Aug. 8, 1933. H. P. ELLIOTT 1,921,511

PRINTING MACHINE

Filed July 24, 1929 4 Sheets-Sheet 1

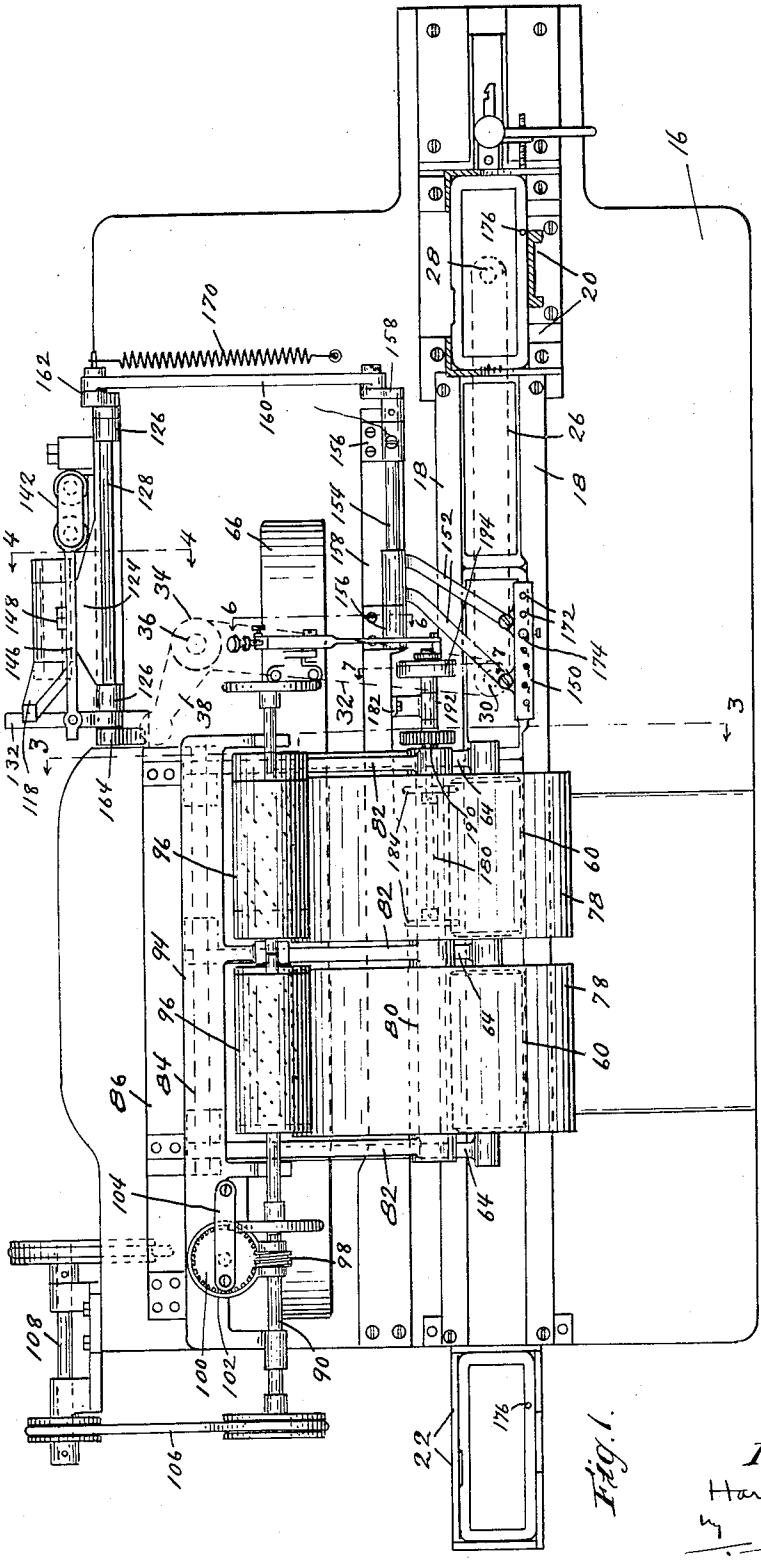


Fig. 1.

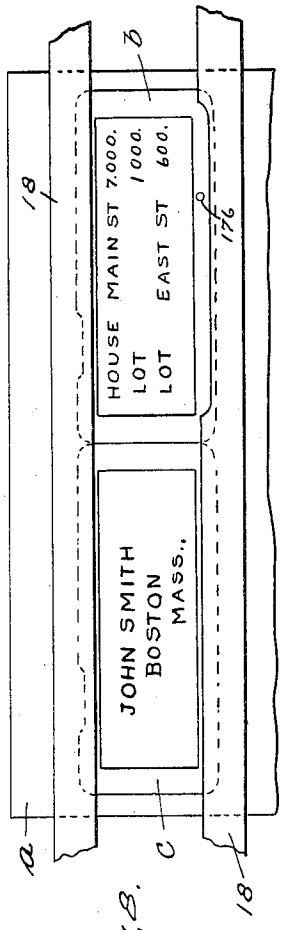


Fig. 2.

