Feb. 28, 1967 H. E. SCHLOTTHAUER 3,306,807

TRANSFER APPLYING MACHINE

Filed April 18, 1966 4 Sheets-Sheet 1

Fig. 1

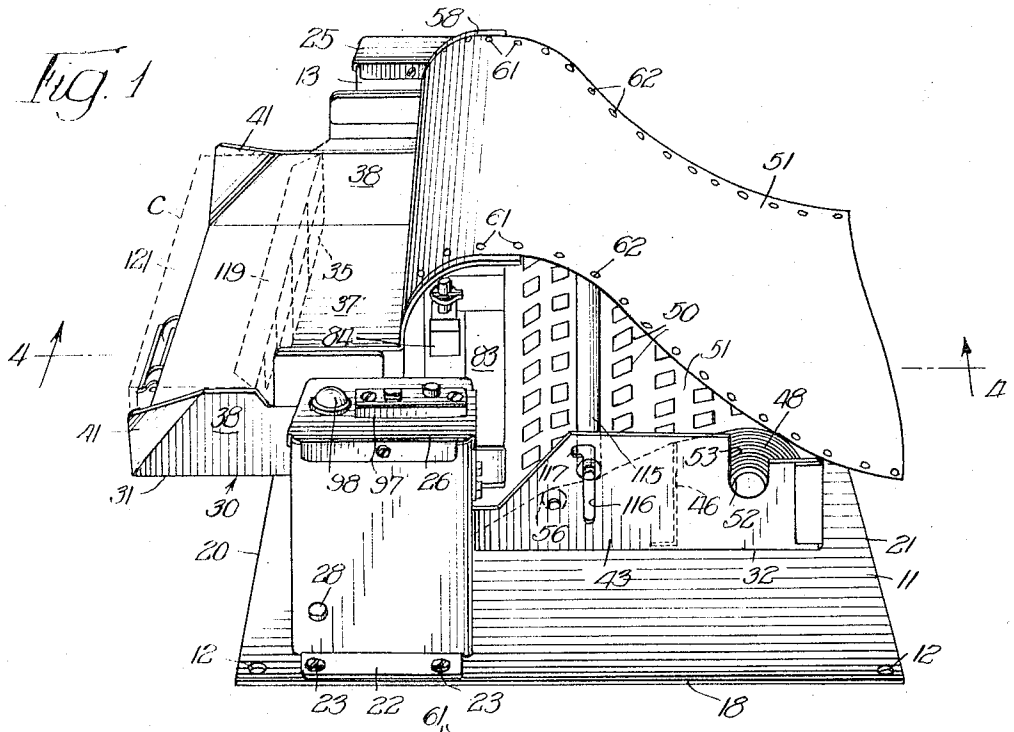


Fig. 4

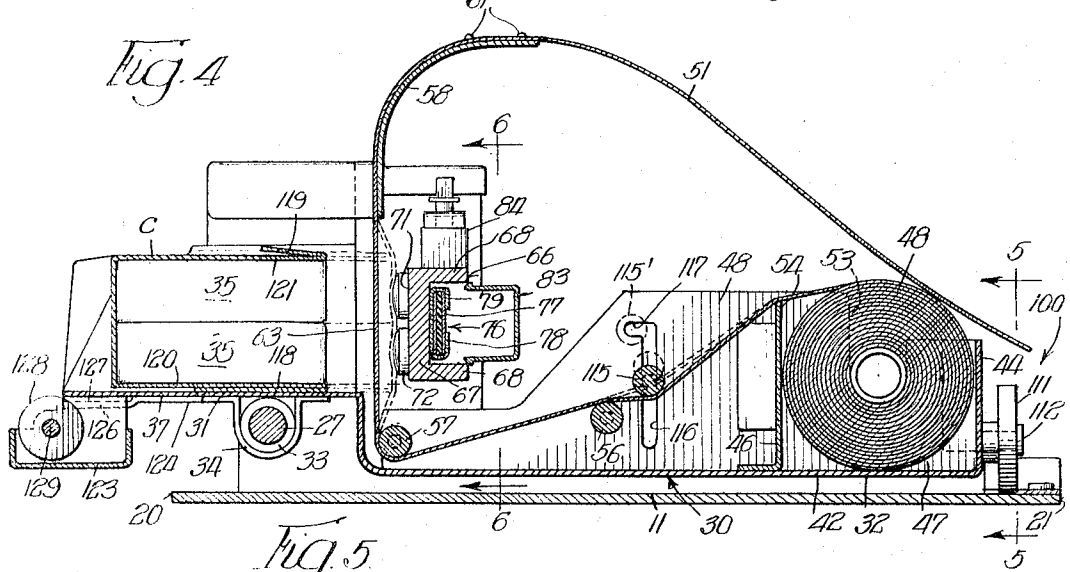
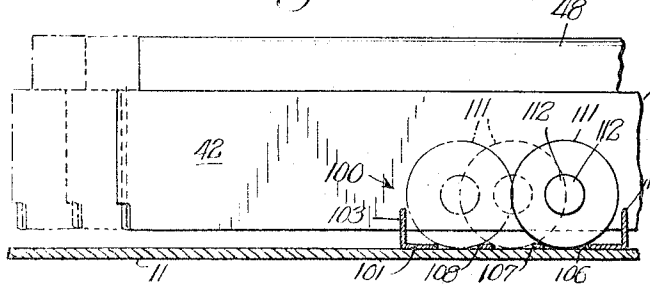


