United States Patent [19]

Banwarth

[11] **3,767,024**

[45] **Oct. 23, 1973**

[54] **FANFOLD CARD GUIDE DEVICE WITH GRAVITY HELD DISCHARGE CHUTE**

[75] Inventor: **Robert F. Banwarth,** Hyattsville, Md.

[73] Assignee: **The United States of America as represented by the Director of the Federal Bureau of Investigation,** Washington, D.C.

[22] Filed: **Oct. 8, 1971**

[21] Appl. No.: **187,670**

[52] **U.S. Cl.** ..... **197/133 R,** 197/133 F

[51] **Int. Cl.** **B41j 15/00**

[58] **Field of Search** ..... 197/126 R, 126 A, 197/133 R, 133 A, 133 F, 133 P, 134, 140, 142

[56] **References Cited**

UNITED STATES PATENTS

2,548,715	4/1951	Fitzgerald	197/133 F
2,012,524	8/1935	Thrift	197/133 F
3,161,276	12/1964	Fleischmann et al.	197/133 R
2,369,441	2/1945	Daly et al.	197/133 R X
1,939,202	12/1933	Caton	197/133 R
1,991,908	2/1935	Pringle	197/133 F
2,777,690	1/1957	Davidson	197/133 F X
2,973,081	2/1961	Maidment et al.	197/133 F
3,013,646	12/1961	Sargent	197/133 F
3,232,407	2/1966	Drescher	197/133 R X

FOREIGN PATENTS OR APPLICATIONS

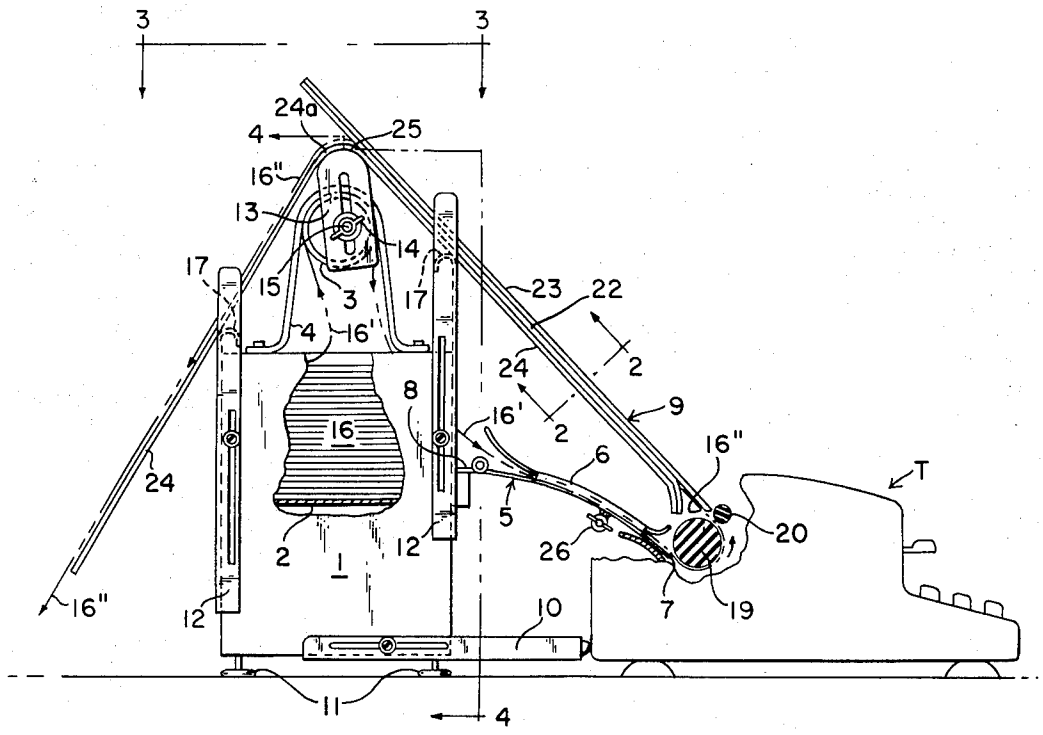
678,316	9/1952	Great Britain	197/126 R

Primary Examiner—Ernest T. Wright, Jr.
Attorney—T. Hayward Brown

[57] **ABSTRACT**

An apparatus and method are disclosed for maintaining an orderly automatic feed of fanfolded continuous - supply index cards and self-contained carbon copies from a respository into a typewriter, propelled by platen rotation of the typewriter. The device also provides a means of orderly and automatic discharge of the typed cards from the typewriter, delivering them to a location clear of the machine for further processing.

