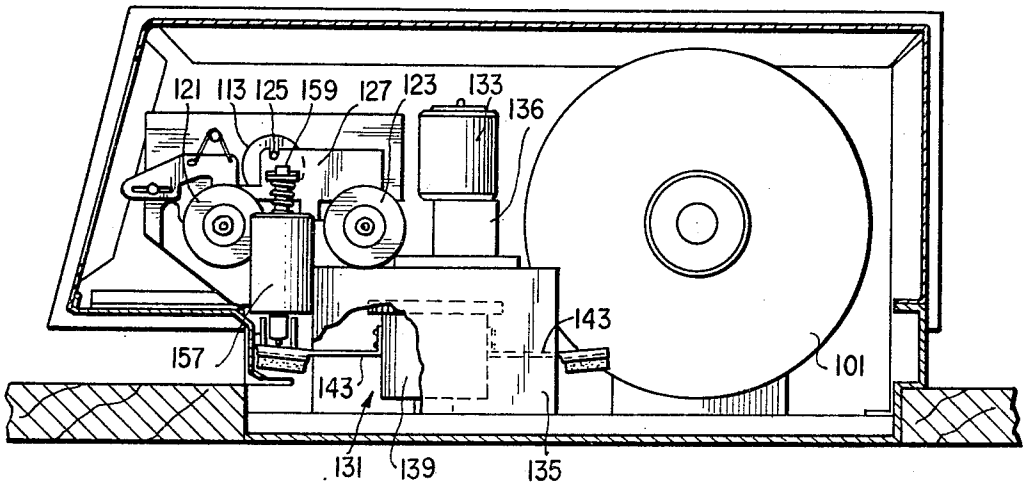


FIG. 5

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FIG. 7

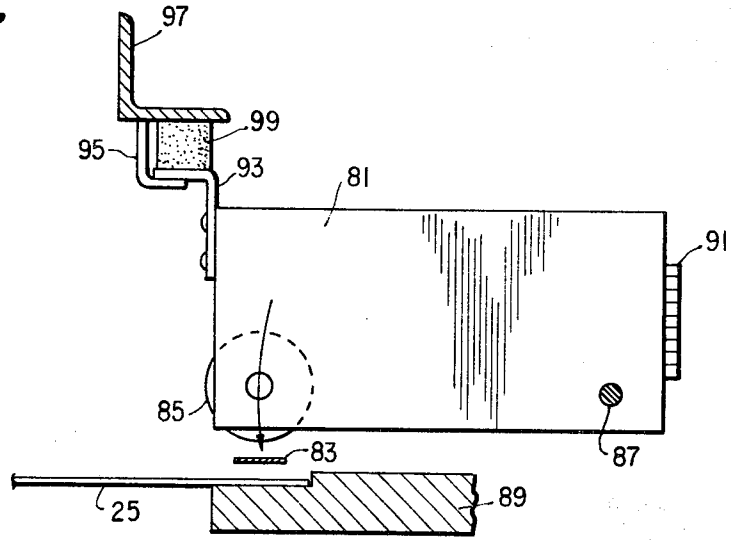


FIG. 2

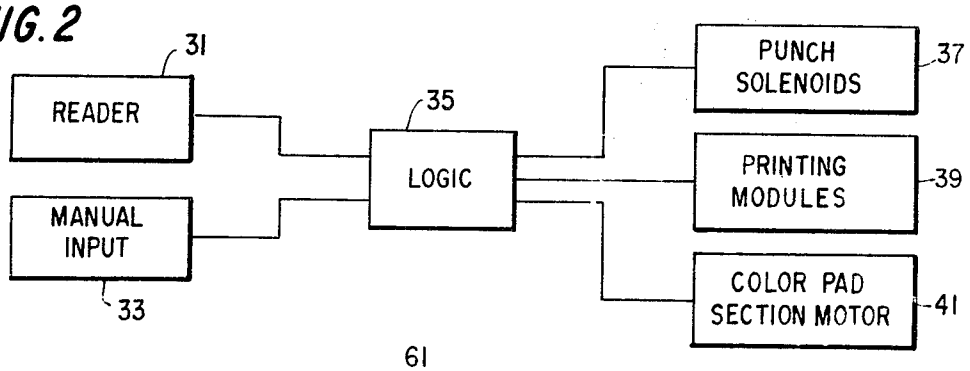
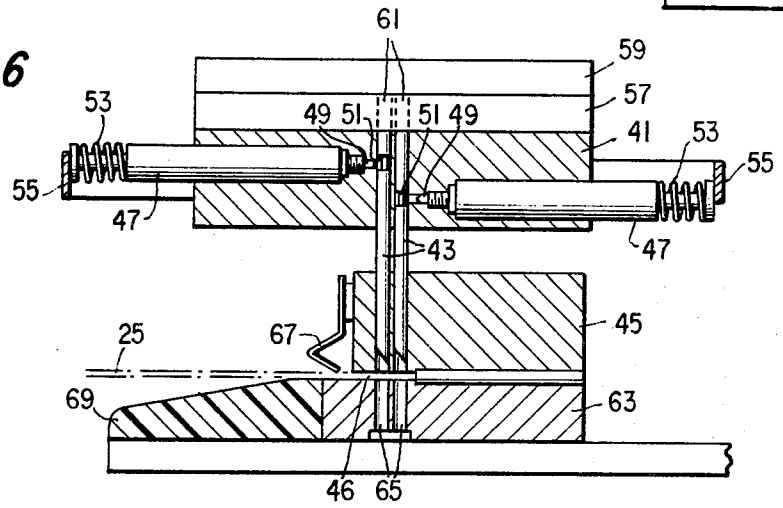