Fig. 5



INVENTOR.
Herman E. Schlotthauer,
BY
Hibben, Noyes & Bicknell
attys

Feb. 28, 1967 H. E. SCHLOTTHAUER 3,306,807

TRANSFER APPLYING MACHINE

Filed April 18, 1966 4 Sheets-Sheet 2

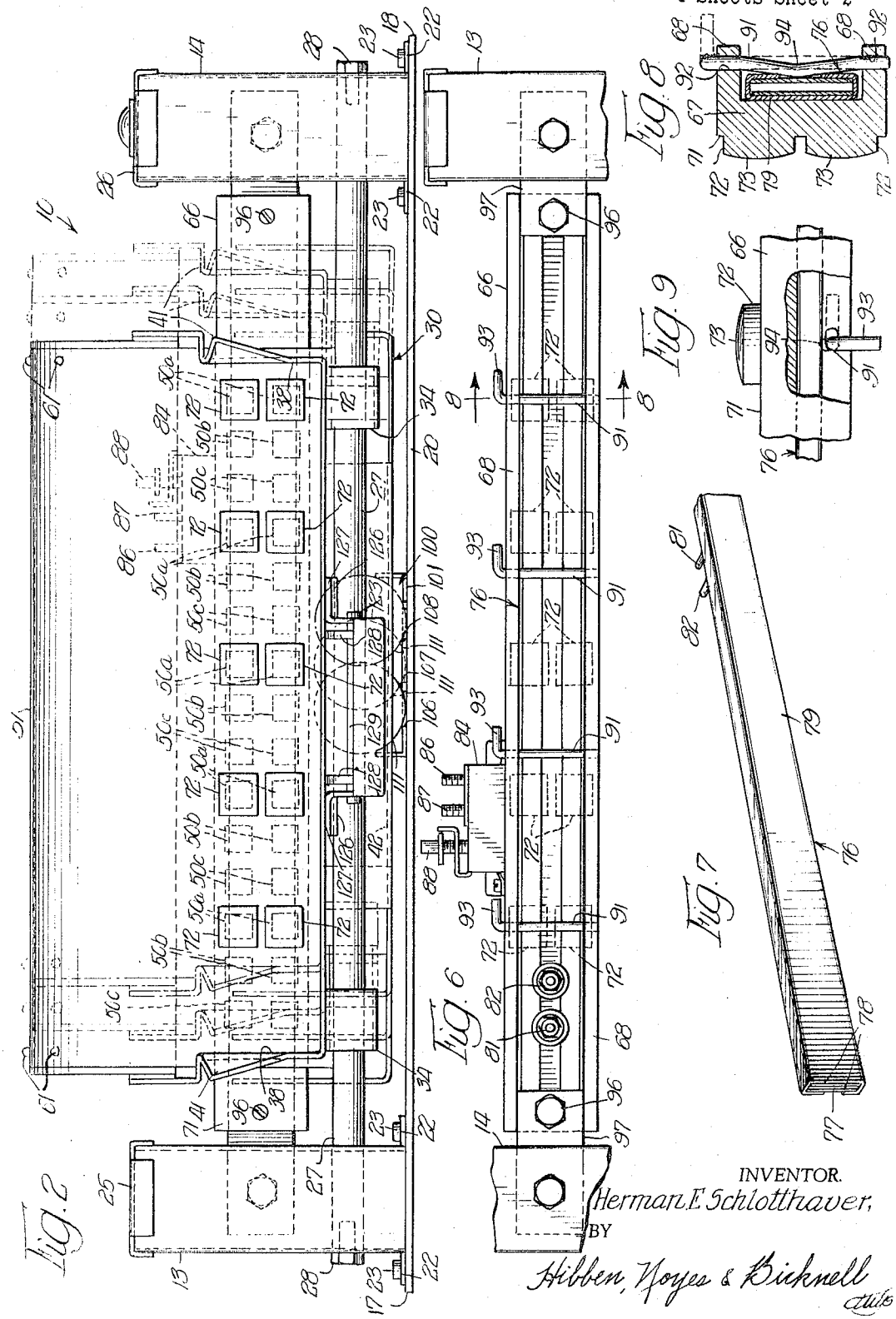


Fig. 2

Fig. 8

Fig. 9

Fig. 7

Fig. 6

INVENTOR.
Herman E. Schlotthauer,
BY
Hibben, Noyes & Bicknell
Attys

Feb. 28, 1967 H. E. SCHLOTTHAUER 3,306,807

TRANSFER APPLYING MACHINE

Filed April 18, 1966 4 Sheets-Sheet 3

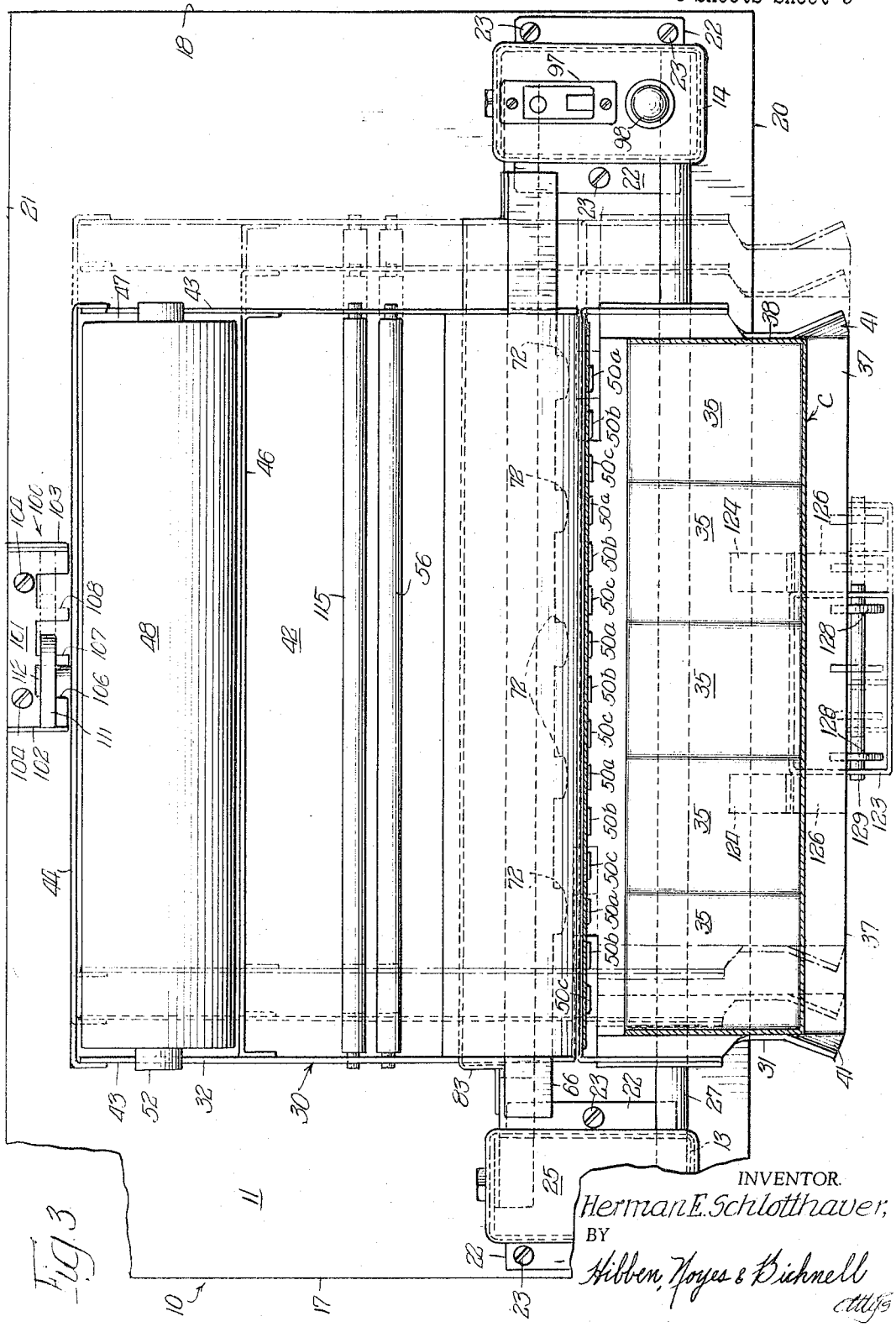


Fig 3

INVENTOR.
Herman E. Schlotthauer,
BY
Hibben, Noyes & Bicknell
Attys

Feb. 28, 1967 H. E. SCHLOTTHAUER 3,306,807

TRANSFER APPLYING MACHINE

Filed April 18, 1966 4 Sheets-Sheet 4

Fig. 10.

