

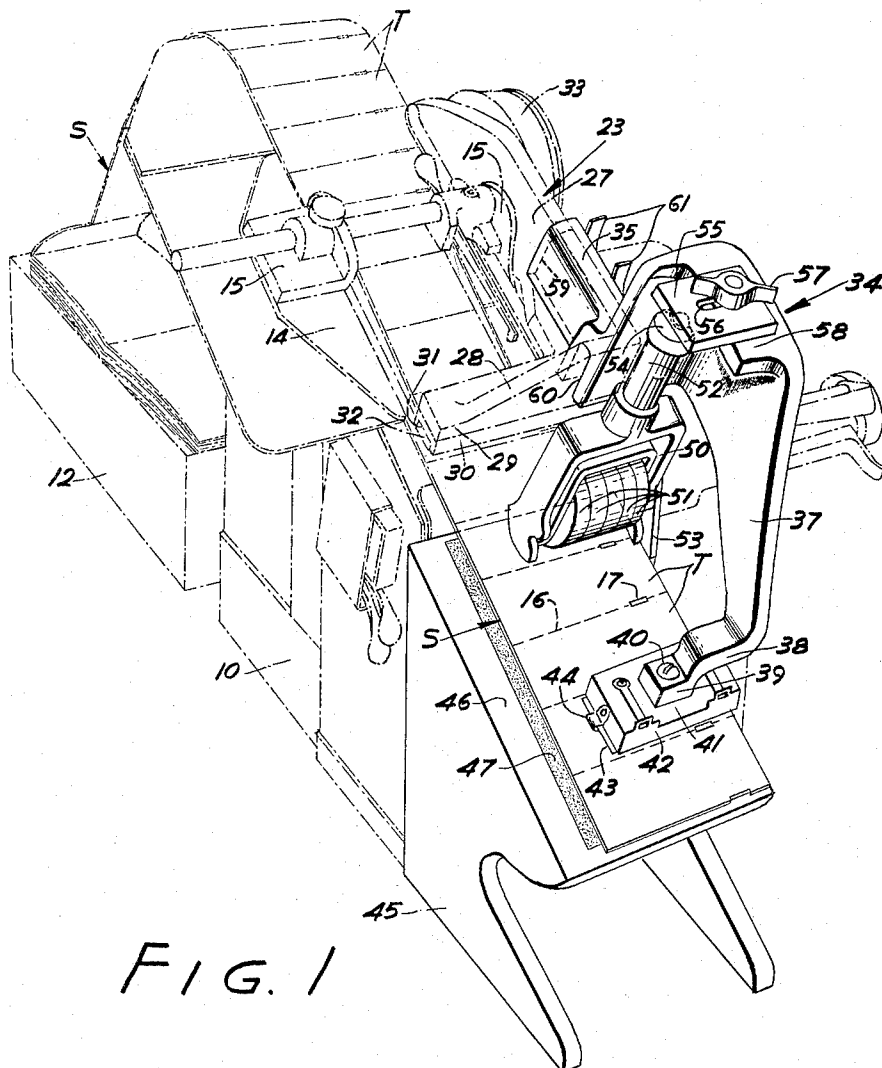
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W. F. HOFFMANN ET AL
TICKET PRINTING MACHINE

2,672,809

Filed Nov. 30, 1950

2 Sheets-Sheet 1



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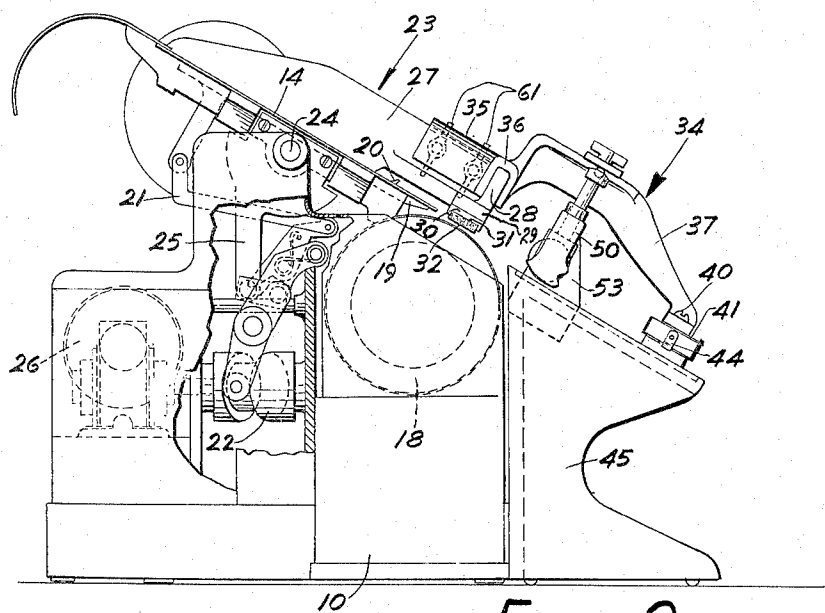


