April 13, 1948. W. SILVERMAN 2,439,679

MEANS FOR PREVENTING DUPLICATION OF MARKS ON LAUNDRY

Filed Sept. 28, 1944 2 Sheets-Sheet 1

Fig. 1.

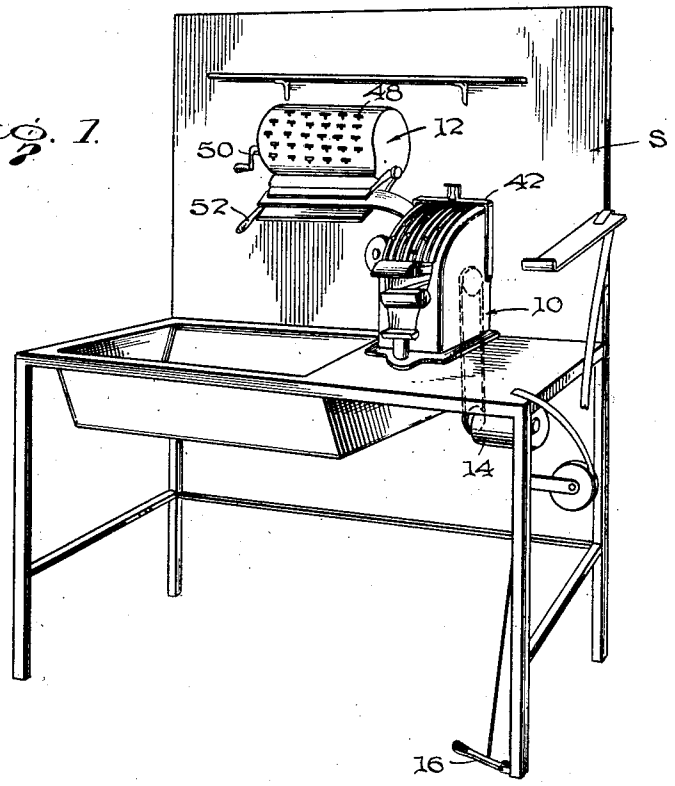
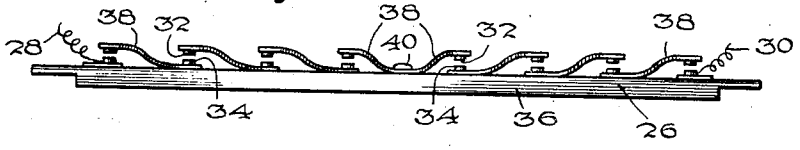


Fig. 3.



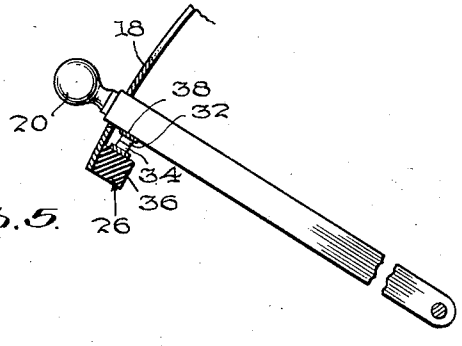


Fig. 5.

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Fig. 2.