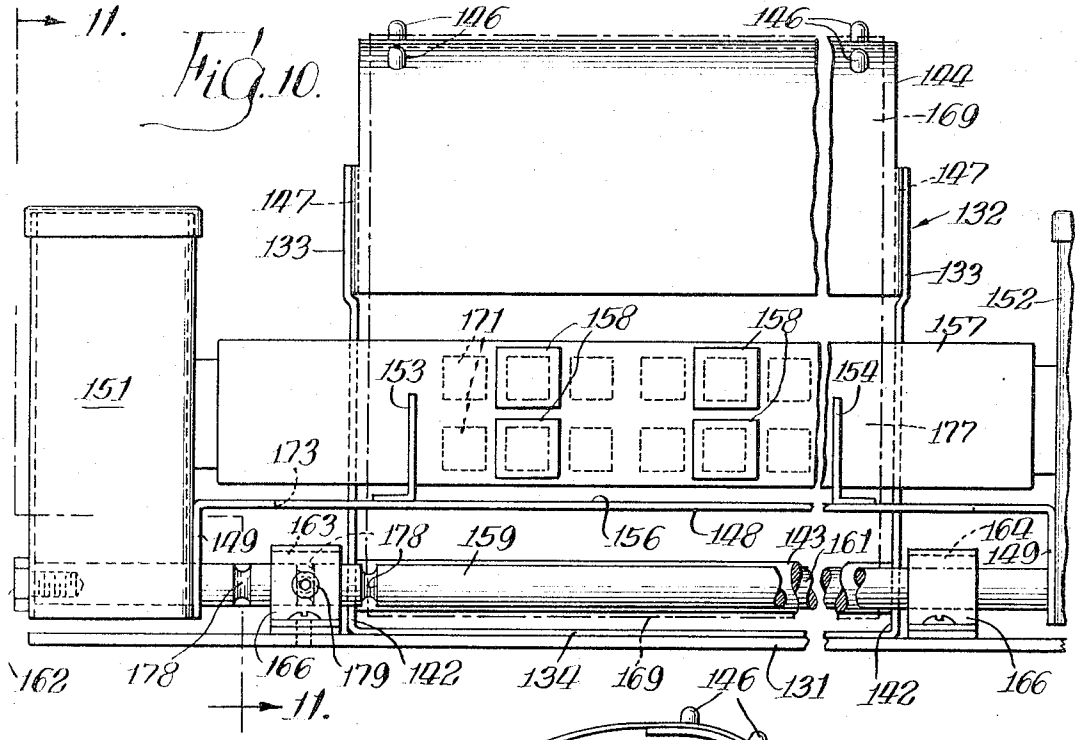
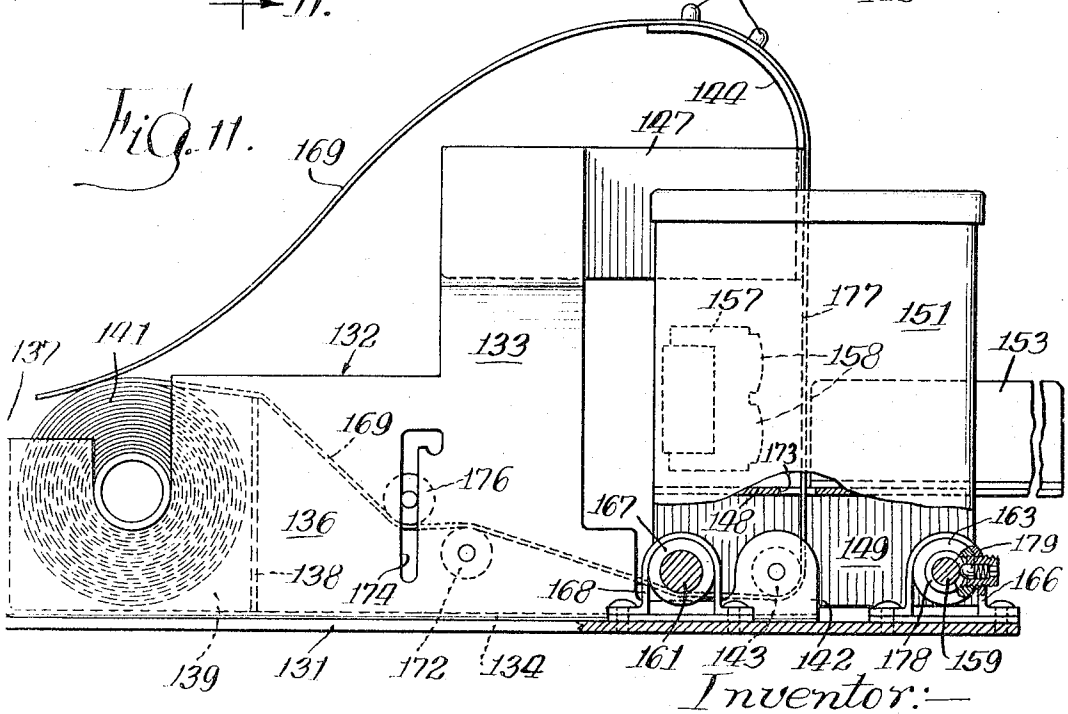


Fig. 11.



Inventor:—
Herman E. Schlotthauer,
By Hibben, Noyes & Bicknell
Attys.

United States Patent Office 3,306,807 Patented Feb. 28, 1967

3,306,807

TRANSFER APPLYING MACHINE

Herman E. Schlotthauer, Des Plaines, Ill., assignor to The Meyercord Co., Chicago, Ill., a corporation of Illinois

Filed Apr. 18, 1966, Ser. No. 549,111
20 Claims. (Cl. 156—541)

This application is a continuation-in-part of my copending application Serial No. 245,520, filed December 18, 1962.

This invention relates to a manually operated machine for applying indicia to a group of articles and more particularly relates to a manually operated stamping machine for simultaneously affixing heat release type decalcomania transfers to packages of cigarettes contained in a carton.

Various types of automatic stamping machines have been developed for applying revenue or tax stamps to cigarette packages in accordance with various state or municipal regulations. Such machines, while being satisfactory for use by large tobacco distributors, are not practical for the smaller distributor where a comparatively small volume of cigarettes is handled. This is due to the complexity and higher operational and service costs involved in the use of an automatic machine.

