Jan. 27, 1942. G. N. STRIKE ET AL 2,271,106

LAUNDRY MARKING MACHINE

Filed Aug. 2, 1940 2 Sheets-Sheet 1

Fig. 1.

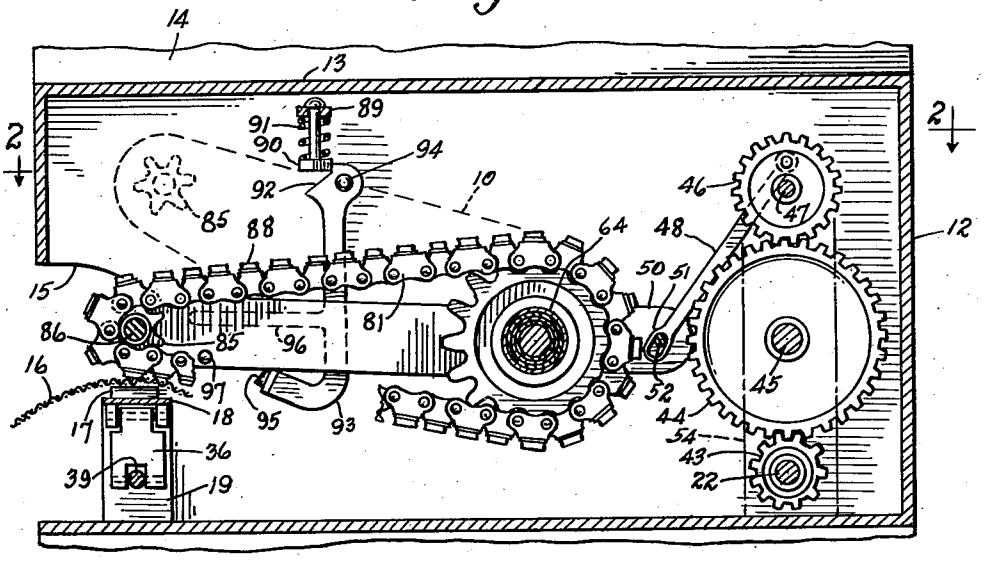


Fig. 2.

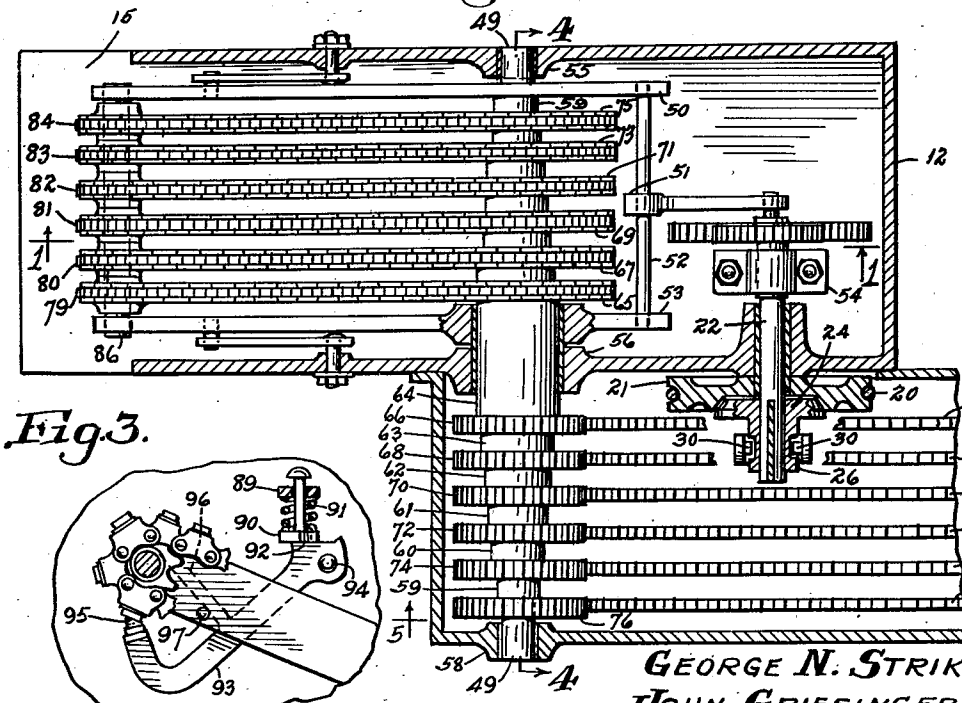


Fig. 3.

