Oct. 22, 1968 R. L. LE GAULT 3,406,628

WEB FEED CONTROL MEANS IN MULTIPLE NUMBERING AND IMPRINTING PRESS

Filed Sept. 20, 1966 6 Sheets-Sheet 1

Fig. 1

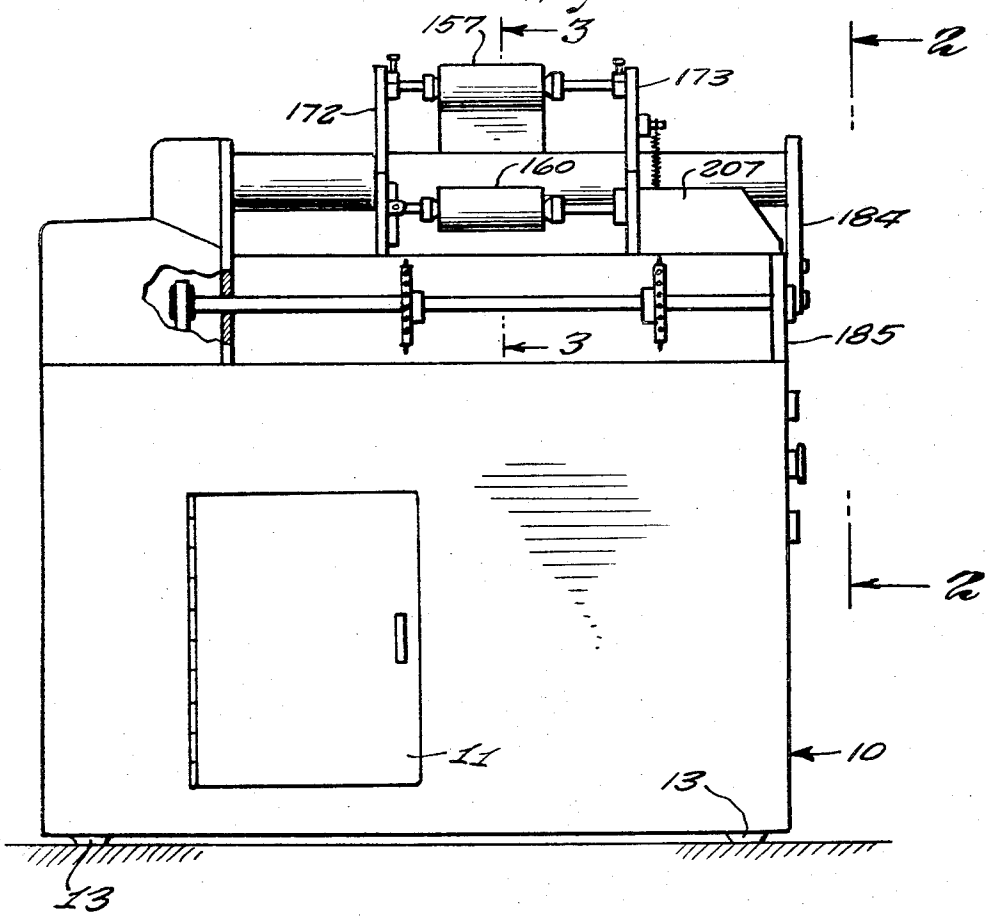
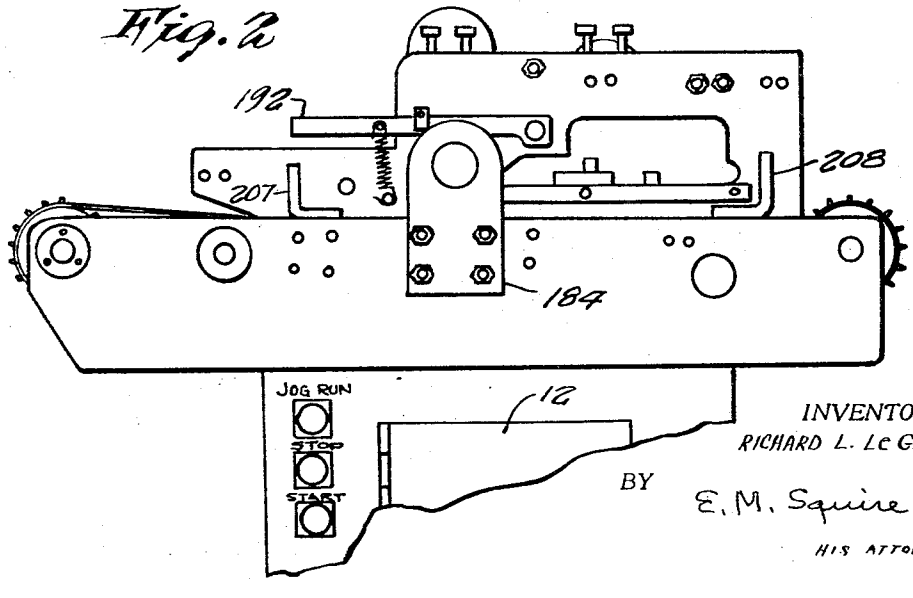


