Aug. 20, 1935. E. ROBERTS, JR 2,011,949

PRINTING, STAMPING AND EMBOSSING MACHINE

Filed July 21, 1933 2 Sheets-Sheet 1

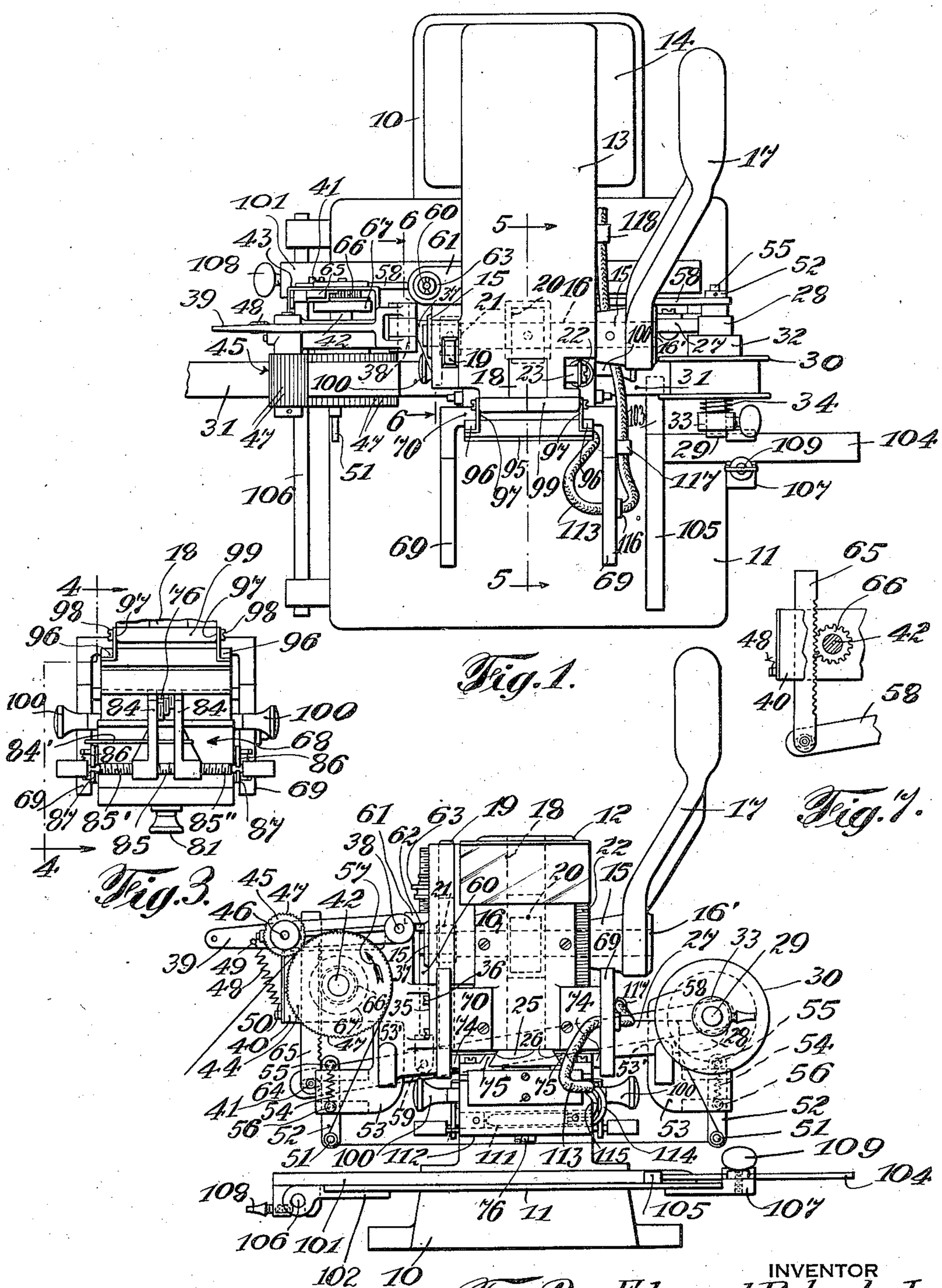

Fig. 1.

Fig. 3.

Fig. 4.

Fig. 2.

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PRINTING, STAMPING AND EMBOSSING MACHINE