FIG. 6



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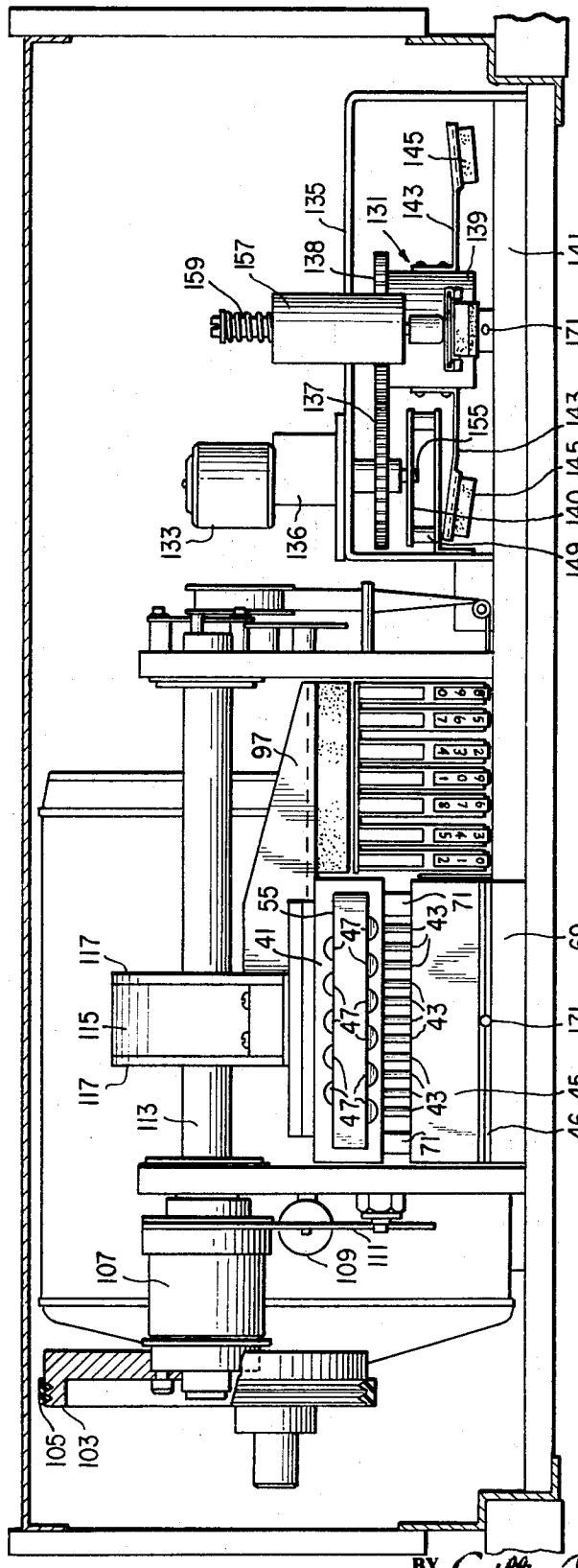