Fig. 2



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WEB FEED CONTROL MEANS IN MULTIPLE NUMBERING AND IMPRINTING PRESS

Filed Sept. 20, 1966 6 Sheets-Sheet 2

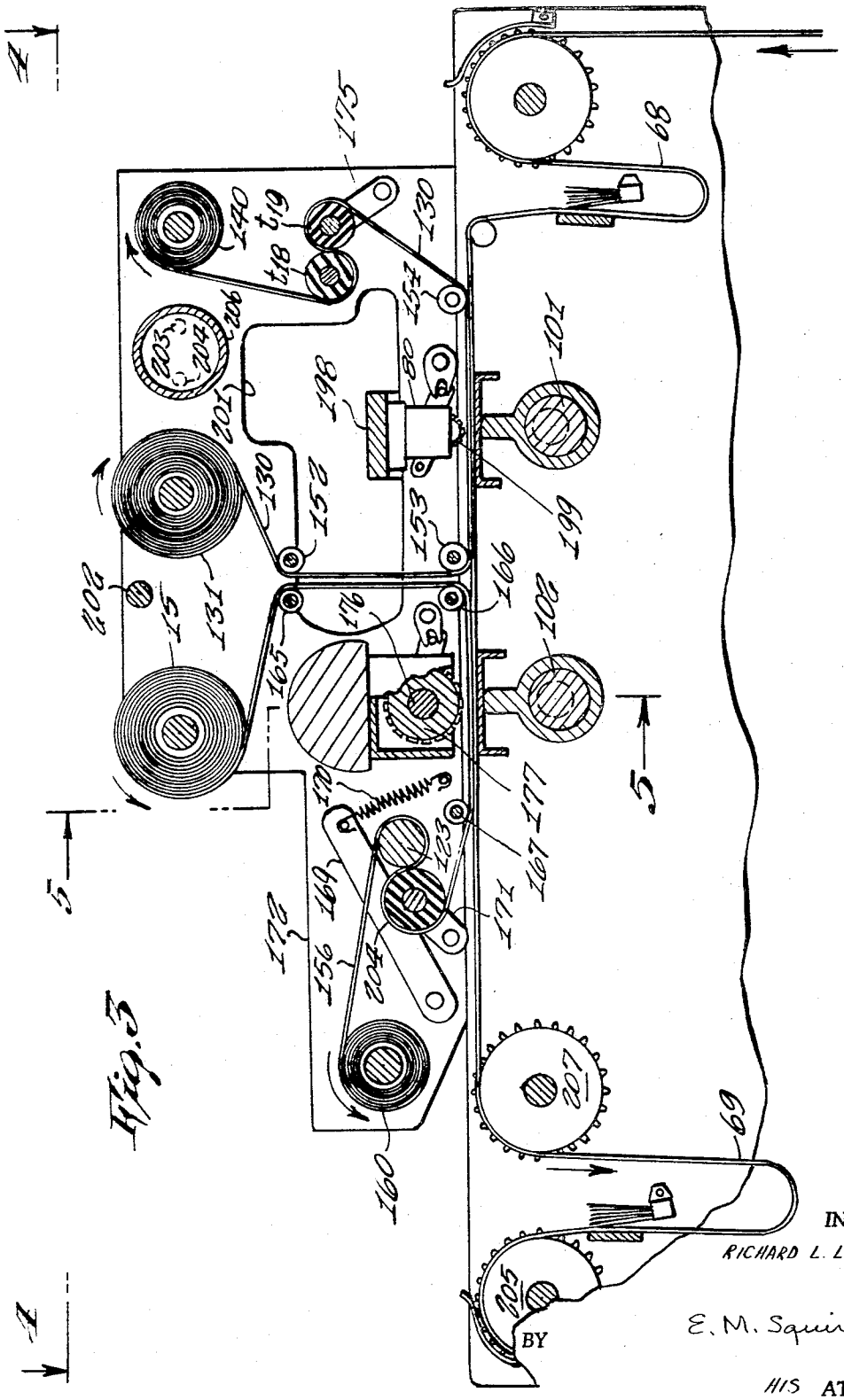

Fig. 5

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WEB FEED CONTROL MEANS IN MULTIPLE NUMBERING AND IMPRINTING PRESS