Accordingly, it is a general object of the present invention to provide a novel manually operated stamping machine for simultaneously applying a series of revenue indicia to packages of cigarettes in a carton, which is simple in construction and reliable in operation.

Another object of the invention is to provide a stamping machine of the foregoing character which is adapted to simultaneously transfer a series of revenue stamp type decalcomanias from a continuous web thereof to packages of cigarettes in a carton, wherein a shiftable carton support is combined with either a transfer means or with a web support for transferring another series of decalcomanias to another carton.

A further object of the invention is to provide a stamping machine of the foregoing character in which a shiftable carriage is provided for shifting a carton of cigarettes and the web of material having the rows of decalcomanias thereon, and in which novel means is provided for indexing the carriage with respect to the fixed transferring means in order to permit transferring of an additional set of decalcomanias to another carton of cigarettes.

Still another object of the invention is to provide in a stamping machine of the foregoing character a floating tension bar for maintaining the web of material upon which the decalcomanias are carried under tension to assure rapid separation of the web from the transferring means after the web has been deflected into engagement with the transferring means and released.

A further object of the invention is to provide a novel heater bar construction adapted for use in a stamping machine of the foregoing character, wherein a removable heating element is utilized in conjunction with a channel-shaped heater bar and novel means is provided for releasably securing the heating element to the bar.

Other objects and advantages will become apparent from the following detailed description and accompanying sheets of drawings, in which:

FIG. 1 is a perspective view of a manually operated stamping machine comprising a preferred embodiment of the present invention;

FIG. 2 is a front elevational view of the machine illustrated in FIG. 1 and illustrating in full and dotted lines the various operating positions of the shiftable carriage portion of the machine;

FIG. 3 is a top plan view of the machine;

FIG. 4 is a transverse sectional view taken substantially along the line 4—4 of FIG. 1;

FIG. 5 is a fragmentary rear elevational view of the machine, partially in section, taken along the line 5—5 of FIG. 4;

FIG. 6 is a fragmentary rear elevational view of the heater bar of the machine as seen substantially along the line 6—6 of FIG. 4, the rear cover of the bar being removed for clarity;

FIG. 7 is a perspective view of the removable heater element employed in the heater bar illustrated in FIG. 6;

FIG. 8 is a somewhat enlarged sectional view of the heater bar and heating element as taken along the line 8—8 of FIG. 6;

FIG. 9 is a top plan view of the structure shown in FIG. 8;

FIG. 10 is a fragmentary front elevational view of another embodiment of the invention; and

FIG. 11 is a side elevational view of the structure shown in FIG. 10 with portions in section, as seen along the line 11—11 of FIG. 10.

Briefly described, the present invention involves a manually operated machine for simultaneously affixing a set of indicia arranged in rows on a web of material to a group of articles arranged in side-by-side relation in a container. The various features of the present invention will be described in conjunction with a stamping machine for simultaneously applying a set of heat release type decalcomanias having revenue indicia or the like thereon to the exposed ends of packages of cigarettes in an opened carton thereof.

Because of the fact that the foregoing type of revenue stamps are usually supplied in rolls with the stamps arranged in transverse rows of fifteen stamps per row, the present machine further contemplates the provision of a novel shiftable carriage which serves to support the roll of stamps and the opened carton of cigarettes for lateral shifting movement with respect to a fixed transferring means, in this instance a heater bar. Alternatively, the shiftable carriage may support the cigarette carton and the transferring means for lateral movement relative to a fixed support for the stamp roll.

Inasmuch as the usual cigarette carton contains ten packages of cigarettes arranged in two side-by-side groups of five packages each, the present stamping machine further contemplates the provision of novel indexing means for laterally positioning the carriage in three predetermined positions to permit the stamping of three cartons of cigarettes from two full rows of stamps before it is necessary to shift the web to bring two new rows of stamps into transfer position. Such indexing means, in the preferred embodiment, comprises a fixed slotted plate mounted at the rear of the machine and a roller mounted on the carriage and movable into engagement with each slot on lateral shifting of the carriage for indexing the latter with respect to the fixed heater bar which extends transversely of the carriage. In another embodiment, the indexing means comprises a grooved slide rod on the carriage which cooperates with a detent in a stationary bearing.

A novel heater construction is also employed in the present stamping machine, such heater including an elongated heater element that is removably held in nested relation at the rear of a channel-shaped heater bar and between the flanges and adjacent the web thereof. A plurality of locking pins extend between the flanges of the heater bar, and offset cam portions are provided on the pins which are movable into engagement with the heater element upon rotation of the pins for releasably securing the heater element to the heater bar.

Because of the fact that the revenue stamps or decalcomanias are carried on a web which is formed into a

roll, the present machine further contemplates the provision of a novel floating tension bar which rests on the web carrying the stamps and maintains the web tensioned to assure a snap release of the web from the heater bar after a set of stamps have been applied to a carton.

In FIGS. 1–9 a stamping machine **10**, comprising a preferred embodiment of the present invention, is illustrated. The machine **10** comprises a base or plate **11** having counter-sunk openings **12** at the corners thereof for receiving bolts or screws which rigidly secure the machine **10** to a table or other work surface.

Mounted on the plate **11** are support means in the form of a pair of laterally spaced upstanding posts **13** and **14** (FIGS. 1 and 2). The posts **13** and **14** are mounted on the plate **11** at the left and right side edges thereof, indicated at **17** and **18**, respectively, as viewed in FIGS. 2 and 3, and somewhat rearwardly of the forward edge, indicated at **20**, of the plate **11**. The rear edge of the base plate **11** is indicated at **21**. In the present instance, the posts or standards **13** and **14** are formed from sheet metal bent into rectangular-shaped housings. A pair of outwardly extending flanges **22** are provided at the lower ends of each post for receiving sheet metal screws **23**, or the like, which secure the posts to the upper surface of the plate **11**. The upper ends of the housings **13** and **14** are closed by sheet metal covers **25** and **26**, respectively.

Extending laterally between the posts **13** and **14** is a cylindrical support bar **27** (FIGS. 2 and 3). The support bar **27** is secured at its ends to the posts **13** and **14**, as by fasteners **28** (FIG. 2) which extend through openings in the outer side walls of the posts and into threaded openings in the ends of the bar **27**.

Mounted on the bar **27** is a carriage **30** which includes a front or trough portion **31** and a connected rear or tray portion **32**. The carriage **30** is slidably connected to the bar **27**, in this instance, by means of a pair of laterally spaced tubular bearings **33** (FIG. 4) which are secured to the underside of the trough portion **31** by means of U-shaped brackets **34**.

