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Ackerman

[11] **3,735,701**

[45] **May 29, 1973**

[54] **TRAVELLING CYLINDER PRINTER WITH MEANS FOR LOCKING THE PLATEN AND ASSOCIATED HANDLE IN RETRACTED POSITION**

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[21] Appl. No.: **174,387**

[52] **U.S. Cl.**.....**101/269,** 292/128

[51] **Int. Cl.**.....**B41f 3/20**

[58] **Field of Search**.....101/45, 269–274, 101/19

[56] **References Cited**

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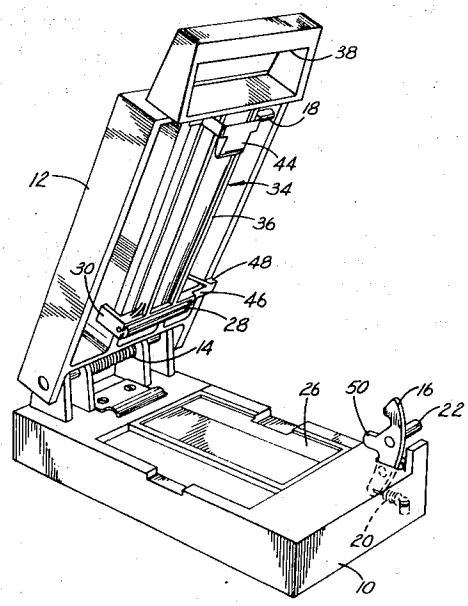
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Attorney—Russell L. Root and Ray S. Pyle

[57] **ABSTRACT**

A compact portable data recorder wherein a single handle functions both for operating the platen for recording and for carrying the device. A detent releasably locks the handle in position for carrying the device.