Filed Sept. 20, 1966 6 Sheets-Sheet 3

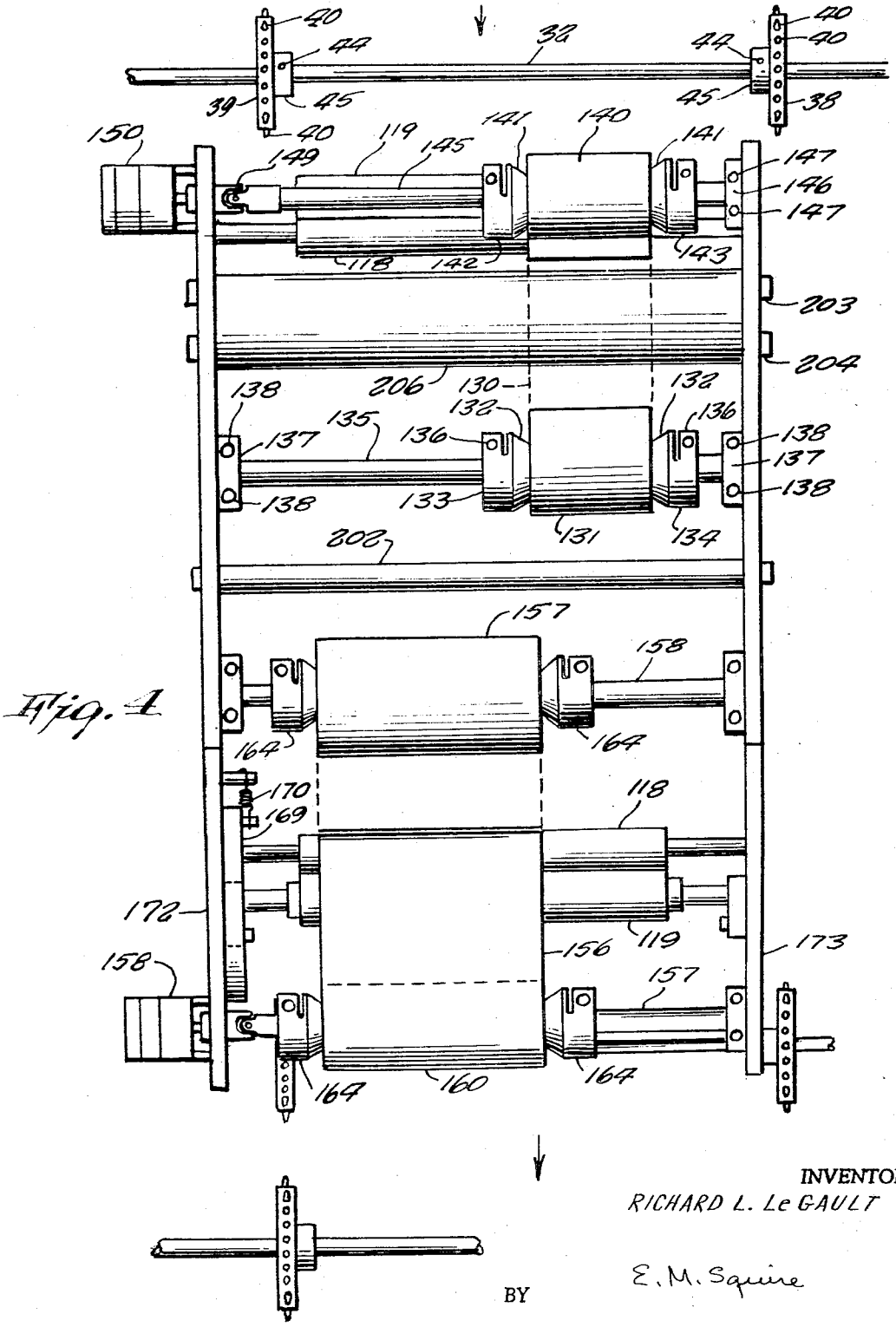

Fig. 1

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WEB FEED CONTROL MEANS IN MULTIPLE NUMBERING AND IMPRINTING PRESS

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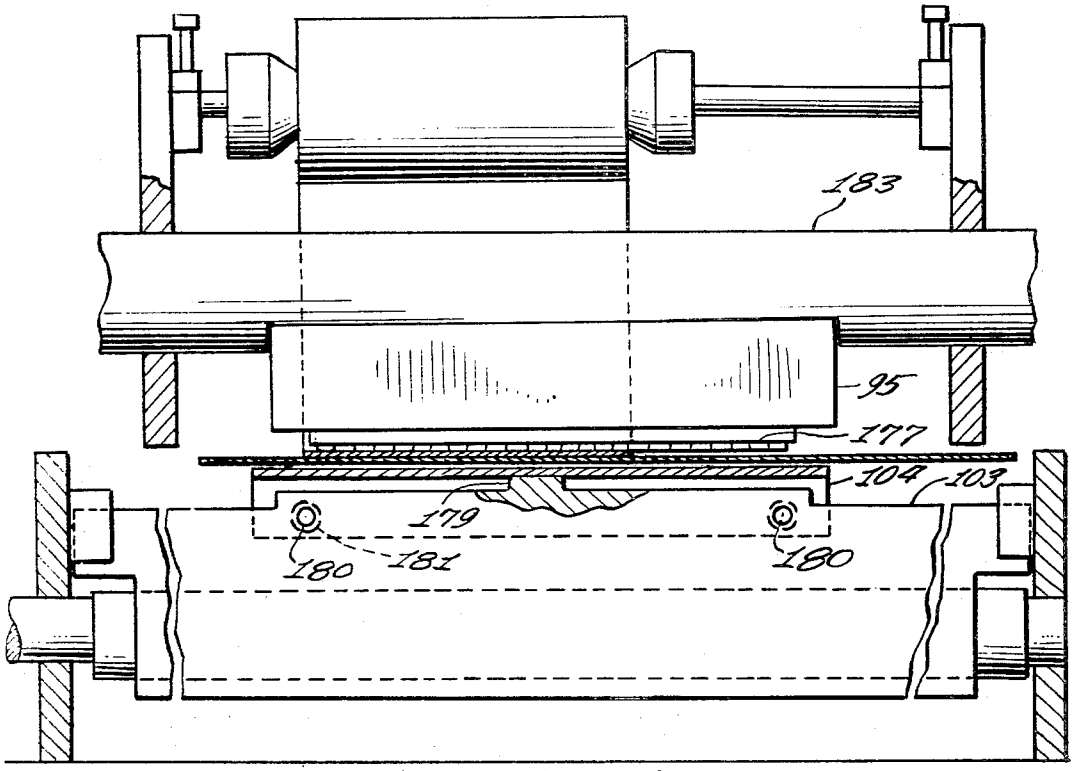