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Aug. 8, 1933. H. P. ELLIOTT 1,921,511

PRINTING MACHINE

Filed July 24, 1929 4 Sheets-Sheet 2

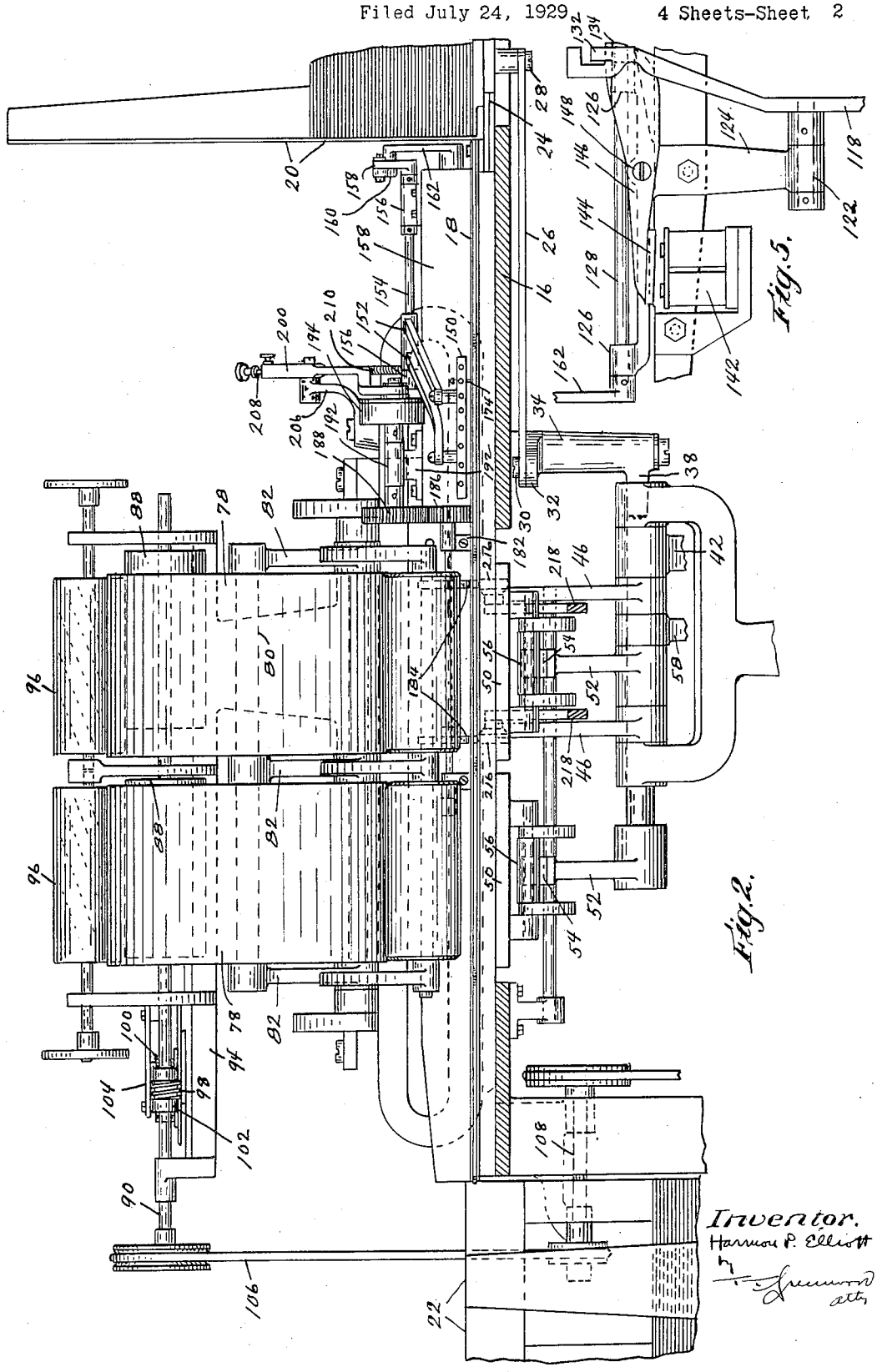


Fig. 2.

Fig. 5.

