Dec. 31, 1963 J. T. REINHARDT ETAL 3,115,826

PRINTING MACHINE

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Fig. 1.

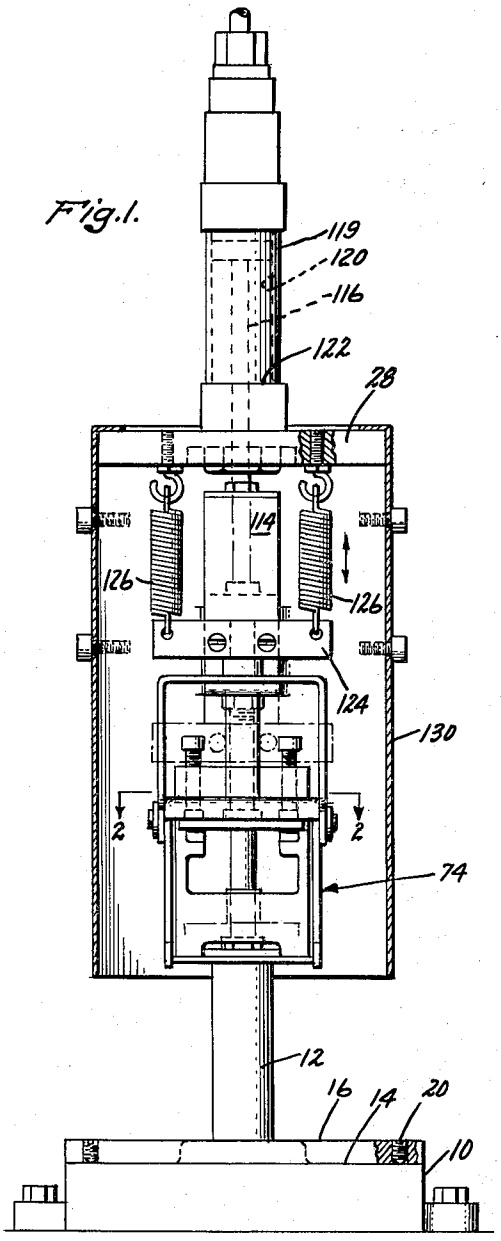


Fig. 2.

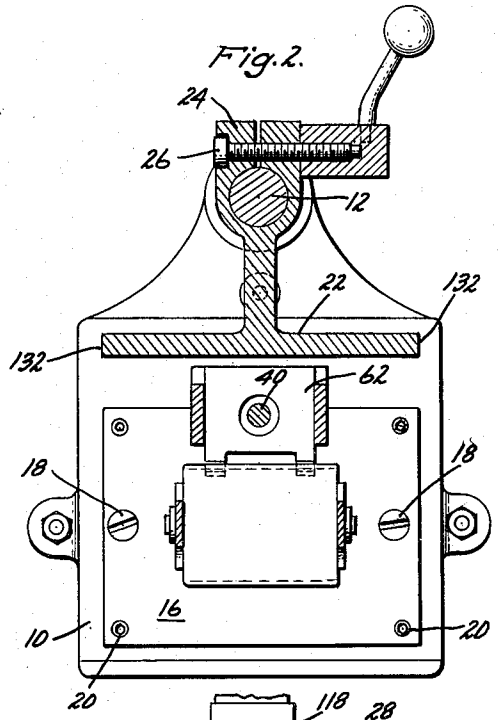
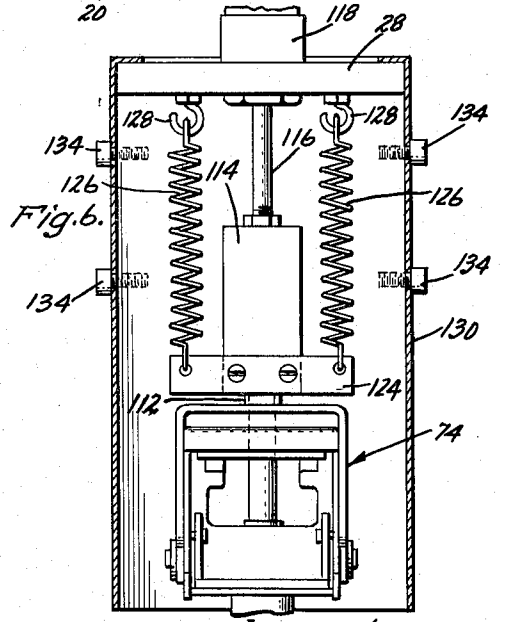


Fig. 6.



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Fig. 4.

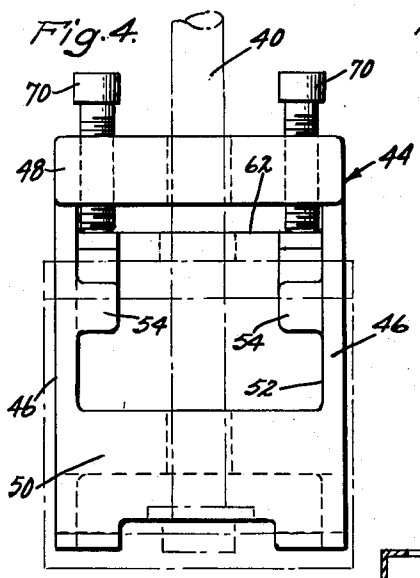


Fig. 3.