Fig. 5

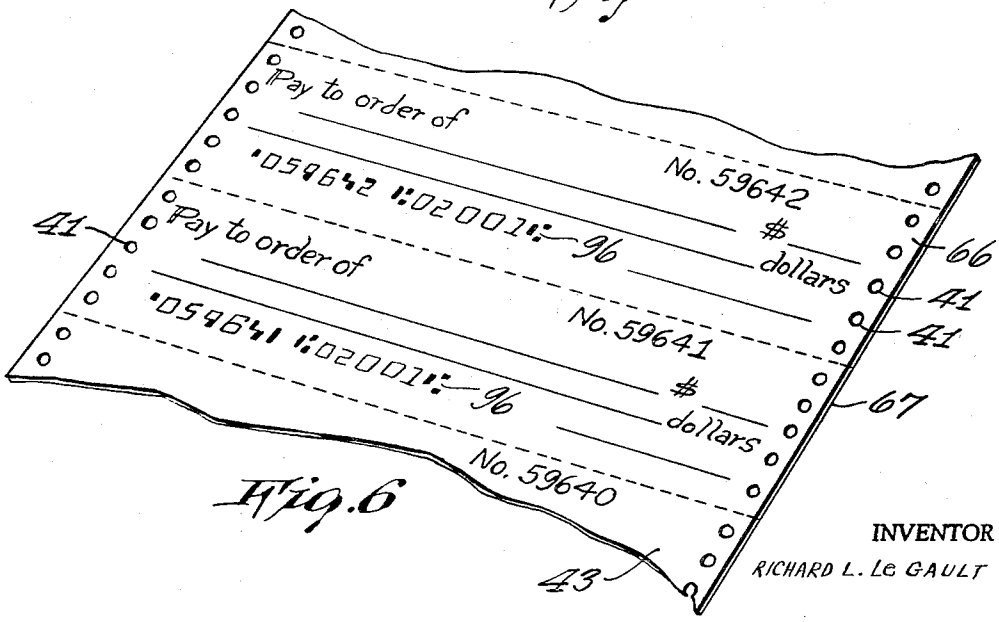

Fig. 6

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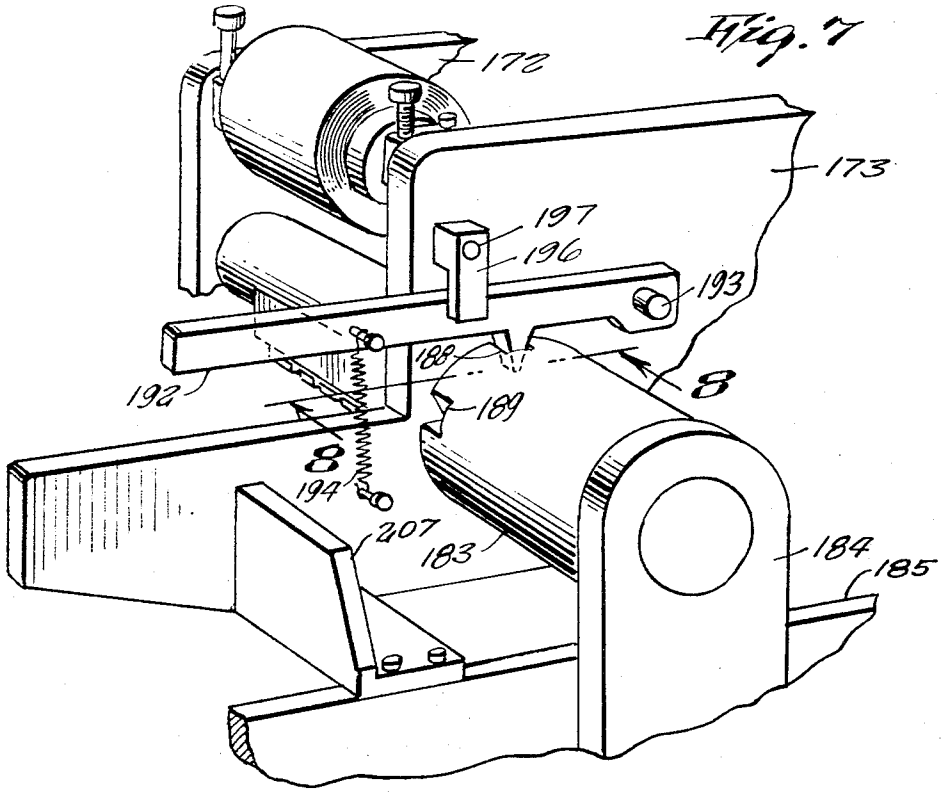
Fig. 7



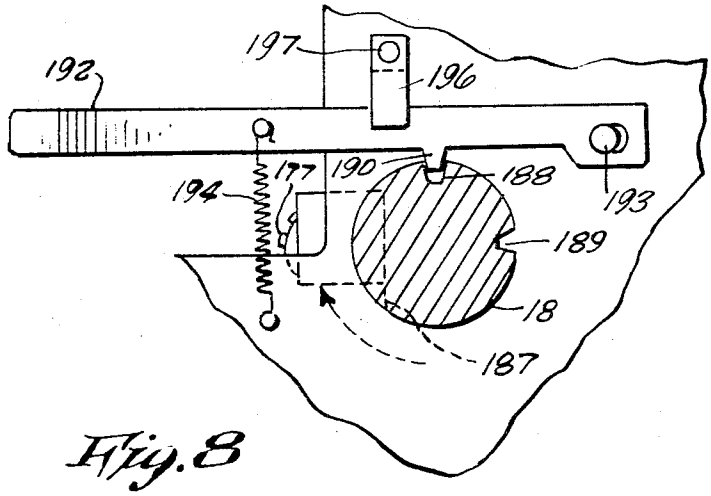


Fig. 8

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WEB FEED CONTROL MEANS IN MULTIPLE NUMBERING AND IMPRINTING PRESS

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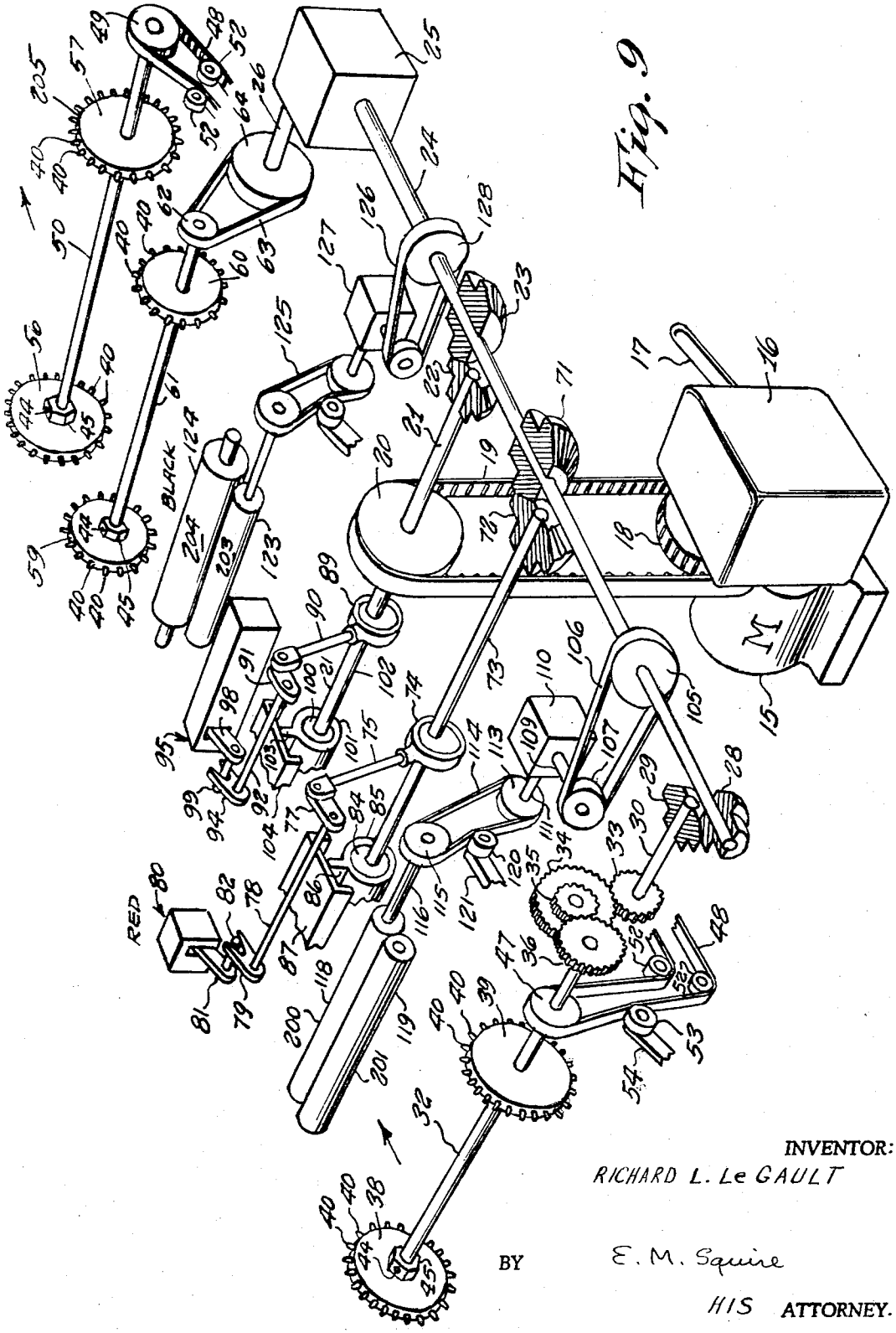

