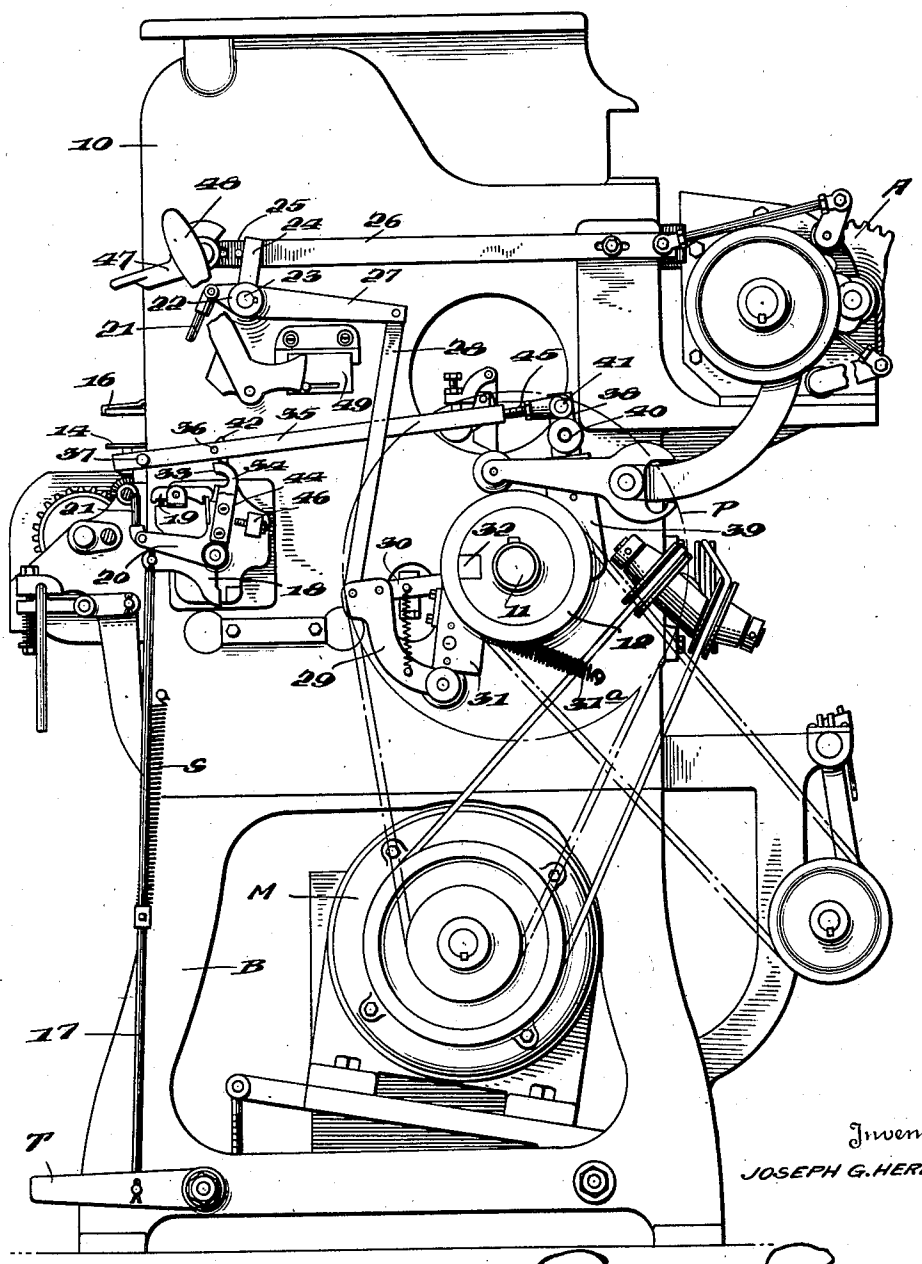
March 24, 1942. J. G. HERBERS 2,277,363

ORNAMENTING MACHINE

Filed April 21, 1941 4 Sheets-Sheet 1

Fig. 1.