GEORGE N. STRIKE
JOHN GRIESINGER
INVENTORS.

BY Carlos G. Stratton
ATTORNEY.

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Fig. 4.

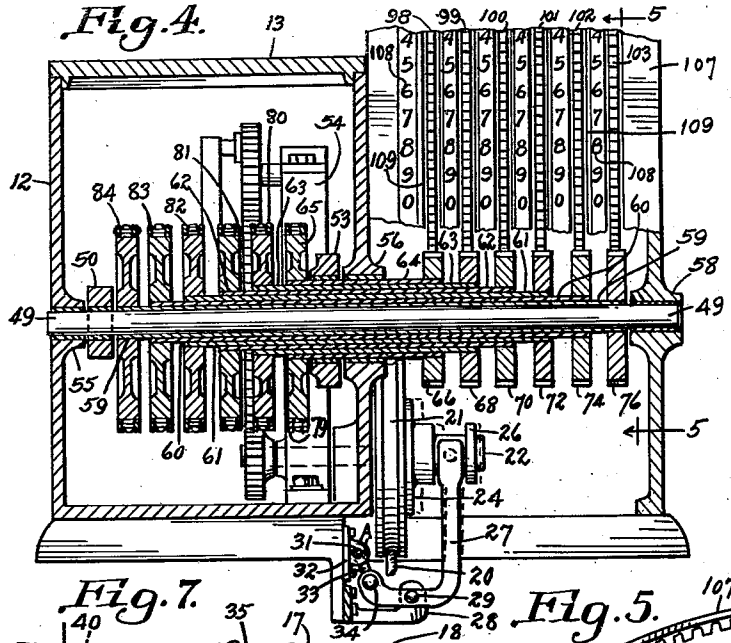


Fig. 6.

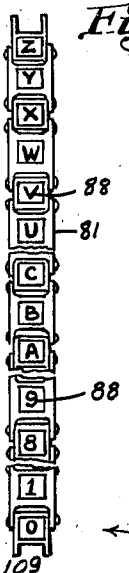


Fig. 7.

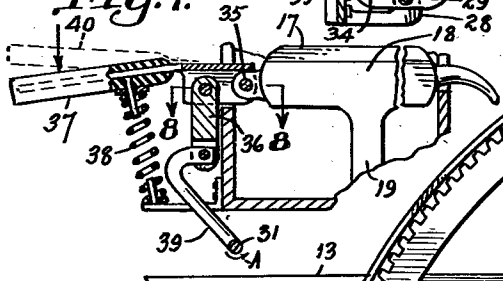
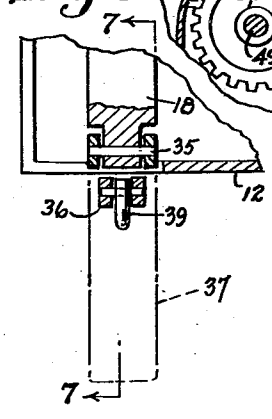


Fig. 5.

Fig. 8.



GEORGE N. STRIKE
JOHN GRIESINGER
INVENTORS.

BY Carlos G. Stratton
ATTORNEY.

Patented Jan. 27, 1942 2,271,106

UNITED STATES PATENT OFFICE

2,271,106

LAUNDRY MARKING MACHINE

George N. Strike and John Griesinger,
Los Angeles, Calif.

Application August 2, 1940, Serial No. 349,404

13 Claims. (Cl. 101—98)

Our invention relates to a laundry marking machine and more particularly to a machine for printing on laundry with invisible ink.

An important object of the invention is to provide a machine that is equipped to mark laundry invisibly with any letter of the alphabet and any number, in a side-by-side series.

The marking machines heretofore employed have been quite limited in the variety in the letters and numbers that could be marked on laundry, with the result that the laundries using such machines had to change the long standing marks used by their customers. It is an object of our invention to provide a machine that will enable laundrymen to avoid mutilating or changing old marks and still be able to invisibly mark the laundry.

By the present invention it is possible for laundries to maintain card indexes of customers' laundry marks without changing the marks, whereby the owners of any stray articles in the plant may be found, since more than one mark is not used for any customer, with the present device. It is also of value to police departments, for identification purposes that only one mark be used for a particular customer, irrespective of whether the marking is visible or invisible.