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PRINTING MACHINE

Filed July 24, 1929 4 Sheets-Sheet 3

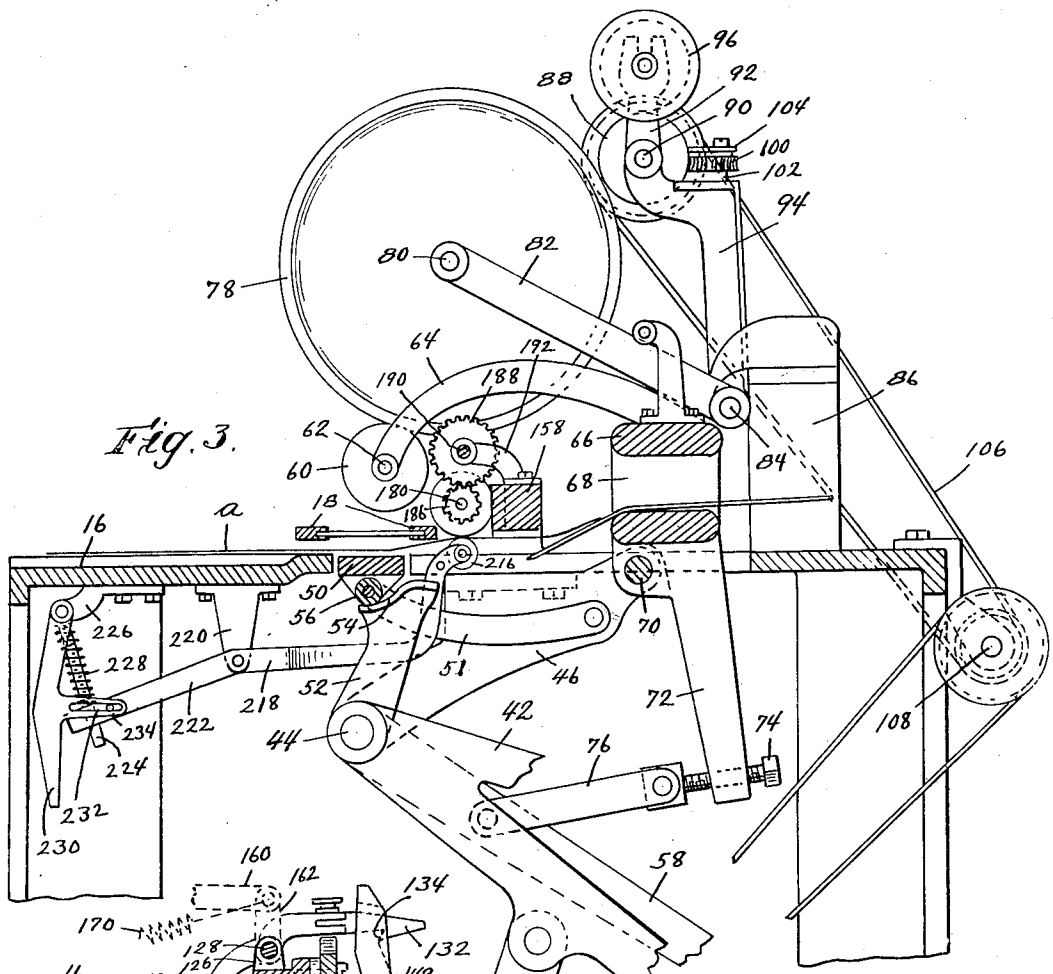


Fig. 3.

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Aug. 8, 1933. H. P. ELLIOTT 1,921,511

PRINTING MACHINE

Filed July 24, 1929 4 Sheets-Sheet 4

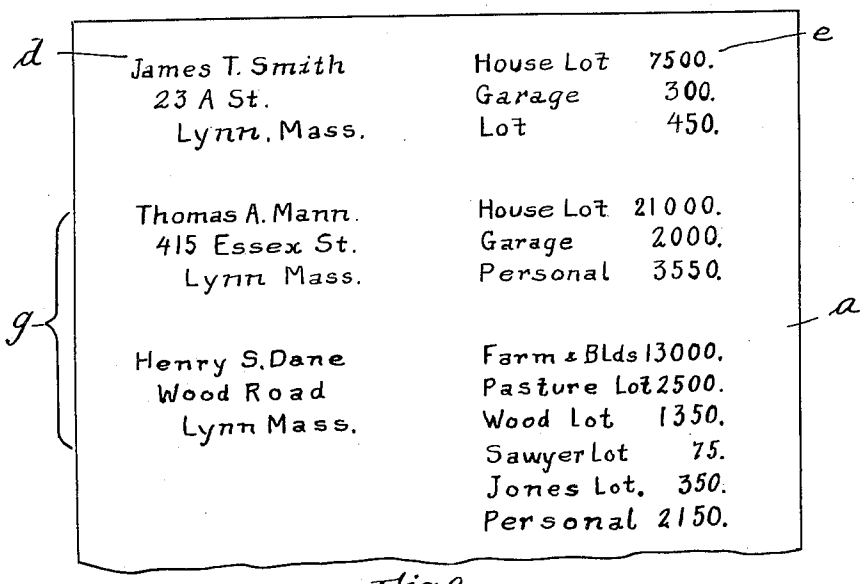


Fig. 9.

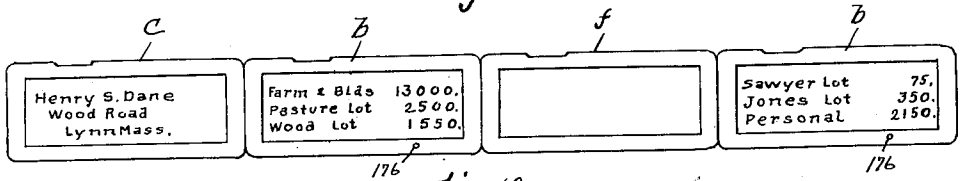


Fig. 10.

