

March 5, 1957

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2,784,026

STATISTICAL CARD HANDLING TOOL

Filed June 28, 1952

3 Sheets-Sheet 1

FIG. 1

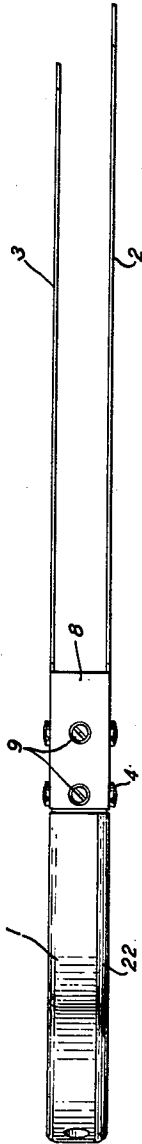
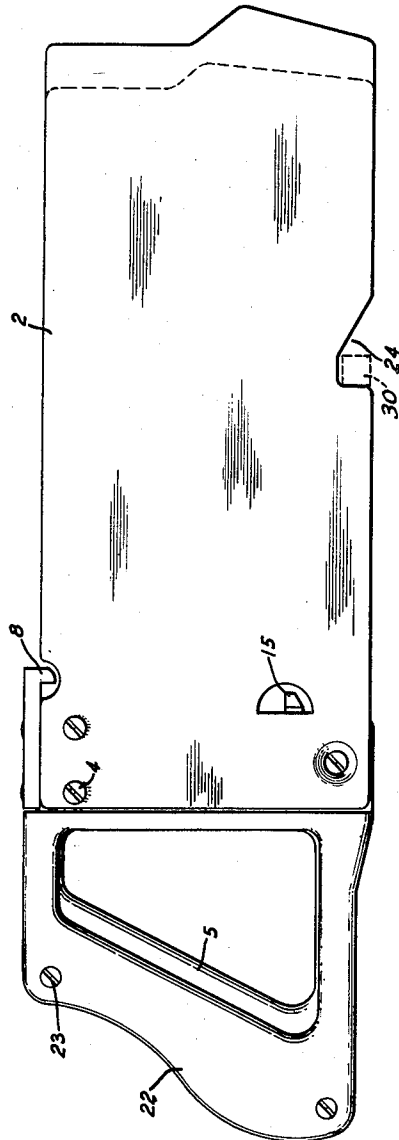


FIG. 2



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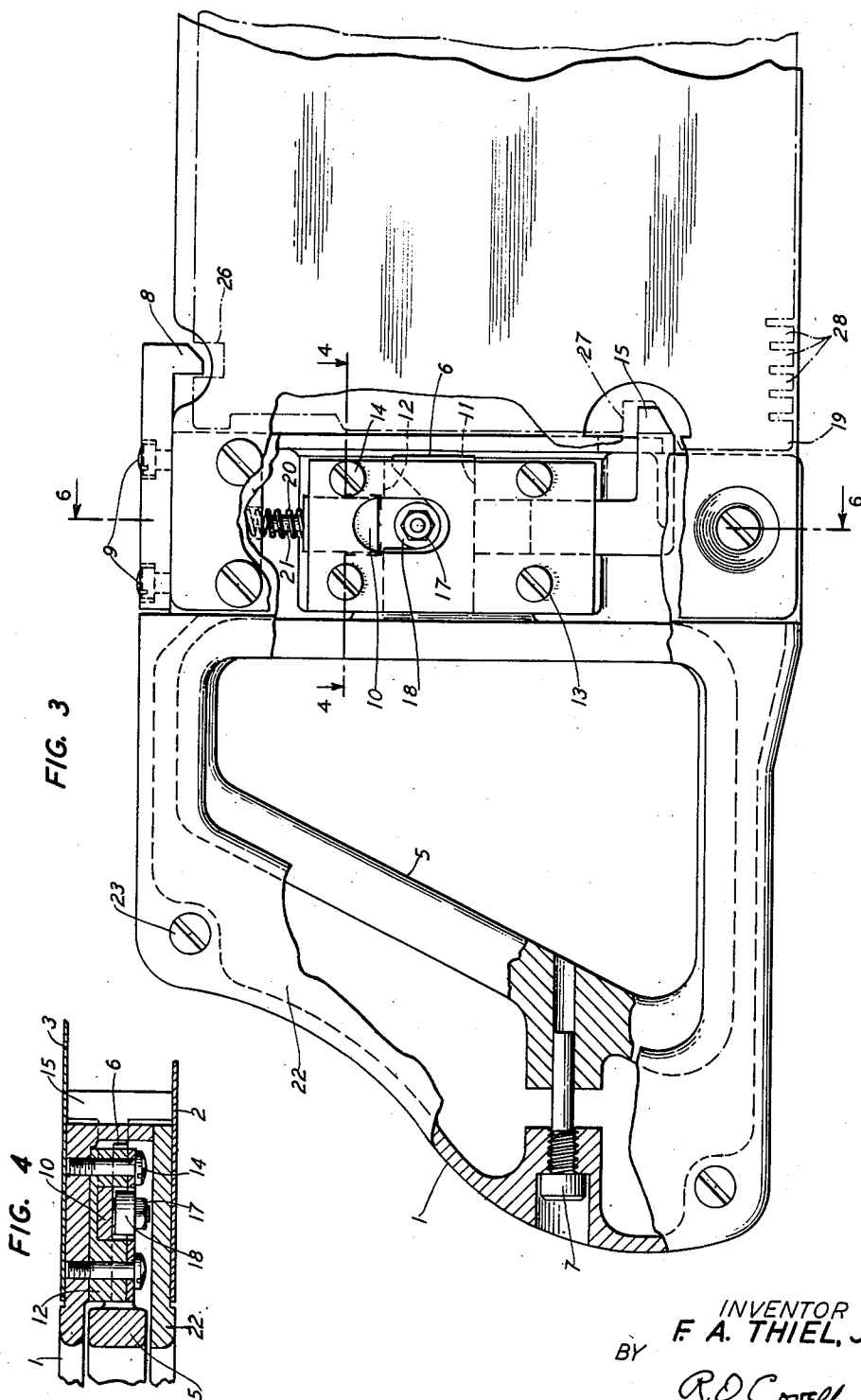
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FIG. 5