Fig. 9

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United States Patent Office 3,406,628
Patented Oct. 22, 1968

3,406,628

WEB FEED CONTROL MEANS IN MULTIPLE NUMBERING AND IMPRINTING PRESS

Richard L. Le Gault, Brooklyn, N.Y., assignor to Heller Roberts Instruments Corporation, Brooklyn, N.Y., a corporation of New York

Filed Sept. 20, 1966, Ser. No. 580,781
7 Claims. (Cl. 101—288)

ABSTRACT OF THE DISCLOSURE

A machine for imprinting preprinted bank checks in marginally perforated roll form. Each preprinted check is individually imprinted with a serial number in ordinary ink and with the same serial number in magnetic ink. The magnetic ink impression includes, in addition to the individual serial number, certain numbers such as bank clearing house identification numbers and customer account number information which ordinarily appears on all checks. The magnetic ink information is used in sorting apparatus which handles checks in the course of payment. The roll of preprinted checks is fed through the machine at constant velocity by input and output sprockets which engage in the marginal perforations, thereby synchronizing the strip velocity for correct registration with the preprinted portions of each check. Two free loops are formed in the strip of checks, one loop being adjacent to the input sprockets and the other loop being adjacent to the output sprockets. Immediately upstream of the loop which is adjacent to the output sprockets, there is a cyclically operative variable speed indexing device which drives intermittently acting advancing sprockets which also engage the marginal perforations. The average linear speed which the indexing device imparts to the strip is the same as the constant speed imparted by the input and output sprockets. Numbering heads of the imprinting type are located between the input sprockets and the cyclically operative advancing sprockets. The numbers imprinted by the numbering heads are advanced in unison with the indexing device so that imprinting action takes place when the speed imparted to the strip is at a minimum. Because there is a dwell or rest period when the strip velocity is substantially zero, the imprinting action is arranged to take place at this portion of the cycle. The imprinting intervals of the two heads are staggered to minimize the peak load on the drive mechanism produced by the imprinting action. When the strip advances, the only load which is accelerated by the advancing sprockets is the length of strip which is located in the imprinting section of the machine and a portion of the free loop adjacent to the input sprockets.

A deformable pressure member is provided for equalizing the printing pressure against the long row of numbering wheels used for the magnetic ink impressions. The necessarily large number of printing wheels mounted on a single supporting shaft involves flexure of the shaft intermediate its supported ends. The reduction in printing pressure at the middle of the row of printing wheels, which would otherwise be caused by this flexure, is compensated by corresponding flexure of the pressure member.

Specification

The present invention relates to printing apparatus and more particularly to a machine for simultaneously applying identifying serial numbers located at various positions to a series of checks or similar documents.

The machine utilizes a continuous strip of check forms or other similar forms with perforated edges whereby registry is accurately maintained between the appropriate spaces of the preprinted forms and the serial numbers.

In the case of check forms, the serial number is imprinted in magnetic ink near the bottom edge of each check. Advantageously, the magnetic ink impression includes information which remains the same for each check, such as clearing house numbers identifying the bank on which the check is drawn together with an account number identifying the depositor and the account to which the check is to be charged.

The machine comprises a plurality of numbering heads which are advanced effectively in unison between successive printing operations. One of the printing heads imprints the serial number in large conventional characters, usually in red ink. The other numbering head imprints the serial number together with an array of additional characters in magnetic ink using a special standardized logotype for reading by conventional check sorting machines. The serial number may additionally be imprinted in ordinary ink on a detachable stub forming a part of the check form, or elsewhere on the form, as desired.

The input of the machine takes in the strip of forms at constant speed and the output mechanism withdraws the serially numbered forms intermittently in such a manner that a comparatively short length of the strip is advanced rapidly through a predetermined distance during an idle interval between successive imprinting operations. During this idle interval, the numbering heads are advanced to prepare them for the imprinting of the next serial number.

A feature of the invention resides in the provision of means for the application of the printing pressure at the middle of the set of numbering wheels through a slightly arcuate resilient pressure member whereby the accompanying flexure of the supporting shaft for the imprinting wheels is compensated with respect to the relatively rigidly supported end wheels and a uniform impression is obtained.

The invention is described in greater detail in the following specification with reference to the accompanying drawing forming a part hereof.

Referring to the drawing:

FIGURE 1 is an elevational view looking at the output end of a machine embodying the invention.

FIGURE 2 is a fragmentary side elevational view looking in the direction of the arrows **2—2** of FIG. 1.

FIGURE 3 is a sectional side elevational view taken along the line **3—3** of FIG. 1, looking in the direction of the arrows.

FIGURE 4 is a plan view looking in the direction of the arrows **4—4** in FIG. 3.

FIGURE 5 is a transverse sectional view taken along the line **5—5** of FIG. 3 looking in the direction of the arrows.

FIGURE 6 is a fragmentary perspective view showing a plurality of checks after imprinting the serial numbers.

FIGURE 7 is an enlarged fragmentary perspective view showing the mechanism for raising the magnetic ink imprinting head out of operative position to permit manual setting of the imprinting wheels.

FIGURE 8 is a sectional view taken along the line **8—8** of FIG. 7 looking in the direction of the arrows.

FIGURE 9 is a diagrammatic perspective view illustrating the drive mechanism.

Referring to FIG. 1, the machine comprises a base cabinet designated generally as **10** having a hinged access door **11** at the output end and a side access door **12** (FIG. 2). A supporting framework (not shown) is enclosed within the cabinet **10** and is provided with floor-engaging feet **13**.

As shown in FIG. 9, the machine is provided with an electric motor **15** connected through a continuously vari-

able ratio speed reducer **16** to drive a pulley **18**. The speed ratio is adjustable by means of a central lever **17**. Alternatively, motor **15** may be a variable speed motor equipped with a suitable manually adjustable speed control. The pulley **18** is connected by a belt **19** to drive a main pulley **20** fast on a transverse shaft **21**. The transverse shaft **21** is connected by a pair of continuously meshing bevel gears **22, 23** to drive a longitudinal shaft **24**. At one end, the longitudinal shaft **24** drives an intermittent drive or indexing mechanism **25** of conventional type. The output shaft **26** of the intermittent drive **25** rotates during about 50% of the time and is effectively stationary during the remaining 50% of the time, this ratio being adjustable by appropriate means (not shown). A suitable intermittent drive is disclosed in U.S. Patent No. 2,986,949, issued on June 6, 1961, to E. W. Lancaster and H. H. Evans.