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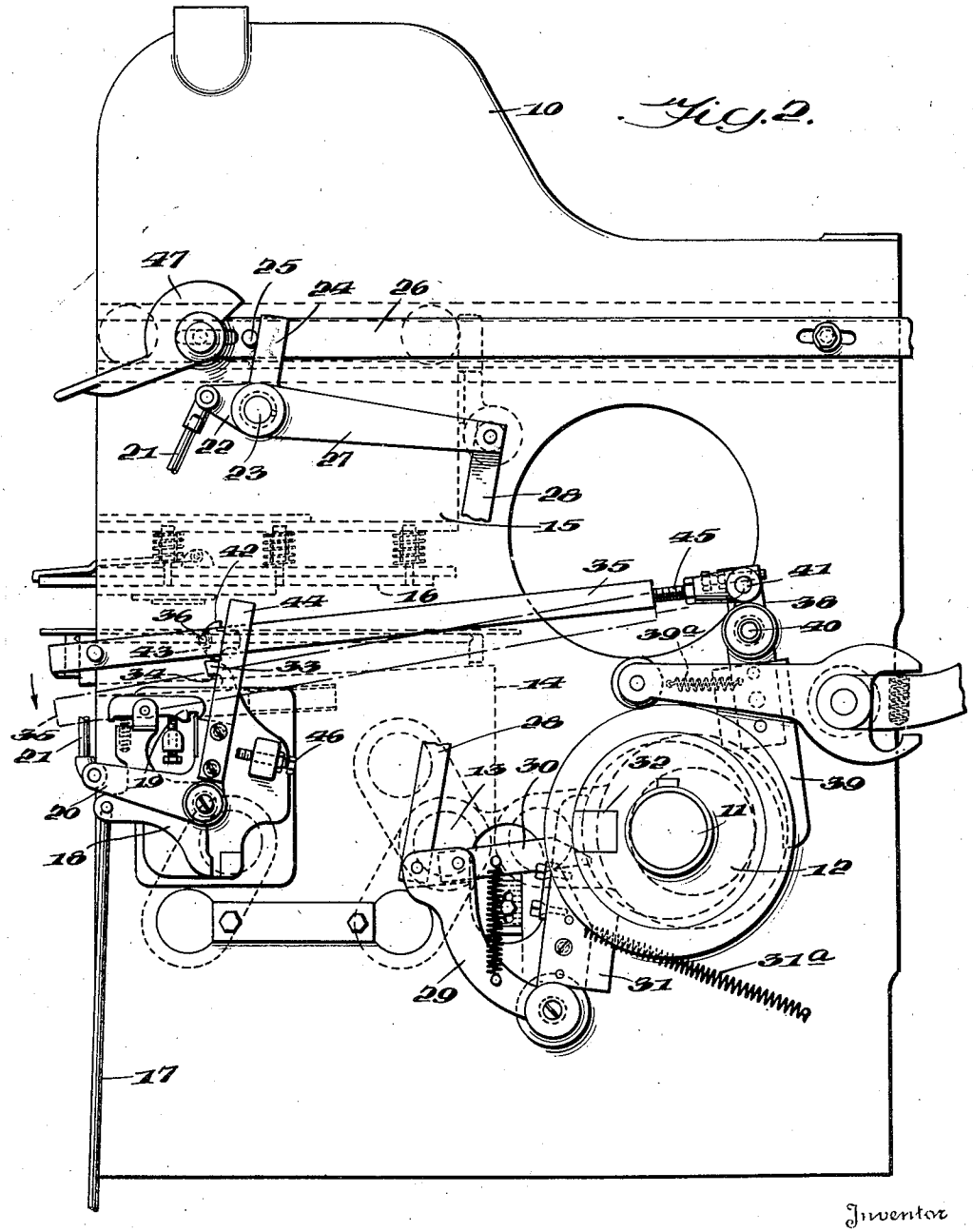
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ORNAMENTING MACHINE

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Fig. 2.



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ORNAMENTING MACHINE

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Fig. 4.

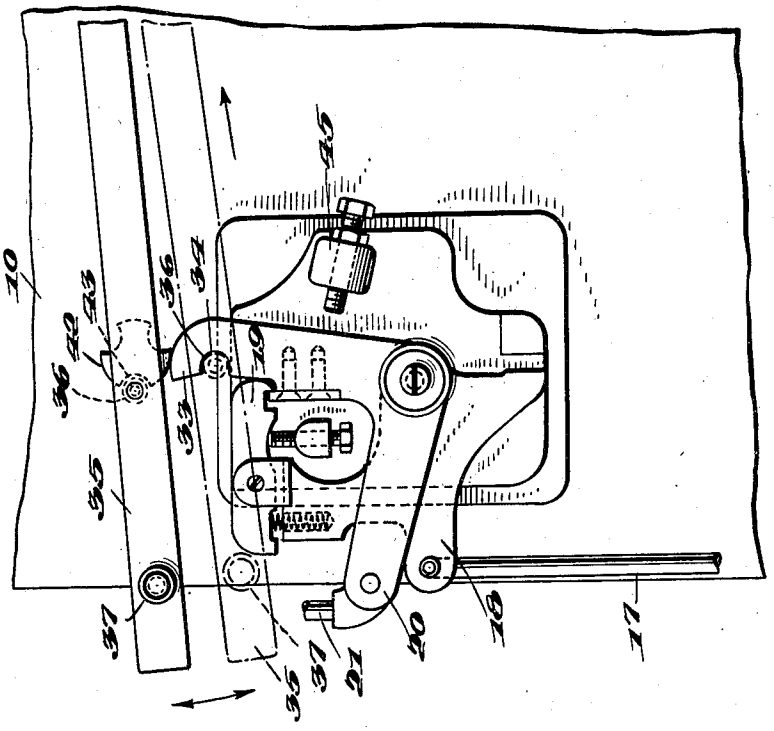
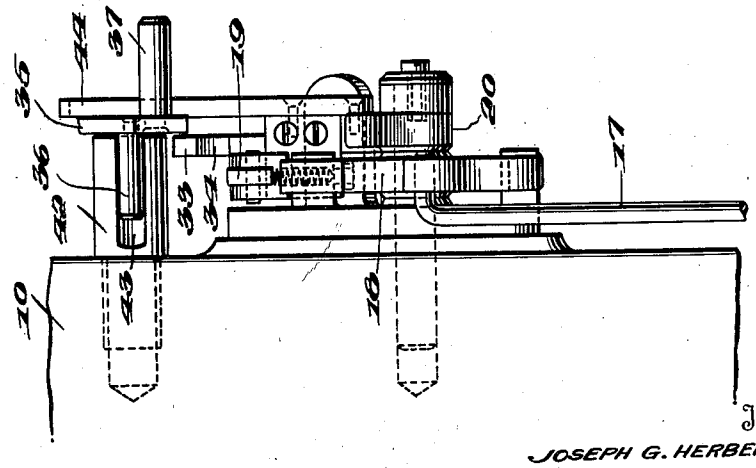


Fig. 3.



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ORNAMENTING MACHINE

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Fig. 5.

