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QUICK REMOVABLE TYPE CARRIER FOR BUSINESS MACHINES

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FIG. 1

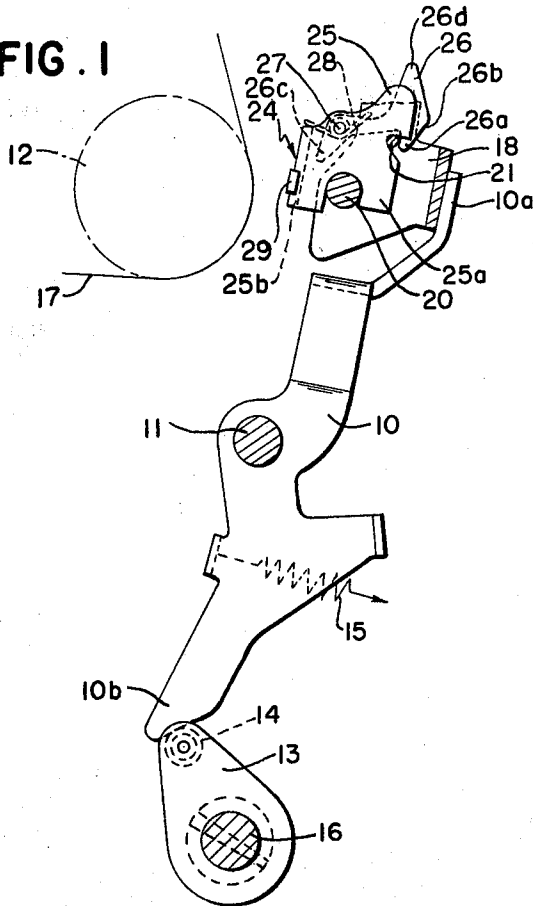


FIG. 2

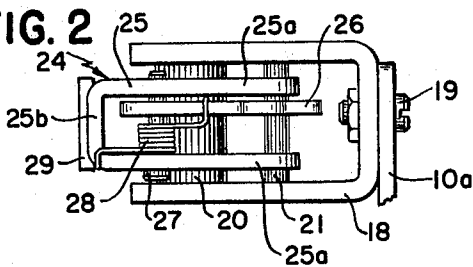
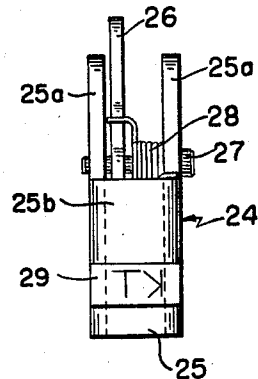


FIG. 3



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QUICK REMOVABLE TYPE CARRIER FOR BUSINESS MACHINES

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This invention relates generally to improvements in business machines and more particularly, but not by way of limitation, to a quick-removable type carrier for adding machines and the like.

In banking, building and loan, and other businesses having a large number of tellers, clerks, cashiers, or similar personnel for continually taking care of the needs of the incoming public, a single accounting machine or perhaps special purpose adding machine might very well be used from time to time by each or at least a number of the total such employees during any business day. As an example, bank teller's machine No. 6, at window No. 3, might regularly be used for several hours each day by employees A, B, and C. While this multi-employee use of a single machine works very well in most businesses, in many instances the identifying of each piece of machine prepared work (printed record) with a particular employee is most important. For this reason, it is clear that in certain businesses it is desirable to have identifying indicia (symbol, letter, number, etc.) assigned to each machine-operating employee, which by one printing means or another, is caused to be included in the printed record prepared by any machine when being used by such employee.

It is thus the general object of this invention to provide a novel and improved printing device of this character, which is particularly adapted for quick attachment to and removal from record producing business machines.

It is another object of this invention to provide such a printing device which is exceedingly simple to manipulate and without the need of any tools and the like.

It is still a further object of the invention to provide such a printing device which is completely removable from the business machine per se, hence delegating complete control to the employee over the assigned indicia and further enabling the machine in question to be used by many more employees than normally permitted through selective operation of the usual internal mechanism provided in a machine for the same user-identifying purpose.

