

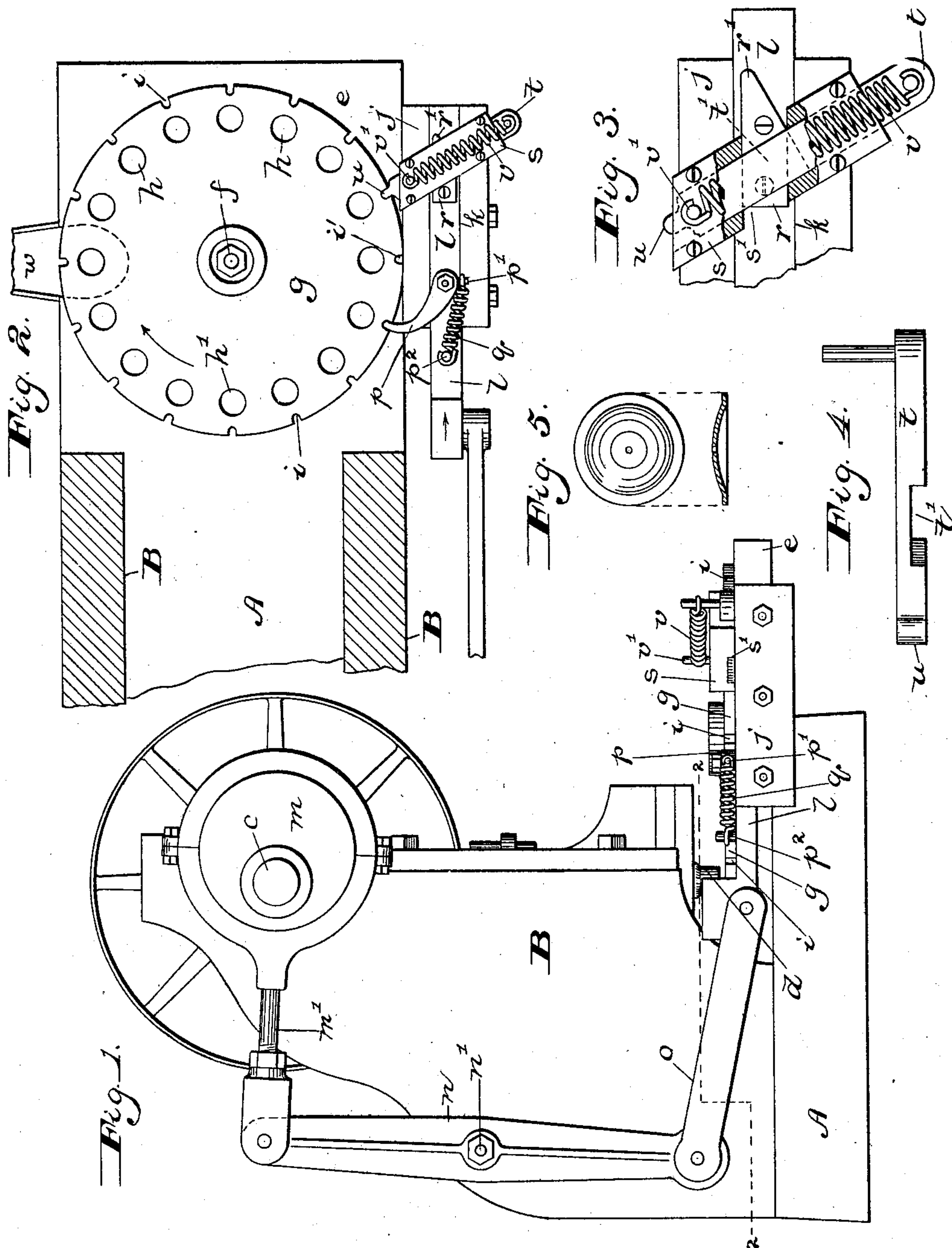
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Patented Apr. 29, 1902.

H. L. WILSON.
STAMPING MACHINE.

(Application filed Jan. 21, 1902.)

(No Model.)



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STAMPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 699,051, dated April 29, 1902.

Application filed January 21, 1902. Serial No. 90,611. (No model.)

To all whom it may concern:

Be it known that I, HOWARD L. WILSON, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Stamping-Machines, of which the following is a specification.

This invention relates to improvements in stamping-machines wherein a reciprocating die and a revolving disk-holder are employed.

The invention is particularly adapted for stamping a previously-cut sheet-metal disk into the form of a convex or circular arched plate. These convex plates are commonly termed "buttons" by the trade, but in reality are not like garment-buttons, but differ from the latter in that they are provided with but one central hole. These so-called "buttons" are extensively used by builders in securing roofing fabrics to the framework of buildings and are also used by toy-manufacturers for ornamental and other purposes.

The invention consists in the mechanism for intermittently revolving the disk-holder and locking same to prevent movement during the stamping operation.

The invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of the machine. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a plan detail view of the reciprocating slide and bolt which locks the disk-holder, the bolt being shown retracted. Fig. 4 is a side elevation of the locking-bolt. Fig. 5 illustrates a plan and also a sectional view of one of the sheet-metal buttons produced by the machine.

In the drawings, A designates the base, and B two vertical standards, one at each side of and above the base. These standards support a horizontal shaft c. Suitable mechanism is also supported by the standards B for vertically reciprocating the die-punch d. This mechanism is not shown, as it is not a part of the present invention and any suitable mechanism may be employed.