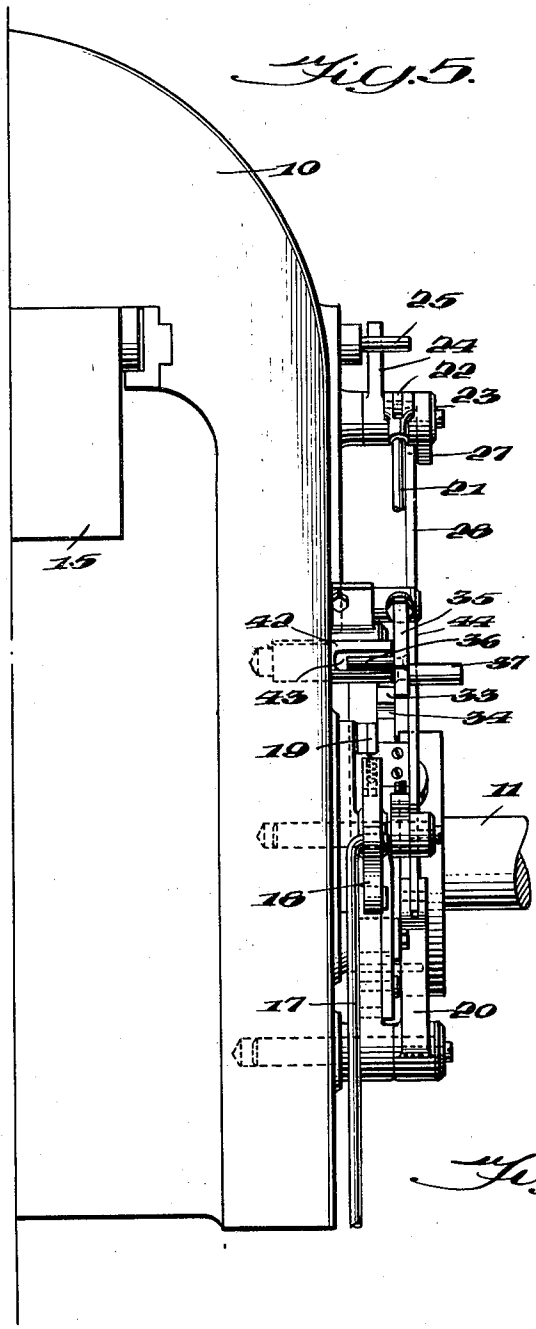
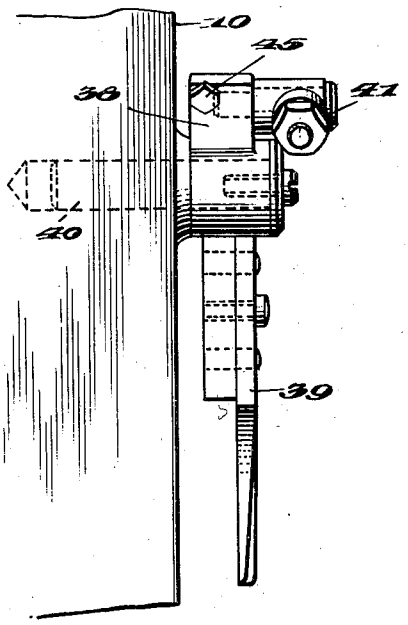


Fig. 6.



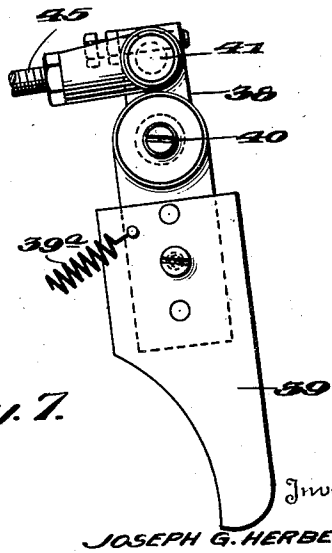


Fig. 7.

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Patented Mar. 24, 1942

2,277,363

UNITED STATES PATENT OFFICE

2,277,363

ORNAMENTING MACHINE

Joseph G. Herbers, Cincinnati, Ohio, assignor to The Louis G. Freeman Company, Cincinnati, Ohio, a corporation of Ohio

Application April 21, 1941, Serial No. 389,641

20 Claims. (Cl. 101—320)

This invention relates to machines for use in the manufacture of boots and shoes, and more particularly to machines adapted for marking and cutting operations upon skins, upper blanks, fitted or closed uppers, and the like, in which the work may be provided with markings at the same time or as part of a cycle of operations during which the work may also be ornamented by perforating or cutting out a design, and wherein the cutting and marking may be performed as a single factory operation.

The machine of this invention is also well adapted to the application of markings with ink, pigment, or the like, as a cold operation; to embossing, and to marking with the use of heat, either with or without cutting or perforating the work; it is also adapted to perform cutting operations to the exclusion of marking.

The invention features improvements upon devices and machines for effecting the mentioned operations as described and claimed in the copending application of Benjamin W. Freeman, Serial No. 200,217, filed April 5, 1938, patented May 13, 1941, No. 2,241,398.

Such machines are of a type intended for use as "universal" cutout and marking machines, specifically intended for work on shoes, leather, and shoe materials, where the work is of widely varying contour and design, the machines being designed to operate, not only upon flat material but also to perform operations on other than flat work, such as closed and fitted uppers, or other types of ring-like work.

In the general operation of these machines, after the work, the die, and the pressure applying medium (usually a plunger arranged to apply pressure forcing the work and die together, to effect the ornamenting operation) have been aligned in the machine, the operator treadles the machine to effect the ornamenting operation. A conventional mode of applying power to the machine consists in the use of a constantly driven pulley or fly wheel, and a clutch effective to connect the pulley to the main power shaft of the machine, upon such treadling.