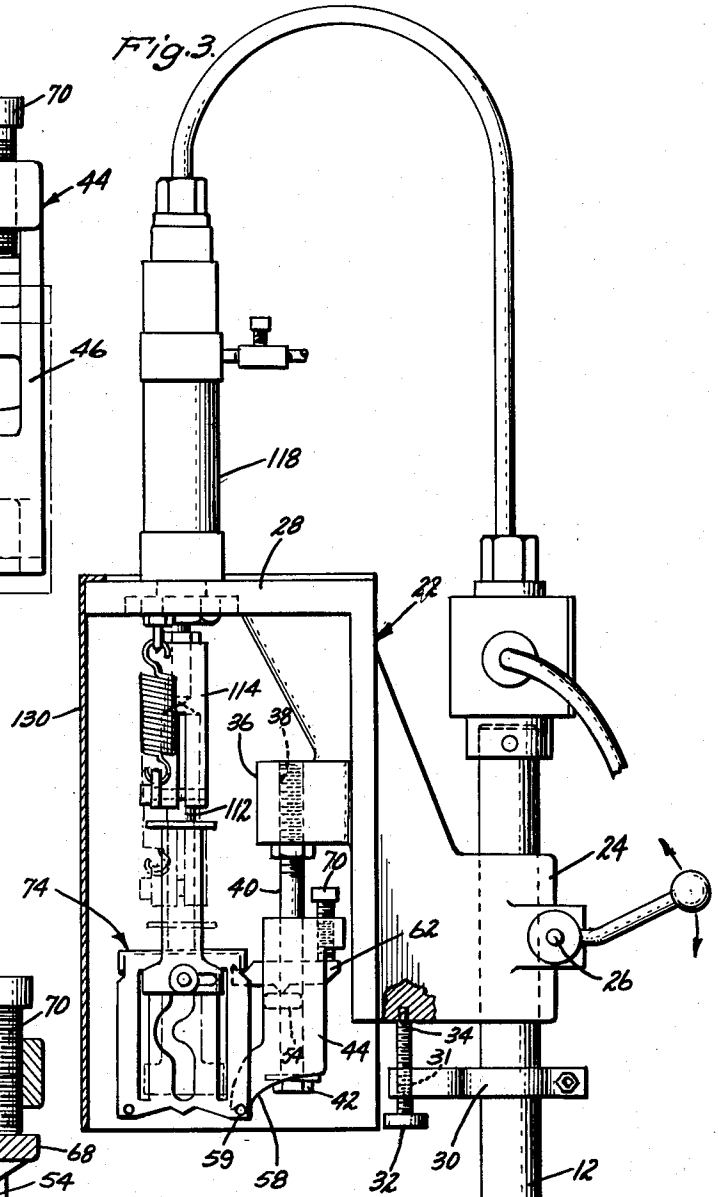
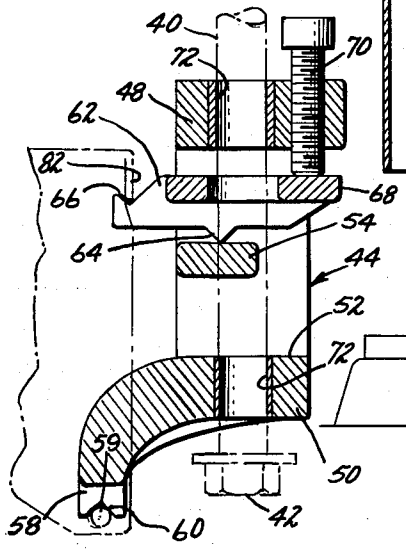


Fig. 5.



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PRINTING MACHINE

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Fig. 7.

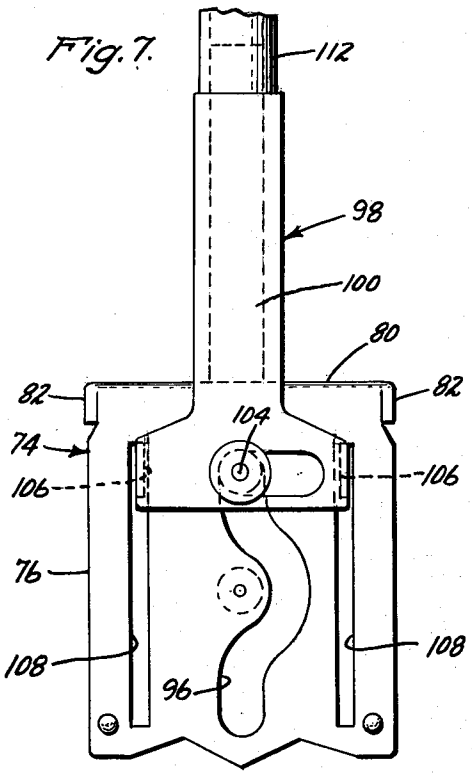


Fig. 8.