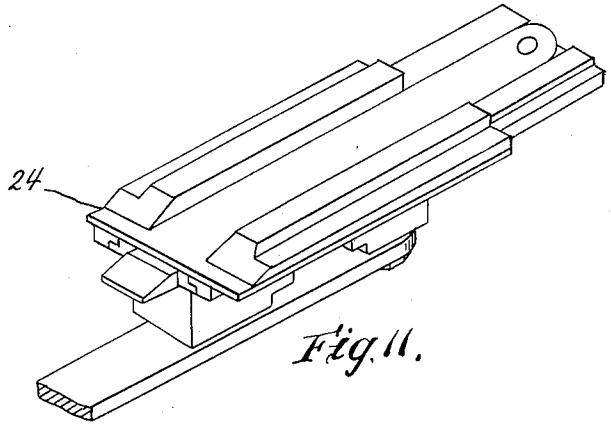


Fig. 11.

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Patented Aug. 8, 1933 1,921,511

UNITED STATES PATENT OFFICE

1,921,511

PRINTING MACHINE

Harmon P. Elliott, Watertown, Mass.

Application July 24, 1929. Serial No. 380,591

24 Claims. (Cl. 101—43)

This invention relates to stencil printing machines and particularly to machines adapted to operate simultaneously at one operation on a plurality of stencils or equivalent printing devices.

In making out lists, for tax purposes for instance, the address of the owner of the property and the listing of the property can not well be carried by a single stencil. It is therefore an object of this invention to have one stencil which carries the name of the property owner and another stencil, or a sufficient number of stencils, which carry the items making up the list of taxable property standing in the owner's name and to provide a printing machine which is arranged to print from a plurality, and at least two, stencils simultaneously so that the names of the various property owners can appear in one column of a sheet and the list of property owned by them can appear opposite the names in an adjacent column of the sheet.

A further object of the invention is the provision of a stencil printing machine arranged to operate simultaneously upon a plurality of stencils.

Another object of the invention is an arrangement of stencils and a method of printing by the use of such stencils wherein the data carried by a plurality of stencils can be registered in one column against the data carried by a second stencil which has been printed in an opposite column.

A further object of the invention is generally to improve upon stencil printing machines and methods.

Fig. 1 is a plan view of a stencil printing machine embodying the present invention.

Fig. 2 is a section elevation through that portion of the machine of Fig. 1 that embodies the present invention.

Fig. 3 is a transverse sectional elevation taken along line 3—3 of Fig. 1.

Fig. 4 is a section of the control mechanism for the printing mechanism taken along line 4—4 of Fig. 1.

Fig. 5 is a detailed elevation of the control mechanism of Fig. 4.

Fig. 6 is a sectional elevation of the sheet-feeding means taken along line 6—6 of Fig. 1, parts not essential to the sheet feeding mechanism being omitted.

Fig. 7 is a section along line 7—7 of Fig. 1 and illustrating the construction of the one-way clutch of the sheet-feeding means.

Fig. 8 is a plan detail illustrating the relation between the stencils and the sheet at the time of printing thereon.

Fig. 9 is a view of a tax list prepared in accordance with the present invention.

Fig. 10 is a view illustrating the arrangement of stencils for printing the contents of a plurality of stencils in one column against the name printed from a single stencil in an adjacent column.

Fig. 11 is a perspective view of the stencil pusher.

The machine here shown as embodying the present invention includes a table 16 above which is supported a pair of transversely extended rails 18 which constitute a track along which stencils are moved in successive order from a stencil holder 20 located at one end of the table and upstanding thereabove to a stencil receiver 22 which is located at the other end and depends below said table. The lowermost stencils in the stencil holder 20 are moved singly in successive order from the holder into and along the track by means including the stencil pusher 24 which is illustrated in detail in Fig. 11. Said stencil pusher is reciprocable into and out of the space beneath the stencil holder to engage the lowermost one of the stencils in succession and move them from the pile into and along the track.

The specific construction of the pusher is not herein of particular importance and need not be described in greater detail. It can be constructed, however, as illustrated in my copending application Serial No. 160,872, filed January 13, 1927. The pusher is reciprocated by means of a rod 26 which is pivoted at one end thereto by a screw 28 and at its other end by a screw 30 to a horizontal arm 32 of a vertical hub 34 which hub is journalled on a vertical stud shaft 36 carried by and depending beneath the table 16. The hub is provided with an arm 38 the end of which operates in a cam slot 40 formed in the end of a vertically reciprocable lever 42 journalled on a shaft 44 carried beneath the table by a bracket 46, see Figs. 2, 3 and 4. The lever 42 is arranged to be reciprocated or oscillated in a vertical direction by a connecting rod 48 which is operated by a power mechanism that is common in the art and need not be shown and described herein.

The power mechanism, for instance, can be the same as the one illustrated and described in my above-named copending application. The shape of the cam slot or groove 40 is such that a reciprocatory movement is imparted to the stencil pusher in the line of the stencil track. At each forward movement of the pusher, the entire line of the stencils in the track is moved forwardly. The stencils, however, are stationary during the

movement of the pusher in the opposite direction. The printing is effected while the stencils are stationary.