It is important that the machine be brought to rest after a single cycle of operations, to avoid accidental, repetitious movement of the operating parts, which might spoil the work or injure the operator, and to permit replacement of the work. To this end, it is customary to use a single revolution clutch between the pulley and shaft, whereupon if the operator neglects to remove her foot from the treadle, the machine will come to rest after a single cycle, regardless.

In the embodiment disclosed as exemplary in the aforesaid Freeman Patent No. 2,241,398, the die is arranged upon a carriage which is movable laterally into and out of alignment with respect to a vertically reciprocable work supporting plunger. The controls for the machine, as described, are such that when the machine is treadled the die carriage moves from an inoperative, rear, inner position to a forward location in the machine, where the die is aligned with the plunger. When the carriage reaches this point, it trips a release for the main clutch and the plunger actuating mechanism, and the plunger reciprocates into engagement with the die, and returns. During this plunger movement, the die and its carriage have momentarily remained stationary, and the plunger on its movement away from the die carriage, releases the carriage actuating mechanism, whereupon the carriage returns to its normal inoperative position, leaving the work support clear for the operator to remove the finished work and place a new workpiece in position.

By virtue of the single revolution clutch, the parts have all been brought to rest at the completion of this cycle of operations, even though the operator should forget to remove her foot from the treadle, and hence the possible hazard of a repetition of the cycle while the operator is endeavoring to change the work, is eliminated, and the possibility of accident reduced to an absolute minimum.

With some types of work, however, it may be desirable to bring the parts to rest prior to completion of the above described cycle. For example, if the machine is being used for embossing, or if the machine is marking with the use of heat, it may be desirable to stop the relative movements of the parts when the work and work support are engaged by the die, i. e., in the herein illustrated embodiment, at a point in the cycle when the die carriage is in its outer position and the plunger has just completed the first half of its stroke. It is accordingly a primary object of the present invention to provide a means for creating this dwell or cessation of action at the desired point in the cycle of operations.

An advantage of this dwell or delayed action comes into play when there is a matter of embossing involved, or if a heated marking element forms a part of the die, whereby the heated edges of the marking die are effective to mark the work. The longer the contact between a heated marking edge and the work, the more pronounced will be the heat marking and the same

applies to embossing, whether pigment or other coloring matter is used or not.

Again, various leathers and materials require different treatments, depending upon their character, and by means of an operator controlled dwell period, a satisfactory heat mark or embossed design can be applied.

It has been customary in the art for some time to provide in these machines, a control for the die carriage, by means of which the die may be stopped at its forward or operating position in the machine, to remain there until the machine is again treadled and the die carriage returned to its inner or inoperative location. Under these conditions heretofore, the plunger will have completed its cycle of operations and will not be in engagement with the die. Such an arrangement is disclosed in the above referred to Freeman Patent No. 2,241,398, wherein means are provided for bringing the die carriage to rest at either end of its lateral stroke, but no provision is made for simultaneously interrupting the plunger movement and, accordingly, it is another important object of the invention to effect this dwell by bringing the parts to rest simultaneously and automatically in the desired relative positions.

To this end, an additional clutch control is provided whereby the clutch, instead of declutching the main shaft from its source of power only at the end of a complete cycle of operations, declutches the shaft at the desired time in the cycle, thus necessitating a retreadling of the machine to complete the cycle. But in neither event will the cycle or portion of the cycle overrun, because of any carelessness on the part of the operator.

Under the present invention then, it is contemplated that a cycle of operations of the die carriage and plunger will be delayed or interrupted such that the die carriage will come to rest in its operating location, and the plunger will come to rest at the same time, with the work under pressure and engaged with the die to receive the adequate period of treatment necessary, the machine thereafter being treadled to return all parts to their normal position.

While in the described embodiment of the invention, both in the aforesaid Freeman patent and herein, the die carriage is disclosed as operable by power from the back of the machine to the front and return, the work support is illustrated as a plunger reciprocable toward and from the die carriage, and the die is mounted to operate upon the work from above, this structure is purely illustrative as obviously the die carriage might be moved by hand, or the die might be mounted to reciprocate toward and from a workpiece on a non-movable support, or the die readily might be arranged to cut upwardly, entering the work from beneath. Machines embodying these variations in structure are all well known and conventional, in fact form the subject matter of many patents.

Since machines already on the market of the various types heretofore discussed, well may be adapted to handle work which requires a dwell or delayed action during the cycle of operations, it becomes a further object of the invention to provide a means or mechanism for creating the delayed action which may readily be applied to existing machines, with a minimum of alteration and expense. The improved mechanism of this invention is so arranged that it may be applied with hardly a change, removal or replacement of existing machine elements.

A single control, as a treadle or its equivalent, is preferably utilized for the mechanism by means of which the die may be moved into an operating position, the marking elements of the die inked and/or heated, the main clutch of the machine released, the work support and plunger sent through relative movements to effect an operation on the work, and return, and the die thereafter moved to a position out of the way of the operator, who may then remove the work from the machine.

Ornamenting machines for forming cutouts in a workpiece or for marking same, or for effecting both operations are, of course, known, but the present invention is designed to meet increasing demands of work, a growth in the types of work to be produced, and operating pressures, without increasing the size of the machine itself, to an impractical degree. For example, when marking with heat, the nature of the marking may be influenced by the degree of pressure applied to the work, i. e., a hard, sharp blow as contrasted with a gentle continued pressure, but more important than this is the time element during which the die and the work are engaged, coupled with pressure. While desirably a dwell will be provided at all times for a heat marking operation, it is an important object of this invention to produce a dwell which may be under the control of the operator, during the time that the work and die are engaged.