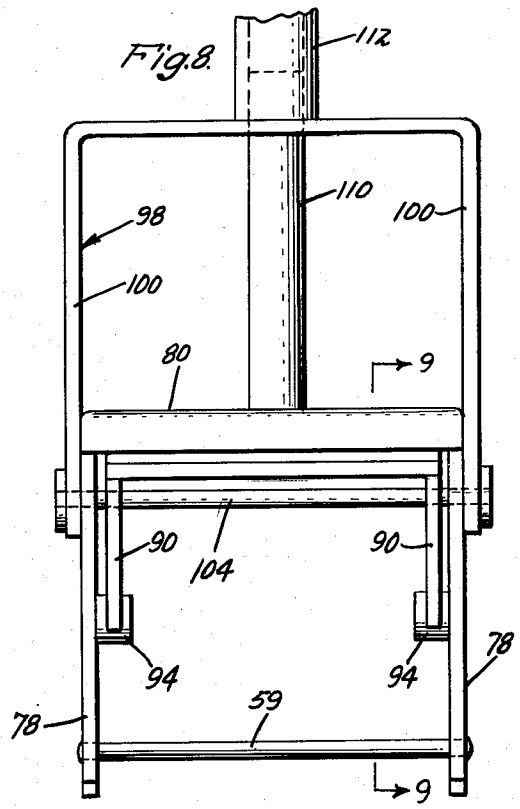
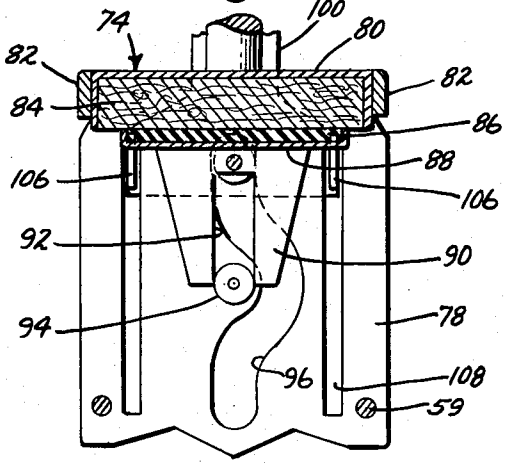


Fig. 9.



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3,115,826

PRINTING MACHINE

John T. Reinhardt, 410 Hanna St., Logansport, Ind., and Austin A. Baker, Kokomo, Ind.; said Baker assignor to said Reinhardt

Filed Sept. 12, 1962, Ser. No. 223,008
8 Claims. (Cl. 101—41)

The present invention relates to a printing machine having particular utility in the marking or printing of information on items of manufacture such as cartons, tags, hardware and the like.

Self-inking stamp mechanisms are conventional and have been used for many years in industrial printing. These mechanisms are manually operated such that at least a modicum of operator skill is required in producing a clear and legible imprint. When an operator is required to print items on a continuous basis in mass-production quantities, erractic results enter in by reason of operator fatigue, improper manually applied forces and other skill factors which are required.

The present invention utilizes the aforementioned self-inking stamp in connection with auxiliary operating equipment whereby the stamping mechanism may be cyclically operated in a precise and consistent manner with substantial speed. The resulting apparatus thereby becomes a high production, accurate printing machine which can be used for a relatively great number of repetitive production applications.

It is therefore an object of this invention to provide a printing apparatus which is precise and consistent in operation from one printing operation to another and which overcomes the problems of operator fatigue, skill and the like which attended the use of the prior art, manually operated stamping mechanism.

It is still another object of this invention to provide a printing apparatus which is economical to construct and operate, is reliable in operation, and is also efficient.

Other objects will become apparent as the description proceeds.

The above-mentioned and other features and objects of this invention and the manner of attaining them will become more apparent and the invention itself will be best understood by reference to the following description of an embodiment of the invention taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a front elevation of one embodiment of this invention with the cover portion thereof shown in vertical section;

FIG. 2 is a sectional illustration taken substantially along section line 2—2 of FIG. 1;

FIG. 3 is a side elevation partly sectioned of the apparatus shown in FIG. 1;

FIG. 4 is a front view of the clamping mechanism;

FIG. 5 is a longitudinal section of the clamping mechanism;

FIG. 6 is a fragmentary front view, partially sectioned, of the embodiment of FIG. 1 showing the stamping mechanism in the operated position of making an imprint;

FIG. 7 is a side view of a conventional self-inking stamp as used in the apparatus of the preceding figs.;

FIG. 8 is a front view of the stamps; and

FIG. 9 is a sectional view taken substantially along the section line 9—9 of FIG. 8.

Referring to the drawings, and more particularly to FIGS. 1 and 3, a supporting stand comprises a flat base plate 10 having an upstanding cylindrical supporting column 12 secured thereto. The base plate 10 is provided with a flat upper surface 14 which receives thereon a flat leveling plate 16. This leveling plate 16 is secured to the base plate 14 by means of two screws 18 (FIG. 2)

which pass through the leveling plate 16 and are threaded into the base plate 10. By tightening these screws 18 down, the leveling plate 16 may be rigidly secured to the base plate 10.

In the corners of the leveling plate 16 are provided screws 20 which are received in threaded openings passing entirely through the plate 16. These screws 20 are turned down until they engage the top surface 14 of the base plate 10, and by adjusting these screws 20 into contact with the surface 14, the position of the upper surface of the plate 16 may be adjusted to coincide with any desired plane close to horizontal. The importance of this feature will become apparent from the following description.

A rigid supporting frame, generally indicated by the numeral 22, is provided with a split sleeve 24 which telescopes over the column 12. By means of this sleeve 24, the frame 22 is slidably mounted on the column 12. A clamping screw 26 (FIG. 2) passes through the split sleeve 24 as shown for the purpose of tightening the sleeve onto the column 12 for securing frame 22 in an adjusted elevational position.

The frame 22 is also provided with a horizontal supporting plate 28 which serves a purpose to be described more fully hereinafter.