6 Claims, 4 Drawing Figures



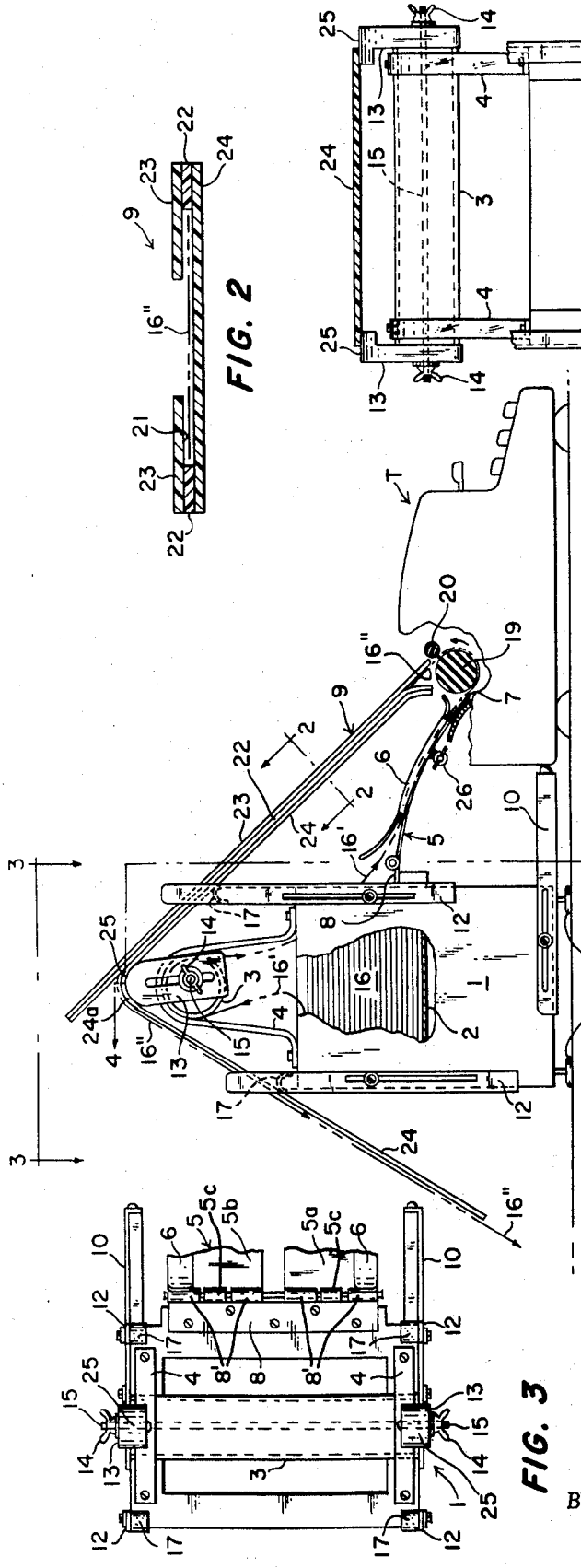


FIG. 1

FIG. 4

FIG. 2

FIG. 3

INVENTOR

ROBERT F. BANWARTH

BY T. Hayward Brown

ATTORNEY

FANFOLD CARD GUIDE DEVICE WITH GRAVITY HELD DISCHARGE CHUTE

GOVERNMENT ASSIGNMENT

The Government of the United States has the entire right, title and interest in the invention described herein, pursuant to Executive Order No. 10096, Jan. 23, 1950, 15 F.R. 389.

BACKGROUND OF THE INVENTION

In the preparation of a large volume of index cards and their carbon copies, each containing a preprogrammed typed message of a repetitive nature, feeding of continuous — supply fanfolded index cards and their self-contained carbon copies requires personal attention of an operator to assure uniform and trouble-free processing of the cards through a typewriter (such as the International Business Machines Magnetic Tape - Selectric Typewriter) having a platen which does not move in a horizontal direction.

SUMMARY OF THE INVENTION

This invention provides a repository for supply of the fanfolded cards which are automatically guided around the typewriter platen, the latter providing the propulsion for the cards. After the cards are typed the device guides the cards away from the typewriter and deposits them clear of the machine where they can be further processed as required.

It is, therefore, an object of this invention to provide an orderly and automatic feed of fanfolded continuous — supply index cards and self-contained carbon copies from a card repository into a typewriter.

Another object of this invention is to provide an orderly and automatic discharge of the typed cards from the typewriter to a location clear of the machine.

These and other objects and advantages of the present invention will be better understood from the following description considered in connection with the accompanying drawing, wherein an illustrative embodiment of the invention is disclosed by way of example and in the accompanying specification.

In the drawing:

FIG. 1 is the side view of the invention shown together with the typewriter.

FIG. 2 is a partial sectional view of the discharge chute taken substantially along the plane generally defined by reference line 2—2 of FIG. 1.

FIG. 3 is a partial top view shown of FIG. 1 along reference line 3—3, the discharge chute removed.

FIG. 4 is a front view of the invention taken generally along reference line 4—4 of FIG. 1.

Referring now to the drawing, and in particular to FIG. 1 thereof, the utilization of the invention is accomplished by positioning on a firm sufrace the fanfold card guide to the immediate rear of a typewriter T or similar machine. The guide position is then adjusted so that it can furnish a smooth and uninterrupted supply of cards for typing and can guide the typed cards away from the machine for subsequent handling.