With these and incidental objects in view, the present invention comprises a machine user-identifying type carrier detachably carried by spaced-apart shaft members included in the construction of a type member mounting frame regularly operated toward and away from an associated platen during each machine operation, a preferred form or embodiment of which invention is hereinafter described with reference to the accompanying drawing.

Of said drawing:

FIG. 1 is a side elevation of a type wheel mounting frame embodying the instant invention, such mounting frame being shown in section for the purpose of clarity with respect to invention attachment thereto and further, as one example of operation, shown associated with a printer firing arm of the spring-actuated type;

FIG. 2 is an enlarged view in top plan of the mounting frame and invention arrangement of FIG. 1; and

FIG. 3 is a view in front elevation of the instant invention.

While the instant invention, for the sake of convenience, is herein shown and described as being incorpo-

rated in an adding machine, it will become evident from a study of the present disclosure that such invention is not limited to use with machines of this specific type, but may also be applied to other types of business machines, such, for example, as to calculating and accounting machines with equally desirable results. The selected adding machine herein disclosed, insofar as it relates to the instant invention, has a firing arm 10 rockably carried by a support shaft 11 extending between a pair of printer side frames (not shown), such firing arm having an upper end portion 10a aligned for movement toward and away from an associated resilient paper platen 12, and having a lower end portion 10b aligned for engagement with an associated cam lever 13. As understood from FIG. 1, while a strong spring 15 yieldingly urges such firing arm 10 counter-clockwise and toward the platen member 12, the normal, at home, positioning of a cam lever stud 14 is such that a blocking of arm portion 10b exists with the firing arm 10 maintained in a normal, cocked position with respect to such platen member 12—where the upper end portion 10a of such firing arm is maintained away therefrom.

Operation of the firing arm 10 from this normally cocked position is through suitable operation of a machine rear drive shaft 16, such as by means of an interconnected electric motor or manually operable handle member. As illustrated in FIG. 1, the cam lever 13 is pinned to such shaft 16; hence being moved in unison under control of the interconnected drive means. While one or the other only of the following movements would be incorporated in any one machine of the type herein referred to, it is clear from FIG. 1 that the suitable operation of such drive shaft 16 may take the form of a single-cycle rotating movement in a counter-clockwise direction, or, with equally good results, take the form of an oscillating movement first clockwise a precise distance from home and then counter-clockwise back to home. In either event, the cam lever 13, in being secured to such shaft 16, will be rocked that extent where the stud 14 thereon is moved from blocking engagement with the firing arm lower end portion 10b, in turn permitting the action of strong spring 15 to rock immediately the firing arm 10 counter-clockwise for driving interconnected indicia bearing type and the like (as carried by the firing arm upper end portion 10a) into printing engagement with the usual journal or other record material 17 extending around the platen member 12. While the particular indicia bearing type may take many forms, the crux of the instant invention resides in an overall arrangement facilitating quick and easy type member change, all as described in detail later in the specification, with the precise indicia defining element employed being either of the ink-ribbon transfer type (i.e., driving an intervening ribbon member against the face of the record material 17) or of the ink-contained type (i.e., being itself driven directly against such record material 17). From FIG. 1 it is clear that either movement of the drive shaft 16 (rotating or oscillating) will be effective to soon release firing arm 10 to the action of spring 15, with restoring of such firing arm 10 to its cocked position taking place sometime thereafter (prior to the end of a machine operation) as the cam lever stud 14 returns counter-clockwise into engagement with the firing arm lower end portion 10b.