On the other hand, where cutting or perforating is an important part of the work, a hammer-like blow produces a clearer, sharper cutout than a "squeeze" between the cutters and the work.

Although the present invention relates specifically to improvements in the controls and timing of operating parts of the structure described and claimed in the co-pending Freeman Patent No. 2,241,398, the general aims and objects as set forth therein are, however, retained herein.

To the attainment of the foregoing and other objects which will appear as the description proceeds, reference may be made to the accompanying drawings, in which:

Fig. 1 is a side elevation of a machine embodying the invention.

Fig. 2 is an enlarged side elevation of the upper half of the machine.

Fig. 3 is an enlarged front elevation illustrating details of the delayed action controls and tripping mechanism.

Fig. 4 is an enlarged face view thereof.

Fig. 5 is an enlarged front elevation of the complete clutch control mechanism.

Fig. 6 is an enlarged front elevation of the rear clutch wedge with its mounting, and

Fig. 7 is an enlarged face view of the rear clutch wedge and mounting.

In the machine embodiment to which the present invention is applied, the die illustrated is mounted for movement backward and forward within the machine, from an operative to an inoperative position, and the plunger is illustrated as movable upwardly to the die when the die is in its forward position, and downwardly therefrom. The clutch control mechanism for producing a delayed action is shown as an additional control for the regular clutch and clutch control mechanism of the single revolution type designed to effect the movements of the die carriage and plunger, and with this additional control the clutch will be operated to declutch the source of

power from the main shaft, thereby to produce the interruption or delayed action, enabling the machine parts to come to rest intermediate the beginning and end of a normal complete cycle.

The invention is by no means limited to the illustrative mechanism or clutch control. As shown, the control mechanism is separated into two parts, positioned in two locations, and one of which parts is arranged to control movement of the die carriage forwardly or outwardly, and the plunger upwardly, while the other is effective, upon a retreadling of the machine, to return the carriage and plunger to their starting positions. Obviously, some equivalent mechanism positioned in a common location might be utilized, or for that matter, a purely manual control might be utilized within the scope of this invention to accomplish the desired results.

The important point is that for some types of work, and some degrees of pressure, to which the machine may be adjusted, or which might be created by the variation in the thickness, texture or character of the work, a longer dwell or period of engagement between the die and the work is required than with other types of work or conditions, and the invention herein contemplates a means to this end.

Referring now to the drawings, wherein like reference numerals designate like parts, there is disclosed a main frame or housing 10, which may be mounted on a suitable base or bed B, and in which frame is mounted the customary drive shaft 11, driven by a constantly rotating pulley P (Fig. 1), from any convenient source, exemplified herein as the motor M. The pulley is clutched to the shaft 11 when the machine is treadled, by the clutching mechanism diagrammatically illustrated at 12. A toggle drive 13 extends from the drive shaft 11 to the plunger 14, the controls for this mechanism being synchronized with the actuating mechanism A (Fig. 1) for the die carriage 15. A die 16 which may be of the combined cutout and marking type, or solely for marking, or exclusively for cutting, is secured to and carried by the die carriage 15.

A treadle link 17 extends from a treadle T (Fig. 1) to the treadle lever 18, to which it is connected while a spring S extending from the frame of the machine to the treadle link 17 serves to return the treadle to its original position, after depression by an operator.

The treadle lever 18 operates through the tripping lever hook 19 to rock the tripping lever 20, and the tripping lever 20 in turn actuates the link 21 (shown broken in Figs. 1 and 2). When the link 21 is pulled by the tripping lever 20, it rocks the crank 22, which is mounted for free rotary movement about the shaft 23, and in so doing, a finger 24 engages a pin 25 carried by an actuating arm or link 26 extending along the frame of the machine, to pull same forwardly. The link 26 is connected to a circuit maker and breaker in an electro-magnetic clutch drive (not shown) of the actuating mechanism A for the carriage 15, thus initiating the first or forward movement of the die carriage.

In its forward movement the die carriage, through a tripping mechanism (not shown) partially rotates the shaft 23 to actuate an arm 27 which is keyed to the shaft 23 adjacent to the freely rotatable crank 22, thereby shifting the rod 28, this rod being connected to the arm 27, and to the clutch control mechanism for the plunger drive. This clutch control mechanism for the plunger drive comprises an arm 29 pivotally connected to the rod 28, and also pivotally connected to a tripping lever hook 30, and the hook 30 acts to draw the tapered clutch wedge 31 out of the path of a spring pressed, sliding clutch key 32, whereupon the clutch mechanism 12 will function to connect the pulley P to the shaft 11, and thus actuate the plunger 14, through the toggle drive 13.

After the tripping hook 30 has slipped off of the wedge 31, enabling the wedge to return to its position in the path of the clutch key, the clutch key upon completion of one revolution of the shaft 11 and pulley P will be forced by the wedge out of clutching engagement, enabling the shaft 11 to come to rest. But in the meantime, the die carriage will have moved forwardly and backwardly, and the plunger will have completed its full stroke up and down, and come to rest, thus completing a single cycle of movements performed during the single revolution of the shaft 11.

The actuating mechanism A, which includes an electro-magnetic clutch means and other mechanism (not shown), and the clutch mechanism for the shaft 11 together with the control means thus far described, including portions not shown, are illustrated, described and claimed in the Freeman Patent No. 2,241,398, to which reference may be made for a detailed description thereof, this mechanism forming no specific part of the present invention. This mechanism will be utilized by the machine in its normal operation to produce a single complete cycle of operations, however, and is discussed herein for the sake of completeness of structure.