FIG. 2

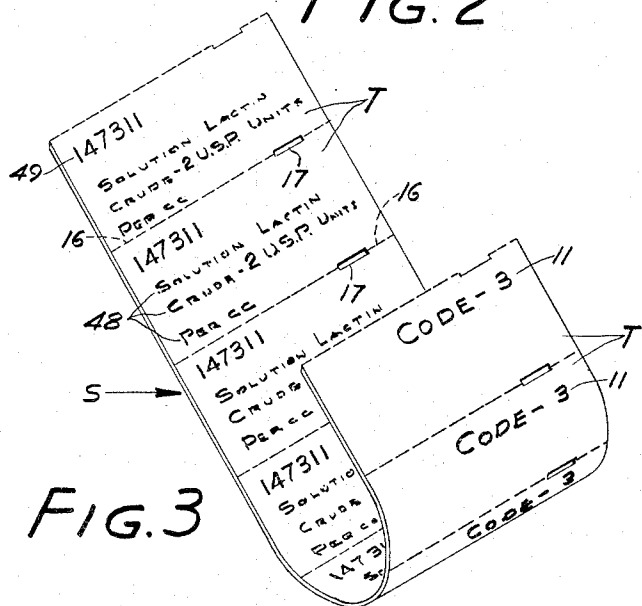


FIG. 3

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TICKET PRINTING MACHINE

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4 Claims. (Cl. 101-70)

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This invention relates to machines for printing job tickets, tags and the like and more particularly to an attachment for a tag or ticket printing machine for rendering the latter capable of printing either on both sides of a job ticket or only one side thereof, and which permits printing multiple lines of indicia during a single excursion of the tickets through the printing machine.

In some respects the present invention is an improvement on machines of the general character disclosed in U. S. Patents Nos. 2,121,864, 2,007,526, and 1,980,576, issued to Carl A. Flood. Machines of this character generally are provided with a mechanism for feeding continuously strip tickets from a roll, fan-fold or manifold form supply, one by one, into printing position over a line of type set up on a series of settable type wheels. A rock arm or head carrying a platen is arranged to oscillate during each cycle of the machine and to cause the platen to press the tag into imprinting engagement with an inking ribbon overlying the composed line of type. The drive mechanism of these machines may be controlled by a suitable counter and stop mechanism such as that disclosed in the above-listed Patent No. 2,007,526, whereby the machine may be set to operate to print a predetermined number of tickets.

Certain types of industry in their manufacturing processes require multiple lines of indicia as well as a lot number to be printed upon individual tickets. For example, in the pharmaceutical field in the mass production manufacturing of drugs, each tray or container which receives a quantity of a large batch or lot of a drug or medicament must be accurately and continuously identified by a clear, detailed, description of the particular product and its lot number, from the moment of the commencement of the manufacture of such product to the moment of its final packaging and labeling in a container for use by the consumer. Machines of the type disclosed in the listed patents have certain limitations in this connection, in that only a single line of printing may be imprinted upon the tags during any given run of the tags through the machine. That is to say, in order to obtain more than one line of printing the tags must be run through the machine for each line of printing desired. Moreover, adjustments must be made to the machine preparatory to each of such runs to insure the proper spacing of the line to be printed from a line previously printed. In addition, such machines print only on one side of the ticket, where-

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as in handling certain classes of work requiring job lot tickets it is desirable that the identifying tags carry indicia on both sides thereof. Desirably the lot number identification should be of such type character and size, as to render it conspicuously contrasting to the description of product indicia.