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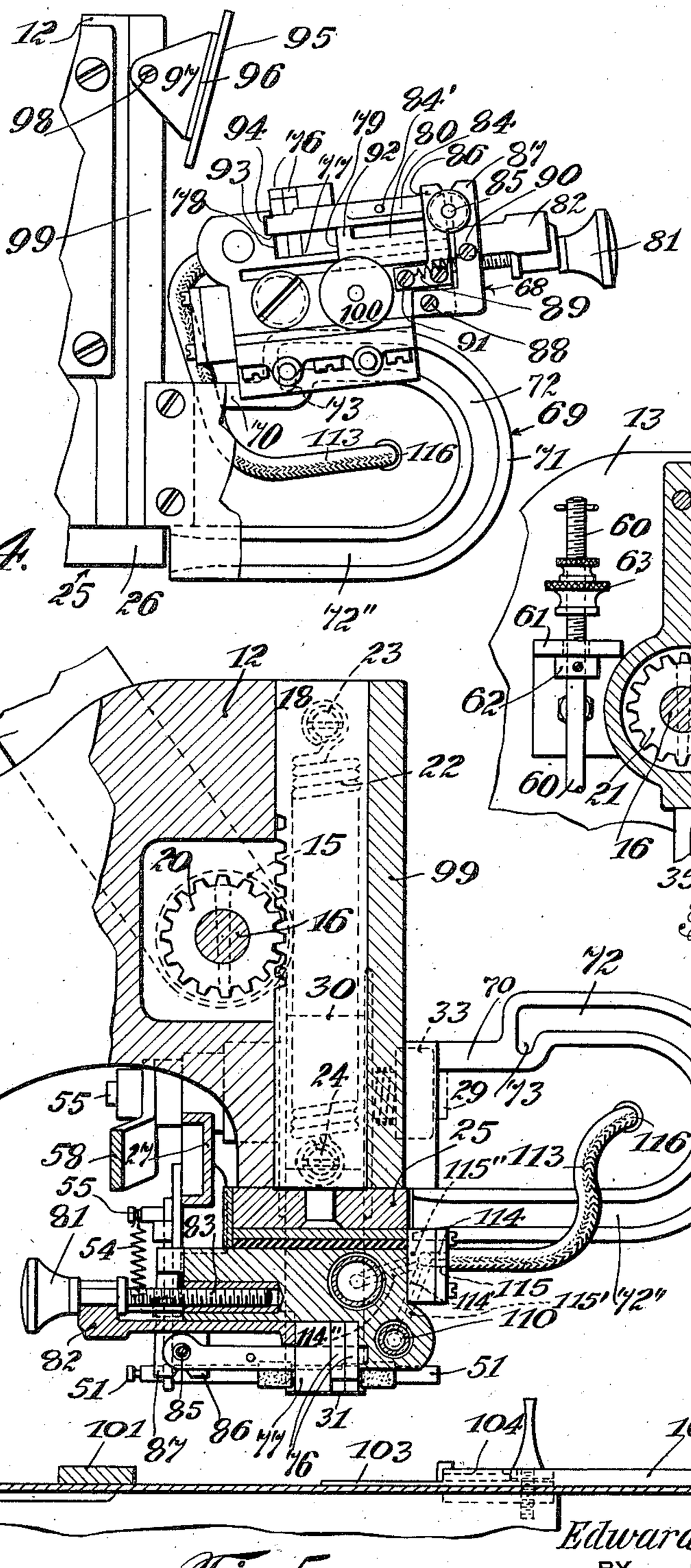

Fig. 4.