The operations thus far described will have the result of effecting a hammer-like blow upon the work, with no dwell between the work and die, this being a normal cutting operation, and/or marking operation where mere printing or indenting is desired.

However, as stated above, some characters of work and some types of operation to be performed on the work require an interruption or delay in the cycle, i. e., a suspension of action in the movements of the parts, creating a dwell prior to completion of the single revolution of the main shaft 11.

To this end, in order that an automatic interruption will occur, to be followed by a restoration of the operation of the parts, the tripping lever 20 is formed with an upwardly extending hook portion 33 providing a notch 34. A control rod or bar 35 is mounted to extend along the side of the frame 10, and this bar is provided with a manipulating handle 37, by means of which the bar may be shifted into various positions of adjustment. A pin 36 is carried adjacent the forward end of the bar for positioning in the notch 34, and the opposite end of the rod 35 is pivotally connected to a clutch lever 38, as indicated at 41. When the pin 36 is positioned in the notch 34, a forward rocking movement of the treadle lever 18 will rock tripping lever 20, which in turn will pull the bar 35 to rock the clutch lever 38, the latter lever being pivoted to a stud 40 to permit this movement. Rigidly secured to the clutch lever 38 is a tapered clutch wedge 39 similar to the wedge 31, and it follows that the wedge 39 will be moved into and out of the path of the clutch key 32, in accordance with rearward and forward movements of the rod 35.

Normally, the wedge 39 will be positioned in the path of the clutch key 32, just as in the case of the wedge 31. The initial treadling of the

machine will cause a momentary lifting of both of the wedges 31 and 39 out of the path of the key, the wedge 31 being moved through the action of the carriage controlled bar 28, and the wedge 39 being moved through the action of the rod 35. However, as the tripping hooks 19 and 30 slip away from the tripping lever 20, the wedge 31, respectively, the wedges will drop back into the path of the key. The movement of the wedge 31 away from the path of the key 32, will have permitted the clutch to come into play, but before the shaft 11 and the clutch key 32 pass through 180 degrees of revolution, both wedges will be back in the path of travel of the key 32, whereupon it follows that the wedge 39 will declutch the key 32 and cause the die carriage and plunger to come to rest approximately midway of their complete cycle, i. e., with the die carriage 15 at rest in its forward position and the plunger 14 holding the work in engagement with the die 16. This position will be maintained until the machine is retreadled by the operator, at which time the rod 35 being again actuated forwardly, will rock the wedge 39 out of the path of the key 32 to restore the clutch action.

Before the key has completed its second 180 degrees of revolution, both wedges will again have dropped into the path of travel of the key, and this time the wedge 31 will function to declutch the pulley from the shaft 11 by wedging the key 32 from a clutching engagement, and the machine will come to rest at the end of what has now become a complete single cycle of its operations, and a single complete revolution of the pulley P and shaft 11.

To effect a return of the tapered wedges 31 and 39 after they have been released by the respective release hooks 19 and 30, suitable springs may be provided, as indicated at 31*a* and 39*a*.

It may be desired to operate this machine without a delayed or interrupted action, and to accomplish this, obviously it is necessary to break the operative connection between the rod 35 with its adjacent parts including the tapered wedge 39, from the clutch 12. Advantage is taken of the pivotal connection 41, and a grooved stud 42 rigidly mounted in the frame 10 to accomplish this. The stud 42 is illustrated as having three grooves 43, although but one groove is necessary for operating purposes. The additional grooves are provided for purposes of facilitating adjustment and assemblage of the stud in the machine, since if a plurality of grooves are provided extreme accuracy in the threading and machining of the stud are unnecessary, and any one of the grooves which happens to reach a proper position will serve to accomplish the function of a stop-rest, as hereinafter pointed out.

When an operator manipulates the rod 35 by means of the handle 37 to remove the pin 36 from the notch 34, and places the pin 36 in the notch 43 of the stud 42, this will pivot the wedge 39 about the pivot 40 to an "open" position out of the path of travel of the clutch key 32. It will be observed that the notch 43 is advanced from the normal position of rest of the notch 34, or in a location substantially in the plane of the notch 34 when the lever 18 has been treadled forwardly.

With the parts in the position just described, a single treadling of the machine will cause a complete single cycle operation of the machine in the manner described above and in the Freeman patent, No. 2,241,398.

There may be some tendency in the rod 35, due to its length, to partake of a distorted or sidewise movement from its natural vertical path between the notches 34 and 43. To avoid this, and to hold the rod in its path, a guide finger 44, of a length to extend beyond the stud 42, may be rigidly mounted on the tripping lever 20.

Obviously, suitable adjusting means can be provided for all parts, for example, the connection between the rod 35 and the lever 38 may be adjustable, as indicated at 45, thereby facilitating adjustment of the wedge 39, and an adjustable stop 46 may be provided for the tripping lever 20, in fact, any suitable adjustment may be made wherever found desirable.

In order to prevent any possibility of treadling a machine while a die is being changed, the usual locking mechanism, of a type like that disclosed in the Freeman patent, No. 2,241,398, may be provided. Such a means is illustrated as the pivoted latch 47 mounted on the side of the frame, which latch comprises a pivoted plate swingable into a position to block movement of the pin 25 which forms a part of the rod or bar 26. With the latch swung to its "down" position, it will be evident that the treadle will be ineffective.