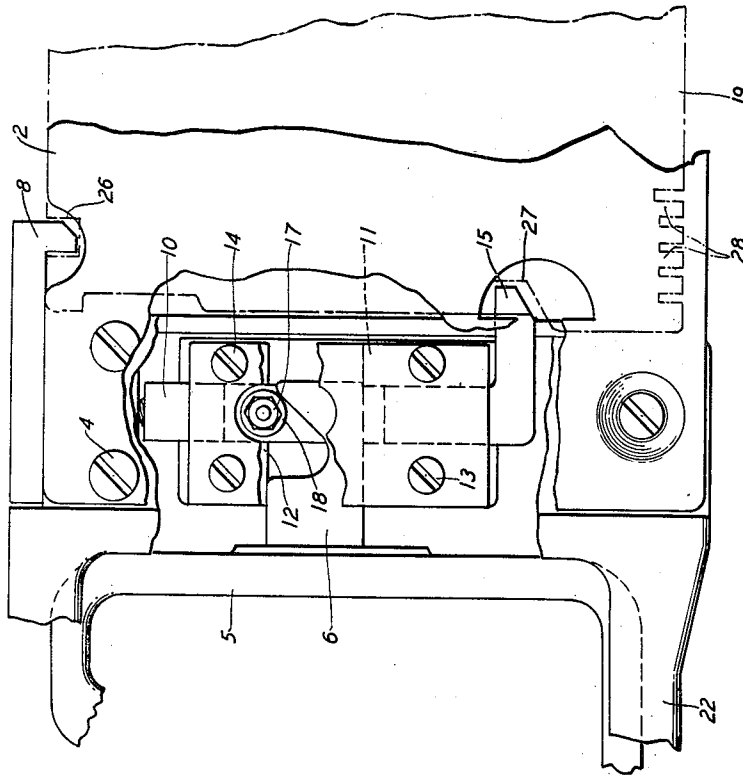
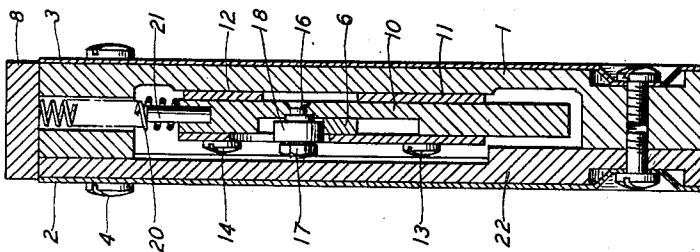


FIG. 6



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STATISTICAL CARD HANDLING TOOL

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Application June 28, 1952, Serial No. 296,164

3 Claims. (Cl. 294—103)

This invention relates to a card-handling device and more particularly to a hand tool for inserting and removing the cards of a card translator.