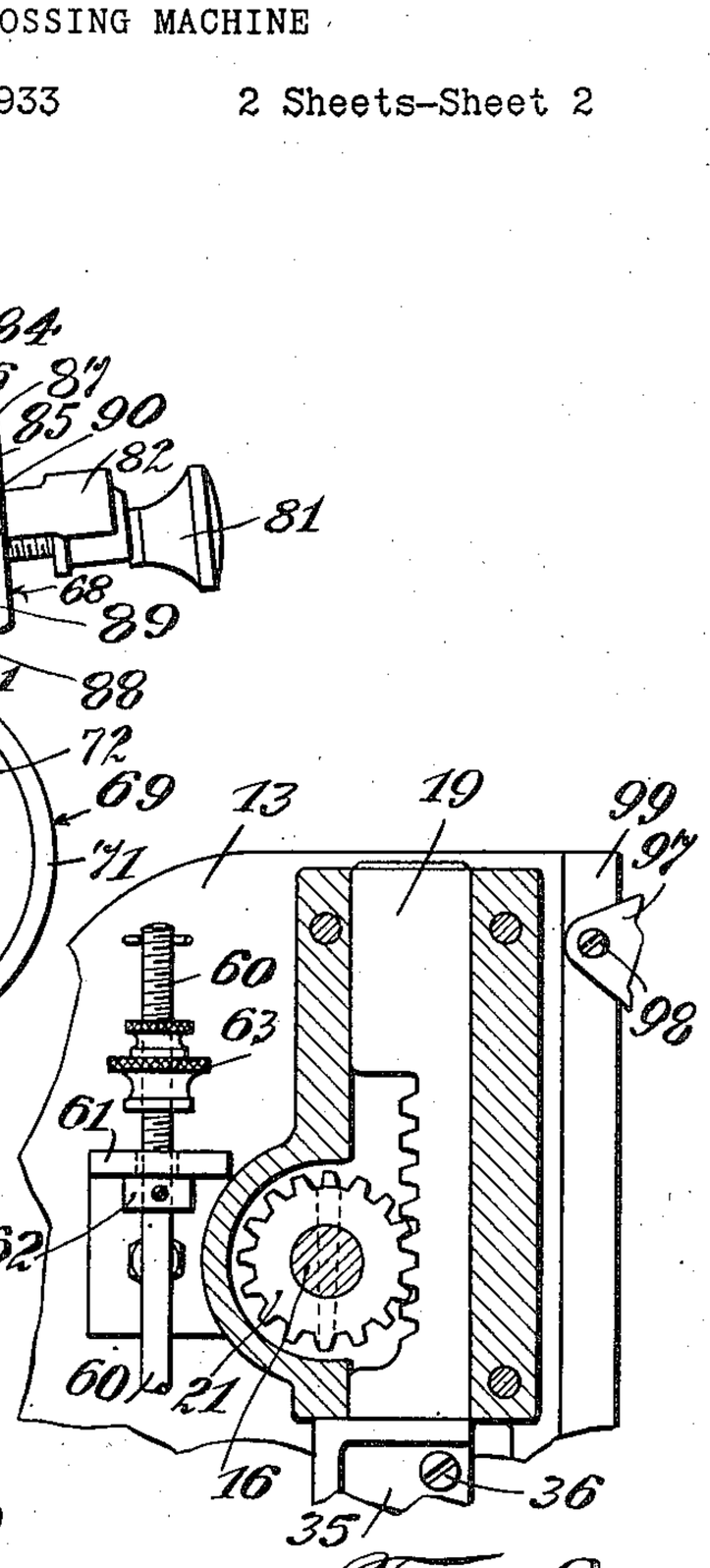

Fig. 6.

Fig. 5.

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UNITED STATES PATENT OFFICE

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PRINTING, STAMPING, AND EMBOSSING MACHINE

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Application July 21, 1933, Serial No. 681,578

19 Claims. (Cl. 41—7)

My present invention relates in general to a printing machine, the invention being more particularly related to a machine of the class employing a pigmented tape through the agency of which to print letters, names, designs, emblems, or other identifying indicia, upon materials and articles of all kind adapted to receive impressions in gold or other colors.

An object and purpose of the invention are to provide an improved and simplified machine of the character described having improved means controlled by a single operating member for effecting the stamping operations and for automatically feeding the tape, whereby an amateur as well as an experienced gold stamper, may without danger of damaging the work, rapidly and efficiently stamp all kinds of materials and articles capable of receiving an embossed impression.

The invention involves a chase or type-carrier mechanism and a tape feed-carrier mechanism, both arranged and controlled in such manner that the tape will, until the moment of stamping, be kept away from the hot type. In carrying out my invention in this regard, simple and effective means in the form of gear-operated racks may be utilized as instrumentalities to support the chase and tape feed-carrier mechanisms for relative movements, such parts or mechanical instrumentalities being, in the manner hereinafter set forth, under the control of the single operating member so that in performing each stamping operation the chase will be moved more rapidly than the frame or device carrying the tape feed mechanism.

The invention involves also the above instrumentalities characterized in that the relatively movable tape feed-carrier mechanism includes a supply roller and a take-up or pull roller for supporting and moving the tape, and further that means are provided whereby, after each printing operation and during the movement of the tape feed carrier mechanism, the pull roller will be automatically operated to move the tape and bring a fresh portion thereof into proper position for the next stamping operation.

Another object of the invention is to so arrange and position the parts of the machine that the chase, without detaching it from the machine, will be bodily reversible, the improvements in this regard consisting in so mounting the chase in the machine that it can at will be bodily moved in a path from and to face-upward and face-downward positions, respectively. These provisions include means for sustaining the chase in face-upward or inverted position to facilitate the setting or the changing of the type elements, and in this connection there is provided an adjustably mounted reflecting mirror wherein the set-up of the type elements can be proof-read. The path for the travel of the chase is defined by guideways with which the chase is movably engaged and from which the chase, in its face-downward or printing position, may be moved into direct interlocking engagement with its rack mechanism for the stamping operation to be effected upon the operation of the machine.

The chase involves features of adjustability to provide for the accommodation of type elements or monograms differing in size, and there is also provided a novel quick detachable type-holding or clamping device for firmly securing the type elements against displacement.

Another important desideratum of the invention resides in the combination with the reversible chase of a thermostatic control whereby the transference of heat to the chase is automatically controlled within definite limits and over-heating avoided, so that it is not possible for an inexperienced operator to damage the article to be stamped.

The parts of my improved machine are so constructed and arranged that the work-table or base as well as the tape are always visible and accessible. I provide in association with the base, side guide devices by means of which the stamping may be effected either on the binder's board or on the solid base.

With the foregoing and other objects in view, the invention consists in the construction and relative arrangement of parts so combined as to coact and cooperate with each other in the performance of the functions and the accomplishment of the results herein contemplated, and comprises in its present evolvement the simple and practical example illustrated in the accompanying drawings, wherein similar reference characters designate corresponding parts throughout the several views, and in which:—

Figure 1 represents a top plan view of a stamping machine made in accordance with my invention, the chase in this view being in its under position beneath the superstructure so that it is substantially concealed from view;

Fig. 2 is a front elevational view of the machine with the chase being shown in its under position and interengaged with the rack mechanism for the stamping operation;

Fig. 3 is a fragmentary plan view, showing the

chase in its face-upward or inverted position and showing also in connection therewith the mirror for proof-reading the set-up type elements;

Fig. 4 is a fragmentary side elevation of the machine, showing the chase in face-upward position, and showing frame parts broken away to illustrate the guideway for the travel of the chase.