FIG. 3

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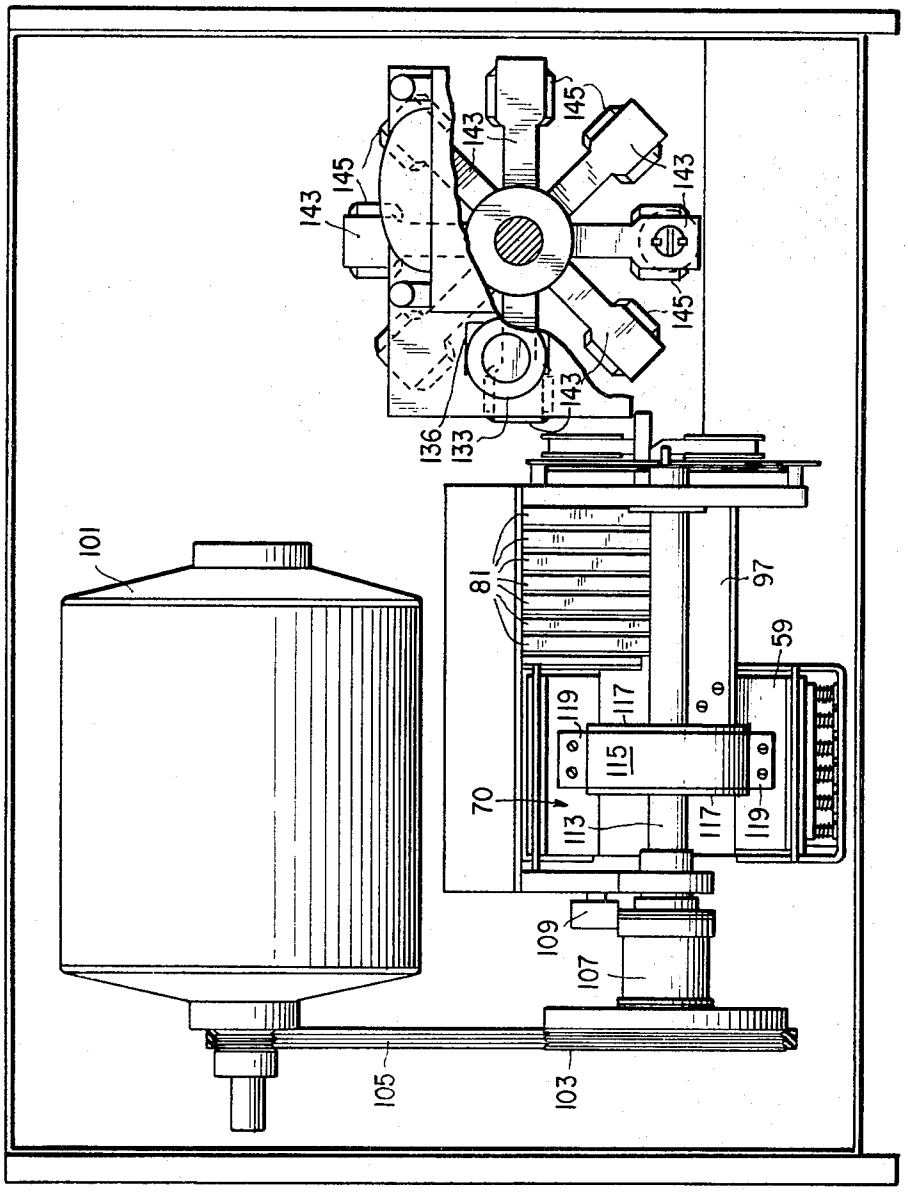


FIG. 4

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PRINTING PUNCHING AND ENCODING APPARATUS FOR FILE FOLDERS AND THE LIKE

BACKGROUND OF THE INVENTION

This invention is directed to encoding devices and more particularly to an apparatus for encoding file folders and the like with information about the storage location of said file folders.

The ability to store and retrieve original records such as documents becomes increasingly more difficult as the number of documents to be stored and retrieved grows. In order to store and have the ability to retrieve the growing volume of recorded information generated by government and industry, various automatic storage systems have been developed. One such system for storing and retrieving records is described in U.S. Pat. No. 3,463,566, issued to Joseph A. Powers for "Automatic Article Handling System." That patent describes a system wherein containers are automatically moved from storage positions to an operator's work station and vice versa in accordance with the operator's commands. File folders containing documents, exhibits and the like are stored in the containers. More specifically, the containers are normally located at permanent storage positions. When it is desired to retrieve a particular file folder, the number of the storage container holding that file folder is "read into" the system and that container is brought to the operator's work station. The desired file folder is then removed and the container is returned to its storage position. When it is desired to again store the file folder, the appropriate container is recalled and returned in a similar manner.

The above-described and similar systems have been developed for the storage of information, exhibits and the like. While these systems have been a giant step forward in the information storage art, they have not resolved all of the problems. One of the remaining problems is system integrity. That is, if an operator places or replaces a file folder in the wrong container, that file folder is essentially lost. There are several reasons that can cause this type of error, such as recalling the wrong container, for example. The above-denoted patent does disclose a system that somewhat solves this problem by providing a file folder that is perforated with a plurality of coded apertures and a container that is perforated with similar apertures. While this concept is an improvement, it still lacks integrity because there is no provision for assuring that both items are punched with corresponding sets of apertures.

Therefore, it is an object of this invention to provide an encoding apparatus that encodes a file folder, tab or the like with the same coded aperture information contained on a particular container into which said file folder, tab or the like is to be placed for storage.