The other end of longitudinal shaft **24** is connected by a pair of continuously meshing bevel gears **28, 29** to drive a short transverse shaft **30**. The shaft **30** continuously drives an input shaft **32** through a set of change-speed gears **33, 34, 35, 36**. A pair of input sprocket wheels **38, 39** is axially adjustably splined on the input shaft **32**. The sprocket wheels **38, 39** are provided with blunt cylindrical teeth **40** which are circumferentially spaced for registration with uniformly spaced marginal perforations **41** (FIG. 6) along the edges of a strip of preprinted checks **43**. The axial spacing of the sprocket wheels **38** and **39** is adjusted to conform to the lateral spacing between the two rows of perforations **41**. The axial spacing may be adjusted by loosening set screws **44** in hubs **45** of the sprocket wheels **38** and **39**.

A toothed pulley **47** fast on the input shaft **32** is connected by an endless nonslipping, drive-chain type belt **48** to a similar pulley **49** which is fast on a continuously rotating output shaft **50** at the output end of the machine. Between pulleys **47** and **49**, the belt **48** passes over guiding idler pulleys **52**, belt tension being maintained by an idler pulley **53** mounted on a spring-pressed arm **54**. Continuously rotating output sprocket wheels **56** and **57** are splined on shaft **50** and the axial spacing therebetween may be adjusted by loosening set screws **44** in hubs **55** as described above. The input and output shafts **32** and **50** rotate continuously at identical speeds and the number of teeth **40** is the same in all four sprocket wheels **38, 39, 56** and **57** so that the linear input speed of the strip **43** is precisely the same as its output speed. A constant predetermined length of the strip **43** is thus continuously maintained between the input sprocket wheels **38, 39** and the output sprocket wheels **56, 57**. Obviously, input and output sprocket wheels **38, 39** and **56, 57** may have different numbers of teeth if the speeds of input and output shafts **32** and **50** are such as to provide the same linear speed for the strip of checks **43** at both sets of sprocket wheels.

Before reaching the output sprocket wheels **56, 57**, the strip **43** passes over a pair of intermittently operating intermediate sprocket wheels **59** and **60** axially adjustably splined on an intermittently operating transverse shaft **61**. A pulley **62**, fast on the shaft **61**, is connected by a belt **63** to a pulley **64** fast on the output shaft **26** of the indexing mechanism **25**. As previously noted, the output shaft **26** is stationary during about 50% of the time so that the intermediate sprocket wheels **59** and **60** are likewise stationary during this interval. The average speed of the intermediate sprocket wheels **59** and **60**, however, is identical with the speed of the continuously operating sprocket wheels **38, 39** and **56, 57** previously described. Between successive rest intervals, the intermittently operating sprocket wheels **59, 60** advance the strip **43** through a distance which is precisely equal to the center spacing between adjacent check forms **66** and **67** (FIG. 6) of strip **43**. The strip **43** is festooned to form an input loop **68** (FIG. 3) as it leaves the input sprocket wheels **38, 39** and an output loop **69** as it enters the output sprocket wheels **56, 57**. Intermediate the loops **68, 69** the strip **43** may be freely advanced by the intermittently operating sprocket wheels **59, 60** during each interval between successive imprinting operations.

The longitudinal shaft **24** is connected through continuously meshing bevel gears **71, 72** to drive a transverse shaft **73**. Shaft **73** carries an eccentric **74** which is connected by a connecting rod **75** to impart an oscillatory movement to a crank arm **77** fast on one end of an oscillatory shaft **78**. At its other end, the shaft **78** carries a bifurcated actuating lever **79**. A numbering head designated generally as **80** is arranged to print the serial number in distinctively colored nonmagnetic ink which, for purposes of illustration, will be assumed to be red. The red ink numbering head **80** includes a lever **81** for advancing the serial number to be printed. The lever **81** carries a laterally projecting pin **82** which is received in the bifurcated free end of actuating lever **79**. Thus, for each revolution of transverse shaft **73**, the serial number to be imprinted by the numbering head **80** is changed by one unit, either upwardly or downwardly depending upon the direction of counting of the numbering wheels.

The transverse shaft **73** also carries an elongated eccentric cylindrical cam member **84** which is freely rotatably ensleeved within a tubular cam follower **85**. The tubular cam follower member **85** reciprocates a vertically movable pressure member **86**. Pressure member **86**, in turn, reciprocates an imprinting pressure member **87** of channel-shaped cross-sectional configuration. The imprinting pressure member **87** operates cyclically to press the strip **43** upwardly causing engagement of its upper surface with an inked printing strip, later to be described, which is backed by the numbering wheels of the numbering head **80** as described in greater detail below.

Similarly, the transverse shaft **21** carries an eccentric **89** which is connected by a connecting rod **90** to impart a cyclic oscillatory movement to a crank arm **91** fast on one end of an oscillatory shaft **92**. At its other end, the oscillatory shaft **92** carries a bifurcated actuating lever **94**. A further numbering head designated generally as **95** is arranged to print a serial number correlated to that printed by the numbering head **80**. Numbering head **95**, however, additionally imprints information which remains the same from check to check and which ordinarily includes the clearing house identification number of the drawee bank and usually the account number on which the check is drawn. The additional information is hand set as described below. The imprint formed by the numbering head **95** utilizes magnetic ink and a special standardized logotype as indicated at **96** in FIG. 6.

The numbering head **95** includes a lever **98** for advancing the serial number to be imprinted. The lever **98** carries a laterally projecting pin **99** which is received in the bifurcated free end of the actuating lever **94**. The transverse shaft **21** also carries an elongated eccentric cylindrical cam member **100** which is freely rotatably ensleeved within a tubular cam follower member **101**. The tubular cam follower member **101** reciprocates a vertically movable pressure member **103**. Pressure member **103** reciprocates an imprinting pressure member **104** of channel-shaped cross-sectional configuration similar to member **87** described above.