Secured to the firing arm upper end portion 10a is a type mounting frame 18 (FIGS. 1 and 2). While the general configuration of such frame 18 may vary considerably from the here disclosed U-shaped construction having its web portion secured by suitable means (such as bolts 19) to the firing arm upper end portion (FIG. 2), it is essential to the instant invention that such frame 18 in its overall arrangement includes a pair of spaced-apart and parallel shaft or pin members 20 and 21. Again,

such members 20 and 21 may be of like or different diameters, may be aligned immediately above or beside or purposely misaligned one to the other, and may even be disposed in either a horizontal or vertical attitude, all as desired, the sole required of the instant invention and hence essential requirement of the type mounting frame 18 is that such spaced-apart and parallel shaft members 20 and 21 are provided in a fixed manner to the upper end portion 10a of the machine carried firing arm 10. As is illustrated in FIGS. 1 and 2, for the purpose of the present disclosure shaft member 20 exceeds in diameter the companion shaft member 21, shaft members 20 and 21 are disposed horizontally, and shaft member 21 is positioned above and somewhat behind shaft member 20. Each of such shaft members 20 and 21, as best illustrated in FIG. 2, extends fixedly between the forwardly extending side wall portions of the type frame 18.

The indicia bearing type carrier itself, designated generally by the numeral 24, includes a mounting body 25 which is likewise U-shaped in construction (FIG. 2) and which is appropriately fashioned to rockably engage one of the said shaft members provided in the frame 18 and be then moved against the other of the said shaft members provided therein (FIG. 1), and further includes means for automatically latching such body 25 to said shaft members when same is caused to be so positioned thereon (FIGS. 1-3). As illustrated in FIG. 1, each side wall portion 25a of such mounting body 25 is of that configuration which might best be defined as resembling an "h" (reversed on otherwise in accordance with body side being viewed), with its lower edge bifurcated that extent permitting same to slidably engage over and be rockably supported by the shaft member 20, and with its rear, free edge notched at that zone and to that extent for receiving therewithin the companion shaft member 21 when once the front web portion 25b of such mounting body 25 is brought into printing alignment with the machine carried platen member 12.

A mounting body latch member 26, rockably carried by a support pin 27 extending between the body several side wall portions 25a, has a rear nose portion 26a precisely formed so as to hook over the shaft member 21 and maintain the body front web portion 25b fixed when reaching its platen member printing alignment position. Of course, the precise location of support pin 27 and exact configuration of latch member 26 will vary according to the spaced relationship and location of the several shaft members 20 and 21. For the present disclosure, as one example, such pin 27 is located so as to lie immediately above shaft member 20 when the mounting body 25 is applied thereto; hence having need of a latch member 26 arranged to extend rearwardly therefrom for engagement with the companion shaft member 21. As is apparent from each of FIGS. 1 and 2, a torsion spring 28 is employed for continually urging such latch member 26 clockwise about the support pin 27, which spring, in conjunction with a rearmost camming edge 26b of latch member nose portion 26a, causes automatic latching of the mounting body 25 onto the mounting frame 18 whenever such body is rocked rearwardly about the shaft member 20 and brought into engagement with the shaft member 21.

Although not illustrated, it is clear that when body portion 25 is not applied to the associated mounting frame 18, clockwise rocking of the latch member 26 thereon is had until a forward nose portion 26c abuts against the inner side of the front web portion 25b. Automatic counterclockwise rocking from this position is then had as the mounting body 25 is positioned over shaft member 20 and rocked rearwardly toward shaft member 21—which of course presents camming edge 26b in working engagement with such shaft member 21 to lift the nose portion 26a thereover and, via spring 28, snapped therebehind. With this done—that is, type carrier mounting body 25 having its lower edge bifurcation engaged over shaft member 20 and having its

rear edge notch receiving shaft member 21 therewithin, and with latch member nose portion 26a then positioned behind the shaft member 21, no movement whatsoever of the body 25 relative to the mounting frame 18 is possible. Positive removal of the mounting body 25 from such a latching engagement with the mounting frame 18 is of course quickly accomplished by overcoming the normal tension of spring 28 through upward and forward manipulation of the latch member 26 proper, this being conveniently performed through use of a release head portion 26d provided (FIG. 1). This, it is understood, removes nose portion 26a from behind shaft member 21 and permits forward rocking and removal of mounting body 25 from supporting shaft 20.

While the positioning of the overall type carrier assembly 24 along the shaft members 20 and 21 may be determined by any one of numerous means, such as through side-spacing grooves provided selectively along either shaft member 20 or 21, adjustable collars carried thereby, etc., no particular means as such has been included in or felt necessary for the present disclosure. A complete understanding of the instant invention is thus considered to be had without including anything beyond the understanding that appropriate side-spacing and retaining means is normally required for insuring indicia recording at a precise record material zone.