It is a further object of this invention to provide an encoding apparatus suitable for use with an automatic filing system which encodes a file folder or tab suitable for attachment to exhibits or the like, with a perforation code identical to the code contained in a container into which the file folder or tab and attached exhibit or the like, is to be placed.

It will be appreciated that it is desirable to provide a system that not only encodes by punching perforations, but also encodes by printing corresponding readable information so that a person glancing at the file can easily identify its storage location. Therefore, it is a further object of this invention to provide a new and improved apparatus that not only punches a perforation code in a file folder, tab or the like, but also prints information related to said code on said file folder, tab or the like.

It will still further be appreciated that it is not only desirable to provide a perforation code and corresponding printed information, but that it is also desirable to provide a general code of broad significance so that a plurality of file folders can be easily, manually segregated in accordance with their general subject matter or location in a large filing system. Therefore, it is yet another object of this invention to provide an encoding apparatus suitable for creating a perforation digital code in a file folder, tab or the like, printing corresponding information on the file folder and printing a general code on the file folder.

SUMMARY OF THE INVENTION

In accordance with a principle of this invention, apparatus suitable for punching a digital code in and printing corresponding information on a file folder, tab or the like is provided. The apparatus comprises a perforating section, an identifying print section, an identifying print section and a color code print section. All of the sections include means to perform their specified function. The means are mounted along a common axis such that perforating and printing are performed adjacent a common edge when the folder or tab is placed in a predetermined position and the apparatus is activated.

In accordance with a further principle of this invention, the perforating section is in effect a miniature punch press. Suitable guide pins and bushings are provided to keep the punches in alignment with a die. The punches are contained by a punch head, but are free floating in a direction transverse to the axis along which the printing is performed. Pencil solenoids are provided for each punch. When an individual pencil solenoid is energized, a pin projects into an aperture in the corresponding punch so that when the punch head moves down, that punch also moves down and creates a hole in the folder. Contrawise, those punches having unenergized corresponding solenoids, float above the folder when the punch head moves down. In this manner, a predetermined array of perforations is created in the file folder.

In accordance with a further principle of this invention, the identifying print section is formed of a plurality of printing modules having wheels with alpha numeric characters arranged around the periphery of the wheels. The modules are hinged at the rear end and swing downwardly to imprint. Each module includes a suitable indexing mechanism which rotates its wheel until the desired character lies over an inked ribbon. Simultaneously, with the down stroke of the punch head, the printing modules are brought down and through the inked ribbon imprint their respective characters on the edge of the file folder or tab. Suitable means are provided for indexing the inked ribbon upon the raising of the printing modules.

In accordance with a still further principle of this invention, the color code print section is comprised of a spider wheel assembly having a plurality of different color permeable ink pads located on the ends of arms. Geared to the spider wheel assembly is a suitable position wafer switch of the make before break type. The spider wheel assembly is rotated by a small motor until an open contact on the wafer switch open circuits the motor causing the wheel to stop at the point where the desired color pad is in a printing position above the folder or tab. At this point, a solenoid lying directly over the pad is energized to force the pad downwardly against the folder or tab.

In accordance with another principle of this invention, means are provided for reading the digital perforation code in a container. That is, the code perforations in a container are read via suitable electronic reading means, such as an electro-optical reader. The read-out signal is utilized by a suitable logic circuit to control energization of the pencil solenoids of the punch head, indexing of the wheels of the printing modules and movement of the spider wheel. Thereafter, the overall apparatus is operated to print the color code and the alpha numeric indications and punch the desired perforations in the manner previously described.

It will be appreciated from the foregoing summary that use of the invention greatly aids the integrity of modern storage systems. For example, when it is desired to replace a folder in a storage container, the punched holes in the file folder can be read by any suitable electro-optical reading system. The read information can be utilized through an automatic logic system

to bring the desired container to the operator's station. Thereafter, it is merely necessary for the operator to insert the folder in the container. Hence, misfiling due to operator error is virtually eliminated by the use of the invention. In addition, speed of refiling is increased. Moreover, the printing aspects of the invention allow the user of a file folder to easily locate a particular file folder as well as easily rearrange a plurality of file folders in accordance with a particular color code.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing objects and many of the attendant advantages to this invention will become more readily appreciated as the same becomes better understood from the following detailed description when taken in conjunction with the accomapnying drawings, wherein:

FIG. 1 is a perspective view of a low profile housing for enclosing the invention;

FIG. 2 is a block diagram broadly illustrating the invention;

FIG. 3 is a front view of a preferred embodiment of the invention;

FIG. 4 is a top view of the embodiment of the invention illustrated in FIG. 3;

FIG. 5 is a side view of the embodiment of the invention illustrated in FIG. 3;

FIG. 6 is a cross sectional view illustrating one portion of the invention;

FIG. 7 is a cross sectional view illustrating a further portion of the invention and,

FIG. 8 is a perspective view of a container suitable for storing encoded file folders.