In accordance with the present invention, the printing machine is arranged to print simultaneously from two consecutive stencils contained in the stencil track. To this end, the machine is provided with two platens 50, see Figs. 2 and 3, which are disposed side by side in the line of the stencil track beneath the printing positions occupied by two adjacent stencils and are carried at the forward ends of arms 51 which are pivotally supported by the bracket 46. The platens are reciprocable upwardly through a slot in the table 16 to support a sheet *a* in printing position beneath the stencil. The platens are reciprocated simultaneously in a vertical direction by separate cam arms 52 which have upper cam faces 54 that engage rollers 56 carried by the platens. The two cam arms 52 are fixed to and are angularly reciprocable with the shaft 44. Said shaft is reciprocated by a lever arm 58, which arm is fixed to said shaft 44 and has a disengageable connection with the operating arm 42 so that when said arms are connected, both reciprocate conjointly.

The printing mechanism includes two printing or ink rolls 60 that are disposed above the stencil track and the platens 50 and are rotatable on a shaft 62 carried by forwardly-extending arms 64 that are fixed to a yoke 66 disposed in the rear of the stencil track. Said yoke is provided with a horizontally elongated opening 68 through which the sheet *a* is adapted to be moved. Said yoke is pivotally supported on a shaft 70 carried by the bracket 46 and has a depending arm 72 that is connected by an adjustable screw 74 with a link 76 which is pivoted at one end to said screw and at the other end to said arm 58. Thus when said arm 58 is reciprocated, said yoke is also reciprocated and the printing rolls 60 are caused to be moved downwardly into pressure-applying relation with the two adjacent stencils in the stencil track and to force ink through the exposed sections of the stencil onto the sheet supported therebeneath on the platens.

The printing rolls 60 are in continuous rolling engagement with the inked peripheries of a pair of ink-transfer rolls 78 which are disposed above the printing rolls and are journalled on a shaft 80 carried by the forward ends of arms 82 which arms are pivotally supported at 84 to an upstanding bracket 86 carried by the table 16 in the rear of the yoke 66. A pair of ink-distributing rolls 88 are adapted to be in rotatable engagement with the transfer rolls 78 when they are in elevated position and to apply the ink to the surfaces thereof at such times. Said rolls 88 are carried by a shaft 90 which is rotatably supported and is free for axial movement in the upstanding arms 92 of a bracket 94 carried by the bracket 86. Independent ink-containing rolls 96 are carried removably by said arms 92 and are supported in rotatable engagement with the surfaces of the rolls 88. Said rolls 88 are reciprocated axially by any suitable means whereby to distribute the ink uniformly on the surfaces of the transfer rolls. The reciprocating means here shown includes a worm gear 98, see Fig. 1, which is fixed to the shaft 90 and meshes with and drives a worm wheel 100 which is rotatably supported in a frame 102 having ears which engage the opposite faces of the worm gear 98. The worm wheel 100 is pivotally connected to a connecting rod 104 which, in turn, is pivotally connected to a fixed part of the bracket 94. Thus, as the shaft 90 rotates, the worm wheel 100 and the connecting rod 104 cause it to reciprocate in opposite directions. The shaft 90 is rotated continuously by means including a belt 106 and a jack shaft 108 from the aforesaid power mechanism not herein shown.

As thus arranged, each time the printing rolls 60 and the platens 50 are moved toward each other, a printing operation will be effected upon the two adjacent stencils which are disposed between said rolls and platens.

Since the stencil pusher is arranged at each reciprocatory movement thereof to deliver single stencils from the stencil holder into the stencil track, means are herein provided to effect the printing operation only after each second operation of the pusher.

Consequently, means are provided which are under control of the stencils to disable the printing mechanism during every other operation of the stencil feeding mechanism. To this end, the arm 58 which controls the operation of the platen and printing rolls has a latch 110 pivoted on the end thereof, which latch has a tooth 112 that is adapted to enter a recess 114 in the end of the operating arm 42 and is biased to engage said arm by a tension spring 116 but is normally held from such engagement. When engaged, however, the two arms 58 and 42 are connected to reciprocate in unison. The engagement of the latch 110 is controlled by an arm 118 which is disposed normally under a roller 120 of said latch in position to hold said latch from entering the notch 114 of the arm 42. Said arm 118 is pivoted at 122 to a bracket 124 see Figs. 1, 4 and 5, secured to the rear edge of the table 16. Said bracket has upstanding ears 126 at its ends on which a shaft 128 is journalled for the purpose of operating the stencil selector mechanism presently to be described. A tensile spring 130 is connected with the arm 118 and normally tends to move it away from engagement with the latch 110. Said arm 118 however is normally held in the position shown in Fig. 4 where it holds the latch 110 in an unoperated position. The means for holding said arm 118 in the aforesaid position includes a latch 132 which is loosely supported on the shaft 128 and engages a projection 134 of said arm 118 thereby holding it in an unoperated position. When the latch is raised, however, the arm 118 can move under influence of its spring 130 and thus release the latch 110, which, at the proper time, will enter the notch 114 and thereby connect the printing mechanism with the arm 42 and effect a printing operation at the time the stencils in the stencil track are stationary. The arm 118 is automatically restored to its aforesaid latched condition by a cam 136 which is carried by the operating arm 42 and has a cam face 138 that engages a roller 140 carried by the arm 118 during the upper part of the movement of the arm 42 and thereby rotates the arm 118 in a counter-clockwise direction and causes the disengagement of the latch 110 with the arm 42 and the relocking of the arm 118 by the latch 132. The latch 132 is tripped, or raised and disengaged from the arm 118, by an electro-magnet 142, see especially Fig. 5, which is carried by the bracket 124 and serves to attract an armature 144 carried by a lever 146 pivoted on a screw 148 to the bracket 124. The other end of said lever is disposed under the latch 132 and is weighted so as to remain in an unoperated position until the electro-magnet is energized where-

upon the weighted end of the lever will be raised and effect the tripping of the latch 132.