Secured to the outer side of the mounting body front web portion 25b is an indicia bearing type slug or printing pad 29—being aligned to strike the record material around platen member 12 along the normal type line caused to be completed during each machine operation. The precise indicia carried by such print producing member 29 will of course correspond to that assigned as the identification means for each machine user. Such identifying means might very well follow an individual's initials, such as the herein-illustrated "KT" of FIG. 3, might be a precise symbol, number, or even in some instances be the full signature or printed name of some one, some place, or some thing. In any event, the indicia caused to be carried by the slug or pad 29 will be transferred to the record material 17 during each machine operation so as to properly identify or perhaps even authenticate each piece of work when performed on any one of many possible business machines.

With the overall construction above presented, it is clear that each line of printing prepared by any business machine and the like might include identifying indicia which can be changed at will simply by exchanging one type carrier 24 for another within the machine printer mechanism. Such exchange of type carriers 24 is quickly and easily performed without the need of any tools whatsoever, thus permitting each potential machine user to have and maintain his personal type carrier 24. While there has been shown and described the fundamental features of such a type carrier 24 as applied to a preferred embodiment of the overall invention, it is to be understood that various substitutions and changes in the form and operation thereof may be made by those skilled in the art without departing from the spirit of the invention. Therefore, it is to be understood that the scope of the instant invention should be limited only by that which may be imposed by the following claims.

What is claimed is:

1. In combination with a business machine having a type mounting frame including a pair of spaced-apart and parallel shaft members, a machine-user-identifying type carrier for removable attachment with said mounting frame, comprising an indicia-bearing mounting body having its lower edge bifurcated for rockably engaging one of said shaft members and having its rear edge notched at a point such that the other of said shaft members engages said notch during rocking movement of said mounting body on said one shaft member, said notch being of a depth such that the indicia bearing

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portion of the mounting body is in proper printing position when said bifurcated edge engages said one shaft member and said notch engages the other of said shaft members; and latch means for automatically restraining the mounting body against movement on said mounting frame when the body bearing indicia is so positioned for proper printing; said latch means comprising a rockable latch member having a nose portion adapted to engage said other shaft member and cam thereover as the mounting body is rocked theretoward on said one shaft member, and spring means yieldingly urging said latch member for snapping said nose portion thereof behind such other shaft member immediately upon the mounting body becoming abutted thereagainst.

2. In combination with a business machine having a type mounting frame including a pair of spaced-apart and parallel shaft members, a machine-user-identifying type carrier for quick attachment to and detachment from said mounting frame, comprising a mounting body having an indicia-bearing front wall portion and a pair of side wall portions extending normally therefrom; each of said side wall portions having its lower edge bifurcated for rockable engagement and support by one of said shaft members; each of said side wall portions having its rear edge notched at a position such that the other of said shaft members engages the notch during mounting body rocking on said one shaft member and to a depth such that the front wall portion indicia of the mounting body is in proper printing position when said bifurcated edges engage said one shaft and said

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notches engage the other of said shafts; and latch means carried by said mounting body for automatically restraining such body against movement on said mounting frame when once the indicia thereof becomes so positioned for proper printing; said latch means comprising a rockable latch member between said body side wall portions, a rear nose portion on said latch member for hooking behind said other shaft member, a camming edge on said latch member for engaging said other shaft member and rocking said rear nose portion thereover as the rear edge notch of each side wall approaches abutment therewith during mounting body rocking on said one shaft member, and spring means effective for snapping said latch member nose portion behind the said other shaft member immediately upon mounting body rocking on the said one shaft member being stopped thereby.

References Cited by the Examiner

UNITED STATES PATENTS

1,090,597	3/1914,	Busz	197—36
1,520,127	12/1924	Hart	197—36
2,171,470	8/1939	Munoz	197—36
2,862,592	12/1958	Redmond	197—36
2,975,881	3/1961	Delponte et al.	197—36
3,101,141	8/1963	Canny	197—36

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