Incident to the use of a card translator, for example a translator of the type disclosed in the patent application of E. W. Gent and O. Myers, Serial No. 784,024, filed November 4, 1947, and more specifically of the type disclosed in the application of Brown-Hampton-Thiel, Serial No. 386,374, filed May 6, 1952, it is desirable to handle the cards in bulk. The most frequent reason for this is in the case where it is desired to equip a spare office translator with the cards of a particular service translator. In such cases, it is important that no cards be damaged while they are being transferred.

An object of the invention is to facilitate the bulk movement of metal data cards to and from the card compartment of a card translator. Another object of the invention is to protect the fragile card tabs while the cards are being handled.

The bulk card handling tool of this invention is of the finger grip type and utilizes a pair of flat shields mounted on a frame to protect the card tabs. There is a cam-operated lug which is slidable within the frame and actuated by a hand-operated member to engage a handling notch in the card. The hand-operated member, which is biased to its unoperated position, has an integral cam surface and is slidably movable within the frame. There is a fixed catch which is attached to the frame and protrudes between the shields for engaging a handling notch in a card. With a card positioned between the shields and the lug engaged in a notch in the end edge of the card, actuation of the hand-operated member moves the lug and the engaged end of the card upward so that a notch in the upper edge of the card is engaged by the fixed catch. The card is thus held between the shields and protected against injury while being removed from, or inserted in, a card compartment.

The foregoing and other features of this invention will be more clearly understood from the following detailed description when read in conjunction with the accompanying drawings of which:

Fig. 1 is a top view of the assembly;

Fig. 2 is a side view of the assembly;

Fig. 3 is a side view of the assembly in the non-operated position with portions broken away;

Fig. 4 is a sectional view taken on line 4—4 of Fig. 3;

Fig. 5 is a side view of the assembly in an operated position with portions broken away; and

Fig. 6 is a sectional view taken on line 6—6 of Fig. 3.

In the preferred embodiment of the invention, a frame 1, an end of which is adapted to fit the palm of the hand, is provided, upon which are mounted protective shields 2 and 3, secured by screws such as 4, as shown in Figs. 1 and 2. Within the frame 1, a hand-operated member 5, as shown in Fig. 3, having an integral fixed cam 6 is slidably mounted. A threaded guide rod 7 is provided to insure that the hand-operated member will travel with a stable movement. A fixed catch 8

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projects from the top of the frame and is secured by screws such as 9. The vertical slide 10 is adapted to operate in the slots of the guide blocks 11 and 12, which are attached to the frame 1 by screws such as 13 and 14.

5 An extension of the vertical slide 10 forms a lug 15. Attached to the vertical slide 10 by a stud 16 and nut 17 is a roller 18 which bears on the cam 6 as shown in Figs. 3, 4 and 6. When the hand-operated member 5 is actuated, the cam 6 will push the roller 18, which is attached to vertical slide 10, upward so that lug 15 moves toward the catch 8, as illustrated in Fig. 5.

As shown in Figs. 3 and 6, a coil spring 20 mounted on the drill rod 21 extends between the tip of the vertical slide 10 and the frame 1 and serves to return the lug 15 to the non-operated position when the hand-operated member 5 is released. When assembled, the frame is covered by the cover plate 22, secured by screws such as 23. The shields 2 and 3 are carefully proportioned and both are equipped with notches, such as 24, shown in Fig. 2. These notches engage a fixed bar 30 of the translator card compartment as shown in Fig. 2. This bar 30 is shown as bar 19 in Fig. 6 of the above-mentioned application of Brown-Thiel-Hampton, Serial No. 386,374. The engagement of notches 24 with the bar 30 serves to position the holding device properly with respect to the cards and the card compartment. The shields 2 and 3 are made of unequal length so that the operator may observe proper positioning of each of the shields and avoid damaging the cards when the device is inserted in the card compartment.