The electro-magnet is energized by stencil-selector mechanism illustrated in Figs. 1 and 2. Said mechanism includes a selector bar 150 which is located above the front rail of the stencil track between the stencil holder and the printing rolls. Said bar is carried by arms 152 which are fixed to a shaft 154 which is angularly reciprocable in brackets 156 supported by a bar 158 located in the rear of and parallel with the stencil track and carried by the table 16. Said shaft 156 is provided with an upstanding arm 153 to which the forward end of connecting rod 160 is pivoted. The rear end of said connecting rod is pivotally connected to an arm 162 fixed to the shaft 128. A depending arm 164 is also fixed to said shaft 128 and is terminated at its lower end in a cam roll 166 that rides over a cam face 168 of the operating arm 42. The cam face is so arranged that the arm 164 is caused to be reciprocated at each stroke of the arm 42 thereby to reciprocate the selector bar 150. A tensile spring 170 is connected with the arm 162 and tends constantly to urge said selector bar for downward movement and thereby to maintain the roller 160 in engagement with the cam face 168. Said spring thus effects the downward, or operative, movement of the selector bar when such movement is permitted by the cam face 168. The selector bar 150 is provided with a plurality of passages 172 therein, which are arranged in a row lengthwise of said bar, and any one of which is adapted to receive a selector pin 174. Certain of the stencils and, as herein shown in Fig. 8, the stencils *b* that carry the tax lists and follow the stencils *c* which carry the name of the person taxed, are provided with a selector opening 176. The opening 176 is so located in the frame of the stencil, that if it can be entered by the pin 174 the printing operation is effected. If it cannot be entered by the pin the stencil and also the immediately preceding stencil will pass through the printing position without being printed therefrom. The selector bar 150 is electrically insulated from the frame of the printing machine and is connected through a suitable source of power, not shown, with the electro-magnet 142, the other terminal of which is grounded to the frame of the machine. Thus, when the hole 176 is located beneath the pin 174 and the pin passes into the hole and contacts with the lower face of the metal stencil rail, the circuit of the electro-magnet is completed and the magnet is energized to trip the latch 132 and thus, at the proper time, permit the latch 110 to engage the arm 42 and thereby effect the operation of the printing mechanism.

The stencils are arranged in such order in the trays and are located in such order in the stencil holder that the list stencil *b* immediately follows the name stencil *c*. Since the list stencils *b* are the ones that have the selector perforations 176 therein and since the selector bar reciprocates and "feels" each stencil, it is apparent that the printing operation will be effected only when a set of stencils corresponding to a stencil *c* and a stencil *b* have been moved into printing position between the two printing rolls and platens.

The mechanism herein shown for operating the selector mechanism and for controlling the printing operation of the printing mechanism is essentially the same as is described and claimed in my copending application Serial No. 329,470, filed December 31, 1928.

The sheet *a* on which the lists are printed is adapted to be moved forward automatically between each printing operation so that the data borne by the stencils appears in two vertical rows on the sheet. The sheet feeding means includes a feed shaft 180, see Figs. 1, 2, 5 and 6, which is journalled in a bracket 182 carried by the bar 158 immediately in the rear of the stencil track. Said shaft is provided with a pair of spaced feed rolls 184 which are disposed to engage the right hand portion of the sheet *a* on opposite sides of the column printed by the stencils *b*. It is not necessary to provide other driving rolls for engaging the left hand portion of the sheet. Said shaft 180 carries a spur gear 186 which meshes with a larger spur gear 188 fixed to a driving shaft 190 journalled in a bracket 192 carried by the bar 158. The angular movement of the shaft 190 thus imparts a larger angular movement to the feed shaft 180. The shaft 190 carries a clutch drum 194 within which a peripherally-stepped driving disc 196 is located. Rolls 198 are supported on the steps of said disc and are adapted to establish a driving connection between said drum and disc when the disc is reciprocated in a clockwise direction, see Fig. 7, and to permit said disc to rotate independently of said drum in the opposite direction. Said disc 196 has an arm 198 fixed thereto which is pivotally connected with a connecting rod 200. Said connecting rod has a longitudinally-elongated slot 202 in which a shoulder screw 204 is located. Said screw is carried by an upstanding bracket 206 fixed to the yoke 66. A feed-governing screw 208 is carried by said connecting rod and is extended longitudinally into said slot to form an abutment adapted to be engaged by said screw 204. A tensile spring 210 is connected with said connecting rod and tends to move it constantly in a clutch-free direction. The reciprocatory movement of the yoke 66 in a clockwise direction effects the corresponding movement of the connecting rod and the clutch thereby to effect the forward movement of the sheet *a*. The feed of the sheet may be varied by varying the position of the end of the screw 208 in the slot 202 so that the screw 204 has a certain amount of free movement before engaging the end of the adjusting screw 208. Movement of the clutch disc 196 under the urge of the spring 210 is limited by engagement of the projection 212 fixed to said disc with the bar 158.