1 Claim, 8 Drawing Figures



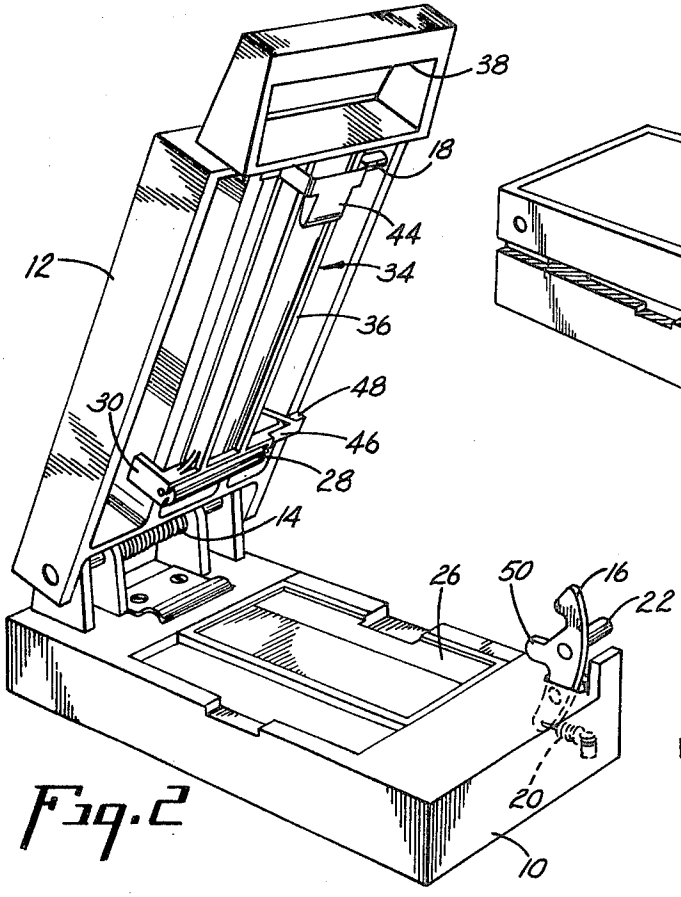


Fig. 2

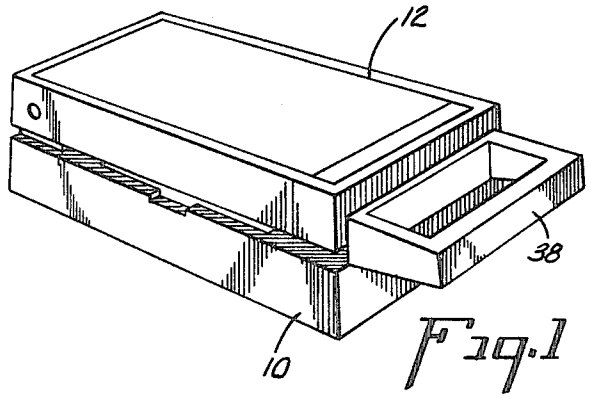


Fig. 1

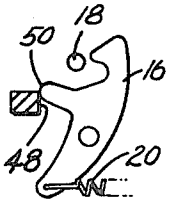


Fig. 8

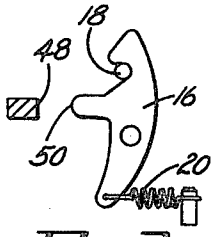


Fig. 7

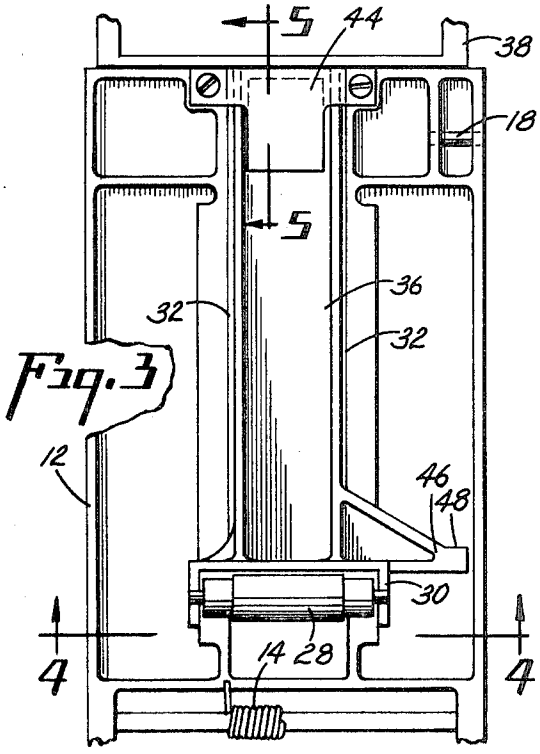


Fig. 3

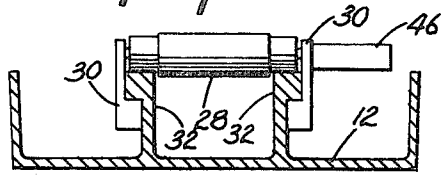


Fig. 4

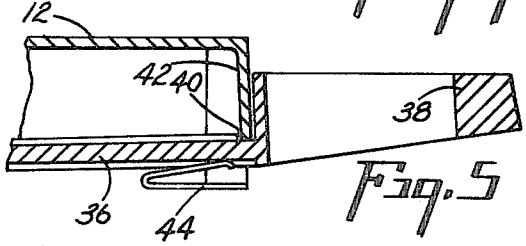


Fig. 5

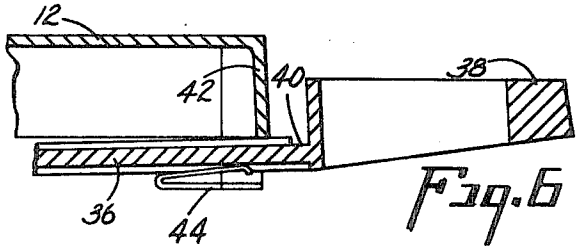


Fig. 6

TRAVELLING CYLINDER PRINTER WITH MEANS FOR LOCKING THE PLATEN AND ASSOCIATED HANDLE IN RETRACTED POSITION

BACKGROUND OF THE INVENTION

This invention relates generally to data recorders, and more particularly to small compact easily portable data recording devices.

In many instances the requirements of a data recording situation require that a small compact easily portable data recorder be provided for recording the information from printing tokens such as embossed plastic or metal plates. One of the principle requirements to achieve the necessary compactness and lightness, or portability, is a design which will allow maximum utilization of each of the component parts so as to cut down both on the number and complexity of the parts required.

SUMMARY OF THE INVENTION

According to the present invention, a data recorder is provided wherein a handle assembly is utilized both for operating the platen of the data recorder and also as a carrying handle for transporting the data recorder. In order to serve both of these functions the handle assembly is releasably lockable in the retracted position so that it will support the weight of the device, but can be easily released from this locked position and withdrawn to an extended position to cause the movement of the platen for performing the printing function.

Other objects, features and advantages will appear hereinafter as the description proceeds.

IN THE DRAWINGS

FIG. 1 is a perspective view of a portable data recorder according to this invention with the head assembly in the closed position and with the handle assembly retracted;

FIG. 2 is the data recorder of FIG. 1 with the head assembly in the open position;

FIG. 3 is a bottom plane view of the head assembly;

FIG. 4 is a sectional view taken substantially along the plane designated by the line 4—4 of FIG. 3;

FIG. 5 is a sectional view taken substantially along the plane designated by the line 5—5 of FIG. 3 showing the handle in a locked position;

FIG. 6 is a sectional view similar to that of FIG. 5 showing the handle depressed and released from the locked position;

FIG. 7 is a detailed view of the latch assembly for latching the head in place; and

FIG. 8 is a view similar to FIG. 7 showing the action of the handle assembly for releasing the latch.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing, there is shown a portable data recorder according to this invention. The data recorder includes a bed member 10 and a head assembly 12 pivotally mounted thereon. A coil spring 14 normally biases the head assembly 12 to its open position when a latch mechanism is released. As can best be seen in FIGS. 2 and 7, the latch mechanism includes a pivotally mounted catch 16 disposed to engage a pin 18 provided on the head assembly. A biasing spring 20 normally urges the catch 16 into engagement with the pin. The catch can be manually released by rotating it against the bias of the spring 20 and for this purpose an operating lever 22 is secured to the catch 16.