Longitudinal shaft **24** carries a pulley **105** which is connected by a belt **106** to drive a pulley **107**. The pulley **107** is mounted on the input shaft **109** of a gear box **110** which permits speed ratio adjustment between its input shaft **109** and its output shaft **111**. The output shaft **111** carries a pulley **113** which is connected by a belt **114** to drive a pulley **115** fast on a transverse shaft **116**. A feed roller **118** on shaft **116** cooperates with a spring pressed idler roller **117** to supply inked printing strip, later to be described, to the printing wheels of the numbering head **80**. Tension in belt **114** is maintained by an idler pulley **120** carried by a spring loaded arm **121**.

The printing strip for the numbering head **95** is similarly supplied by means including feed rollers **123, 124,**

belts 125 and 126, gearbox 127 and pulley 128 fast on longitudinal shaft 24.

Printing strip 130 for the numbering head 80, prior to use, is in the form of a supply roll 131 (FIG. 4). The supply roll 131 is carried between frusto-conical surfaces 132 of axially adjustable supporting collars 133 and 134 mounted on a frictionally braked transverse shaft 135.

Each of the supporting collars 133 and 134 includes a slotted end portion which is compressed by a screw 136 to grip the shaft 135. When the screw 136 is loosened, its associated collar 133 or 134 is freely movable along the shaft 135. The ends of the shaft 135 are supported in bearings which include downwardly pressed friction plates 137 which engage the end portions of the upper surface of the shaft 135. The pressure applied to the shaft 135 by friction plates 137 may be regulated by adjustment screws 138. The shaft 135 may be freed for replacement of the supply roll 131 by removal of the screws 138 and friction plates 137.

The spent printing strip 130 is taken up in the form of a used roll 140 supported between the frusto-conical surfaces 141 of axially adjustable supporting collars 142 and 143 similar to the collars 133 and 134, described above. The collars 142 and 143 are mounted on a takeup shaft 145. One end of the takeup shaft 145 is freely revolvably supported in a bearing which includes a retaining plate 146 held by screws 147 which are suitably shouldered or otherwise arranged to prevent the retaining plate 146 from operating as a friction plate. The other end of the takeup shaft 145 is connected through a universal joint 149 to a torque motor 150.

The torque motor 150 is of conventional construction and yieldingly supplies a continuous torque to the takeup shaft 145 for winding up the spent printing strip 130 on the roll of used strip 140.

The continuous torque supplied by the torque motor 150 is sufficient for winding up the spent ribbon member or printing strip 130 but is sufficiently low to permit momentary stoppage of the winding up action during the application of printing pressure by the numbering head 80. The inked ribbon member or printing strip 130 may thus be firmly pressed against the preprinted strip 41 of checks without smudging during progressive engagement, maximum pressure application, or progressive release. Additionally, there is a certain amount of inherent elasticity in the length of printing strip 130 between the used roll 140 and the numbering head 80 which further enhances the lack of smudging before and after the momentary stoppage of the otherwise continuous feeding of the printing strip 130 during actual printing.

By removal of the screws 147 and retaining plate 146, one end of the takeup shaft 145 may be freed and the universal joint 149 will permit the shaft 145 to be oriented outwardly of the machine so that the roll of used strip 140 may be removed and an empty takeup core (not shown) inserted between the collars 142 and 143. In passing from the supply roll 131 to the use roll 140, the printing strip 130 passes over idler rollers 152, 153 and 154 (FIG. 3) and through the nip of rollers 118 and 119. The feed roller 118 is indirectly driven by the motor 15 from the main longitudinal shaft 24 so that its speed will be synchronized with the repetition rate of the printing head 80 by which it is used. The speed of the torque motor 150 is controlled speed at which used printing strip becomes available, the torque being adequate at all printing speeds for rotation of the takeup shaft 145 and used roll 140.

Similarly, printing strip 156 for the numbering head 95 is fed from a supply roll 157 mounted on a frictionally braked shaft 158 to a used roll 160 mounted on a takeup shaft 161 driven by a torque motor 162. The supply roll 157 are used roll 160 are secured between the frusto-conical surfaces of adjustable supporting collars 164 like the rolls 131 and 140 described above. In passing from the supply roll 157 to the used roll 160, the printing strip 156 passes over idler rollers 165, 166 and 167 and through the nip of feed rollers 123 and 124.

Feed roller 124 is an idler roller which is yieldingly pressed toward the driven roller 123 by means such as a lever 169 one of which is connected to a helical tension spring 170. The idler roller 124 is journaled in arms 171 pivoted to the side plates 172 and 173 of the machine frame. The other idler roller 119 of feed rollers 118, 119 is similarly journaled in spring-biased arms 175 which urge the roller 119 toward the driven roller 118 for controlling the movement of the red ink printing strip 130.

In practice, the numbering head 95 using magnetic ink will have about forty numbering wheels of which about eight are advanced consecutively, the other wheels being set to print information which remains unchanged from check to check. The fixed wheels imprint the identification number of the bank and the depositor's account number which are used for sorting the checks during clearing and after receipt by the drawee bank. The magnetic ink serial numbers are used for further mechanized sorting and classifying operations. The large number of numbering or printing wheels requires the use of a long mounting shaft 176 (FIG. 3) for supporting the printing wheels 177. In order to obtain a uniform printing pressure for each wheel 177, notwithstanding the inherent flexibility of the mounting shaft, the pressure member 103 (FIG. 5) is provided with a central projection 179 which engages the imprinting pressure member 104 immediately below the center of the set of magnetic ink printing wheels 177. The imprinting pressure member 104 is loosely connected to the pressure member 103 by bolts 180 which pass with adequate clearance through enlarged holes 181. The mounting shaft 176 which supports the printing wheels 177 is fixedly held only at its ends and the central wheels 177 will move slightly when printing pressure is applied because of an accompanying bending of the mounting shaft 176. By applying pressure only below the central ones of the printing wheels 177, there will be a complementary flexure of the imprinting pressure member 104 so that a uniformly distributed printing pressure is obtained throughout all of the large number of printing wheels. The provision of this feature prevents the application of a reduced pressure at the central wheels accompanied by an increased pressure at the end wheels.