The sheet *a* is pressed into driving engagement with the feed rolls 184 by a pair of rolls 216 which are disposed beneath the paper sheet in line with said rolls and are carried by the rear ends of a bifurcated lever 218. Said lever is pivoted to a bracket 220 which is attached to and depends below the table 16 and has a forwardly extended arm 222. A rod 224 is extended slidably through said arm and is pivoted at its upper end to a fixed bracket 226 and carries a compression spring 228 which surrounds said rod and has its lower end bearing against the arm 222 whereby to urge the rollers on said arms upwardly and thereby to press the sheet *a* against the feed rolls. The rolls 216 can be lowered from operative position when desired by a handle 230 which is pivoted to the bracket 226 and has an elongated slot 232 in which a pin 234 of said arm 222 is located. When said handle is moved inwardly, it serves to raise said arm 222 and lock it in elevated position against the action of said

spring whereby to maintain said rollers 216 in a lowered and inoperative position.

The sheet feeding mechanism herein disclosed essentially is the same as that described in my copending application Serial No. 329,472, filed December 31, 1928.

The machine is thus arranged to print on the sheet *a* two parallel columns *d* and *e*, the column *d* containing the name of the owner of taxible property and the column *e* containing, opposite such name, the items of the property. If it so happens that the property list cannot be contained on a single stencil but must occupy two or more stencils the stencils are arranged in the trays, and also in the holder 20, in the order shown in Fig. 10, wherein a blank stencil *f* is interposed between each list stencil *b* belonging to a single name. Thus the machine will print first from the name and the first stencil and will then feed a blank stencil and another list stencil into printing position and print from such stencils and so on, thus listing in consecutive order in column *e* the taxible property set against the name contained in column *d* as is illustrated at *g*, Fig. 9.

While I have illustrated the invention in connection with the preparation of tax lists, it will be apparent that the machine is adapted for other uses.

I claim:

1. A stencil printing machine including means to move stencils into and out of a printing position for a pair of stencils, means to print simultaneously once only the entire data contained in the pair of consecutive stencils while they are in said printing position upon a common sheet, and means thereupon to operate said moving means to move said pair of stencils out of printing position prior to the printing from a succeeding pair of stencils.

2. A stencil printing machine including sheet supporting means, means to move stencils into and out of a printing position for a pair of stencils, means to print simultaneously on the sheet once only the entire data carried by two consecutive stencils when they are in said printing position, means thereupon to operate said moving means to move said two stencils out of printing position prior to printing from a succeeding two stencils and means to advance the sheet by a distance at least equal to the width of the printing space of the stencils following the printing operation.

3. A stencil printing machine having means to feed single stencils in successive order into and out of a printing position, printing mechanism having means to print simultaneously from two consecutive stencils when they are in said printing position, and means to effect the operation of said printing mechanism only following the delivery of a pair of unprinted stencils into said printing position.

4. A stencil printing machine including means to feed single stencils in successive order into and out of a printing position, printing mechanism arranged to operate simultaneously upon two consecutive stencils when they are in printing position, and means to effect the operation of said printing mechanism only after the feeding of any two consecutive stencils by said feeding means.

5. A stencil printing machine including means to move single stencils in successive order into and out of printing position, printing mechanism having means to operate simultaneously upon two consecutive stencils, and means to operate said printing mechanism only after every alternate operation of said stencil moving means.

6. A stencil printing mechanism including means to move single stencils in successive order through printing position, printing mechanism arranged to operate simultaneously on two consecutive stencils when they are in printing position, and control means for said printing mechanism arranged to effect the operation thereof only following the delivery of each pair of stencils into printing position.

7. A stencil printing machine including means to hold a plurality of pairs of stencils, means to feed single stencils in successive order through printing position, printing mechanism operable simultaneously on each pair of stencils when they are in printing position, and means controlled by the last stencil of each pair to effect the operation of said printing mechanism.

8. A stencil printing machine including means to move single stencils in successive order through printing position, printing mechanism operable to print simultaneously on two stencils when they are in printing position, and means to effect the operation of said printing mechanism only after two consecutive stencils have been delivered into said printing positions.

9. A stencil printing machine having a printing position, printing mechanism, means to operate said printing mechanism simultaneously on two stencils when they are in said printing position, and means to move two used stencils out of said printing position and to deliver two unused stencils into said printing position prior to the second operation of said printing mechanism.

10. A stencil printing machine having printing mechanism, means to operate said printing mechanism simultaneously upon a plurality of stencils in printing position, and means to remove all the operated stencils from said position and to introduce additional stencils into said printing position prior to a second operation of said printing mechanism.