DESCRIPTION OF THE PREFERRED EMBODIMENT

This invention is directed to an apparatus for encoding file folders and tab cards to be used with automatic filing systems of the general type described in U.S. Pat. No. 3,463,566 issued to J. A. Powers for "Automatic Article-handling System." That patent describes a system for automatically moving containers from a remote storage area to an article handling station. The containers are designed to contain a plurality of articles such as file folders or other generally similar articles with attached tabs. The containers are digitally coded by punching a plurality of holes in one side of the container. These holes can be read by any suitable reading device, such as electro-optical, wire brush or pin-contact readers, for examples. The folders are similarly digitally coded so that a particular code in a container corresponds to a particular code in a folder (or tab card). This invention is directed to providing a means for encoding the file folders or tab cards in such a manner that correspondence between the coding in the container or the file folder is assured.

FIG. 1 illustrates a housing 11 for enclosing a preferred embodiment of the invention and generally comprises: right and left sides 13 and 15, preferably formed of wood for aesthetic purposes; a top 17, preferably formed of sheet metal, plastic or the like; a front 19, also preferably formed of sheet metal, plastic or the like; an inset bottom 21 upon which the various elements of the invention are mounted; a back (not shown in FIG. 1); and, a guide bar 23. Preferably, the front, top, back and sides of the housing are fixedly attached so that the overall structure can be opened along a hinge located in the rear and attached to a suitable support member mounted on the bottom. In this manner the various components of the invention are easily exposed for cleaning, replacement and repair.

The guide 23 is placed so that a folder 25 (or tab card) can be inserted beneath the front edge of the structure in order to have the herein described indications punched in and printed on the edge of the folder.

FIG. 2 is a block diagram generally illustrating the invention and comprises: a reader 31; a manual input 33; logic 35; punch solenoids 37; printing modules 39; and, a color pad selection motor 41. The reader 31 may be an electro-optical reader or any other similar device designed to sense perforations 32 in a wall 34 a container 36 of the type described in U.S. Pat. No. 3,463,566 and illustrated in FIG. 8. The reader 31 reads the location of these perforations and applies a signal, determined by the location of the holes, to the logic 35. Alternatively, if desired, the manual input, which may be a digital data keyboard, provides signals to the logic 35. In any event, the logic 35 processes the input signals and generates output signals which are applied to the punch solenoids 37, the printing modules 39, and the color pad selection motor 41. In this manner, the output or control signals are determined by the input or sensed signals. As will be better understood from the following description, the punch solenoids are adapted to control punches which punch holes in the edge of the file folder 25 after it is inserted into the housing 11 as illustrated in FIG. 1. Similarly, the printing modules are adapted to control print wheels so that a desired series of alpha numeric characters are imprinted on the edge of the file folder. In addition, the color pad selection motor controls the movement of colored pads over the edge of the file folder so that a desired color code is printed on the edge of the file folder.

Turning now to a description of a preferred structure for carrying out the basic concept of the invention heretofore described, the structure basically comprises three sections—a perforating section; a print section; and, a color code section.

The perforating section is best illustrated in FIGS. 3, 4, and 6 and generally comprises a punch head 41 housing a plurality of vertical punches 43 which extend downwardly through an alignment block 45. As best illustrated in FIGS. 6, the punches 43 are formed in two adjacent rows. Mounted in the punch head 41 on either side of the punches 43 are a plurality of finger solenoids 47. The finger solenoids 47 have pin ends 49 adapted to move into apertures 51 in the punches 43. That is, when a single solenoid 47 is energized, its pin end 49 moves outwardly into the aperture 51 in its related punch 43. Each finger solenoid has a return spring 53 located on its outer ends. In addition, the outer ends of the finger solenoids are retained by generally U-shaped retention members 55.

Mounted above the punch head 41 are illustrated mounting plates 57 and 59 upon which a bearing housing (hereinafter described) is mounted. The first plate 57, in addition to its prime function of supporting a bearing housing, also includes a plurality of upper apertures 61 aligned with the upper ends of the punches. In addition to its prime function of supporting the bearing housing, the second plate 59 also closes the upper apertures 61. Located beneath the alignment block 45 and separated therefrom by a slot 46 is a base block or die 63. The base block has a plurality of lower apertures 65 aligned with the lower ends of the punches 43. Mounted in front of the alignment block 45 and fixedly attached thereto is an alignment spring 67. The alignment spring 67 is mounted so as to force the folder 25 to fit into the slot beneath the punches and between the alignment block 45 and the base block 63. A ramp 69 mounted in front of the base block also aids in this alignment.