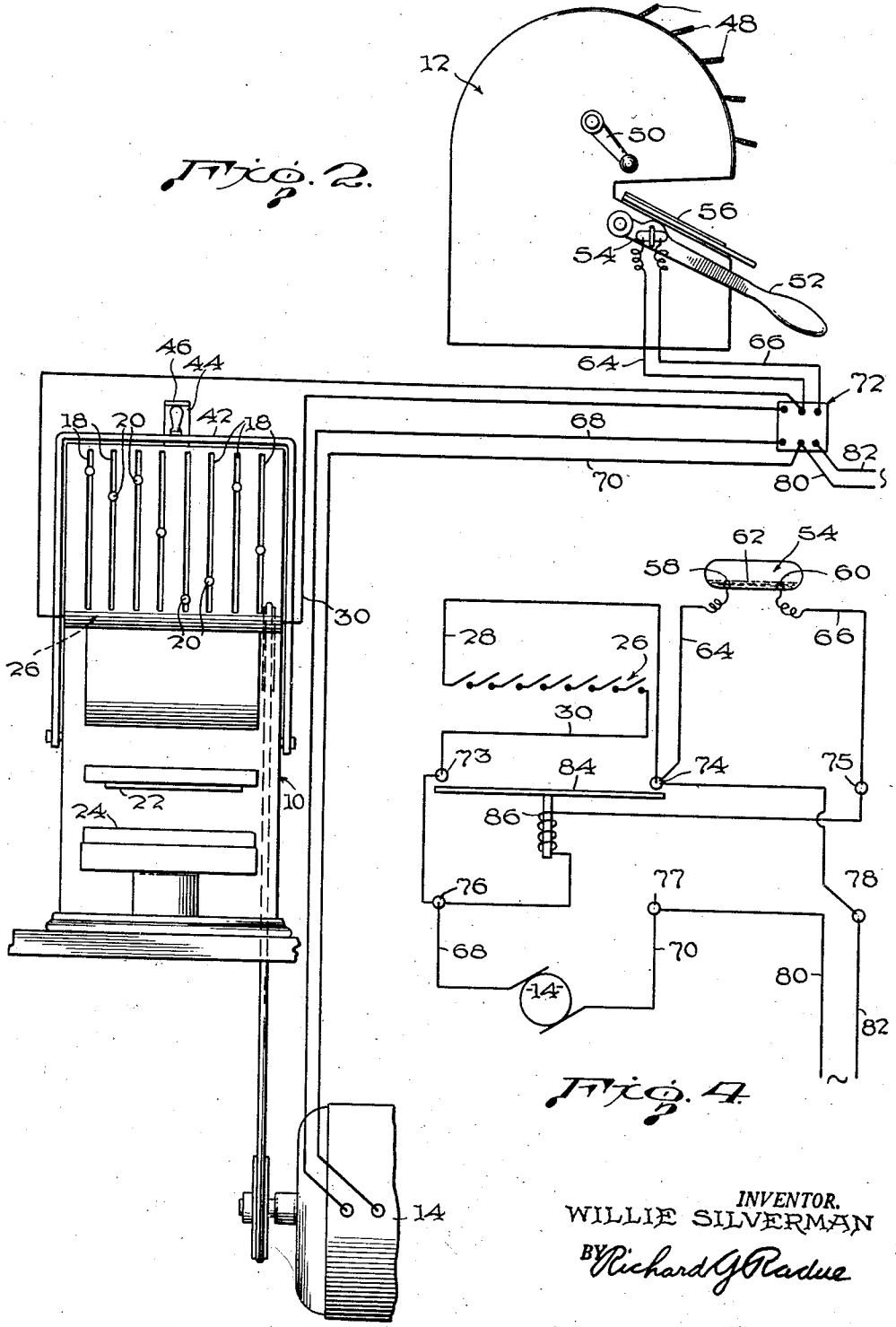

Fig. 4.

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Patented Apr. 13, 1948

2,439,679

UNITED STATES PATENT OFFICE

2,439,679

MEANS FOR PREVENTING DUPLICATION OF MARKS ON LAUNDRY

Willie Silverman, Jacksonville, Fla.

Application September 28, 1944, Serial No. 556,197

3 Claims. (Cl. 101—95)

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My present invention, in its broad aspect, has to do with improvements in means for preventing duplication of distinguishing marks on laundry, thereby effecting a saving of time, preventing loss of laundry through inaccurate or duplicated marking, and minimizing claims for losses occasioned by incorrect marking.