The trough portion **31** is adapted to receive and retain a series of articles arranged in a group in side-by-side relation, in this instance a carton of cigarettes C containing the usual ten packages of cigarettes, each indicated at **35**. To this end, the trough **31** includes a bottom wall **37** and upstanding laterally spaced side walls **38** which serve as locating abutments for a carton of cigarettes placed on the trough portion **31**. In order to facilitate insertion of a previously opened carton of cigarettes C in the trough **31**, the front edges, indicated at **41**, of the side walls **38** may be bent outwardly.

The rear or tray portion **32** of the carriage **30** includes a bottom wall **42** (FIGS. 3 and 4), upstanding longitudinally extending side walls **43**, an upstanding laterally extending end wall **44**, and an intermediate upstanding laterally extending wall **46** spaced forwardly from the wall **44**. The side walls **43**, end wall **44** and intermediate wall **46** together define a compartment or bin **47** (FIG. 4) for receiving a roll, indicated at **48**, of stamps or decalcomanias **50**, which are releasably carried on a web of material **51**, such as wax coated paper.

As previously mentioned, the indicia or stamps **50** are of the heat release type, and, in this instance, are releasable from the paper web **51** by a coating of heat softenable wax interposed between the paper and the stamps. The stamps **50** are arranged on the web **51** in longitudinal and laterally spaced rows, there being fifteen equidistantly spaced stamps in each lateral row. The design portion of each stamp **50** is imprinted with appropriate revenue indicia, and each stamp is covered with an outermost thermoplastic adhesive which causes the stamp to adhere to a cigarette package when the stamp is pressed against the package and heated. The manner in which heat is applied to the paper web **51** will be described more fully hereinafter.

Each roll of stamps **48** is mounted on a central tubular member **52**, the ends of which terminate in the plane of the side edges of the roll **48** and inwardly of the side walls **43**. The roll **48** thus rests on and frictionally engages the bottom wall **42** of the bin **47**. The roll also frictionally engages the intermediate wall **46** when the roll is being unwound. Vertical slots **53** (FIGS. 1 and 4) are provided in the side walls **43** to facilitate removal of the tubular member **52** when the latter is empty.

As will be apparent from FIGS. 1 and 4, when a roll of stamps **48** is mounted in the compartment **47**, the free end of the web extends forwardly and generally horizontally over the upper edge, indicated at **54** (FIG. 4), of the intermediate wall **46** and thence extends generally horizontally over a first laterally extending guide roll **56** (FIGS. 3 and 4) which is rotatably mounted at its ends in the side walls **43**. In order to facilitate free passage of the web over the edge **54**, the latter may be covered with an anti-friction material, such as Teflon or the like.

After passing over the roll **56**, the web **51** thereafter extends under a second lateral guide roll **57** at a point somewhat rearwardly and below the bottom wall **37** of the trough portion **31** (FIG. 4). Upon passing around the second guide roll **57**, the web **51** extends vertically upwardly and thence passes over a web-engaging means including a guide in the form of an arcuate rearwardly extending shield or baffle **58** (FIGS. 1 and 4) which is rigidly secured to the side walls **38** of the trough **31**. The shield **58** is provided with at least two pairs of upraised pegs or studs **61** at opposite sides of the shield which are adapted to project into perforations or openings **62** in the lateral side edges of the web **51**. The shield **58** thus serves to maintain a portion, indicated at **63** (FIG. 4), of the web **51** in a vertical plane, as it extends upwardly from the guide roll **57**.

As previously mentioned, the stamps **50** are of the heat-release type and thus the machine **10** includes transferring means in the form of a laterally extending heater bar **66** (FIG. 4) as a source of heat for softening the wax layer on the web **51**. The heater bar **66** also serves to activate the thermoplastic layer which covers the stamps to effect adherence of the latter to the exposed ends of the cigarette packages **35** when pressed into engagement therewith.

As best seen in FIGS. 6–9, inclusive, in conjunction with FIG. 4, the heater bar **66** is secured at its ends to the posts **13** and **14** so as to extend laterally of the carriage **30** and in a vertically aligned position with the packages of cigarettes **35** in a carton C and somewhat rearwardly of the vertically extending portion **63** of the web **51**.

According to the present invention, the heater bar **66** preferably comprises an elongated extruded aluminum channel arranged with its base or web **67** disposed in a vertical plane and its flanges **68** extending horizontally rearwardly toward the tray portion **32** in the manner illustrated in FIG. 4. The front face, indicated at **71**, of the channel **66** is provided with a plurality of forwardly extending rectangular shaped projecting portions or pads **72**. In the present instance, ten pads **72** are provided and arranged in two tiers of five laterally spaced pads each. The horizontal and vertical spacing of the pads **72** is substantially the same as that of the arrangement of the packages of cigarettes **35** in a carton C. Thus, all ten packages of cigarettes may be simultaneously stamped in one operation of the machine. In order to assure better adherence of the stamps, the forward or outer surface, indicated at **73** (FIG. 9) of each pad **72** may be formed or milled to a slight convex or outwardly bulged configuration.

The heater bar **66** includes a removable heating element **76** which is adapted to be removed from the channel portion of the heater bar **66** for purposes of inspection or replacement. Thus, as seen in FIGS. 4 and 6–9, inclusive, the removable heater element **76** comprises a strip of electrically resistive material **77** (FIGS. 4 and 7) sandwiched

between layers of insulating material **78**, such as mica, asbestos, or the like. The heating material **77** and insulation **78** are enclosed in a sheet metal channel **79** which maintains the parts in assembled relation.

The width and thickness of the heating element **76** is such that the latter will nest between the flanges **68** of the heater bar **66** in the manner illustrated in FIGS. 4, 6 and 8, so that a portion of the legs **68** extend beyond the outer or rear surface of the element **76**. A pair of terminals **81** and **82** are connected internally to the ends of the resistance material **77** to permit the application of current to the element for heating the bar **66**. The open or rear side of the channel **66** may be closed by an elongated housing **83** (FIGS. 1 and 4).

A suitable thermostatic switch **84** having a pair of terminal posts **86** and **87** and an adjustment shaft **88** may be mounted on the top surface of the heater bar **66** for controlling the period of energization of the heating element **76** and thus the operating temperature of the bar **66**.

In order to permit removal of the element **76**, the heater bar **66** is provided with means for removably retaining the element **76** in nested relation in the channel. Such means in the present instance comprises a plurality of rotatable pins **91** which extend transversely of the channel **66** and through aligned vertical openings **92** (FIG. 8) in the flanges **68**. Each pin **91** includes a bent or handle portion **93** at its upper end to facilitate manipulation of the pin and a centrally bent or offset portion **94** (FIGS. 8 and 9). Manipulation of the handle portion **93** and rotation of the pins **91** thus causes the offset portions **94** to cam the element **76** into engagement with the inner surface of the web **67**, thereby assuring good heat conductance between the element **76** and the bar **66**.