In operation, the pencil solenoids 47 are energized in accordance with the output of the logic 35 illustrated in FIG. 2. That is, the logic determines which of the various punches 43 is to punch a hole in the folder 25. When a finger solenoid 47 is energized, its pin end 49 projects into its associated aperture 51. After the foregoing operation is complete, the punch head 41 and its associated components are forced downwardly by means hereinafter described. When the punches 43 impinge on the folder 25, those punches having unenergized finger solenoids ride upward into the upper apertures 61 while those punches which have energized finger solenoids 47 continue to move downwardly, through the folder 25, and into the lower apertures 65. Hence, a punched digital code is formed in the edge of the folder 25.

Alignment of the punch head with the alignment block 45 is maintained by a pair of alignment pins 71 best illustrated in FIG. 3. The perforation section also includes a rear portion 70 (FIG. 4) which is similar to the front section with respect to alignment and upward and downward movement except that it does not include punches.

The printing section is best illustrated in FIGS. 3, 4, and 7 and generally comprises a plurality of printing modules 81 mounted over an inked ribbon 83 which is generally aligned with the punches 43 of the perforation section. Each module 81 has a print wheel 85 located adjacent its lower front corner. The lower rear corners of the modules are mounted about a shaft 87 in a rotatable manner. Hence, the modules can be rotated downwardly about the axis of the shaft 87 in a manner such that the characters on the wheels of the modules will impinge on the back of the inked ribbon 83. Further rotational movement causes character printing on the edge of the folder 25 when the edge of the folder is lying beneath the inked ribbon 83 on top of a support plate 89. Electric terminals 91 are located on the rear surface of each printing module 81. Those terminals are connected to the logic as illustrated in FIG. 2.

Printing modules of the type contemplated by the invention are well known in the art and, hence, are not fully described here. In general, these printing modules have alpha numeric characters located around the periphery of a small delrin wheel. The wheel is connected to a ratchet which is indexed angularly by a magnetic stepping mechanism similar to a rotary stepping switch. When a logic signal is transmitted from a suitable source to a printing module of this type, the logic signal programs the unit. This programming causes the wheel to move until the proper character is in a "printing" position. At this point, wheel movement stops.

An inverted outwardly extending L-shaped bracket 93 is attached to the upper corner of each printing module 81. This bracket 93 coacts with a inwardly projecting L-shaped bracket 95 connected to an arm 97. Located between the arm 97 and the upper surface of the outwardly extending inverted L-shaped bracket 93 is a pad 99. The arm 97 as illustrated in FIGS. 3 and 4 is attached to the punch head assembly, specifically, punch head 41. Hence, as the punch head 41 and its associated components are moved downwardly, the printing modules are rotated about the axis of the shaft 87 toward the inked ribbon 83.

Turning now to a description of the mechanism that creates the downward movement of the perforating punches and the printing modules; a motor 101 drives a pulley 103 via a belt 105. The pulley 103 is attached to a single revolution clutch 107. The single revolution clutch 107 is operated by a clutch solenoid 109 connected to a detent arm 111. That is, when the clutch solenoid 109 is energized, it moves the detent arm 111 away from the shaft of the single revolution clutch 107. When this action occurs, the clutch revolves through a single revolution. During other periods of time, the clutch idles.

The single revolution clutch 107 is connected to a jack shaft 113. Mounted on the jack shaft 113 inside of a housing 115 is an eccentric (not shown). The housing 115 also houses a needle bearing which surrounds the eccentric between the eccentric and a circular opening in the housing 115. A pair of plates 117 are located on either side of the housing 115 to hold the needle bearings in place. The housing 115 is connected via tabs 119 to the upper plate 59 of the punch head assembly and to a similar plate forming a part of the rear portion 70.

In operation, when the clutch solenoid 109 is energized, the jack shaft 113 is rotated one revolution by the operation of the single revolution clutch 107. This action causes the eccentric to rotate through one revolution inside of the housing 115. This movement of the eccentric causes the housing to first move downwardly and then return upwardly. Vertical movement of the housing is maintained by the alignment pins 71 which form a portion of the perforating section. This downward and upward movement causes the punching action of the perforating section and the printing action of the printing section heretofor described. That is, because the arm 97 is fixedly attached to the punch head of the perforating section, movement of the punch head down and up causes rotational movement of the printing modules down and up.

In addition to punching and printing, the inked ribbon 83 is indexed by the movement of the jack shaft. More specifically, the inked ribbon feeds from a supply reel 121 to a take up reel 123. Feeding action is created by a pin 125 that is eccentrically mounted on the end of the jack shaft 113. The pin 125 is mounted in a notch located in a pawl plate 127. The pawl plate is adapted to move to the right and left as viewed in FIG. 5. Movement of the pawl plate 127 to the left during the downstroke operation sets the pawl into an indentation in a ratchet wheel attached to the take-up reel 123. The return movement to the right causes the pawl to move the ratchet wheel thereby indexing the take-up reel and the inked ribbon. In this manner, the inked ribbon is moved forward beneath the printing modules 81 each time a print is formed so that the following downward movement of the printing modules causes a print to occur from a new section of the inked ribbon 83. If desired, the supply and take-up reels can switch functions after the take-up reel receives a predetermined amount of inked ribbon.