The nature of this invention will be readily understandable by reference to standard laundry marking practice. A receiving space for incoming laundry bundles is arranged within convenient reach of a combined counting and list printing machine and a power-driven laundry marking machine. The customer's bundle as received by an operator facing these machines is accompanied by a listing sheet bearing the laundry mark for that bundle. The operator then sets the keys of the marking machine to correspond with the mark on the listing sheet. After this the operator puts each garment not already marked in the marking machine and presses an operating pedal. At the same time the operator presses a laundry item lever showing the name of the particular garment on the listing machine in which the listing sheet has been previously inserted. These operations are repeated until all the garments or items in the bundle have been marked and listed. Thereupon the operator actuates a totalizing lever on the listing machine to cause the printing of the numbers of each kind of item comprising the laundry bundle. When the keys of the marking machine have been set to neutral, the operator will be ready to process another bundle. It is not necessary to set the marking machine keys to neutral, as they may be merely reset from the positions last used, but there is less confusion and likelihood of mistake when the keys are first neutralized.

Complete details of the standard type of electric motor driven laundry marking machine to which this invention appertains are disclosed in Canine Patents Nos. 927,487 and 1,063,180 and Smith Patent No. 1,556,168. Likewise, a full disclosure of details of a standard type of listing machine will be found in Lang Patent No. 1,695,964.

When an operator using these previously known marking and listing machines together has finished with one bundle there is a great tendency to go on with another bundle without returning the keys of the marking machine to neutral and resetting them in accordance with the mark shown on the listing sheet for the oncoming bundle. With the relatively unskilled

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and uneducated operators employed in commercial laundries, these costly mistakes are very prevalent.

It is, therefore, the principal object of this invention to provide electrical interlocking between such marking and listing machines that will require resetting of the electrically driven marking machine after each totalizing operation of the listing machine.

More particularly, it is proposed to provide electrical means including a mercury switch operable with the totalizing lever of the listing machine and switch means for the marking machine connected in circuit with said mercury switch and with the electric motor driving the marking machine so that said motor is cut-out after operation of the totalizing lever until the keys of the marking machine have been brought to their neutral positions.

In a specific embodiment of my invention, I provide in connection with the marking machine a handle which is pivoted and arranged to be brought down to force all the keys or key levers to neutral position. There is associated with the pivoted handle and the marking machine, switch means constructed and arranged to be closed by movement of the handle to key-neutralizing position, said switch means when closed operating to complete the current supply circuit to the marking machine motor. When the totalizing lever of the listing machine is operated, it breaks the contact of the mercury switch means to cause an interruption in the current supply circuit to the marking machine driving motor. The current supply circuit of the marking machine motor cannot thereafter be re-established until the key levers have all been returned to neutral. The switch means associated with the marking machine may comprise a series of contact points each disposed to be moved by one of the key levers to complete the circuit therethrough when all levers are in neutral position. The control circuit between power supply, electric marking machine motor and the two correlated machine associated switches is simple and well-known.

Other and equally important objects and advantages of my invention will be apparent from the following detailed description of a preferred embodiment when taken in connection with the accompanying drawings, in which:

Fig. 1 is a front perspective view showing a marking machine and a listing machine arranged in proximity for use by an operator;

Fig. 2 is a somewhat schematic view of the

circuit connections extending between the marking and listing machines, which are shown in elevation;

Fig. 3 is a front elevation of the multiple contact switch means for the marking machine;

Fig. 4 is a diagrammatic and schematic representation of a control circuit for interlocking the operation of the two machines; and

Fig. 5 is an enlarged and fragmentary vertical section showing the operative relation of one marking machine key lever and its corresponding contact of the switch means of Fig. 3.

With reference to Fig. 1, a laundry marking machine 10 is shown mounted on a stand S, to the right of and below a list printing machine 12, for convenient processing of a bundle of laundry requiring marking and listing of the items contained. The marking machine 10, which is of a commercial and well-known type, is belt-driven by an electric motor 14, and may be operated by a pedal 16, which forms no part of this invention.

In the enlarged schematic showing of Fig. 2, it will be seen that the marking machine 10 has parallel, vertical slots 18 in its front side for guided movement of key levers 20, one of which is movable in each slot to set the machine for imprinting a given laundry mark on each item in the customer's bundle. These key levers 20 are in neutral or unset position at the bottom of their respective slots 18. It is to be understood that the laundry item to be marked is held between a pair of marking jaws 22 and 24 when the marking machine 10 is operated.