With the foregoing construction, installation or removal of the heater element **76** is readily accomplished by first demounting the heater bar **66** from the supports **13** and **14**. This initially requires removal of a pair of screws **96** (FIG. 6) which secure the housing **83** to the rear of the heater bar **66** and the latter to a pair of laterally extending straps **97** affixed to the posts **13** and **14**. After the bar **66** has been demounted from the machine, the heater element **76** may be readily separated from the bar **66** by manipulating the handle portions **93** of the pins **91** in a direction to rotate the cam portions **94** away from the adjacent surface of the element **76**. The unlocked position of a pin **91** is illustrated in full lines in FIG. 9 and in dotted lines in FIG. 8. Its locked position is illustrated in dotted lines in FIG. 9 and in full lines in FIG. 8. With all of the pins **91** in their unlocked position, the element **76** may be readily shifted endwise out of the channel **66** and replaced with a new element if necessary. Installation of the heater bar **66** with the heating element **76** in place is achieved by a reversal of the above steps.

As previously mentioned, control of the operating temperature of the element **76** and consequently of the heating bar **66** is achieved by the thermostatic switch **84**. Such adjustment is achieved by rotating the shaft **88** in an appropriate direction which in turn controls the length of the periods during which the heater element **76** is energized. Electrically, the switch **84** is placed in series with the heater element **76** by connections (not shown) between the respective terminals **86–87** and **81–82**. In addition, the switch **84** is in circuit with a circuit breaker (not shown) mounted in the post **14** and a main control switch **97** (FIG. 1) mounted on the cover **26** of the post **14**. An indicator light **98** (FIG. 1) is mounted on the cover **26** to visually indicate that the main control switch **97** is closed.

Because of the fact that there are five heating pads **72** in each lateral tier and that the stamps **50** are supplied in a roll arranged with fifteen stamps in each row, the number of stamps **50** thus being a small multiple of the number of heating pads **72**, three cartons of cigarettes containing ten packages **35** may be stamped from two complete rows of stamps **50** before it is necessary to shift the web **51**. To this end, novel indexing means, indicated generally at **100**, is provided for accurately indexing the carriage **30** and consequently the web of stamps **51** carried thereby with respect to the heater pads **72**. As best seen in FIGS. 2–5, inclusive, the indexing means **100** comprises a flattened channel-shaped bracket having a plate-like web portion **101** and upstanding end walls **102** and **103**. The plate portion **101** is secured as by screws **104** to the base plate **11** at a point immediately rearward of the tray portion **32**, and three equidistantly laterally spaced recesses or slots **106**, **107** and **108**, reading from left to right in FIGS. 2 and 3, are formed in the plate portion **101**.

Cooperating with the slots **106–108**, is a roller **111** which is rotatably mounted on a shaft **112** secured to the rear end wall **44** of the carriage **30** overlying the channel plate portion **101**. The roller **111** has a diameter such as to extend into the slots **106**, **107**, or **108** for simultaneously contacting the exposed upper surface of the base plate **11** and the adjacent edges of one of the slots to thereby laterally index the carriage **30** with respect to the pads **72**. As best seen in FIGS. 2 and 3, the plate portion **101** is mounted on the base plate **11** so that when the roller **111** is seated, for example, in the slot **106**, the pads **72** will be in alignment with one set of stamps **50***a* on the vertical portion **63** of the web **51**. Thus, inward movement of a carton of cigarettes from the full line position thereof illustrated in FIG. 4 to the dotted line position will cause the exposed ends of the cigarette packages **35** to initially engage the vertically extending portion **63** of the web to thus deflect the latter into engagement with the pads **72** to effect a transfer of the set of stamps **50***a* to the exposed ends of the cigarette packages **35**. Upon withdrawal of the carton C from the portion **63** of the web, the operator laterally shifts the carriage **30** toward the right, as viewed in FIGS. 2 and 3, to cause the roller **111** to seat in the next adjacent slot **107**. With the roller **111** seated in the slot **107**, the next adjacent set of stamps, indicated at **50***b*, will be in alignment with the pads **72** in readiness to be affixed to another carton of cigarettes upon inward movement of the carton on the trough portion **31**. The carriage **30** may, of course, be shifed laterally after a carton of cigarettes has been placed on the trough portion **31**. Because the carton-supporting trough portion **31** is a unitary part of the laterally shiftable carriage **30**, the operator can effect both lateral shifting of the carriage **30** and movement of a cigarette carton against the web and heater bar in substantially a single hand movement. Thus, following placement of a carton in the trough portion **31**, the operator by exerting hand pressure on the carton in a lateral or sidewise direction causes lateral movement of the carriage **30** to the desired position and immediately thereafter by exerting rearward hand pressure on the carton the operator engages the carton with the web and heater bar.

After the second carton has been stamped and removed from the trough portion **31**, the carriage **30** is again shifted to cause the roller **111** to seat in the last slot **108**. When so positioned, the next adjacent set of stamps, indicated at **50***c*, will be in alignment with the pads **72** in readiness for affixation to another carton of cigarettes.

After the third and last set of stamps **50***c* have been affixed to a carton of cigarettes, no stamps will be left on the two rows and it is then necessary for the operator to shift the web to bring two new rows of stamps into alignment with the pads **72** in order to permit the stamping of three more cartons. Thus, the web **51** is disengaged from the pegs **61** and advanced to bring the next two rows of stamps into alignment with the pads **72**. The web is retained in such position by causing the pegs **61** to project through the next set of perforations **62** at the side edges of the web.

With the foregoing construction, it will be apparent

that it is desirable to maintain the web **51** under tension, and particularly the vertically extending portion **63**, in order to assure alignment of the stamps **50** with the pads **72**. It is also desirable to effect a positive release or withdrawal of the web from the hot pads **72** upon the completion of a stamping operation and removal of the stamped carton of cigarettes. Thus, according to the present invention, the machine **10** includes means for tensioning the web **51** and particularly the vertical portion **63**, in the form of a laterally extending floating tension bar **115** (FIGS. 1, 3 and 4). The floating tension bar **115** is mounted at its ends in vertically extending slots **116** in the side walls **43** of the tray portion **32** so that the bar **115** rides on top of the generally horizontal portion of the web **51** just rearwardly of the guide roll **56** in the manner illustrated in FIGS. 1 and 4. Because the upper end of the vertical portion **63** is retained by the pegs **61**, and because the roll **48** is not freely rotatable due to the frictional engagement between the roll **48** and the bottom and intermediate walls **42** and **46**, respectively, the weight of the tension bar **115** will maintain the portion **63** under tension. Thus, upon withdrawal of a stamped carton of cigarettes, the bar **115** provides the aforementioned aligning and snap release action of the web from the heater pads **72**.