The remaining section of the invention is the color code section with generally comprises a spider wheel assembly 131 and a color pad selection motor 133. The color pad selection motor 133 is mounted above a support housing 135 on top of a gear box 136. The gear box 136 is coupled through suitable coupling gears 137 and 138 to the spider wheel assembly 131. More specifically, the spider wheel assembly 131 comprises a drum shaped member 139 rotatably mounted in the housing 135 between the top of the housing 135 and a base plate 141. The spider wheel assembly 131 has eight arms 143 which extend outwardly from the drum 139. Each arm supports a suitable color printing pad 145 of a different color. The gear 138 is mounted atop the drum 131 and interacts with the gear 137 coupled to the indexing motor 133 via the gear box 136. As illustrated in FIG. 3, a flange 149 extends outwardly from the side of the housing 135 to support a wafer switch 140 and facilitates its coupling with a shaft 155 that projects through the gear 137. That is, the shaft 155 has flat spots that fit into an aperture in the wafer member of the wafer switch 140 so that as gear 137 revolves the wafer member also revolves.

Attached to the outer edge of the housing 135 by any suitable means is a print solenoid 157. The print solenoid 157 is generally aligned with the punches 43 and the printing wheels 85 of the perforating and printing sections, respectively. The print solenoid 157 includes a spring return shaft 159 which is vertically mounted so as to impinge on the upper surface of an arm 143 when the arm lies beneath the print solenoid 157.

In operation, the color pad selection motor 133 is operated by a signal from the logic 35 of FIG. 2. This signal causes movement of the spider wheel assembly until the desired printing pad and arm lie beneath the shaft of the print solenoid 157. Movement ceases at this point because the wafer switch open circuits the color pad selection motor. Thereafter, the shaft of the print solenoid 157 moves downwardly to print the desired color code on the edge of the folder.

It will be appreciated from the foregoing description of the invention, that a system suitable for punching and printing on the edge of a file folder or tab card is provided by the invention. Because the system is "set up" by information perforations formed in the container into which the file folder or tab card is to be finally inserted, operator errors are eliminated.

It is to be understood that, if desired, one or more microswitches 171 may be located in the file folder insert slot to control the start of actual punching and printing after the invention has been "set up." Preferably at least two such microswitches are used to ensure file folder alignment.

It will be appreciated from the foregoing description of the invention that a means for encoding file folders with punch holes and printed information is provided by the invention. Use of the invention facilitates the rapid, accurate review and refile of folders in systems of the type described in U.S. Pat. No. 3,463,566. Moreover, because the entire inventive structure can be housed in a relatively compact housing structure, the invention is suitable for use on a desk top or an operator's desk of the type illustrated in the foregoing patent. While a preferred embodiment of the invention has been described, it will be appreciated by those skilled in the art and others that the invention should not be limited thereto. Other mechanical

apparatus for turning out the basic concept of the invention fall within the scope of the invention as defined by the appended claims. For example, other types of punching mechanisms as well as other types of printing mechanisms can be utilized by the invention as long as suitably aligned and operated in the manner hereindescribed.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An encoding apparatus for encoding a common edge of file folders and the like with perforation and printed information comprising:

A. a perforating section including:

1. a punch head having apertures for supporting a plurality of punches in vertical alignment and for supporting a plurality of associated pencil solenoids in horizontal alignment—so that the tops of said pencil solenoids are aligned with apertures in their associated punches, said punch head being mounted for vertical upward and downward movement;
2. a plurality of selectively controllable punches mounted in said apertures in said punch head so as to punch a predetermined perforation array in said edge when said edge is placed beneath said punch head and said plurality of punches, said plurality of punches being aligned in two parallel rows;
3. a plurality of pencil solenoids mounted in said apertures in said punch head, one solenoid for each punch; and,
4. a base block located beneath said punch head, but separated therefrom, for maintaining said punches in vertical alignment when said punch head and punches move downwardly;