In accordance with my invention the marking machine 10 is provided with switch means adapted to be closed when all the key levers 20 are moved to neutral position, from which position they are required to be manually reset before marking of a new bundle is commenced.

For this purpose I prefer to use a multipoint series contact switch 26, as indicated in Fig. 2 and shown in detail in Fig. 3. A pair of current carrying conductors 28 and 30 are connected at opposite ends of the series switch 26. As the marking machine 10 has eight key levers 20, the switch 26 has a corresponding number of pairs of spaced contacts 32 and 34 mounted on an insulating base strip 36. The upper contacts 32 are maintained in vertically spaced relation to the lower contacts 34 by means of spring conducting arms 38, secured to the strip 36 at the lower contacts 34. It will be noted that the center two spring arms 38 are joined together, secured to the insulating base strip 36 by a rivet 40 or other suitable means, and extend in opposite directions. As shown, the groups of arms 38 on opposite sides of the center are arranged to extend toward the respective ends of the strip 36, the two endmost lower contacts 34 being secured only to the base strip 36 and connected with the conductors 28 and 30.

The coaction of key levers 20 and the elements of the series contact switch 26 is clearly illustrated in Fig. 5. One of the levers 20 has been depressed to its neutral position at the bottom of its slot 18, causing the upper contact 32 carried by spring arm 38 to make contact with the lower contact 34 mounted on the insulating base strip 36. The manually settable key levers 20 will remain in any position to which moved and thus keep the contacts 32 and 34 in conducting engagement until the particular lever is moved away from neutral.

While the several open contact pairs of the switch 26 may be closed by independent operation of respective key levers 20, closing of the entire series of pairs and of the circuit between the leads 28 and 30 at the end terminals of said switch 26 may be accomplished more easily and quickly by means of a U-shaped handle or bail 42 pivotally connected to opposite sides of the marking machine 10 by the ends of its legs in the manner indicated in Figs. 1 and 2. The bottom of this U-shaped handle 42 is so constructed as to engage the exposed ends of the key levers 20 and urge them concurrently downward to neutral position when the handle 42 is grasped and swung forwardly from the inactive vertical position shown in Figs. 1 and 2. A backstop 44 is arranged at the top of machine 10 to limit the upward movement of the U-shaped handle 42, and a clip 46 may be provided to hold handle 42 in its upper position. After the handle 42 has been swung downward to close the switch means 26, it will, of course, be returned to the upper position so as not to interfere with setting of the key levers 20 for imprinting a different laundry mark.

The standard type of list printing machine 12, shown generally in Figs. 1 and 2, includes operating keys 48 for listing different items, a clearing handle 50, and a totalizing lever or arm 52 pivoted on one side of the list printing machine 12 and extending forward for convenient operation when the listing of a bundle has been completed.

The totalizing arm 52 has associated therewith a normally closed switch 54 adapted to be temporarily opened as the arm 52 is raised upwardly to totalize the items and print the results on a listing sheet insertable in the list printing machine 12. The switch 54 is preferably of the mercury type which may be mounted directly on the totalizing arm 52 by means of a suitable bracket 56, so that in the inoperative position of said arm 52, (which is illustrated) the two switch contacts 58 and 60 will be closed by the contained fluid body of mercury 62. Lifting of the arm 52 to totalize is sufficient to displace the mercury 62 and open the circuit between a pair of current carrying leads 64 and 66 connecting with switch contacts 58 and 60 respectively.

Fig. 2 shows the manner in which the pair of conductors 28, 30 for the multipoint series contact switch 26, the leads 64, 66 of the mercury switch 54, and two conductors 68 and 70 for the marking machine motor are run to a conventional contact box 72. The box 72 is provided with six contacts 73, 74, 75, 76, 77 and 78, with a pair of power source leads 80 and 82 connected with contacts 77 and 78, as illustrated in diagrammatic Fig. 4. It will be noted that power leads 80 and 82 join contacts 77 and 78, respectively, that conductor 70 also is joined to contact 77, and that conductor 28 and lead 64 are joined by contact 74.