The invention also has for its objects to provide positiveness in operation, convenience in use, improved structure, greater variety of marking symbols, relative simplicity and greater general efficiency.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description. However, the drawings merely show and the following description merely describes one embodiment of the present invention, which is given by way of illustration or example only.

In the drawings, like reference characters designate similar parts in the several views.

Figure 1 is a vertical section through an embodiment of the invention taken on the line 1—1 of Figure 2.

Figure 2 is a horizontal section taken on the line 2—2 of Figure 1.

Figure 3 is a broken elevation of inking mechanism, showing parts illustrated in Figure 1 but in a different operative position.

Figure 4 is a transverse section taken on the line 4—4 of Figure 2.

Figure 5 is a section taken on the lines 5—5 of Figures 2 and 4.

Figure 6 is a broken, plan view of linked printing type comprised in the invention.

Figure 7 is a broken elevation of manual control means comprised in the invention, taken on the line 7—7 of Figure 8.

Figure 8 is a broken section taken on the line 8—8 of Figure 7.

Referring more in detail to the drawings, the reference number 12 comprises a housing for the printing mechanism comprised in the present apparatus. This housing has a flat top 13 upon which may be placed a listing machine 14 or any other mechanism useful in a laundry.

The housing 12 has an opening 15 through which may be fed material 16 that is to be marked with a laundry mark. The material 16 is placed on a cushion-rubber platen 17 for printing by mechanism hereinafter more fully described. The platen 17 is mounted on a base member 18 supported by a suitable standard 19.

Suitable motor means is connected to drive a belt 20, which in turn drives a sheave 21. The sheave is loose on shaft 22. A cone clutch 24 is slidably keyed to the shaft 22, to drive same. The conical face of the clutch 24 frictionally drives the sheave 21 when the clutch is moved into engagement therewith. A spool 26 is integral with the clutch 24, whereby the clutch may be withdrawn from its operative position in engagement with the sheave 21.

A rocker 27 is pivotally supported on a bracket 28 on a pin 29. The rocker has fingers 30 that fit in the spool 26 and when actuated move the clutch to and from an operative position with relation to the sheave.

Manual control means for the rocker 27 comprises a shaft 31 mounted in brackets 32 on the housing 12. A crank arm 33 is pivotally connected with a pin 34 on the rocker 27.

The opposite end of the shaft 31 has a crank arm 39 that is connected by means of a link 36 to a manual control handle 37 fulcrumed at 35. A spring 38 tends to move the handle 37 to the broken line position shown in Figure 7. When the handle 37 is depressed to its full line position, shown in that figure, the shaft 31 rotates in the direction of the arrows A, and the clutch 24 operatively connects the sheave 21 with the drive shaft 22. When the handle 37 is released and the spring 38 moves the handle 37 to the broken line position 40, the link 36 rises thus rotating the shaft 32 in the direction counter to the arrows A, which causes the rocker 27 to swing the clutch 24 outwardly from the sheave 21, thus permitting idle movement of the sheave

with relation to the shaft 22, until the clutch is again moved into operative engagement with the sheave.

The shaft 22 drives a spur gear 43 mounted thereon, which in turn drives a relatively larger gear 44 that is mounted on a spindle 45. A gear 46 on a shaft 47 is in mesh with the gear 44. A connecting rod 48 on the gear 46 pivotally operates lever arms 50 and 53 that are fulcrumed on a shaft 49. A slotted head 51 on the connecting rod 48 slidably connects with a bar 52 between the lever arms 50 and 53. A bearing 54 provides a support for shaft 22, spindle 45 and shaft 47.

The shaft 49 is supported in bearings 55, 56 and 58. A series of concentric sleeves upon the shaft 49 is shown at 59, 60, 61, 62, 63 and 64. Each of the concentric sleeves carries a gear and a sprocket. The sleeve 64 carries a sprocket 65 and a gear 66. The sleeve 63 carries a sprocket 67 and a gear 68. The sleeve 62 carries a sprocket 69 and a gear 70. The sleeve 61 carries a sprocket 71 and a gear 72. The sleeve 60 carries a sprocket 73 and a gear 74. The sleeve 59 carries a sprocket 75 and a gear 76.