The body 1 of the fanfold guide provides a shelf 2 as a repository for a supply of fanfolded cards and self-contained carbon copies 16. The card lifter slide 3 is positioned over the repository by a pair of slide supports 4. The upper most of the continuous series of cards is fed into the guide by leading it over the card lifter slide 3 and down the arched platen charging guide

5 as shown by dashed line 16'. The series of cards is held in proper position in the platen charging guide 5 by means of the lipped edges 6 of the guide. The bottom edge 7 of the platen charging guide 5 is positioned on the frame of the typewriter T to the immediate rear of the platen 19, but not touching it. The proper angle of the platen charging guide 5 to the platen 19 is controlled by means of a continuous hinge 8 attaching the charging guide 5 to the body 1 of the device.

After the cards have passed around the platen 19 and have been typed, they are guided by the typewriter's paper bail and paper bail rollers 20 into the discharge chute 9. They are guided up and over the guide device and are discharged in an area to the rear of the typewriter T and the fanfold guide device as shown by dashed line 16''.

Proper positioning of the device in distance from the typewriter T is accomplished by sliding spacers 10 which are paired at the bottom front of the body 1 of the device. Proper height of the device in relation to the typewriter T is adjusted by means of four screw-type foot levelers 11 at each corner of the body's bottom.

The angle of the discharge chute 9 and its height in relation to the device body 1 is adjusted by four vertical sliding supports 12 at each corner of the device. The position of the discharge chute 9 is further controlled and supported by the discharge chute angle control. This can better be viewed with reference to FIGS. 3 and 4. The angle control consists of two blocks 13, rounded at the top surface 25 to fit the inner rounded corner 24*a* of the dishcarge chute 9. The blocks 13 are slotted to allow adjustment by means of tension from a winged nut 14 on a threaded bolt 15 which passes through the hollow card lifter slide 3. The discharge chute 9 is not permanently affixed to the body 1 of the device. It stays in position solely by means of its own weight, making contact at six points, the top surfaces 25 of blocks 13 and the U-shaped inner edges 17 of the vertical sliding supports 12. The discharge chute 9 is removable merely by lifting.

The discharge chute 9 may be made of any sturdy non-breakable material which can be molded into the desired shape shown. The material used in the preferred embodiment is transparent plastic. FIG. 1 shows the discharge chute 9 in an inverted V-shape, with front and rear legs. FIG. 2 is a cross-section of the front leg of the discharge chute 9 along the line 2-2 of FIG. 1. The base member 24 of the chute 9 extends along the entire length of the V-shape and includes the inner rounded corner 24*a*. Side and top members 22 and 23, respectively, provide a slot 21 along the front leg of the discharge chute 9 for guiding the cards that have been typed away from the platen 19. The slot forming members 22, 23 are only located along the front leg of the discharge chute 9. Only base member 24 is necessary for guiding the cards down the rear leg of the chute 9. All the members 22, 23, 24 are of the same material and form an integral chute 9.

Arched platen charging guide 5 is shown clearly in FIG. 4. In a preferred embodiment, the platen charging guide 5 is comprised of two sections, 5a and 5b each attached to the body 1 of the device by elements 5*c* which fit between sections 8' of continuous hinge 8 secured to the body 1. Each section 5*a* and 5*b* has a lipped edge 6 for holding a series of cards in the proper position. Also, the width of the entire charging guide 5

may be modified by means of compression spring **18.** Spring **18** is biased outwardly and each section **5**a and **5**b can be moved relative to each other laterally by adjusting winged nut **26.** In this manner, cards of varying widths may be used, limited only by the space between sections **8'** of the continuous hinge **8** and elements **5***c* of sections **5***a* and **5***b*.

The invention has been described in detail with particular reference to a preferred embodiment therefor. It will be understood that numerous other arrangements within the scope and spirit of the present invention may be devised by those skilled in the art. Accordingly, the present invention is to be defined only within the scope and spirit of the apending claims.

What I claim is:

1. A guiding device for feeding a continuous stack of fanfolded index cards to and from a platen of a printing means comprising:

a. a body member having a repository containing a supply of said continuous stack of fanfolded index cards,

b. a platen charging guide means attached to said body member by means of a continuous hinge for controlling the angle required to feed the cards to the platen,

c. a removable integral discharge chute for guiding said cards away from the platen and depositing said cards clear of the printing means, said chute affixed to said body member solely by means of gravity, the height of said chute in relation to said body member being adjustable by vertical sliding supports on said body member and the angle of said chute in relation to said body member being controlled by two adjustable blocks each having a rounded top surface upon which an inner corner of said chute sits.

2. The device of claim **1** also comprising a cylindrical card-lifter slide means positioned over said repository by a pair of slide supports wherein said cards are fed over said slide means prior to being fed to the platen charging guide means.

3. The device of claim **1** wherein said discharge chute is V-shaped having one leg which is slotted and guides said cards up and away from the platen and another leg which guides said cards down and clear of said printing means.

4. The device of claim **1** wherein said platen charging guide means comprises an arched surface section having lipped edges along each side for positioning the series of cards.

5. The device of claim **1** wherein said platen charging guide means comprises two arched surface sections which can be slid along said continuous hinge relative to each other by means of a compression spring so as to be adjustable to varying widths of said cards.

6. a device as in claim **1** wherein said printing means is a typewriter having a platen which does not move in a horizontal direction.

* * * * *