Also telescopically mounted on the column 12 is a rigid bracket 30 which may be clamped in adjusted position on the column. This bracket 30 is provided with an opening and a portion which is split whereby the bracket may be unclamped from the column 12, moved to an adjusted position, and there tightened against movement. This bracket 30 closely resembles the split sleeve 24 of the frame 22.

One end of the bracket 30 is provided with a threaded aperture 31 which receives a fine-adjusting screw 32, this screw being vertically aligned and fitted into a suitable recess 34 in the underside of the frame 22. With the screw 26 of the split sleeve 24 loosened, and the bracket 30 tightened on the column 12, the screw 32 may be threaded upwardly or downwardly to obtain an incremental adjustment of the frame 22 on the column 12.

On the front side of the frame 22 and preferably integral therewith is provided an embossment or lug 36. A bore 38 vertically aligned threadedly receives one end of a guide pin or bolt 40 (FIGS. 4 and 5) which is vertically aligned. The lower end of the pin 40 is provided with a head 42 which serves a purpose to be explained more fully hereinafter.

Slidably mounted on the pin 40 between the head 42 and the lug 36 is a clamping body 44 of rigid construction. This clamping body 44 is shown in more detail in FIGS. 4 and 5. As shown, it includes two opposite, spaced-apart sides 46 and upper and lower transverse portions 48 and 50, respectively, which together define an enlarged opening 52. Extending lateraly inwardly from the two sides 46 are two ledges 54 which present flat upper surfaces having a purpose to be later explained.

The transverse body portion 50 projects laterally forwardly of the clamping body 44 and also downwardly to provide a jaw portion 56 having a transverse notch 60 in the underside thereof.

A lever 62, which resembles a flat plate, is provided between its ends with two depending fulcrums 64 which are spaced apart so as to be engageable with the upper surfaces of the two ledges 54 as shown more clearly in FIG. 5. The front end of this lever 62 is provided with an upwardly facing notch 66 while the rear end 68 is engaged on the upper side thereof by a pair of abutment screws 70 threaded through the upper transverse portion 48 of the clamping body 44. By raising and lowering the screws 70, the pivoted position of the lever 68 with respect to the ledges 54 may be altered.

The clamping body 44 is mounted on the guide pin 40

by means of the two aligned apertures 72 in the upper and lower transverse portions 48 and 50 as more clearly shown in FIG. 5. These openings 72 which may be provided with suitable bearing sleeves permit the clamping body to slide upwardly and downwardly on the guide pin 40, the uppermost position being that at which the clamping body might engage the frame lug 32 and the lowermost position being that at which the bottom portion of the clamping body 44 engages the head 42. Thus, the head 42 acts as an abutment or stop which permits only limited downward movement of the clamping body 44.

A conventional self-inking stamping mechanism, generally indicated by the reference numeral 74, is shown in more detail in FIGS. 7, 8 and 9. While this printing mechanism is conventional, still a brief description thereof is believed to be in order. The mechanism comprises a rigid, stamped metal frame 76 bent to a substantially U-shape with opposite parallel sides 78 depending from the crossbar portion 80. Bent downwardly from the lateral edges of the crossbar portion 80 are two rigid flanges 82 which are used in connection with mounting this printer 74 on the clamping body 44 as will be explained in more detail hereinafter.

A conventional inking pad 84 is secured to the upper inside of the crossbar portion 80 between the two sides 78 as more clearly shown in FIG. 9. Then, immediately beneath the inking pad 84 is a printing pad 86 mounted on a flat plate 88 having two spaced apart, depending cam ears 90 which are each provided with a cam slot 92. The cam slot 92 of each cam ear 90 fits over a roller or suitable bearing 94 which is attached to the respective frame side 78 so as to project inwardly thereof (FIG. 8).

Both frame sides 78 are provided with identical slots 96 which are shaped as shown in FIGS. 7 and 9, the mid-portion of these slots 96 being curved as shown around the bearings 94. The opposite end portions of the slots 96, however, are in straight vertical alignment with each other and also with the cam bearing 94 as shown.

A suitable handle or yoke 98 is provided with two parallel arms 100 which straddle the frame sides 78. The lower extremities of these arms 100 are provided with elongated slots 102 which in turn receive for sliding movement suitable bearings mounted on a shaft 104 which passes through the slots 96 and also through suitable openings in the two cam ears 90 of the printing plate 88. Also, the lower ends of the two arms 100 are provided with inturned flanges or guide elements 106 which fit into parallel upright slots 108 in the frame side 78. These slots 108 terminate adjacent the bottom ends of the frame side 78 and thereby limit the relative downward movement of the yoke 98 with respect to the printer frame 74.

Secured to the crossbar portion 80 of the printer frame is an upstanding guide rod 110 which is passed through a suitable clearance opening in the yoke 98 and telescopically received by an actuating rod 112 which is secured to the yoke 98 as shown. By this means, it is possible to move the yoke 98 downwardly with respect to the printer frame 74 such that the printing pad 86 may be flipped over and moved downwardly to make an imprint on an object placed beneath the mechanism. More particularly, with the printing mechanism in the position illustrated in FIGS. 7, 8 and 9, the printing pad 86 is abutted against the inking pad 84. By moving the yoke 98 downwardly relative to the printer frame 74, the pad 86 is carried downwardly and turned 180° by reason of the cam ears 90 swinging around the bearings 94 while the shaft 104 with its bearings are moved downwardly in the two slots 96 to the lower extremities thereof. Once the lower extremities of the slots 96 have been reached, the printing pad 86 is faced downwardly and in position to be impressed against an object which is being printed.