The sprockets 65, 67, 69, 71, 73 and 75 respectively drive chains 79, 80, 81, 82, 83 and 84. Relatively smaller sprockets, such as shown at 85, are mounted on a shaft 86 extending between the lever arms 50 and 53. Type faces, such as shown at 88, are mounted on links of the chains. Each chain contains all the letters of the alphabet and all ten numbers from "0" to "9".

Bars 89 mounted within the housing 12 support spring-urged abutments 90, whose springs are such as indicated at 91. The abutments 90 contact cam faces 92 on inking arms 93. The latter arms are pivoted at 94. An inking pad 95 is supported on the outer end of the arms 93. Shoulder members 96 on the arms 93 are engaged by pins 97. Moving the lever 50 to the full line position in Figure 1, causes the pins 97 to tip the arms 93, as shown in Figure 3. The ink pad contacts the theretofore set type faces, for subsequently printing on material.

Meshing with the spur gears 66, 68, 70, 72, 74 and 76 is a series of gear segments 98, 99, 100, 101, 102 and 103 respectively all pivoted on a shaft 104. Each gear segment has a knob 105 for manipulating same.

A cover 106 encloses the spur gears 66, 68, 70, 72, 74 and 76, while a slotted cover 107 is disposed over the gear segments. The slots in the cover 107 permit movement of the knobs 105 lengthwise of the slots, for adjustment of the gear segments and for setting the type chains. The cover 107 contains suitable characters 108 (numbers and letters) along the edges of the slots 109 in the cover 107. These characters correspond with the respective type faces on the chains.

In the operation of our device, the operator sets the knobs 105 opposite the characters corresponding to the laundry mark of a customer. The gear segments 103 are so arranged that the position of the type faces opposite the platen 17 corresponds with the character opposite which the knob 105 is moved. During such setting operation, the carriage for the type chains is between the broken line position 10, shown in Figure 1, and the full line position in the same figure.

Thereupon the operator depresses the handle 37, which throws the clutch 24 into operative connection with the sheave 21. The carriage for the type chains then moves to its uppermost position, as shown at 10, in which position the pin 97 engages the arm 96 and moves the inking pad 95 to the position shown in Figure 3, whereby the type that will print on the material is inked. The cam face 92 compresses the spring 91 during this inking operation. During the downward movement of the type chain carriage, the spring 91 moves the inking pad and arms 93 to the position shown in Figure 1.

Prior to the depression of the lever 37, the operator has placed material 16 on the platen 17, so that continued depression of the handle 37 will cause the carriage with the inked type to descend and print the type upon the material 16. It is of course to be understood that the ink used is invisible except under ultra-violet or other ray lamps. As the operator holds down the lever handle 37, the type carriage will again raise sufficiently to permit the withdrawal of the printed material 16. Then by releasing the handle 37, the operation of the type carriage stops, until the handle 37 is again depressed to begin again the cycle just described.

While we have illustrated and described what we now regard as the preferred embodiment of our invention, the construction is, of course, subject to modifications without departing from the spirit and scope of our invention. We, therefore, do not wish to restrict ourselves to the particular form of construction illustrated and described, but desire to avail ourselves of all modifications which may fall within the scope of the appended claims.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. In a laundry marking machine, a platen, inking means, linked, endless type-bearing chains, each chain having a plurality of different characters, a carriage, spaced sprockets on the carriage separately supporting the chains, certain of the sprockets being alined laterally along a common, fixed axis, the carriage being pivotally mounted to oscillate about said axis, means connected to drive the sprockets to longitudinally adjust the chains to print different characters, and means to move the carriage pivotally and thereby move the chains successively from an inking position to a position to print on material on the platen.

2. In a laundry marking machine, a plurality of endless series of type faces arranged side by side, a swingable carriage adjustably supporting said series, concentric sleeves respectively connected to adjust the series of type faces, and the axis of which forms the axis of swinging movement of the carriage, means separately connected with the sleeves to adjust same to select the desired type faces, platen means for the support of material upon which to print the selected type faces, and means for swinging the carriage and series of type faces toward and away from the platen.

3. In a laundry marking machine, a plurality of endless series of type faces arranged side by side, a swingable carriage adjustably supporting said series, concentric sleeves respectively connected to adjust the series of type faces, and the axis of which forms the axis of swinging movement of the carriage, gears mounted on respective sleeves, manually operable gear means respectively engaging the gears on the sleeves to select manually the desired type faces, platen means for the support of material upon which to print the selected type faces, and means for swinging the carriage and series of type faces toward and away from the platen.