When using the tool to insert the cards in a card translator frame, the cards of a particular compartment should be held firmly together and the tool placed with a card tab protective shield on each side of the group of cards. With the cards in this position, lug 15 engages the lower handling notch 27 of the cards. Movement of the hand-operated member against the force of the restraining spring 20 causes the integral cam 6 to impart upward motion to lug 15 and thereby move the cards 19 to a protected position between the shields 2 and 3. In this position the card tabs 28 are afforded protection while they are being inserted in and removed from the translator card compartment. As the cards are shifted vertically upward, catch 8 engages the back vertical edge of upper handling notch 26. It should be noted that the movement of lug 15 upward is limited so that there is no crushing or damaging of the cards 19. With the cards in their protected position and the hand-operated member held actuated, the cards, held between the shields, may be inserted in or removed from a translator card compartment. When inserting cards the handling tool is carefully inserted until the fixed bar 30 of the translator card compartment engages notches 24 on shields 2 and 3, at which time the cards are in their proper position within the compartment and the hand-operated member 5 may be released. The cards then drop slightly downward into normal operating position and the handling device may be removed. To remove the cards from the card translator compartment the handling tool is carefully inserted in the compartment, with the operator observing that the cards enter between shields 2 and 3 without damage. The handling tool is then further inserted into the compartment until notch 24 is seated firmly against the fixed bar 30 of the compartment. The cards are now positioned so that lug 15 engages the lower handling notches 27 of the cards 19. Actuation of the hand-operated member will move the cards to a protected position and the tool and the cards may then be removed from the card compartment.

While a preferred embodiment of the invention has been shown and described, it is to be understood that various changes and modifications may be made therein

without departing from the scope and spirit of the invention.

What is claimed is:

1. A device for use in moving rectangular metal data cards to and from a card compartment comprising a frame, a pair of spaced apart card protecting shields rigidly fixed on said frame to form a card holding space, said shields notched to engage a member of a data card compartment thereby enabling the accurate positioning of said device with respect to the data cards and the data card compartment, a catch fixed to said frame and projecting therefrom between said shields to engage a notch in a first edge of each data card which is in protected position between said shields, a cam-operated lug slidably mounted by and within said frame between said shields, said lug positioned to engage a notch in another and adjacent edge of each card which is protectively positioned between the shields, said catch and lug forming opposing jaws for retentively holding engaged cards, a hand-operated member slidably mounted by and within said frame, said member including an integral cam for moving said lug and any engaged card toward said catch to effect engagement of said catch in the notch in said first edge of each card engaged by said lug, said cards thereby held in protected position by the engagement of said lug and said catch with said notches in the data cards to enable movement of the cards to and from a card compartment without damaging the cards.

2. A device for use in moving rectangular metal data cards to and from a card compartment comprising a frame, a pair of spaced apart card protecting shields rigidly fixed on said frame to form a card holding space, said shields notched to engage a member of a data card compartment thereby enabling the accurate positioning of said device with respect to the data cards and the data card compartment, a catch fixed to said frame and projecting therefrom between said shields to engage a notch in a first edge of each data card which is in protected position between said shields, a cam-operated lug slidably mounted by and within said frame between said shields, said lug positioned to engage a notch in

another and adjacent edge of each card which is protectively positioned between the shields, said catch and lug forming opposing jaws for retentively holding engaged cards, a hand-operated member slidably mounted by and within said frame, said member including an integral cam for moving said lug and any engaged card toward said catch to effect engagement of said catch in the notch in said first edge of each card engaged by said lug, and means comprising opposing normally-separated surfaces of said frame and said hand-operated member for limiting movement of said member and movement of said lug toward said catch to prevent crushing of any engaged card, said cards thereby held in protected position by the engagement of said lug and said catch with said notches in adjacent edges of the data cards to enable movement of the cards to and from the card compartment without damaging the cards.

3. A device for handling rectangular metal data cards comprising a frame, a pair of spaced apart card protecting shields fixed on said frame to form a space for holding cards, a fixed catch attached to said frame and projecting therefrom between said shields for engaging a notch in a first edge of any data card which is in protected position between said shields, a cam-operated lug slidably attached to said frame and extending into the space between said shields to engage a notch in another and adjacent edge of any data card positioned between said shields, said catch and lug forming opposing jaws for retentively holding engaged cards, and a hand-operated actuating member slidably held by and within said frame, said member including an integral cam for moving said lug and any engaged card toward said catch to effect engagement of the catch in the notch in said first edge.

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