Thus, by upward and downward movement of the yoke 98 with respect to the frame 74, alternate printing and inking operations may be effected. These operations as well as the mechanism just described are conventional and well known to persons skilled in the art.

To the actuating rod 112 is clamped an upstanding bar 114 into the upper end of which is threadedly fitted the lower end of a piston rod 116, this piston rod extending from an upright power cylinder 118 which is suitably secured to the upper plate portion 28 of the frame 22. As shown more clearly in FIG. 1, this piston rod 116 is secured to a piston 119 which is reciprocably received by the cylinder bore 120. The lower end of the cylinder bore 120 is closed by means of an end cap 122 through which the piston rod 116 reciprocably passes, this end cap 122 serving as an abutment for limiting the downward movement of the piston 119. The significance of this abutment will become apparent from the description to follow.

A crossbar 124 is transversely secured to the extension bar 114 by means of suitable screws as shown and has secured to the opposite ends thereof two tension springs which are attached at the upper ends thereof to suitable hooks 128 depending from and rigidly secured to the frame plate 28. These springs 126 are of sufficient strength to urge normally the entire mechanism to the position as shown in FIGS. 1 and 3.

A suitable sheet metal cover having three sides and opposite open ends is fitted over the mechanism as shown in FIGS. 1 and 3, the sides of the cover embracing the opposite lateral sides 132 of the vertical portion of the frame 22. The cover sides are slotted in alignment with these edges 132 and receive through the slots suitable screws 134 which are threaded into the frame 22. By this means, the cover may be attached to the frame 22 and may also be conveniently raised and lowered with respect to the frame by reason of the slots aforementioned.

As shown more clearly in FIG. 3, the printing mechanism 74 is rigidly attached to the clamping body 44 by means of the jaw portion 58 and the lever 66. The screws 70 are loosened to a suitable extent for the purpose of permitting the lever 64 to swing sufficiently far in a counterclockwise direction as viewed in FIG. 3. The notch 60 in the jaw portion 58 is fitted over the frame bar 59 which is secured at its opposite ends to the printer frame sides 78 while the notch 66 of the lever 62 is fitted against the bottom edge of the depending frame flange 82. The screws 70 are thereupon tightened to swing the lever 62 clockwise until the lever notch 66 tightly engages the flange 82 and thereby clamps the printer frame 74 between the jaw portion 58 and the lever 62. This provides a rigid mounting of the printer on the clamping body 44.

In operation, an object to be imprinted is first placed on the leveling plate 16 directly beneath the printer 74. It will be assumed that the apparatus has been properly adjusted at this time. Air under pressure is admitted to the power cylinder 118 which serves to drive the piston 119 downwardly until it bottoms against the end cap 122. This results in the yoke 98 of the printer being moved downwardly and also permits the clamping body 44 to drop downwardly until it abuts against the head 42 of the guide pin 40. Further downward movement of the yoke 98 serves to flip the printing pad 86 over and downwardly into printing position, the printing pad coming into contact with the object to be printed at the bottom of its travel. The limit of the printing pad's downward travel is determined by the engagement of the piston 119 with the end cap 122, and the equipment is so adjusted that the piston 119 will so bottom before the guide elements 106 on the yoke 98 engage the bottoms of the respective slots 108. Once the printing impression has been made, the air pressure admitted to the power cylinder 118 is released, thereupon permitting the retracting springs 126 to lift the yoke 100 as well as the clamping body 44 away from the object. The object may be removed and another like object inserted in its place for another printing operation.

In the initial adjustment of the mechanism, the piston 119 is first bottomed against the end cap 122 which serves in moving the guide elements 106 of the yoke

98 to the lower extremities of the two frame slots 108. The pin 40 is then adjusted such (moving the clamp body 44 upwardly or downwardly as the case may be) until the lower ends of the slots 108 either just clear or have no more than touching engagement with the guide elements 106. Once so adjusted, the force exerted by the piston 119 cannot be transmitted through the yoke 98 and against the lower ends of the slots 108 which could result in damage to the printer frame 76.

With respect to the necessary adjustments for making a printing impression upon an object of a given height, the object is first placed on the plate 16 directly beneath the printer 74. The clamping body 44 is moved downwardly against the head 42 following which the frame 22 is adjusted such that the bottom of the printer 74 will just touch or clear the object being printed. Since it is difficult to obtain fine or incremental adjustments of the frame 22 on the column 12, loosening of the clamping screw 26 and permitting the frame 22 to bear against the fine-adjusting screw 32 will permit the latter to be used in incrementally moving the frame 22 upwardly or downwardly until the proper height of the printer 74 with respect to the object is obtained. Following this, the clamping screw 26 is tightened to secure the frame 22 on the column 12. The machine is thereby adjusted and may be used repeatedly for making imprints on a continuous stream of like objects.

While we have described above the principles of our invention in connection with specific apparatus, it is to be clearly understood that this description is made only by way of example and not as a limitation to the scope of our invention.