When a roll of stamps has been used up and it is necessary to install another roll in the compartment **47**, the floating tension bar **115** is shifted upwardly in the slots **116** and then forwardly into offset horizontal slot portions **117** (FIGS. 1 and 4) where the bar is retained in a position out of contact with the web **51**. Such position of the bar is indicated in dotted lines at **115'** in FIG. 4. After a new roll of stamps has been mounted in the compartment **47** and the free end of the web threaded around the rolls **56** and **57**, the tension bar **115** is shifted rearwardly in the offset slot portions **117** and permitted to rest on top of the web to tension the latter.

Prior to each stamping operation, each carton of cigarettes C is opened to expose the ends of the packages of cigarettes **35**. This may be done manually or by means of one of the commercially available types of carton opening devices. Once opened, the longer and shorter width flaps, indicated at **118** and **119** (FIG. 4), respectively, of a carton are folded back into engagement with the lower and upper sides, indicated at **120** and **121**, respectively, of the carton with the longer flap **118** engaging the bottom wall **37** of the trough **31**.

After the carton has been stamped, it is desirable to reseal the carton before shipment to retail outlets. Accordingly, the trough portion **31** of the carriage **30** includes means for regluing the previously separated carton flaps **118** and **119**. Such means in the present instance comprises a glue pot in the form of a shallow tray or dish **123** carried on the underside of the bottom wall **37** and spaced somewhat forwardly thereof. The glue pot **123** is removably mounted on the bottom wall **37** of the trough portion **31** by means of a pair of laterally spaced longitudinally extending arms **124** (FIGS. 3 and 4) which are secured to the undersurface of the bottom wall **37** as by spot welding or riveting. The arms **124** include downwardly offset portions **126** which are adapted to receive and support laterally outwardly extending flanges **127** formed from the material of the side walls of the glue pot **123**. The glue pot **123** is thus detachably carried immediately below and somewhat forwardly of the edge of the bottom wall **37**.

Application of glue to the inner surface of the flap **118** upon withdrawal of a stamped carton of cigarettes is achieved by a pair of spaced rollers **128** which are secured to a laterally extending shaft **129**. The shaft **129** is rotatably mounted at its ends in the side walls of the glue pot housing **123** and the rollers **128** have a diameter somewhat less than the spacing between the lower surface of the bottom wall **37** and the bottom of the glue pot **123** so the upper peripheries of the rollers **128** are substantially tangent to the plane of the upper surface of the bottom wall **37**. Thus, upon withdrawal of a stamped carton C, the flap **118** will engage the rollers **128** which rotate to apply two strips of glue to the flap. Thereafter the flap **118** may be folded over the flap **119** to reseal the carton. The glue pot **123** may be readily removed from the carriage **30** for purposes of cleaning or refilling by shifting the glue pot forwardly until the flanges **127** become disengaged from the arms **126**.

FIGS. 10 and 11 illustrate another embodiment of the invention which differs from the embodiment of FIGS. 1–9 in that the shiftable carriage combines the cigarette carton support with the heater bar (rather than with the web support) and the support for the stamp roll and web is stationary (rather than the heater bar). Otherwise, the structure is the same in principle, and the same relative lateral movement between the heating pads and the tax stamps is provided as in the first-described embodiment.

Referring to FIGS. 10 and 11, the machine has a base **131** having secured thereto in fixed relation a stationary support **132** for the tax stamp roll and web. The support **132** has a generally U-shaped configuration and comprises a pair of spaced upright sides **133** interconnected by a bottom portion **134** which is attached to the base **131**. The sides **133** have rearwardly extending side wall portions **136** interconnected by an end wall **137** and an intermediate wall **138** so as to define a compartment **139** for receiving a tax stamp roll **141** in the same manner as in the embodiment of FIGS. 1–9. The sides **133** also have forwardly extending portions **142** for journaling a web guide roller **143**. A curved guide or baffle **144** having pegs **146** is mounted in fixed relation on the support **132** by means of a pair of integral rearwardly bent brackets or strap portions **147** secured to the upper ends of the sides **133**.

The shiftable carriage of the machine comprises a laterally extending plate **148** having downturned end flange portions **149**, the latter being rigidly secured to a pair of housings or enclosures **151** and **152** which are similar to the housings **13** and **14** of the FIGS. 1–9 embodiment except that they are not secured to the base **131**. A pair of end wall elements **153** and **154** are rigidly affixed in laterally spaced relation on the plate **148** and project forwardly beyond the housings **151–152** to define a carton-receiving trough **156**. A heater bar **157** having a plurality of projecting heating pads **158** is mounted between the housings **151–152** rearwardly of the trough **156** and below the guide **144**, the heater bar having the same general structure as heretofore described in connection with FIGS. 1–9.

For shiftably supporting the carriage, the enclosures **151** and **152** are rigidly interconnected at their lower ends by a pair of forward and rear cylindrical slide bars **159** and **161**, respectively. The bars **159** and **161** extend into the housings **151** and **152** and are secured thereto by end screws **162**. The slide bar **159** is slidably supported in a pair of tubular bearings **163** and **164** which are mounted in fixed relation on the base **131** by means of a pair of inverted U-shaped brackets or yokes **166**. The slide bar **161** is likewise slidably supported in a pair of bearings **167** secured to the base **131** by brackets **168**. Thus, the carriage assembly, including the trough **156**, the heater bar **157**, the enclosures **151** and **152**, and the slide bars **159** and **161**, is laterally movable as a unit relative to the base **131** and the support **132** carried thereon.

The web, designated in broken lines at **169** with the tax stamps **171** thereon, extends from the supply roll **141** over the upper edge of the wall **138**, across a guide roll **172** journaled between the side wall portions **136**, under the bar **161** and the guide roller **143**, upwardly through an elongated slot **173** in the plate **148**, and thence rearwardly over the curved baffle **144**. The side wall por-

tions **136** are provided with slots **174** for accommodating a floating tension bar **176** which rests on top of the web **169**, thereby tensioning the latter in the same manner as in the first-described embodiment of the invention. The vertically extending web portion, designated at **177**, is thus disposed in spaced relation forwardly of the heating pads **158** for engagement and deflection by a carton of cigarettes inserted in the trough **156**, in the same general manner previously described. The carriage is shifted laterally to effect selective positioning of the carton and the heater bar **157** relative to the web **169**, and indexing of the carriage in the three selected positions is accomplished, in this instance, by providing three spaced circumferential grooves **178** in the slide bar **159** and a spring-pressed detent **179** in the bearing **163** for engagement with the grooves **178**. Thus, the carriage is releasably retained in the desired positions by coaction between the detent **179** and the grooves **178** but is readily movable by hand from one position to another.