Accordingly, it is an object of the present invention to provide a simple, inexpensive and reliably operative attachment for use with machines of the above character which will enable such machines to print multiple lines of indicia upon the tickets or tags upon a single excursion through the machine.

Another object is to provide an attachment of this character which does not interfere in any manner with the settable type mechanism presently included in machines of this class or with the operation of such type mechanism thus, providing a machine that is capable of imprinting indicia on both sides of the tickets during a single excursion thereof through the machine, or permits at the will of the operator, the use of the settable type printing mechanism to the exclusion of the multiple line imprinting mechanism, or vice versa.

A further object is to provide a lot numbering device in association with said attachment, which lot numbering device may be quickly and easily set to imprint the lot numbers in a distinctive manner and which may be readily rendered operative or inoperative at the will of the operator.

Other objects, features, innovations, elements, and combinations of our invention will be discernible from the following description which is to be taken in conjunction with the accompanying drawings.

In the drawings:

Fig. 1 is a perspective view of the settable type printing machine with our improved multiple line and lot-number printing device mounted thereon, the machine being shown in broken lines or phantom and the multiple line and lot number printing mechanisms being shown in full lines,

Fig. 2 is a side elevation of the printing machine and attachment, certain parts being broken away for clarity of illustration and particularly illustrating the conventional ticket feed and rock-arm actuating mechanism of such machines, and,

Fig. 3 is a perspective view showing the type of ticket used in the machines and illustrates the front and rear side, multiple and single line, and lot number printing which may be accomplished by our invention.

A printing machine exemplifying the type dis-

closed in the patents hereinbefore listed is generally indicated at 10 in Figs. 1 and 2 of the drawings. Such machines are adapted to print a single line 11 (Fig. 3) of indicia upon the underside of each tag or ticket T of a strip S of such tickets. The strip S may be supplied in roll form or, as herein shown, in fan or manifold form from a supply container 12. The strip S is brought upwardly and over an inclined table 14, suitable adjustable lateral guides 15 being provided to keep the strip S aligned as it is fed downwardly over table 14. The strip S (Fig. 3) generally comprises a plurality of tickets T separable by perforate tear lines 16, and provided adjacent one edge thereof with elongate feed slots 17.

The printing wheel assembly indicated at 18 (Fig. 2) comprises a series of wheels having type around their peripheries, the wheels being settable to compose a line of type substantially tangent to the underside of strip S. The wheels may be locked in their set position as by means disclosed in the aforementioned patents. An inked ribbon (not shown) overlies the type.

The strip S is advanced along the table 14 and between the guides 15 by a feed slide 19 (Fig. 2) carrying a spring-pressed feed finger 20 adapted to engage in slots 17. Slide 19 is reciprocated once during each cycle of the machine by means of linkage 21 associated with a barrel cam 22.

At the end of the leftward or upward stroke of slide 19, finger 20 engages in a slot 17 and, during the forward or downward stroke of slide 19, advances a just-printed ticket T of strip S out of printing position and the next ticket T into proper printing registration with the line of type set up on type wheels 18.

A head or rock arm generally indicated at 23 is mounted for oscillatory movement on a shaft 24 suitably fixed in the machine frame. Linkage indicated at 25 connects the rock arm with barrel cam 22, which, through the linkage, imparts first, a downward stroke and then an upward stroke to rock arm 23, during each cycle of the machine. The machine is powered by an electric motor indicated at 26, which is suitably connected to drive the barrel cam 22 in rotation, and thereby to cycle the machine. Arm 23 includes an upstanding side wall 27 and a transversely extending, front flange 28 formed at right angles to the wall 27, flange 28 terminating at its lower end in a horizontally disposed, rectangularly shaped, foot 29 to which is removably attached a correspondingly shaped block 30. Block 30 is recessed as at 31 to receive a platen pad 32 removably inserted within recess 31. Platen 32 occupies such a position that as it approaches the lower end of its arcuate path of travel during the downstroke of arm 23, it engages the upper side of a ticket T and presses the ticket into imprinting relation with the line of type set up on wheels 18.

The rocking motion of arm 23 and the reciprocating motion of slide 19 are synchronized so that the tickets T are completely registered in printing position and stationary when the platen-carrying arm nears the end of its downward stroke to effect the printing and, the tickets are advanced into printing position during the upstroke of the arm and before it approximates ticket-engaging position during its next downstroke movement.