What is claimed is:

1. A printing machine comprising a base plate having a supporting column upstanding therefrom, a leveling plate superposed on said base plate and having four leveling screws threaded therethrough and extending into abutting contact with said base plate, said leveling screws being spaced apart and located at the corners of an imaginary rectangle, two spaced apart mounting screws passing through said leveling plate and threaded into said base plate for securing the two plates together, a rigid supporting frame having a split sleeve which slidably receives said column whereby said frame may be vertically adjusted on said column, a clamping screw threaded through said sleeve for tightening said sleeve onto said column, a rigid adjustment bracket adjustably secured to said column beneath said frame, a fine-adjusting screw threaded through said bracket and extending vertically to abut the underside of said frame whereby the vertical position of said frame on said column may be adjusted, a vertically extending pin threaded at one end into said frame and having a head on the lower end spaced from said frame, a rigid clamping body having an opening therethrough which slidably receives said pin, said body being abuttable with said head which limits the downward movement thereof, a jaw portion laterally extending from the lower portion of said body, said clamping body having an enlarged opening therethrough and two horizontally aligned ledges extending inwardly into said enlarged opening from the sides of said body, a clamping lever having front and rear ends inserted through said enlarged opening and having two depending fulcrums between said ends which engage the top sides of said ledges respectively, said lever extending laterally from said body in the same direction as said jaw portion, at least one clamping screw threaded through the upper portion of said body and extending downwardly into abutting engagement with the upper portion of the rear end of said lever, a printer having a frame provided with vertically spaced upper and lower abutment portions, said jaw portion and the front end of said lever being inserted in the space between said abutment portions and forcefully engaging the same to mount firmly said printer frame on said clamping body, an upstanding actuating rod operatively secured to said printer for raising and lowering the latter, said printer frame having elongated vertically aligned slots therein, a stamp mechanism operatively mounted on said printer frame and having guide elements slidably fitted into said slots, said actuating rod also being operatively connected to said stamp mechanism for moving the same vertically for the length of said slots, a power cylinder having a piston bore and upper and lower ends, said power cylinder being mounted in an upright position on said rigid supporting frame and receiving a piston in said bore, said piston being engageable with said lower cylinder end as a stop, a vertically aligned piston rod passing through said lower cylinder end and being secured to said piston, said piston rod also being secured to said actuating rod whereby reciprocatory movement of said piston causes corresponding movement of said actuating rod, said pin being vertically adjusted such that when said piston bottoms against said lower cylinder end said guide elements of said stamp mechanism will move downwardly relative to said body and will have no more than touching engagement with the lower ends of the slots in said printer frame, and at least one spring operatively connected between said rigid supporting frame and said piston rod urging the latter upwardly.

2. A printing machine comprising a base plate having a supporting column upstanding therefrom, a rigid supporting frame having a split sleeve which slidably receives said column whereby said frame may be vertically adjusted on said column, a clamping screw threaded through said sleeve for tightening said sleeve onto said column, a rigid adjustment bracket adjustably secured to said column beneath said frame, a fine-adjusting screw threaded through said bracket and extending vertically to about the underside of said frame whereby the vertical position of said frame on said column may be adjusted, a vertically extending pin threaded at one end into said frame and having a head on the lower end spaced from said frame, a rigid clamping body having an opening therethrough which slidably receives said pin, said body being abuttable with said head which limits the downward movement thereof, a jaw portion laterally extending from the lower portion of said body, said clamping body having an enlarged opening therethrough and two horizontally aligned ledges extending inwardly into said enlarged opening from the sides of said body, a clamping lever having front and rear ends inserted through said enlarged opening and having two depending fulcrums between said ends which engage the top sides of said ledges respectively, said lever extending laterally from said body in the same direction as said jaw portion, at least one clamping screw threaded through the upper portion of said body and extending downwardly into abutting engagement with the upper portion of the rear end of said lever, a printer having a frame provided with vertically spaced upper and lower abutment portions, said jaw portion and the front end of said lever being inserted in the space between said abutment portions and forcefully engaging the same to mount firmly said printer frame on said clamping body, an upstanding actuating rod operatively secured to said printer for raising and lowering the latter, said printer frame having elongated vertically aligned slots therein, a stamp mechanism operatively mounted on said printer frame and having guide elements slidably fitted into said slots, said actuating rod also being operatively connected to said stamp mechanism for moving the same vertically for the length of said slots, a power cylinder having a piston bore and upper and lower ends, said power cylinder being mounted in an upright position on said rigid supporting frame and receiving a piston in said bore, said piston being engageable with said lower cylinder end as a stop, a vertically aligned piston rod passing through said lower cylinder end and being secured to said piston, said piston rod also being secured to said actuating rod whereby

reciprocatory movement of said piston causes corresponding movement of said actuating rod, said pin being vertically adjusted such that when said piston bottoms against said lower cylinder end said guide elements of said stamp mechanism will move downwardly relative to said body and will have no more than touching engagement with the lower ends of the slots in said printer frame, and at least one spring operatively connected between said rigid supporting frame and said piston rod urging the latter upwardly.