The general manner of operation of the embodiment of FIGS. 10 and 11 will be understood from the previous description.

Although the invention has been described with reference to certain specific embodiments thereof, it will be understood that various modifications and equivalent structures may be resorted to without departing from the scope of the invention as defined in the appended claims.

I claim:

1. A manually operable machine for simultaneously applying a group of heat releasable indicia to a plurality of side-by-side articles from an elongated web having said indicia arranged on one side thereof in transverse rows, said machine comprising elongated transfer means including a plurality of discrete aligned heating areas, the number of indicia in a row being a small multiple of the number of said heating areas, web support means for mounting a web supply roll and positioning a deflectable portion of the web across said transfer means with the opposite side of the web facing said heating areas, and a carriage mounted for manual shifting movement to different indicia-applying positions longtudinally of said transfer means, said carriage including an article support adapted to hold articles in position to be moved manually along said support into engagement with said deflectable web portion at said one side of said web for deflecting the web against said heating areas and thereby effecting heat release application of selected indicia from the web to the articles, and one of said transfer means and said web support means being mounted on said carriage for unitary movement with said article support relative to the other of said means whereby to effect alignment of different groups of indicia with said heating areas in the different positions of said carriage.

2. The machine of claim **1** further characterized by the provision of a base, said transfer means being mounted in fixed relation on said base, and said carriage being shiftably mounted on said base and including said web support means.

3. The machine of claim **2** further characterized in that said transfer means comprises an elongated heater and said heating areas comprise a plurality of forwardly projecting heat-applying pads, said article support extending forwardly from said carriage at one side of said heater, said web support means including a web supply portion extending rearwardly from said carriage at the opposite side of said heater and adapted to contain a supply roll of said web, and said web support means also including web-engaging means for positioning a vertical length of said web across said heater at said one side thereof.

4. The machine of claim **3** further characterized in that said pads have aligned outer heating surfaces disposed substantially vertically, said article support having a horizontal article-supporting surface extending outwardly from said heating surfaces, and said web-engaging means positoning said vertical length of said web between said article-supporting surface and said heating surfaces in slightly spaced relation from the latter, whereby articles disposed on said horizontal article-supporting surface are adapted to be moved manually therealong into engagement with said length of web for deflecting the latter against said heating surfaces.

5. The machine of claim **1** further characterized by the provision of a base having said other means mounted thereon in fixed relation with said carriage being shiftably mounted thereon and indexing means coacting between said carriage and said base for releasably retaining said carraige in said indicia-applying positions.

6. The machine of claim **3** further characterized in that said article support comprises a forwardly extending trough portion and said web supply portion comprises a rearwardly extending tray portion, and indexing means is provided coacting between said base and said tray portion for releasably retaining said carriage in said indicia-applying positions.

7. The machine of claim **3** further characterized by the provision of indexing means comprising means on said base defining a plurality of laterally spaced recesses and a roller mounted on said carriage for movement into said recesses, said roller being successively disposable in each of said recesses to index said carriage in said indicia-applying positions.

8. The machine of claim **1** further characterized in that said web support means comprises a web supply portion spaced from said transfer means and adapted to contain a supply roll of said web, a first guide roll disposed between said web supply portion and said transfer means, a second guide roll generally underlying said transfer means, and web guide means disposed in spaced relation above said second guide roll, said web extending forwardly from said supply roll over said first guide roll, under said second guide roll, and thence vertically upwardly across said transfer means in spaced relation therefrom to a position engaging said web guide means.

9. The machine of claim **8** further characterized in that said web guide means comprises a shield extending over said transfer means, said shield having upstanding pegs adjacent the edges thereof, said pegs being adapted to extend through spaced perforations in the margins of said web for retaining the latter on said shield.

10. The machine of claim **1** further characterized in that said web support means normally positions said deflectable portion of the web in spaced relation from said transfer means, and said web support means includes tensioning means for applying tension to said deflectable portion of the web whereby, after deflection of the web against said heating areas, said web is automatically retracted from said heating areas.

11. The machine of claim **10** further characterized in that said tensioning means comprises a floating tension bar loosely monnted on said web support means and normally engaging a portion of said web for yieldably tensioning the latter.

12. The machine of claim **1** further characterized in that said web support means includes means for supporting a portion of said web extending generally horizontally from said supply roll beneath said transfer means and thence vertically upwardly across said transfer means, web guide and retaining means disposed above said transfer means for releasably retaining the upper end of said web, and web tensioning means comprising a transverse tension bar extending across and adapted to overlie and engage said generally horizontally extending portion of said web, said web support means having slot means loosely receiving the ends of said tension bar whereby the weight of said tension bar is imposed on the web for tensioning the latter between said supply roll and said web guide and retaining means.

13. The machine of claim **3** further characterized by the provision of a pair of spaced upright standards on said base, said heater extending between and being supported

by said standards, a support bar extending between said standards forwardly of said heater and having said carriage slidably supported thereon, and roller means mounted on said carriage and rollably engaging said base.

14. The machine of claim 1 further characterized in that said transfer means comprises a heater bar, a removable heater element operatively associated with said heater bar and engageable with said heater bar for heating the latter upon the application of current to said element, and manually releasable retaining means cooperable between said heater bar and said heater element for pressing the latter into contact with said heater bar.

15. The machine of claim 14 further characterized in that said heater bar is channel-shaped in cross section, and said heater element is nested within said channel to facilitate heat conduction from said element to said bar.

16. The machine of claim 15 further characterized in that said heater element has a thickness less than the internal length of the flanges of said channel-shaped heater bar, and said releasable retaining means comprises at least one pin means extending across said channel between the flanges thereof and engaging said heater element to hold the latter nested in said bar.

17. The machine of claim 16 further characterized in that a plurality of said pin means are rotatably mounted in said flanges along the length of said bar, each of said pin means being provided with a cam portion movable into engagement with said heater element upon rotation

of the pin means, said heater element being removable from said heater bar by longitudinal shifting of the heater element relative to said bar.

18. The machine of claim 1 further characterized by the provision of a base, said web support means being mounted in fixed relation on said base, and said carriage being shiftably mounted on said base and including said transfer means.

19. The machine of claim 18 further characterized in that said carriage comprises a pair of spaced upright members, elongated slide bar means rigidly interconnecting said members, and bearing means mounted on said base and slidably supporting said slide bar means, said transfer means comprising an elongated heater bar extending between and secured to said members, and said article support also extending between and being secured to said members.

20. The machine of claim 19 further characterized by the provision of indexing means comprising groove means in said slide bar means and detent means in said bearing means cooperable with said groove means for releasably retaining said carriage in said indicia-applying positions.

No references cited.

ALEXANDER WYMAN, *Primary Examiner.*

W. A. POWELL, *Assistant Examiner.*