Fig. 5 is a partial vertical section through the machine, this view being taken on the line 5—5 of Fig. 1;

Fig. 6 is a fragmentary sectional detail, taken on the line 6—6 of Fig. 7; and

Fig. 7 is a fragmentary sectional detail, showing the gear and rack mechanism for the tape feed take-up mechanism.

By referring to the drawings, it will be seen that the machine is disclosed as comprising a base 10 upon the flat top of which is firmly secured a work-table or plate 11 of suitable area. Spaced a distance above the work-table at a point substantially centrally thereof is a vertically extending head 12 formed on the forward end of an overhanging arm 13 the lower end of which is secured to a portion 14 upstanding from the base at the rear edge of the table 11.

Disposed horizontally in the head 12 about midway the height thereof and having rotative fit in suitable bearings as 15, 15, furnished on the head for the purpose, is a shaft 16. To one protruding end 16' of this shaft is secured a handle or crank 17 by means of which the shaft is given rotary movement. Disposed vertically in the head 12 for vertical reciprocation are two rack bars 18 and 19. Suitable pinions 20 and 21, both fixed to the shaft 16, are in mesh respectively with the rack bars 18 and 19. This arrangement is such that a forward radial throw of the handle or crank 17 will give the two rack bars a downward stroke, while a rearward radial throw of said handle will return said rack bars to their original elevated position. In the present embodiment, the upward movement of the rack bars accompanied by reverse turning of the shaft and handle is effected by means of a strong coiled spring 22, disposed vertically with its upper terminal end engaged upon a pin 23 applied to the head, and with its lower terminal end engaged with a pin 24 provided for the purpose on the rack bar 18. This re-positioning spring manifestly yields or expands downwardly to provide for the down strokes of the rack bars during the forward radial throw of the handle.

To the lower end of the rack bar 18, below the head 12, there is rigidly secured a horizontal shoe 25 the opposite edges of which, that is to say, the right and left hand edges, as viewed in Fig. 2, are beveled downwardly and outwardly in opposite directions as shown at 26, 26. This shoe constitutes simple means whereby the type carrier or chase of the machine may be quickly attached to and detached from the rack bar 18, as will appear hereinafter.

The other rack bar 19 supports for movement therewith a frame structure or carrier which in turn constitutes the support for the automatic tape feed mechanism of the machine. This frame structure or carrier includes a vertically disposed cross bar or beam 27 of channel-shaped form in cross section, which cross bar is located below the overhanging arm 13 behind the lower portion of the head 12 and is rigidly secured to the rack bar 19 for movement therewith. The opposite ends of this cross bar project well beyond the opposite sides of the head 12 and to one end thereof up-turned at 28 is secured a horizontal forwardly projecting spindle 29 upon which is rotatably mounted a supply or roll 30 for the pigmented tape 31. For retaining the reel operatively in place upon the spindle, I may employ at one side of the reel a collar 32 or equivalent means and at the opposite side thereof a nut 33 and a spring 34 which is interposed between the nut and the reel, as shown in Fig. 1. Forming part of the cross bar 27 at its opposite ends is an upwardly extending bracket 35 which is secured by screws 36 or equivalent means to the rack bar 19. Said bracket 35 is formed, as shown in Fig. 2, with an upwardly extending laterally offset portion 37 to the top end of which is pivoted at 38 one end of an outwardly extending arm 39. Said bracket portion 37 below its top end is formed with an outwardly extending wall or plate-like portion 40 having an integrally connected boss or bearing 41 in which a stud shaft 42 is disposed for rotation. Secured to the rear face of the wall portion 40 is a three-sided casing structure 43 which forms in conjunction with said wall portion 40, a housing open at the top and bottom. The rear end of said stud shaft 42 is suitably journaled in the rear wall of the casing structure 43. Said stud shaft 42 in front of the wall portion 40 carries a take-up or pull-roller 44 for the tape 31. Cooperating with the roller 44 is a friction bearing roller 45 mounted for rotation on a spindle 46 which projects forwardly from the arm 39. The rollers 44 and 45 may be, and preferably are, provided on their circumferences with fine teeth 47 so as to have a gripping action upon the tape which is disposed between them. A tension spring 48, one end of which is secured at 49 to the arm 39 and the other end of which is secured at 50 to the outer end of the casing structure 43, pulls said arm 39 resiliently downwardly to give the roller 45 a proper gripping engagement with the roller 44. This arrangement readily permits the arm 39 to be moved upwardly for applying or adjusting the tape between the rollers 45 and 44.