The bed member 10 is provided with a printing token support platform 26 which is disposed to receive and support a printing token. The printing tokens normally will be of an embossed sheet material such as embossed plastic cards or embossed metal plates.

The head assembly 12 is provided with a printing platen designated by the reference character 28. As can best be seen in FIGS. 3 and 4, the printing platen 28 is rotatably mounted on a support yoke 30 which yoke 30, in turn, is slidably mounted on a central track 32. The yoke is thus free to slide along the track 32 and allow the printing platen 28 to rollingly engage any printing token which is supported on the support platform and, if a dry platen is utilized, perform a printing function of any carbon paper interleaved form positioned therebetween in a conventional well-known manner. If a single part form is to be imprinted, the device may be provided with an ink impregnated platen instead of the dry platen.

The support yoke 30 is operably connected to a handle member indicated generally by the reference character 34 in FIG. 2 and, in fact, in the preferred embodiment is formed as an integral part of the handle. The handle member 34 has an elongated shank 36 which terminates in a grip 38. The grip 38 lies externally of the head assembly 12. Thus the handle member 34 can be used to operatively slide the yoke 30 along the track 32 to move the printing platen 28 to perform a printing function. The shank 36 is formed of a relatively resilient material so that it can flex slightly.

The printing platen 28 is shown in FIG. 2 in its home or retracted position wherein it is fully inserted within the device, also as shown in FIGS. 1 and 3. In order to perform a printing function, the handle member 34 moves the platen away from the home position shown in FIG. 2 to an extended position (not shown in the drawing) which position allows the platen to completely roll across the support platform 26 which supports the embossed portion of the printing token. This is the extended position of the handle assembly and the platen.

It is desirable, however, that the handle member 34 be locked in the retracted position for carrying so that the data recorder as shown in FIG. 1 can be lifted and transported with the grip 38 acting as a transporting member as well as a member for operating the platen. To this end a detent is provided to releasably secure or latch the handle member 34 in the retracted position. The detent assembly includes a transversely extending groove 40 (FIGS. 5 and 6) formed in the handle member 34 where the shank 36 meets the grip 38. The groove 40 is disposed to engage a downwardly projecting wall portion 42 of the head assembly 12. To cause the engagement of the groove 40 and the projection 42 a leaf spring 44 is provided, which is secured to the head assembly 12 and bears against the shank 36 of the handle member 34, normally urging the handle upwardly as shown in FIG. 5 to engage the groove 40 with the projection 42. With the handle member 34 thus detented into locking engagement with the head assembly 12, the handle member is securely held in the retracted position and the grip 38 can be used to conveniently carry the data recorder.

In order to release the handle for use in printing, the grip 38 need merely be pushed down against the bias

of the leaf spring **44**. The resiliency of the shank **36** allows it to flex to this position and the handle can then be freely pulled as shown in FIG. **6**, and the pulling can continue until its extended position is reached.

As was described above, the printing function is performed by the platen rolling from the retracted position to the extended position with a printing token carried by the support platform **26** and with a form overlying the token. The printing function is done with the data recorder in the closed and latched position. It is well known, however, that only a single rolling pass of the platen over the form and the printing token is required and that any further passes will tend to smudge or blur the already imprinted impression. Therefore, it is desirable to prevent, or at least reduce, the possibility of the roller being returned from the extended position to the home position after the printing function has been performed and while the data recorder is in the closed and latched position with the printing token and the form remaining therein.

In order to prevent or minimize such a happening, the handle member **34** and the catch **16** are provided with cooperating surfaces which will release the catch **16** upon completion of the printing stroke so that the head assembly will swing open. As shown in FIGS. **2, 3, 7** and **8**, the handle member **34** has laterally extending therefrom an outrigger **46** having an engagement surface **48** on one side thereof. The engagement surface **48** is disposed to cooperate with a coacting engaging surface **50** formed on the catch **16** so that when the printing stroke is completed the catch **16** will be released as shown in FIG. **8**. When this release occurs, the head assembly **12** will swing open under the urging of the coil spring **14** revealing the completed form with

the printing thereof, and provide access for the removal and replacement of the form and the token.

What is claimed is:

1. In a portable data recorder having a bed member and a head assembly, said bed member and said head assembly being interconnected for movement between a card receiving position and a recording position; latch means for releasably securing said bed member and said head assembly in said recording position, a platen mounted on said head assembly for movement from a retracted position to an extended position to create an impression on a form, and a handle assembly including a stem and bail operatively connected to said platen for the operation thereof, said handle being close to said bed member when the platen is retracted with said stem extending back into the space between the bed and head, and the stem withdraws from the recorder when the platen is extended, the improvement comprising; detent means including a groove formed on one of said assemblies and a cooperating projection formed on the other of said assemblies, said groove and said projection extending across the path of handle assembly movement and thereby being positioned to engage in locking relationship when the bed member and head assembly are in said recording position and the platen is in said retracted position; and biasing means normally biasing said assemblies in a direction to engage said groove and said projection said handle assembly being manually movable in a lateral direction against said biasing means to unlock the assemblies; whereby said handle assembly may be used to carry said data recorder with the handle retracted close to the recorder bed.

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