The driving mechanism of the machine may be controlled by a counter and stop mechanism indicated generally at 33 (Fig. 1) of the type more fully disclosed in U. S. Patent No. 2,007,526

so that the machine may operate to print a predetermined number of tickets.

All of the mechanism thus far described is more fully shown and described in U. S. Patents Nos. 2,121,864, 2,007,526, and 1,980,576.

As previously stated machines of the character just described have certain limitations in connection with the printing of tags or tickets identifying portions of large batches of mass-produced drugs or medications wherein, generally speaking, multiple lines of identifying indicia together with a lot number are demanded. Such machines can be used for this purpose but when so used it is required that the strip of tickets be run through the machines once for each line of printing that is required to properly describe the product under manufacture. In addition, the lot number is usually required to be stamped by a separate hand operation.

Our invention overcomes this difficulty by providing a simple, inexpensive and reliably operative attachment for use in connection with machines of the character just described and which enables such machines to print multiple line indicia descriptive of the product together with the lot number upon one side of the ticket; and if desired to print the usual single line of indicia upon the opposite side of the ticket.

Our attachment comprises an auxiliary arm generally indicated at 34. Arm 34 may be stamped or otherwise fabricated but preferably is cast of a strong but light-weight material. At its rear end the arm is formed with a projection 35 merging with a right angularly formed front portion 36. The projection 35 and front portion 36 are channeled as at 59 and 60, respectively, to receive the corresponding right angularly formed sidewall and flange portions 27 and 28, respectively, of rock arm 23. The width of the channels 59—60 is such as to embrace intimately the opposite side surfaces of sidewall 27 and flange 28. A pair of wing screws 61 threaded preferably into the outer wall of projection 35 serves to clamp auxiliary arm 34 removably but securely in mounted position upon rock arm 23. Forwardly of the front portion 36 the auxiliary arm is inclined at an angle downwardly as at 37 and merges with a right angular, horizontally disposed offset 38. Offset 38 has formed integrally therewith a foot 39 to which is removably attached as by means of a screw 40 a multiple line stencil printing unit 41. Stencil unit 41 may be of the general type disclosed in U. S. Patent to G. T. Prichard No. 1,445,447, and comprises a stencil ink reservoir 42 beneath which is removably attached a stencil card 43 as by means of clips such as 44 located at the opposite ends of the unit.

In tandem relation to the forward end of machine 10 there is positioned a platform or table 45 the upper surface 46 of which is inclined at an angle corresponding to the angle of the inclined table 14 of the machine 10. Preferably the upper surface 46 is recessed to receive a platen pad 47 of neoprene, semi-soft rubber or other suitable backing or platen material. The stencil card 43 is cut in the conventional manner on a typewriter and is capable of receiving multiple lines of descriptive indicia. When such stencil card is mounted in its unit 41, upon each downward stroke of rock arm 23 and the attached auxiliary arm 34 it serves to imprint the multiple lines 48 (Fig. 3) of such descriptive indicia upon that side of each ticket T opposite to the side upon which the single line 11 is printed.

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The lot number indicated at 49 (Fig. 3) may be imprinted upon each ticket by a settable, wheel numbering device of the well known conventional type and herein indicated at 50. Such numbering devices are self inking and are operable to imprint an impression of a series of numbers set up on their wheels 51 upon the depression of a plunger 52. The numbering device 50 is fixed to one side of the table 45 as by means of a bracket 53. The upper end of plunger 52 preferably has mounted thereon a ball bearing indicated at 54. A lug 55 provided with an elongate slot 56 is mounted as by means of a wing screw 57 passing through slot 56 and threaded in a horizontally disposed flange 58 formed integrally with auxiliary arm 34. When the lug is adjusted to the position shown in Figs. 1 and 2, it overlies the ball bearing 54 of plunger 52 and, during the downward stroke of rock arm 23 and the attached auxiliary arm 34, lug 55 depresses plunger 52 and thereby causes wheels 51 to imprint a lot number 49 upon each ticket T as it comes into registration with numbering device 50. It will readily be seen that if it is desired to print the tickets without a lot number this may be done simply by releasing wing screw 57 and moving lug 55 toward the right (as viewed in Fig. 1) a distance sufficient to remove the lug from over the plunger 52. In this manner indicia may be imprinted upon the tickets in single line form upon one side thereof by the settable type wheels 18, and multiple line indicia upon the other side thereof by the stencil printing unit 41.