Suitable means are provided whereby to guide the tape in a horizontal plane parallel with and spaced above the work-table 11. In the present embodiment the means to this end is represented as comprising spindles 51, 51 lying in a common horizontal plane parallel with the surface of the work-table. These spindles project forwardly from vertically adjustable arms 52, 52 slidable in appropriate bearings provided in the outer ends of the bracket members 53, 53, the inner upturned ends 53', 53' of which are secured to the extremities of the cross bar 27. Each of the arms 52, 52, and consequently the spindles 51, 51 attached thereto are normally urged downwardly by pull springs 54, 54, said springs being secured at the upper ends to pins 55, 55 projecting forwardly from the arms 52, 52 and at their lower ends to pins 56, 56 which project forwardly from the brackets 53, 53. The pins 55, being engageable with the top ends of the brackets 53, 53 serve as stops whereby to limit the downward movement of the arms 52, 52. As shown in the drawings, the tape 31, after leaving the supply reel 30, is trained under the spindles 51, 51, and thence is trained around the pull roller 44 so as to pass between the rollers 45 and 44. These spring-tensioned guiding devices sustain the tape in the desired position below the vertical head and at the same time maintain the tape in the desired condition of tautness whereby upon the operation of the roller 44 in the direction indicated by the arrow 57, the tape will be drawn from the

supply reel to supply without waste for the embossing operation fresh portions of the embossing material which are carried by the tape in a manner well understood in the art.

Means are provided whereby to actuate the pull roller 44 during each reverse or rearward movement of the handle, and this means includes a rocking bar 58 which extends transversely of the machine below the overhanging arm 13 and in a plane behind the cross bar 27. For its rocking movement, this bar 58 is pivoted at 59 intermediate its length to the lower end of a vertically disposed supporting rod 60 the upper end of which slidably passes through the horizontal portion 61 of a bracket member secured to the side of the head 12. This rod 60 is made fast with the bracket member in that position in which the rocking bar is to be supported, by means of a collar 62 secured to the rod so as to butt against the underside of the bracket and a threaded nut 63 applied to the rod so as to be tightened against the upper face of the bracket. One end of the rocking bar 58 is pivoted upon the spindle 29 adjacent the rear end thereof behind the cross bar 27, whereby to be given rocking movement upon the vertical supporting rod 60 consequent upon the actuation of the rack bar 19 and tape feed carrier frame. At its opposite end, the rocking bar is connected through pin and slot connection structure 64 with the lower end of rack bar 65 which extends upwardly through the casing structure 43. The stud shaft 42 within the casing structure 43 carries a pinion 66 and associated clutch 67, the pinion ratchet being in mesh with the teeth of the rack bar 65. The clutch 67 may be of any type adapted to permit the pinion wheel 66 to run loosely on the stud shaft during the forward radial throw of the handle 17, and adapted further to lock said pinion wheel with the stud shaft so as to rotate the latter and consequently cause rotation of the pull roller 44 during the reverse or rearward radial throw of the handle. With this arrangement, therefore, each time the handle 17 is given its forward radial throw, there is no lengthwise movement of the tape, but on the other hand, upon each rearward radial throw of the handle, the pull roller being operated for a distance in the direction of the arrow 57, draws tape from the supply reel so as to bring a fresh portion thereof into position for the stamping operation. Under this arrangement, the extent of movement which is given to the pull roller 44 during each reverse radial throw of the handle, is dependent upon the adjustment of the supporting rod 60 in the bracket 61, since the extent of the swing of the rocking bar and hence the extent of the movement of the rack bar 65 depends upon the relation which the fulcrum point for the rocking bar bears to the point of pivotal connection between said rocking bar and the tape carrier frame structure. Therefore, the amount of tape which is withdrawn from the supply reel upon each reverse movement of the handle is dependent upon the vertical adjustment of the supporting rod.

The chase or type carrier is designated in general by the reference character 68, and means are provided to mount this element for bodily movement from inverted or face-upward position to face-downward position, from which last-named position this element may be moved either into or out of interlocking engagement with the shoe 25. The means for thus mounting the chase is herein represented as comprising two oppositely positioned vertically disposed complementary end plates 69, 69. These two plates are connected at their rear ends by a cross plate 70 which is secured to the front face of the vertical head 12. The forward ends of these end plates are rounded as at 71 and the inner confronting faces of these plates adjacent the edges thereof are provided with continuous guide grooves or travelways including upper horizontal portions 72, front arcuate portions 72′ and under horizontal portions 72″. The upper horizontal portions 72 terminate in downwardly offset dwells 73, while the under portions 72″ are open at their rear ends. The chase body is provided at its opposite ends with pairs of projecting trunnions 74 which are received in the travelway grooves, whereby the chase body is mounted to travel from the upper level or course 72, in which it is in inverted position, around the arcuate course 72′ and into the under course 72″ in which it is in face-downward position. The chase body is provided intermediate its length between the positions of the projecting trunnions with flanges 75, 75, inclined in agreement with the beveled edges 26, 26, of the shoe so as to have interlocking dovetailed fit with the shoe. The open rear ends of the lower course travelway portions 72″ provide for the movement of the chase body directly from the end plates into interlocking engagement with the shoe, and conversely, when the chase body is to be disengaged from the shoe, they provide for direct transfer of the chase body from the shoe into the under course portions. When the chase is moved along the upper rearward course portions 72, its trunnions which are foremost to the dwells 73 may slip downwardly into these dwells thereby inclining the chase body downwardly and rearwardly as shown in Fig. 4. When thus engaged in the dwells 73, the chase body is held stationary face-upward so that the operator may readily set up or exchange the printing type elements 76.