B. a printing section including:

1. a plurality of selectively controllable character printing modules mounted so as to print a predetermined character array on said edge when said edge is placed beneath said plurality of modules and said plurality of modules are moved downwardly, said plurality of selectively controllable character printing modules being mounted in alignment with said pluarlity of selectively controllable punches in a side by side manner, each of said plurality of printing modules including a character wheel located at one corner, said character wheels being selectively movable so that a desired character can be moved to a print position;
2. a shaft, said plurality of printing modules being mounted on said shaft in a rotable manner such that said plurality of printing modules can be rotated downwardly about said shaft to cause said character wheels to imprint a character array on said edge;
3. an inked ribbon mounted beneath the character wheels of said plurality of printing modules so that as said modules are rotated downwardly, the characters in the print positions are printed upon said edge when said edge is placed beneath said printing modules and said inked ribbon; and,
4. an arm attached to said punch head and extending outwardly therefrom above said plurality of printing modules so as to impinge on said plurality of printing modules and rotate them downwardly about said shaft when said punch head moves downwardly; and

C. a color code section including a plurality of selectively controllable color code pads mounted so as to print a predetermined color code on said edge when said edge is placed beneath said plurality of pads, said color code pads being movable into alignment with said array of selectively controllable character printing modules.

2. An encoding apparatus for encoding a common edge of file folders and the like with perforation and printed information as claimed in claim 1 including drive means for moving said punch head downwardly which movement also rotates said printing modules downwardly about said shaft because said arm is attached to said punch head.

3. An encoding apparatus for encoding a common edge of file folders and the like with perforation and printed information as claimed in claim 2 wherein said drive means comprised:

a motor;
a single revolution clutch connected to said motor;
a jack shaft connected to said single revolution clutch;
an eccentric mounted on said jack shaft; and,
a housing formed around said eccentric and fixedly attached to said punch head, said housing being movable in a vertical plane as said jack shaft rotates said eccentric.

4. An encoding apparatus for encoding a common edge of file folders and the like with perforation and printed information as claimed in claim 3 including indexing means coupled to said jack shaft for indexing said inked ribbon each time said jack shaft revolves through one revolution.

5. An encoding apparatus for encoding a common edge of file folders and the like with perforation and printed information as claimed in claim 4 wherein said color code section comprises:

a spider wheel assembly, said spider wheel assembly including a drum having a plurality of outwardly extending arms, a color code pad being mounted in each of said outwardly extending arms;
motor means for rotating said spider wheel assembly; and,
a solenoid located in a predetermined position above said arms of said spider wheel assembly, said solenoid having a plunger adapted to impinge on an arm when an arm is located beneath said solenoid and move it downwardly so as to print a color code on said edge when said edge is place beneath the color code pad in said arm.

6. An encoding apparatus for encoding a common edge of file folders and the like with perforation and printed information as claimed in claim 5 wherein said motor means of said color code section is coupled to said spider wheel through a wiper switch and a gear assembly.

7. An encoding apparatus for encoding a common edge of file folders and the like with perforation and printed information as claimed in Claim 6 including:

sensing means for sensing machine readable perforation information from one wall of a walled container having said machine readable perforation information formed in said one wall, said container being suitable for housing said file folders and the like; and,
logic means connected to said sensing means for receiving signals from said sensing means and for generating control signals in accordance with the information sensed by said sensing means, said logic means being connected to said pencil solenoids, said printing modules and said motor means to control the operation of said pencil solenoids, said printing modules and said motor means.

8. In combination, an encoding apparatus for encoding an edge of file folders and the like with perforation and printed information related to information contained in machine readable form and a container having a wall having formed therein machine readable information, such as perforations or the like, said container being adapted to store said encoded file folders and the like, said encoding apparatus comprising:

control means for sensing said machine readable information located in said wall of said container adapted to store said file folders and the like and for generating control signals in accordance with the information sensed;
perforating means connected to said control means to receive signals from said control means for punching a perforation array, determined by the signals received from said control mean, in said edge of a file folder or the like, said perforating means including means supporting said file folder in a perforation position beneath said perforating means; and,
printing means connected to said control means to receive signals from said control means for printing information on said edge of said file folder and the like, said printing means including means supporting said file folder in a

printing position beneath said printing means, said last named supporting means supporting said file folder so that the printed information is separate from but contiguous to said perforation array.

9. An encoding apparatus for encoding an edge of file folders and the like with perforation and printed information related to information contained in a container into which said file folder and the like is to be stored, as claimed in claim 8 wherein said perforating means comprises:

a perforating section including a plurality of selectively controllable punches mounted so as to punch a predetermined perforation array in said edge when said edge is placed beneath said plurality of punches; and, wherein said printing means comprises:

a printing section including a plurality of selectively controllable character printing modules mounted so as to print a predetermined character array on said edge when said edge is placed beneath said plurality of modules, said plurality of selectively controllable character printing modules mounted in alignment with said plurality of selectively controllable punches; and,

a color code section including a plurality of selectively controllable color code pads mounted so as to print a predetermined color code on said edge when said edge is placed beneath said plurality of pads, said color code pads being movable into alignment with said array of selectively controllable punches and said plurality of selectively controllable character printing modules.

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