The conventional connection in circuit of switches 26 and 54 with motor 14 and a power source 80, 82 shown in Fig. 4 includes a solenoid switch 84 arranged to connect and disconnect contacts 73 and 74, said switch 84 being controlled by energization of a winding 86 having its ends connected to contacts 75 and 76, respectively.

The operation of the disclosed apparatus will now be described. Fig. 4 illustrates the relative condition of the switches 26 and 54 and the circuit after an operation of the totalizing arm 52

to print a laundry list and break the circuit through the mercury switch 54. Although the switch 54 is back in closed position, the power circuit through contacts 73 and 74 to the marking machine motor 14, which was broken by the solenoid switch 84, remains open because the coil 86 cannot be re-energized. Before the motor 14 can be re-started the operator must close the multipoint series contact switch 26, either by individual neutralizing of key levers 20 or return of all such levers 20 to neutral with a single operation of the pivoted U-shaped handle 42. This closing of the parallel circuit including switch 26 permits re-energization of the solenoid switch coil 86 and restoration of the switch 84 to closed position, causing motor 14 to start. The operator may now set the key levers 20 for a different laundry mark and proceed with the marking of the laundry items of a new bundle. Re-opening of switch 26 will not stop the motor 14 as coil 86 will continue to be energized through switch 84. It will thus be understood that the laundry marking machine 10 cannot be operated after operation of the totalizing lever 52 of the list printing machine 12 until all marking machine key levers 20 have been returned to neutral.

The novel interlocking of the previously known and used laundry list printing and marking machines provided by my invention eliminates mistakes in marking by insuring resetting of the marking machine for every bundle that is received by the operator.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. The combination with a list printing machine having a totalizing arm, a marking machine having a plurality of key levers movable in parallel paths and an electric motor for operating the marking machine, said motor being in circuit with a source of electric power, of a mercury switch connected in the motor circuit and arranged to be opened by actuation of the totalizing arm of the list printing machine, a multipoint series contact switch connected in circuit with the motor and the mercury switch, said multipoint-contact switch having contacts each arranged to be actuated by a respective key lever of the marking machine when in neutral position, and means associated with the marking machine for simultaneously moving said key levers to neutral position and to close the portion of the motor circuit comprising the multi-point series contact switch.

2. The combination with a laundry list printing machine having a totalizing arm, a laundry

marking machine having a plurality of individually settable key levers movable in parallel paths, and an electric motor for operating the marking machine, said motor being in circuit with a source of electric power, of switch means connected in the motor circuit and constructed and arranged to be opened by actuation of the totalizing arm of the list printing machine, a multipoint series contact switch connected in circuit with the motor and the switch means, said multipoint contact switch having contacts each arranged to be actuated by a respective key lever of the marking machine when in a neutral position, and a U-shaped handle pivoted to the marking machine and constructed and arranged to move said key levers simultaneously to neutral position to close the portion of the motor circuit comprising the multipoint series contact switch.

3. The combination with a laundry list printing machine having a totalizing arm, a laundry marking machine having a plurality of individual settable key levers movable in parallel paths, and an electric motor for operating the marking machine, said motor being in circuit with a source of electric power, of switch means connected in the motor circuit and arranged to be opened by actuation of the totalizing arm of the list printing machine, a handle pivoted to the marking machine and having a portion constructed and arranged to move said key levers simultaneously to neutral position, and an additional switch connected in circuit with the motor and with the switch means associated with the totalizing arm, said additional switch being constructed and arranged to be closed by movement of the pivoted handle to the key lever neutralizing position, and thereby closing the portion of the motor circuit comprising said additional switch.

WILLIE SILVERMAN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
925,923	Kutz	June 22, 1909
1,167,733	Akerly	Jan. 11, 1916
1,196,114	Hume	Aug. 29, 1916
1,233,699	Pierce	July 17, 1917
1,725,384	Warner	Aug. 20, 1929
1,836,671	Langford	Dec. 15, 1931
1,875,870	Hirsch	Sept. 6, 1932
2,019,897	Fiehl	Nov. 5, 1935
2,113,867	Weymouth	Apr. 12, 1938
2,334,430	Moody	Nov. 16, 1943