The chase body, for securing the type elements therein, is provided with a transversely extending type groove 77 open at its opposite ends, and defined at one side by an abutment wall 78 and at the opposite side by the inner end 79 of an adjustable clamping plate 80. For adjusting the clamping plate 80 there is provided an adjusting screw 81 which has turning fit in a boss 82 at the outer end of said clamping plate and which has threaded engagement at 83 with a bore provided for the purpose in the chase body. By manipulating the adjusting screw 81, the clamping plate 80 may be moved relatively with respect to the abutment wall 78 so as to clamp type elements as 76 firmly in the groove 77. For securing the type elements in the groove against lateral displacement, I provide a detachable type holder device comprising complementary clamping strips or jaws 84, 84 which are mounted at one end upon a screw 85 the threaded portions 85′, 85″ of which are screw-threaded reversely to one another so that upon turning the screw in one direction the jaws 84, 84 will be moved away from one another to release the type elements and when said screw is moved in the opposite direction, the jaws will be moved toward one another whereby to clamp the type elements from opposite sides thereof. To maintain the jaws 84, 84 for actuation in the same plane, toward or away from each other, guide means is provided in the form of a cross rod 84′ which is rigidly secured to one jaw and has sliding engagement with the other. The screw spindle 85 is detachably engaged adjacent each end thereof between pairs of cooperating members, each pair

consisting of cooperating jaws **86**, **87**, of which the jaw **86** is attached rigidly to the chase body whereas the jaw **87** is swingable on a pivot screw **88**. Each jaw member **87** is normally drawn to the jaw member **86** by a pull spring **89** one end of which is secured at **90** to the jaw **87** while the opposite end is secured at **91** to the jaw **86**. The abutment wall **79** of the clamping slide **80** is provided with an upward extension **92** the top of which is level with the bottom wall **93** of a notch **94** provided in the abutment wall **78**. By this arrangement, the free ends of the clamping jaw strips **84**, **84** can be entered in the notch **94** and the screw **85** slipped into a seat between the two pairs of complementary members **86**, **87**, so that said jaw strips **84**, **84**, will rest upon the top of the extension **92**, as shown in Fig. 4. The type-holding device, thus constructed, may be quickly applied and as quickly removed, and is adapted together with the clamping slide **80** to hold various type set-ups firmly in the groove **77**. It will be recognized in this connection that by these clamping instrumentalities various sizes of type elements may be firmly secured in the type groove **77**.

For convenience in proof-reading the type set-up in the chase, I provide a mirror **95** the holding frame **96** of which is provided with ear members **97**, **97** secured by screw pivots **98** to the opposite edges of a face plate **99** applied to the front end of the vertical head. This pivotally mounted mirror may be moved into that position in which it best receives the light for exhibiting the type set-up. The image display part **95**, instead of being glass, may consist of a metallic surface highly polished in order to reflect the image which is received.

In order manually to move the chase body in the course prescribed by the groove-ways provided in the end plates **69**, **69**, the chase body is provided at opposite sides with suitable projecting handles **100**, **100**. These handles may also be used in moving the chase body to or from interlocking engagement with the shoe on the lower end of the rack bar **18**; and it will be understood in this connection that owing to the provision of the open-ended under grooves **72''**, the chase body may be given a single uninterrupted movement from its inverted positon, as shown in Fig. 4, to its interlocking engagement with the shoe, as shown in Fig. 5. Conversely, in one quick continuous movement, the chase body may be moved from its interlocking engagement with the shoe to its inverted position in which certain of its trunnions are engaged in the dwells **73**.

As shown in Fig. 2, when the chase body is interlocked with the shoe, that portion of the tape **31** held in a plane parallel with the surface of the work-table and between the guides **51**, **51** is spaced below the hot type. Now in accordance with an important feature of my improvements, the gearing ratio for the rack bars **18** and **19** is such that upon the forward throw of the operating handle, the rack bar **18** will descend more rapidly than the rack bar **19** and in such timed relationship that when the tape engages the work upon the work-table the type will engage the tape to produce the impression upon the work. The advantage of this arrangement is that the hot type will contact the tape only at the moment of producing the impression.

The work which is to receive the impression, instead of being placed upon the solid work-table, may be placed upon a binder's strip or guide **101**, one end of which is mounted upon a bracket **102** while the opposite free end thereof may be placed upon the reduced portion **103** of a guide strip **104** attached to the inner end of a slide **105**. The said binder's strip or guide **101** thus supported may be slightly spaced above the surface of the work-table so as to yield under the impact of the impression. The binder's strip or guide for receiving the impact is especially advantageous when it is desired to make a deep impression in an article. The bracket **102** to which the outer end of the binder's strip **101** is attached, is slidable along a rail **106** suitably supported from the work-table along one side edge thereof. The slide **105** to which the guide **104** is attached, is slidably engaged in a bracket **107** which is secured to the side of the table opposite the rail **106**. The bracket **102** has associated therewith a thumb-screw **108** whereby to be secured in adjusted position upon the rail. The bracket **107** has a thumb-screw **109** associated therewith whereby to secure the slide **105** in the adjusted position desired.