If it is desired to print simply the multiple line indicia 48, the single line printing mechanism may be disabled as by removing platen pad 32 from within recess 31, and, conversely, if it is desired to utilize simply the settable type, single line, printing mechanism the lot numbering device 50 may be disabled as described, the stenciled card 43 removed from the clips 44 of the stencil unit 41 and a blank or non-cut card inserted therein or, alternatively, table 45 removed or wing nuts 51 loosened and auxiliary arm 34 and its appendages quickly and easily removed as a single unit.

It is apparent that our invention renders a machine of the class described capable of performing work clearly beyond the scope of such machines as they heretofore existed, making possible, multiple line printing, in a single excursion of the ticket strip through the machine and the simultaneous imprinting of a contrasting lot number, as well as the imprinting of data on the reverse side of the tickets; all, in a simple, efficient, and economical manner.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

We claim:

1. In a cyclically operated printing machine of the class described, having synchronized rockable head and reciprocating strip-ticket feeding means, an arm detachably mounted on said head for rocking movement therewith, a multiple line stencil imprinting means fixed on said arm, a platform having a platen thereon positionable adjacent said machine in confronting relation with said stencil imprinting means and adapted to receive and support tickets advanced thereover by said strip-ticket feeding means, a number imprinting device fixed on said platform in

overlying relation to said platen and in spaced relation from that portion thereof in alignment with said stencil means, said numbering device being plunger operated, and lug means on said arm in alignment with and operable to engage and actuate said plunger to effect printing of numbers upon one portion of said tickets concurrently with the printing of indicia thereon by said stencil means at another portion thereof.

2. In a cyclically operated printing machine of the class described, having synchronized rockable head and reciprocating strip-ticket feeding means, an arm detachably mounted on said head for rocking movement therewith, a multiple line stencil imprinting means fixed on said arm, a platform having a platen thereon positionable adjacent said machine in confronting relation with said stencil imprinting means and adapted to receive and support tickets advanced thereover by said strip-ticket feeding means, a number imprinting device fixed on said platform in overlying relation to said platen and in spaced relation from that portion thereof in alignment with said stencil means, said numbering device being plunger operated, lug means on said arm in alignment with and operable to engage and actuate said plunger to effect printing of numbers upon one portion of said tickets concurrently with the printing of indicia thereon by said stencil means at another portion thereof, and means associated with said lug means to permit its being moved out of alignment with said plunger at will thereby to render the numbering device inoperative.

3. In a machine of the class described, including a settable type printing means, means for successively and intermittently advancing and registering strip-tickets into printing position with respect to said type means, and a platen-carrying rock arm operable to press each ticket as it is registered in printing position into imprinting relation with said type means to effect printing of a single line of indicia on one side of each ticket, a support member removably attached to said rock arm for movement therewith, a stencil imprinting means supported on said member in spaced tandem relation from said platen on said rock arm, an auxiliary platen means stationarily supported in spaced, tandem relation from said type means and in arcuate alignment with said stencil imprinting means whereby during each stroke of said rock arm, multiple lines of indicia may be imprinted upon the other side of each ticket.

4. In a printing machine of the class described, including settable printing type means, strip-ticket feeding means, a platen-carrying head rockable to press the platen against the tickets and the latter into printing relation with said type means, motor driven means operable to actuate synchronously said feeding means and said head to effect single line printing consecutively upon one side of each ticket of a strip as the ticket is fed into printing position by said feeding means; an attachment comprising an arm detachably mounted on said head for movement therewith, multiple-line, stencil-imprinting means affixed on said arm and movable therewith in an arcuate path, a stationary platen located at a terminal of said path and adapted to receive and support the strip of printed tickets as the latter is advanced from said settable type printing means, whereby multiple line imprinting is effected upon the opposite side of said tickets as the stencil imprinting means consecu-

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tively engages each ticket of the strip and presses it against the stationary platen during each rocking movement of said head.

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