3. A printing machine comprising a base plate having a supporting column upstanding therefrom, a leveling plate superposed on said base and having four leveling screws threaded therethrough and extending into abutting contact with said base plate, said leveling screws being spaced apart and located at the corners of an imaginary rectangle, two spaced-apart mounting screws passing through said leveling plate and threaded into said base plate for securing the two plates together, a rigid supporting frame having a split sleeve which slidably receives said column whereby said frame may be vertically adjusted on said column, a clamping screw threaded through said sleeve for tightening said sleeve onto said column, a vertically extending pin threaded at one end into said frame and having a head on the lower end spaced from said frame, a rigid clamping body having an opening therethrough which slidably receives said pin, said body being abuttable with said head which limits the downward movement thereof, a jaw portion laterally extending from the lower portion of said body, said clamping body having an enlarged opening therethrough and two horizontally aligned ledges extending inwardly into said enlarged opening from the sides of said body, a clamping lever having front and rear ends inserted through said enlarged opening and having two depending fulcrums between said ends which engage the top sides of said ledges respectively, said lever extending laterally from said body in the same direction as said jaw portion, at least one clamping screw threaded through the upper portion of said body and extending downwardly into abutting engagement with the upper portion of the rear end of said lever, a printer having a frame provided with vertically spaced upper and lower abutment portions, said jaw portion and the front end of said lever being inserted in the space between said abutment portions and forcefully engaging the same to mount firmly said printer frame on said clamping body, an upstanding actuating rod operatively secured to said printer for raising and lowering the latter, said printer frame having elongated vertically aligned slots therein, a stamp mechanism operatively mounted on said printer frame and having guide elements slidably fitted into said slots, said actuating rod also being operatively connected to said stamp mechanism for moving the same vertically for the length of said slots, a power cylinder having a piston bore and upper and lower ends, said power cylinder being mounted in an upright position on said rigid supporting frame and receiving a piston in said bore, said piston being engageable with said lower cylinder end as a stop, a vertically aligned piston rod passing through said lower cylinder end and being secured to said piston, said piston rod also being secured to said actuating rod whereby reciprocatory movement of said piston causes corresponding movement of said actuating rod, said pin being vertically adjusted such that when said piston bottoms against said lower cylinder end said guide elements of said stamp mechanism will move downwardly relative to said body and will have no more than touching engagement with the lower ends of the slots in said printer frame, and at least one spring operatively connected between said rigid supporting frame and said piston rod urging the latter upwardly.

4. A printing machine comprising a base plate having a supporting column upstanding therefrom, a rigid supporting frame having a split sleeve which slidably receives said column whereby said frame may be vertically adjusted on said column, a clamping screw threaded through said sleeve for tightening said sleeve onto said column, a vertically extending pin threaded at one end into said frame and having a head on the lower end spaced from said frame, a rigid clamping body having an opening therethrough which slidably receives said pin, said body being abuttable with said head which limits the downward movement thereof, a jaw portion laterally extending from the lower portion of said body, said clamping body having an enlarged opening therethrough and two horizontally aligned ledges extending inwardly into said enlarged opening from the sides of said body, a clamping lever having front and rear ends inserted through said enlarged opening and having two depending fulcrums between said ends which engage the top sides of said ledges respectively, said lever extending laterally from said body in the same direction as said jaw portion, at least one clamping screw threaded through the upper portion of said body and extending downwardly into abutting engagement with the uper portion of the rear end of said lever, a printer having a frame provided with vertically spaced upper and lower abutment portions, said jaw portion and the front end of said lever being inserted in the space between said abutment portions and forcefully engaging the same to mount firmly said printer frame on said clamping body, an upstanding actuating rod operatively secured to said printer for raising and lowering the latter, said printer frame having elongated vertically aligned slots therein, a stamp mechanism operatively mounted on said printer frame and having guide elements slidably fitted into said slots, said actuating rod also being operatively connected to said stamp mechanism for moving the same vertically for the length of said slots, a power cylinder having a piston bore and upper and lower ends, said power cylinder being mounted in an upright position on said rigid supporting frame and receiving a piston in said bore, said piston being engageable with said lower cylinder end as a stop, a vertically aligned piston rod passing through said lower cylinder end and being secured to said piston, said piston rod also being secured to said actuating rod whereby reciprocatory movement of said piston causes corresponding movement of said actuating rod, said pin being vertically adjusted such that when said piston bottoms against said lower cylinder end said guide elements of said stamp mechanism will move downwardly relative to said body and will have no more than touching engagement with the lower ends of the slots in said printer frame, and at least one spring operatively connected between said rigid supporting frame and said piston rod urging the latter upwardly.

5. A printing machine comprising a base plate having a supporting column upstanding therefrom, a rigid supporting frame slidably mounted on said column, a vertically extending pin threaded at one end into said frame and having a head on the lower end spaced from said frame, a rigid clamping body having an opening therethrough which slidably receives said pin, said body being abuttable with said head which limits the downward movement thereof, a jaw portion laterally extending from the lower portion of said body, said clamping body having an enlarged opening therethrough and two horizontally aligned ledges extending inwardly into said enlarged opening from the sides of said body, a clamping lever having front and rear ends inserted through said enlarged opening and having two depending fulcrums between said ends which engage the top sides of said ledges respectively, said lever extending laterally from said body in the same direction as said jaw portion, at least one clamping screw threaded through the upper portion of said body and extending downwardly into abutting engagement with the upper portion of the rear end of said lever, a printer having a frame provided with vertically spaced upper and lower abutment portions, said jaw portion and

the front end of said lever being inserted in the space between said abutment portions and forcefully engaging the same to mount firmly said printer frame on said clamping body, an upstanding actuating rod operatively secured to said printer for raising and lowering the latter, said printer frame having elongated vertically aligned slots therein, a stamp mechanism operatively mounted on said printer frame and having guide elements slidably fitted into said slots, said actuating rod also being operatively connected to said stamp mechanism for moving the same vertically for the length of said slots, a power cylinder having a piston bore and upper and lower ends, said power cylinder being mounted in an upright position on said rigid supporting frame and receiving a piston in said bore, said piston being engageable with said lower cylinder end as a stop, a vertically aligned piston rod passing through said lower cylinder end and being secured to said piston, said piston rod also being secured to said actuating rod whereby reciprocatory movement of said piston causes corresponding movement of said actuating rod, said pin being vertically adjusted such that when said piston bottoms against said lower cylinder end said guide elements of said stamp mechanism will move downwardly relative to said body and will have no more than touching engagement with the lower ends of the slots in said printer frame, and at least one spring operatively connected between said rigid supporting frame and said piston rod urging the latter upwardly.