The chase or type carrier is electrically heated, being provided for this purpose with a heating element in the form of a heating tube **110** disposed in the body portion parallel with the type groove and containing a suitable resistance coil (not shown). An automatic thermostatic control device **111**, located in a housing **112** attached to the chase and composed of insulating material, is electrically connected through circuit wires (not shown) with the heating coil. This thermostatic control device is set at the factory so that it will not vary more than two degrees Fahrenheit. Owing to the provision of this controlled heat device, it is possible for an amateur, after a little instruction, to use the machine without danger of damaging the work, and to make impressions which in all respects will exhibit the same good workmanship as can be had by an experienced gold stamper.

A cable **113** contains the circuit wires **114**, **115** for supplying the current to the thermostatic control, and this cable passes through an eyelet **116** provided substantially centrally in one of the end plates **69**. The cable has free play in the eyelet so as to be free to move with the movement of the chase. The cable may also be passed through other eyelets as **117** and **118** whereby to be supported on the machine in a position in which it will not interfere with the operator. The remote end of the cable may be provided with a suitable plug (not shown) for engagement with a wall socket or the like. **114'** and **115'** denote circuit wires which connect the thermostatic control with one of the heating elements, while **114''** and **115''** denote similar wires between the thermostatic control and another heating element.

The stamping machine of my invention is adapted to be used in stamping various kinds of materials, whether of leather, imitation leather, fibrous material, textile materials, and the like; and it may also be used to advantage in stamping various articles such as the sweatbands for hats, billfolds, pocketbooks, handbags, and the like.

Although I have herein disclosed and described only one example and practical embodiment of my improvements as reduced to practice, it will be recognized that the disclosure given is an example only, and is susceptible to more or less modification in the form, proportions and relative arrangement of the various parts, and I, therefore, reserve the privilege of resorting to all such legitimate changes therein as may be fairly

incorporated within the spirit and scope of the invention as claimed.

I claim:—

1. A printing, stamping and embossing machine comprising a reciprocating die, a reciprocating tape-carrying frame constructed to hold tape in operative position normally spaced from the die, means for operating said die and frame in pre-determined relation so as to reciprocate in the same direction but at different amplitudes to cause said die to make an impression impact on said tape at least once during the reciprocation of said parts, and a tape feed mechanism on the tape-carrying frame for feeding the tape and receiving its feeding impulse from the movement of the tape-carrying frame.

2. In a printing, stamping and embossing machine, the combination of die-stamping mechanism, tape-feeding mechanism and means for continuously holding the tape in a line in front of the stamping mechanism, means connected with the stamping mechanism and tape-holding means for moving the same simultaneously in the same direction but at different speeds so that the die will engage and stamp upon the tape substantially at the time the tape contacts work.

3. In a printing, stamping and embossing machine, the combination of die-stamping mechanism, a work table for embossing operations including a surface for holding work to be stamped, tape-feeding mechanism and means including spaced yieldable guides for holding a portion of the tape spaced between the stamping mechanism and said surface and parallel with said surface, means for operating the die-stamping mechanism, and means for operating the tape-holding means in pre-determined relation to the operation of the die-stamping mechanism so that as the tape contacts the work on said surface the stamping mechanism will stamp the tape to produce an impression upon the work; said tape feeding mechanism and said tape-holding means reciprocating in the same direction with and in predetermined relation to said die-stamping mechanism.

4. In a printing, stamping and embossing machine, the combination of die-stamping mechanism, means including a surface for holding work to be stamped, tape-feeding mechanism, means connected with the tape-feeding mechanism as a unitary part thereof for normally holding a portion of the tape spaced between the stamping mechanism and said surface and parallel with said surface, means for operating the stamping mechanism and tape-holding mechanism simultaneously but at different speeds so that as the tape contacts the work to be stamped the stamping mechanism will impinge the tape to stamp the work, and means for operating the tape-feeding mechanism, the latter being connected with the tape-holding means for operation thereby.

5. In a printing, stamping and embossing machine, the combination with a surface for supporting work to be stamped, of die-stamping mechanism mounted for movement toward said surface, tape-holding mechanism mounted for movement toward said surface and including guides for sustaining a section of tape spaced between the stamping mechanism and said surface, said guides being vertically yieldable on contact with an object, means for moving the stamping mechanism and tape-holding mechanism simultaneously but at different speeds to impinge the stamping mechanism on the tape substantially at the same time the tape contacts work upon said surface, supply and take-up means for the tape carried by the tape-holding mechanism for passing the tape across said guides, and means for operating the take-up means, the latter being connected with the tape-holding mechanism for operation thereby.

6. In combination with a main frame being provided with a reciprocating stamping die and a surface for supporting work to be stamped by the die, a device for supporting and moving tape between the die and said surface, including a supply reel, a take-up reel and guides in relation thereto for holding a portion of the tape parallel with said surface, a reciprocating member on the main frame supporting said device, and means on the main frame for reciprocating said member and die in pre-determined relation and with different amplitudes so that as the parallel portion of the tape contacts the work the die will strike the tape with impression producing impact.

7. In combination with means for producing lengthwise travel of a tape, a supporting frame therefor, a vertically reciprocating member carrying said supporting frame, a vertically reciprocating die, and operating means connecting said member and die for operating the same, said operating means being operative to move said die into impression making impact with said tape at one point during the reciprocation of said parts.