The die is locked, conventionally, to the die carriage by mechanism which forms no part of the present invention, but which is under control of the handle 48, which when the die is in its proper position on the die carriage, can be manipulated to lock the die in place. When it is desired to release the die, after the latch 47 has been properly positioned, the handle 48 may be actuated, and during its die releasing movement will open the switch, diagrammatically illustrated at 49, to break the circuit to the carriage drive mechanism. In other words, the same movement of the handle 48 which acts to release the die which previously was locked in place on its carriage, at the same time effectively prevents operation of the die carriage, and other parts of the machine.

It is essential that the die carriage come to a stop in a predetermined position at the front of the machine, in alignment with the work support, and this may readily be accomplished under electrical control, in the manner described in the aforesaid Freeman application, or by mechanical means, for example, as described in the co-pending application to Benjamin W. Freeman, Serial No. 329,200, filed April 11, 1940.

It is believed that the operation of the invention and its application to existing machines will be obvious from the foregoing description, inasmuch as the operation has been described in connection with the several parts. Briefly, when the machine is to be used with work which requires no dwell, that is no holding of the work and die in engagement, the rod 35 will be positioned such that the pin 36 is in the rigid stud 42, and this mechanism will be inoperative. A single treadling of the machine will then effect a complete single revolution of the shaft 11, and the actuating mechanism for the die carriage 15.

When it is desired to produce a delayed action, then the rod 35 is manipulated to locate the pin 36 in the notch 34 of the tripping lever 20, whereupon a treadling of the machine will produce an approximate half cycle operation. Retreadling of the machine will complete the cycle.

Since the primary clutch controls and treadle actuated mechanisms, or equivalents thereof, will be found on machines already in use, it is a very simple matter to adapt those machines to the

use of the present invention. The only part which has to be replaced is the tripping lever 20, equipped with the hook portion 33 providing the notch 34, and the addition of the bar 35 and connections therefrom to the clutch 12, including the additional wedge 39.

Use of this additional equipment, however, increases the versatility and efficiency of the machine and extends its workable range to embrace a greater variety of work than would otherwise be possible.

It enables the machine to operate either with a quick hammer-like blow, or with a dwell of indefinite determination, subject to the operator, thus permitting operations on all characters of work, and to the production of markings, ranging from one requiring an imperceptible pressure to others requiring heavy indentation, embossing, or actual burning when heat is used.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a machine for marking work, a work support, a marking die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said marking die when the latter is in an aligned position, driving mechanism to actuate said die and said pressure applying means, means to connect said driving mechanism to a source of power whereby to initiate actuation of the machine, means automatically operable to disconnect said mechanism from said source of power at the conclusion of a single cycle of operations, means to provide a dwell in the cycle when said work support and die are in engagement, and means to render said dwell producing means inoperative during the complete cycle of operations.

2. In a machine for marking work, a work support, a marking die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said marking die when the latter is in an aligned position, driving mechanism to actuate said die and said pressure applying means, means to connect said driving mechanism to a source of power whereby to initiate actuation of the machine, means automatically operable to disconnect said mechanism from said source of power at the conclusion of a single cycle of operations, means automatically operable to initiate a dwell in the cycle when said work support and die are in engagement, and operator controlled means to terminate the duration of dwell and restore the cycle of operations.

3. In a machine for marking work, a work support, a marking die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said marking die when the latter is in an aligned position, driving mechanism to actuate said die and said pressure applying means, means to connect said driving mechanism to a source of power whereby to initiate actuation of the machine, means automatically operable to disconnect said mechanism from said source of power at the conclusion of a single cycle of operations, means automatically operable to initiate a dwell in the cycle when said work support and die are in engagement, operator controlled means to terminate the duration of dwell and restore the cycle of operations, and means to render said dwell producing means inoperative during the complete cycle of operations.

4. In a machine for marking work, a work support, a marking die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said marking die when the latter is in an aligned position, driving mechanism to actuate said die and said pressure applying means, means to connect said driving mechanism to a source of power whereby to initiate actuation of the machine, means automatically operable to disconnect said mechanism from said source of power at the conclusion of a single cycle of operations, and optionally operable means to disconnect said mechanism and said source of power automatically, during and prior to completion of a cycle of operations.

5. In a machine for marking work, a work support, a die constructed to apply markings to a workpiece on said support, said die being mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said die when the latter is in an aligned position, driving mechanism to actuate said die and said pressure applying means, means automatically operable to render said actuating mechanism inoperative at the end of a single cycle of operations of the machine, and means to create a dwell in the cycle of operations when said die and work support are in engagement.

6. In a machine for marking work, a work support, a die constructed to apply markings to a workpiece on said support, said die being mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said marking die when the latter is in an aligned position, driving mechanism to actuate said die and said pressure applying means, means automatically operable to render said actuating mechanism inoperative at the end of a single cycle of operations of the machine, means to create a dwell in the cycle of operations when said die and work support are in engagement, and operator controlled means to initiate actuation of the driving mechanism at the conclusion of the dwell, whereby the length of dwell may be determined by the operator.

7. In a machine for marking work, a work support, a marking die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said marking die when the latter is in an aligned position, driving mechanism to actuate said die and said pressure applying means, means to connect said driving mechanism to a source of power whereby to initiate actuation of the machine, and optionally operable means to disconnect said mechanism and said source of power automatically, during and prior to completion of a cycle of operations.

8. In a machine for marking work, a work support, a marking die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said marking die when the latter is in its aligned position, driving mecha-

nism to actuate said die, and said pressure applying means, including a clutch for connecting said mechanism to a prime mover, means automatically operable to render said clutch inoperative at the end of a single complete cycle of operations of the machine, and means optionally operable automatically to render said clutch inoperative at a predetermined point short of a complete cycle of operations.