6. A printing machine comprising a base plate having a supporting column upstanding therefrom, a rigid supporting frame slidably mounted on said column, a vertically extending pin threaded at one end into said frame and having a head on the lower end spaced from said frame, a rigid clamping body slidably mounted on said pin and having a portion engageable with said head to limit the downward movement of said body, a jaw portion laterally extending from said body, a clamping lever having front and rear ends, said lever being pivotally mounted in said body with the front end thereof projecting laterally outwardly in the same direction as said jaw portion, an adjustable abutment on said body operatively depressing the rear end of said lever, a printer having a frame provided with vertically spaced upper and lower abutment portions, said jaw portion and the front end of said lever being inserted in the space between said abutment portions and forcefully engaging the same to mount firmly said printer frame on said clamping body, an upstanding actuating rod operatively secured to said printer for raising and lowering the latter, said printer frame having elongated vertically aligned slots therein, a stamp mechanism operatively mounted on said printer frame and having guide elements slidably fitted into said slots, said actuating rod also being operatively connected to said stamp mechanism for moving the same vertically for the length of said slots, a power cylinder having a piston bore and upper and lower ends, said power cylinder being mounted in an upright position on said rigid supporting frame and receiving a piston in said bore, said piston being engageable with said lower cylinder end as a stop, a vertically aligned piston rod passing through said lower cylinder end and being secured to said piston, said piston rod also being secured to said actuating rod whereby reciprocatory movement of said piston causes corresponding movement of said actuating rod, said pin being vertically adjusted such that when said piston bottoms against said lower cylinder end said guide elements of said stamp mechanism will move downwardly relative to said body and will have no more than touching engagement with the lower ends of the slots in said printer frame, and at least one spring operatively connected between said rigid supporting frame and said piston rod urging the latter upwardly.

7. A printing machine comprising a base plate having a supporting column upstanding therefrom, a rigid supporting frame slidably mounted on said column, a vertically extending pin threaded at one end into said frame and having a head on the lower end spaced from said frame, a rigid clamping body slidably mounted on said pin and having a portion engageable with said head to limit the downward movement of said body, a self-inking printer having a frame rigidly secured to said clamping body, said printer frame having elongated vertically aligned slots therein, a stamp mechanism operatively mounted on said printer frame and having guide elements slidably fitted into said slots, an actuating rod on said printer operatively connected to said stamp mechanism for moving said guide elements the length of said slots, a power cylinder having a piston bore and upper and lower ends, said power cylinder being mounted in an upright position on said rigid supporting frame and receiving a piston in said bore, said piston being engageable with said lower cylinder end as a stop, a vertically aligned piston rod passing through said lower cylinder end and being secured to said piston, said piston rod also being secured to said actuating rod whereby reciprocatory movement of said piston causes corresponding movement of said actuating rod, said pin being vertically adjusted such that when said piston bottoms against said lower cylinder end said guide elements of said stamp mechanism will move downwardly relative to said body and will have no more than touching engagement with the lower end of the slots in said printer frame, and at least one spring operatively connected between said rigid supporting frame and said piston rod urging the latter upwardly.

8. A printing machine comprising a base plate having a supporting column upstanding therefrom, a rigid supporting frame slidably mounted on said column, a vertically extending pin threaded at one end into said frame and having a head on the lower end spaced from said frame, a rigid clamping body having an opening therethrough which slidably receives said pin, said body being abuttable with said head which limits the downward movement thereof, a jaw portion laterally extending from the lower portion of said body, said clamping body having an enlarged opening therethrough and two horizontally aligned ledges extending inwardly into said enlarged opening from the sides of said body, a clamping lever having front and rear ends inserted through said enlarged opening and having two depending fulcrums between said ends which engage the top sides of said ledges respectively, said lever extending laterally from said body in the same direction as said jaw portion, at least one clamping screw threaded through the upper portion of said body and extending downwardly into abutting engagement with the upper portion of the rear end of said lever, a power cylinder having a piston bore and upper and lower ends, said power cylinder being mounted in an upright position on said rigid supporting frame and receiving a piston in said bore, said piston being engageable with said lower cylinder end as a stop, and a vertically aligned piston rod passing through said lower cylinder end and being secured to said piston.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,115,826 December 31, 1963

John T. Reinhardt et al.

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 54, for "lateraly" read -- laterally --; column 3, line 25, for "inside" read -- inner side --; column 6, line 35, for "about" read -- abut --; column 7, line 13, after "base" insert -- plate --.

Signed and sealed this 9th day of June 1964.

(SEAL)
Attest:

ERNEST W. SWIDER
Attesting Officer

EDWARD J. BRENNER
Commissioner of Patents