11. A stencil printing machine having printing mechanism operable simultaneously on all of the stencils in printing position, means to remove the operated stencils and to position new stencils in said printing position prior to a subsequent operation of said printing mechanism, sheet holding means adapted to support a sheet in position to receive the data carried by said stencils, and means to advance the sheet by a distance at least equal to the greatest width of printing data carried by any one stencil between printing operations.

12. A stencil printing machine including a stencil track, means to move single stencils in successive order along said track, a plurality of printing devices located lengthwise of said track in position to operate on consecutive stencils therein, and means to operate said printing devices simultaneously only when a predetermined plurality of stencils are in printing position whereby to effect the simultaneous operation of said devices on consecutive stencils, said operating means having means to operate said stencil moving means to discharge all of the used stencils from printing position and to advance a second set of stencils into printing position prior to a second printing operation.

13. A stencil printing machine including a stencil track, means to move single stencils in successive order along said track, a plurality of

printing devices extended lengthwise of said track in position to operate on the consecutive stencils therein, means to operate said printing devices simultaneously, and means controlled by certain stencils to control the operation of said operating means.

14. A stencil printing machine including a stenciled track, means to move single stencils in successive order along said track, two printing devices disposed side by side lengthwise of said track in position to operate on consecutive stencils therein, means to operate said printing devices simultaneously, and means controlled by alternate stencils arranged to effect the operation of said printing devices only following the movements of alternate stencils in said track.

15. In a stencil printing machine, the combination of a stencil track, means to move stencils in successive order along said track, and printing devices operable simultaneously on consecutive stencils in said track including a pair of platens disposed side by side along the length of said track, and operating mechanism therefor including a shaft, independent cams fixed to said shaft and separably engageable with said platens, an operating arm fixed to said shaft, and means to reciprocate said arm.

16. In a stencil printing machine, the combination of a stencil track, means to move stencils in successive order along said track, and printing devices operable simultaneously on consecutive stencils in said track including a pair of platens disposed side by side along the length of said track, and operating mechanism therefor including a shaft, independent cams fixed to said shaft and separably engageable with said platens, an operating arm fixed to said shaft, and means to reciprocate said arm, including a breakable connection between said means and said arm, and means governed by the stencils controlling said connection, said governing means also including means to operate said stencil moving means.

17. A stencil printing machine including a stencil track, means to move single stencils in successive order into and along said track, and printing mechanism arranged to operate simultaneously on consecutive stencils in said track including a shaft, a pair of ink rolls fixed in spaced relation to said shaft, means to apply ink separately to the peripheries of said rolls, a pair of printing rolls engageable simultaneously with consecutive stencils in said track, a shaft supporting said rolls in rolling engagement with said ink rolls, supporting arms for said shaft located between and beyond said ink rolls, a reciprocable support for said arms, platens cooperating with said printing rollers on the other side of said track, and means controlled by alternate stencils in said track to effect the operation of said printing rolls and platens on said consecutive stencils.

18. The method of printing addresses and data associated with said addresses upon a common sheet by the use of stencils which consists in arranging the address on one stencil and the data on a consecutive stencil, and printing only once from both stencils simultaneously on said sheet.

19. A stencil printing machine including a collection of pairs of stencils, means to move single stencils in successive order through a printing position for a pair of stencils, and printing mechanism operable simultaneously on each pair of stencils only.

20. The method of printing addresses and data associated with the addresses by the use of stencils which consists in placing the address on one stencil and the data on other stencils, in interposing blank stencils between each two successive data-stencils, moving the single stencils in successive order into printing position wherein the address stencil is immediately followed by a data stencil, applying a printing device to both stencils, printing from both stencils on a sheet, then presenting a blank stencil and a data-stencil to the printing position, and applying the printing device to both stencils, and printing from said data-stencil on said sheet.

21. The method of compiling lists of names and associated data which consists in providing stencils which contain the names and other stencils which contain the associated data, arranging the collection of stencils in such order that the name stencil is followed by the associated data stencil, moving successive stencils from the collection and presenting a name stencil and an associated data stencil in successive order, and printing only once from both stencils at the same time on a common sheet.

22. A machine for compiling lists of names and associated data comprising a pair of printing devices located side by side at a printing position, a collection of stencils some of which bear the names and others bear associated data, the collection being in such order that a name stencil is followed by an associated data stencil, means for delivering successive data and associated name stencils from the collection into printing position and each in operative relation with a separate printing device, means for operating said printing devices only after a pair of unprinted stencils have been brought into printing position to print once only from both stencils upon a common sheet, and means to advance the sheet between each printing operation.

23. A stencil printing machine comprising stencil printing means located at a printing position, means to advance a succession of stencils to the printing position for a pair of stencils, sheet advancing means, and means to operate said printing means and said sheet advancing means to print once only the data of a pair of stencils in side by side order on the list-receiving sheet and the data of the successive pairs of stencils one under the other on the sheet.

24. The method of printing names and data associated with said names which comprises providing a collection of stencils which contain the names and other stencils which contain the associated data; arranging the collection of stencils in such order that the name stencil is followed by the associated data stencil, moving successive stencils from the collection and presenting a name stencil and an associated data stencil in successive order, and printing only once from the name stencils in one column and from the associated data stencils in another column on a common sheet.

HARMON P. ELLIOTT