The magnetic ink numbering head 95 is rigidly mounted on a supporting cylinder 183 which is of sufficient diameter to be effectively unyielding during printing. The rigid cylinder 183 passes with a small precision clearance through the inner side plates 172 and 173 of the machine frame. It is additionally supported at one end by an upright member 184 secured to an outer side plate 185 of the machine frame. The cylinder 183 is cut away to provide a flat mounting surface 187 for the magnetic ink numbering head 95. Adjacent to the side plate 173, the cylinder has two radially inwardly convergent notches 188 and 189 formed therein. The notches 188 and 189 are spaced about 90° apart with respect to rotation of the cylinder 183. The notches 188 and 189 are selectively engageable by tapered lateral projection 190 integrally formed on a lever 192. The lever 192 is pivotally connected to the side plate 173 by an adjustable eccentric pivot screw 193. The lever 192 is slidably constrained to engage the side plate 173 by a guide member 196 secured to the plate 173 by a screw 197.

The projection 190 is held engaged in either of the two notches 188 or 189 by a helical tension spring 194. The angle of taper of the notches 188, 189 and that of the projection 190 is substantially the same so that the cylinder 183 will be positively locked against rotation either in the operative position of the numbering head 95 shown in FIG. 7 or the position shown in FIG. 8. When the cylinder 183 is turned to the position shown in FIG. 8, the numbering or printing wheels 177 are accessible so that they may be set to any desired starting positions using

a pick or similar instrument (not shown). The position of the numbering head **95** in its operative position may be adjusted with a high degree of precision by means of the eccentric pivot **193**.

The red ink numbering head **80** which has only of the order of about eight to ten numbering wheels is mounted on a transverse bar **198** (FIG. 3) which is readily removable as a unit with the numbering head **80** to permit setting the numbering wheels **199**. The removal and replacement are facilitated by a large opening **201** formed in the side plate **172**.

The inner side plates **172** and **173** are interconnected by a rod **202** and two tie rods **203**, **204** enclosed in a spacer tube **206**. The inner side plate **173** is rigidly connected to the plate **185** of the machine frame by angle members **207**, **208** (FIG. 2). The other inner side plate **172** is also rigidly secured to the machine frame by suitable means (not shown).

The motor **15** is controlled by a conventional motor starter (not shown) which includes a "JOG RUN" button **209**, a "STOP" button **210** and a "START" button **211**. The "JOG RUN" button **209** is non-locking and is used to operate the motor **15** intermittently, as when threading the strip of checks **43** into the machine at the beginning of a run. The "START" and "STOP" buttons **211** and **210**, respectively, are used for starting and stopping the motor **15** in the usual manner.

While I have shown and described what I believe to be the best embodiment of my invention, it will be apparent to those skilled in the art that various changes and modifications may be made therein without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

1. Imprinting apparatus of the class described, comprising: input sprocket means for receiving a marginally perforated strip of forms to be imprinted; output sprocket means for delivering said strip after imprinting; unidirectionally and cyclically operative advancing sprocket means intermittently pulling said strip intermediate said input and output sprocket means; a plurality of cyclically operative imprinting members acting independently on longitudinally spaced portions of said strip intermediate said input and said advancing sprocket means; drive means common to all of said sprocket means and to said imprinting members; indexing means connecting said advancing sprocket means to said drive means for operation thereby; means connecting said input and output sprocket means to said drive means for imparting a predetermined constant velocity to said strip where it engages said input and output sprocket means, said indexing means causing said advancing sprocket means to impart a cyclically varying velocity to said strip the average value of which is equal to said constant velocity; and means connecting said imprinting means to said drive means for imprinting operation during intervals wherein said cyclically varying velocity of said strip is at a minimum value; said strip having two free slack loops formed therein, one of said loops being located between said input sprocket means and said imprinting members, the other loop being located between said advancing sprocket means and said output sprocket means.

2. Apparatus according to claim **1**, wherein the minimum value of said cyclically varying velocity is effectively zero.

3. Apparatus according to claim **1**, wherein said imprinting members are connected to said drive means for operation separately on said spaced portions of said strip during different portions of each of said intervals of minimum velocity.

4. Imprinting apparatus of the class described, comprising: drive means of adjustable constant speed; input feeding means for receiving a strip to be imprinted, said input feeding means being connected to said drive means for imparting a constant speed to said strip; output feeding means for delivering said strip from said machine after the imprinting thereof, said output feeding means being connected to said drive means for imparting the same constant velocity to said strip as said input feeding means; intermediate feeding means acting on said strip during its passage from said input feeding means to said output feeding means, indexing means connecting said intermediate feeding means to said drive means for imparting a cyclically varying velocity to said strip the average value of which is the same as said constant velocity and the minimum value of which is effectively zero; a first printing head including printing elements at a first station between said input and intermediate feeding means; first means connected to said drive means for feeding a first ribbon member bearing printing ink at said first station for application to said strip by the pressure of the printing elements of said first printing head; a second printing head including printing elements at a second station between said input and intermediate feeding means, said second station being spaced from said first station; second means connected to said drive means for feeding a second ribbon member bearing printing ink at said second station for application to said strip by the pressure of the printing elements of said second printing head; first cyclically operative imprinting means connected to said drive member for simultaneously pressing said strip against said first ribbon member and said first ribbon member against said printing elements of said first head, said pressing taking place during intervals of minimum velocity of said strip; and second cyclically operative imprinting means connected to said drive means for simultaneously pressing said strip against said second ribbon member and said second ribbon member against the printing elements of said second printing head; said pressing taking place during intervals of minimum velocity of said strip.

5. Apparatus according to claim **4**, wherein said first and second imprinting means press said strip and said first and second ribbon members, respectively, during separate portions of said intervals of minimum velocity.

6. Apparatus according to claim **4**, wherein each of said means for feeding a ribbon member advances its associated ribbon member continuously between successive printing operations of its associated imprinting member through a distance at least as great as the size of the impression of the printing elements thereof measured in the direction of feeding of the ribbon member; said apparatus further comprising takeup means for winding up the spent portion of said ribbon member; and torque motor means yieldingly driving said takeup means, the torque supplied by said torque motor means being sufficiently low to permit momentary stoppage of said feeding of said ribbon member during printing operation of said imprinting member.

7. Apparatus according to claim **4**, wherein at least some of said printing elements in both of said printing heads are numbering wheels, each printing head including means for consecutively changing the number to be imprinted by said numbering wheels between successive operations of said imprinting means, said means for changing the number in each head being connected to said drive means to change the numbers in both heads concurrently, whereby the numbers imprinted at said first and second stations will be the same.

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