9. In a machine for marking work, a work support, a marking die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said marking die when the latter is in its aligned position, driving mechanism to actuate said die and said pressure applying means, including a clutch for connecting said mechanism to a prime mover, and means optionally operable automatically to render said clutch inoperative at a predetermined point short of a complete cycle of operations.

10. In a machine for marking work, a work support, a marking die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said marking die when the latter is in its aligned position, driving mechanism to actuate said die and said pressure applying means, including a clutch for connecting said mechanism to a prime mover, means automatically operable to render said clutch inoperative at the end of a single complete cycle of operations of the machine, means optionally operable automatically to render said clutch inoperative at a predetermined point short of a complete cycle of operations, and means to initiate operation of said clutch at the beginning of a cycle and after an interruption of operation during a cycle.

11. In an ornamenting machine, a work support, a die constructed to operate upon a workpiece carried by said support, pressure applying means cooperative with said die and support, driving mechanism connected to said pressure applying means for producing a relative movement between said work support and die whereby to bring said support and die into and out of engagement with each other, means to connect said driving mechanism to a source of power to initiate a cycle of operations, means automatically operable to disconnect said mechanism from said source of power at the conclusion of a single cycle of operations, and optionally operable means to disconnect said mechanism and said source of power automatically during and prior to completion of a cycle of operations.

12. In an ornamenting machine, a work support, a die constructed to operate upon a workpiece carried by said support, pressure applying means cooperative with said die and support, driving mechanism connected to said pressure applying means for producing a relative movement between said work support and die whereby to bring said support and die into and out of engagement with each other, means to connect said driving mechanism to a source of power to initiate a cycle of operations, and optionally operable means to disconnect said mechanism and said source of power automatically during and prior to completion of a cycle of operations.

13. In an ornamenting machine, a work support, a die constructed to operate upon a workpiece carried by said support, pressure applying means effective to move said work support into and out of engagement with said die, driving mechanism to actuate said pressure applying means, means to connect said driving mechanism to a source of power whereby to initiate a cycle of operations, and optionally operable means to disconnect said mechanism and said source of power automatically, during and prior to completion of the cycle of operations.

14. In an ornamenting machine, a work support, a die constructed to operate upon a workpiece carried by said support, pressure applying means effective to produce a relative movement of said die and work support into and out of engagement with each other, driving mechanism to actuate said pressure applying means, including a clutch for connecting said mechanism to a prime mover, means automatically operable to render said clutch inoperative at the end of a complete cycle of operations comprising a slidable clutch key in the clutch, and a treadle controlled tapered wedge movable into and out of the path of said key, and means optionally operable automatically to render said clutch inoperative at a predetermined point short of a complete cycle, comprising a second treadle controlled tapered wedge mounted in spaced relation to said first wedge, for movement into and out of the path of said key.

15. In an ornamenting machine, a work support, a die constructed to operate upon a workpiece carried by said support, pressure applying means effective to produce a relative movement of said die and work support into and out of engagement with each other, driving mechanism to actuate said pressure applying means, including a clutch for connecting said mechanism to a prime mover, and means optionally operable automatically to render said clutch inoperative at a predetermined point short of a complete cycle, comprising a slidable clutch key in the clutch, and a treadle controlled tapered wedge mounted for movement into and out of the path of said key.

16. In an ornamenting machine, a work support, a die constructed to operate upon a workpiece carried by said support, pressure applying means effective to produce a relative movement of said die and work support into and out of engagement with each other, driving mechanism to actuate said pressure applying means, including a clutch for connecting said mechanism to a prime mover, a plurality of controls for said clutch, one of said controls being constructed and arranged to render said clutch inoperative automatically at the end of a single complete cycle of operations, and another of said controls being constructed and arranged to render said clutch inoperative automatically, during and prior to completion of a cycle of operations, and common means to initiate operation of the clutch through said controls.

17. In an ornamenting machine, a work support, a die constructed to operate upon a workpiece carried by said support, pressure applying means effective to produce a relative movement of said die and work support into and out of engagement with each other, driving mechanism to actuate said pressure applying means, including a clutch for connecting said mechanism to a prime mover, a plurality of controls for said clutch, one of said controls being constructed and arranged to render said clutch inoperative automatically at the end of a single complete cycle of operations, and another of said controls being

constructed and arranged to render said clutch inoperative automatically, during and prior to completion of a cycle of operations, and means to disconnect one of said controls from the clutch at the will of the operator.

18. In an ornamenting machine, a work support, a die mounted for movement into and out of an aligned operating position relative to said work support, driving mechanism effective to produce a relative movement of said die and work support toward and from each other, including a clutch for connecting said mechanism to a source of power, primary control means connected to render the clutch inoperative after a single cycle of operations, and secondary control means connected to render said clutch inoperative during the cycle, thereby creating a delayed action in the said relative movement.

19. In an ornamenting machine, a work support, a die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said die, driving mechanism to actuate said pressure applying means, including a clutch, for connecting said mechanism to a source of power, primary control means for interrupting the clutching action of the clutch, to bring said work support to rest at the end of a complete cycle of operations, and secondary control means for interrupting the clutching action automatically to bring said work support to rest when said work support and die are engaged.

20. In an ornamenting machine, a work support, a die mounted for movement into and out of an aligned operating position relative to said work support, pressure applying means effective to move said work support into and out of engagement with said die, driving mechanism to actuate said pressure applying means, including a clutch for connecting said mechanism to a source of power, control means for interrupting the clutching action of the clutch automatically, to bring said work support to rest when said work support and die are engaged, and means to restore the clutching action and thereby cause said work support to complete its cycle of operations.

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