4. In a laundry marking machine, a plurality of endless series of type faces arranged side by side, a swingable carriage adjustably supporting said series, concentric sleeves respectively connected to adjust the series of type faces, and the axis of which forms the axis of swinging movement of the carriage, gears mounted on respective sleeves, segmental, manually-controlled gears respectively engaging the gears on the sleeves to select the desired type faces, platen means for the support of material upon which to print the selected type faces, and means for swinging the carriage and series of type faces toward and away from the platen.

5. In a laundry marking machine, endless, type-bearing chains arranged side by side, a swingable carriage adjustably supporting said chains, spaced sprockets supporting the chains, certain of the sprockets being drive sprockets having a common axis forming the axis of swinging movement of the carriage, laterally extending, concentric sleeves respectively connected with the drive sprockets to adjust the chains to select type faces thereon, gears mounted on respective sleeves, segmental, manually-controlled gears respectively engaging the gears on the sleeves to select the desired type faces, platen means for the support of material upon which to print the selected type faces, and means for swinging the carriage and series of chains toward and away from the platen.

6. In a laundry marking machine having inking means: linked, endless type-bearing chains, each chain bearing a plurality of different characters, means to longitudinally adjust the chains for printing different characters including concentric members, and a movable carriage supporting the chains, the carriage being movable on the common axis of said concentric members to swing the chains laterally to and from an inking position.

7. In a laundry marking machine having inking means: linked, endless type-bearing chains, each chain bearing a plurality of different characters, a pivoted carriage, idler and drive sprockets on the carriage engaging the chains, and means separately connected with the drive sprockets to adjust the chains longitudinally and individually including concentric members, the carriage being pivoted on the common axis of said concentric members to swing the idler sprockets and thereby swing the chains to and from an inking position.

8. In a laundry marking machine having inking means: linked, endless type-bearing chains, each chain bearing a plurality of different characters, a movable carriage, spaced sprockets on the carriage engaging the chains, certain of the sprockets being disposed behind the portions of the chains being inked, to provide firm supports therefor, and means connected to drive certain of the sprockets to longitudinally adjust the chains including concentric members, the carriage being movable on the common axis of said concentric members to swing the chains to and from an inking position in which certain of the sprockets are disposed behind the characters being inked.

9. In a laundry marking machine, a platen, inking means, linked, endless type-bearing chains, each chain having a plurality of characters, a carriage, sprockets on the carriage supporting the chains, certain of the sprockets being alined laterally and having a common axis, the carriage being pivotally mounted to move about said axis, and means to move the carriage pivotally between the platen and inking means and thereby move the chains successively from an inking position to a position to print on material on the platen.

10. In a laundry marking machine having inking means: type pivotally connected together in endless series, means to adjust the type to print from different faces including rotatable members having a common axis, and a swinging carriage supporting the pivotally connected type, the carriage being mounted on the said common axis of said members to swing the pivotally connected type to and from an inking position, without affecting the previous adjustment of said adjusting means.

11. In a laundry marking machine having inking means: a plurality of endless series of type faces arranged side by side, a plurality of adjusting means having a common axis, the adjusting means including manually operated elements and members on said axis connected to adjust the type series, the several series of type faces being arranged together in a group and the manual adjusting elements being arranged together in a separate group, the groups being separate and at the side of each other, and a carriage for the series of type faces mounted to swing to and from the inking position on the said common axis of the adjusting means.

12. In a laundry marking machine having inking means: a plurality of endless series of type faces, a plurality of adjusting means separately connected with the several series of type faces, said adjusting means having a common axis, and a carriage supporting the series of type faces and mounted to swing the desired type faces to and from an inking position on the common axis of the adjusting means.

13. In a laundry marking machine having inking means: a plurality of endless chains, series of type faces mounted on links of the chains, sprockets engaging the chains, means to rotate certain of said sprockets on a common axis to adjust the chains longitudinally without varying the relation of the chains as a whole to the inking position, and means to swing the chains as a whole about the common axis of the sprockets, to and from an inking position.

GEORGE N. STRIKE.
JOHN GRIESINGER.