8. In combination with means for producing lengthwise travel of a tape including a supply reel, a take-up reel and guides for holding the tape, a unitary frame with which all of said parts are connected to move together, said guides being yieldably connected to said frame, a main supporting structure, a reciprocating member in the supporting structure supporting said unitary frame, means for operating said member, and means under the control of the movement of the unitary frame for operating said take-up reel.

9. A printing, stamping and embossing machine comprising a contact surface, two vertically reciprocating mechanisms, means supporting a type-holding chase for movement from reverted position and into engagement with one of said reciprocating mechanisms for movement therewith, a tape-feed mechanism supported by the other reciprocating mechanism and therewith movable and including guides for holding the tape spaced between the type of the chase and said surface, and means for operating said reciprocating mechanisms in pre-determined relation in the same direction but with different speeds so that as the tape comes into juxtaposition to said surface the type of the chase will strike said tape with impression producing impact.

10. A stamping mechanism, having, in combination, a supporting head being provided with two vertically reciprocating rack bars, a type-carrying chase supported on the lower end of one rack bar, a tape-holding frame supported on the other rack bar and including guide means for sustaining a portion of the tape spaced below the chase, supply and take-up members on the holding frame for passing the tape across said guide means, an operating shaft for reciprocating said rack bars differentially geared thereto to move said chase and holding frames at such pre-determined speeds that the type on the chase will impinge the tape at least one time during each reciprocation of the two rack bars, and means for actuating the take-up member at least once during each reciprocation of said rack bars.

11. A printing, stamping and embossing machine including means for guiding a type-carrier

from inverted position to opposite position and then into an interlocking engagement with an actuable element for movement therewith to make the type impression, the type carrier being free from the actuating element in its inverted position, and free from the guiding means in the opposite position.

12. In a device of the character described including a head structure being provided with a vertically operated member, a shoe attached to said member and having receiving edges, a pair of complementary members projecting from said head structure in spaced parallel relation and provided with guide means formed on curves between upper and under courses, with the under course in alignment with the shoe receiving edges when said member is in one position, a type chase slidably engaged with said guide means to alternately position the chase face upwardly and face downwardly accordingly as it is moved into the upper and under courses, respectively, and means on the chase adapted to effect an interlocking engagement with said receiving edges on movement of the chase from the lower course onto said shoe.

13. In a device of the character described including a supporting structure being provided with an operating member having receiving means, a type-carrying chase, means supported by the supporting structure supporting the chase and having a guideway for guiding the chase from face-upward position adjacent the supporting structure to face-downward position adjacent said receiving means, means on the chase adapted to interlock with said receiving means when said chase is moved from its guide to said member for support thereby, and an adjustable mirror device on said supporting structure wherein to proof-read the type set-up of the chase.

14. In a printing, stamping and embossing machine comprising a type carrying chase, an actuating element for said chase, means for supporting said actuating element, and means for interlockingly engaging said actuating element and chase, the improvement which comprises guide means by which the type chase is guided from its engaged position to a disengaged position in association with said actuating element support.

15. In a printing, stamping and embossing machine comprising a type carrying chase, an actuating element for said chase, means supporting said actuating element, and means for interlockingly engaging said actuating element and chase, the improvement which comprises guide means by which the type chase is guided from its engaged position to a disengaged position in association with said actuating support, and held in such disengaged position.

16. In the structure called for by claim 12, the improvement wherein the type chase is provided with type clamping means comprising a pair of complementary clamping members, a screw with which said members are engaged, means for retaining the members for actuation toward and away from one another, the engagement between the screw and members comprising right and left hand threads for the members whereby rotation of the screw in one direction will cause movement of the members toward one another and reverse rotation of the screw will cause movement of the members in directions away from one another.

17. In the structure called for by claim 12, the improvement wherein the type chase is provided with a body having a type-receiving groove, means for retaining the type in the groove against displacement, comprising means on the body for receiving and retaining a screw for rotation, a pair of clamps on the screw for engaging the opposite sides of the type, said clamps being engaged with the screw by alternating thread portions adapted, on turning the screw in one direction, to move the clamps toward one another and clamp the type from opposite sides and adapted on turning the screw reversely to cause spreading movement of the clamps and release of the type.

18. In the structure called for by claim 12, the improvement wherein the type chase is provided with a type groove upon the chase body, the said groove having a stationary wall and a slide movable toward and away from said wall, the wall having a notch parallel with the top portion of the slide, a pair of clamps for clamping type in the groove, resting on the slide top portion and having one end thereof engaged in said notch, a screw having right and left hand threads engaging opposite ends of the clamps, and bearings for the screw attached to the body, one portion of each bearing comprising a movable, spring tensioned part to allow quick detachment of the screw.

19. In the structure called for by claim 3, the improvement wherein said work table is provided with a binder's strip, a rail at one side of the table with which the strip is slidably connected for movement across the surface of the table, said rail supporting one end of the strip spaced from the surface of the table, a guide parallel with the rail resting upon the table and having a portion on which to rest and thereby raise the opposite end of the strip, and a slide upon the table connected to said guide for moving the same in directions toward and away from said rail.

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