A stationary bed-plate e extends horizontally in front of the standards B, and said plate supports a vertical spindle f, which carries a disk-holder g. This disk-holder is revoluble on the spindle and is provided with

a series of die-holes h, which extend entirely through said disk-holder and are arranged in a circular path at equal distances apart, whereby when the holder is revolved the die-holes will be brought successively beneath the die-punch d. This disk-holder rests upon and fits closely against the bed-plate e, and thereby the metal disks are prevented from dropping entirely through the die-holes h when the holder g is revolved. A series of notches i, equal in number to the die-holes h, are provided around the circumferential edge of the disk-holder, and these notches are also arranged at equal distances apart. Secured to the bed-plate e at the side of the disk-holder g is a guide-block j, which is provided with a central slot or groove k, and a slide-bar l fits and reciprocates in said groove k.

An eccentric m is secured on the shaft c, and its ring is provided with an eccentric-rod m'. A lever n is pivoted centrally between its ends on a stud n' to the side of one of the standards B, and the upper end of said lever has a jointed connection with the eccentric-rod m', and the lower end of said lever has a jointed connection with one end of a link o, the other end of which is connected to the reciprocating slide-bar l.

The slide bar l carries on its top surface a pawl p, which projects inward toward the revoluble disk-holder, and said pawl is provided at its pivoted end with a laterally-projecting hook or pin p'. A spiral spring q is connected at one end to the said pin p' on the pawl and at the other end to a post p² on the slide-bar l. It will be seen that the spring keeps the free end of the pawl p pressed against the circumferential edge of the disk-holder, so that it will enter one of the notches i when the bar l is reciprocated. The slide-bar l also carries a wedge-shaped block r, with its pointed or tapered end r' foremost, and said block reciprocates with the bar.

A housing s is secured on top of the guide-block j and extends crosswise thereof over the slide-bar l, and said housing is provided on its lower edge with a slot s', which extends in a direction parallel with the bar l, so that when the said bar and wedge-shaped block r are reciprocated the latter will pass through

said slot. A locking-bolt *t* has at one end a tongue *u*, which engages any one of the notches *i* on the disk-holder, and this bolt is within the said housing *s* and is provided on its bottom with a tapered slot *t'*, which latter has position over the slide-bar *l*, whereby when the slide-bar and wedge-shaped block *r* are reciprocated in the direction of the arrow the tapered end *r'* of the wedge-block will press against the tapered side of the slot *t'* of the bolt and cause the latter to be retracted in order to withdraw its tongue *u* from the notch *i* with which it may be engaged. A spiral spring *v* is connected at one end to the locking-bolt and at the other end to a post *v'* on the housing and serves to keep the bolt pressed outward so the tongue may engage a notch when the block *r* and slide are withdrawn. A chute *w*, secured to the bed-plate at one side and below the disk-holder, serves to convey the stamped buttons away as they drop out of the die-holes *h* over the chute.

The operation is as follows: The metal disks are fed into the die-holes *h* of the holder either by hand or automatically, as desired. The slide *l*, carrying the pawl and wedge-block *r*, is then reciprocated by means of the link *o*, lever *n*, and eccentric *m*. As the slide *l* is pushed forward in the direction of the arrow on the slide the pawl *p* is first withdrawn from a notch *i* in the disk-holder and immediately thereafter the wedge-block *r* on the slide passes through the slot *s'* in the housing and the tapered end *r'* of the wedge-shaped block enters the slot *t'* of the bolt *t*, and as it continues to move forward the tapered end of the block contacts with the inclined slot-wall of the bolt and withdraws the tongue *u* of said bolt from engagement with a notch *i* in the disk-holder. During the interval between the disengagement of the pawl and the withdrawal of the bolt from the notches *i* the die-punch *d* is stamping the button or disk in the hole *h'*, and the disk-holder during this period is locked and prevented from moving. The slide and pawl *p* continue to move in the direction of the arrow on the slide until the pawl engages the next notch, (designated *i'*), which is at the end of the forward stroke of the slide *l*. The die-punch is now withdrawn from the hole *h'*. The slide and pawl, which latter is now in engagement with the notch *i'*, are then moved in the reverse or backward direction, and thereby the disk-holder *g* is revolved by the pawl to bring the next hole *h* beneath the die-punch *d* and the bolt in engagement with another notch.

After each button or disk is formed by the die it remains in the hole and is carried around by the disk-holder over the chute *w*, where it drops out and is carried off by the chute.

The bolt is not withdrawn from the notches *i* until the pawl has been withdrawn, and the disk-holder is thereby held stationary while the pawl is being withdrawn.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a stamping-machine, the combination of a die-punch; a disk-holder mounted to be revolved and provided with a plurality of circumferential notches; a reciprocating slide provided with a wedge; a pawl carried by said slide and adapted to engage the notches on said holder; and a bolt spring-pressed into engagement with said notches to lock the disk-holder in a stationary position and arranged to be engaged by the wedge of the slide, whereby to withdraw said bolt from the said notches against the action of its spring.

2. In a stamping-machine, the combination of a die-punch; a disk-holder mounted to be revolved below said die, said holder having a plurality of circumferential notches; a reciprocating slide; a pawl carried by said slide and adapted to engage the notches on said holder; a bolt for engaging said notches to lock the disk-holder in a stationary position, and a wedge-block also carried by said slide for operating said bolt.

3. In a stamping-machine, the combination of a die-punch; a disk-holder mounted to be revolved below said punch and provided with a plurality of circumferential notches; a reciprocating slide at the side of said disk-holder; means on said slide for revolving said disk-holder; a wedge-block also on said slide and reciprocating therewith; a bolt for locking said disk-holder in a stationary position, said bolt having a slot which receives the point end of said wedge-block whereby to withdraw the bolt from engagement with the notches in the disk-holder.

4. In a stamping-machine the combination of a revoluble disk-holder having a plurality of circumferential notches; a slide at the side of said disk-holder; a wedge-shaped block on said slide and reciprocating therewith; a bolt for locking said disk-holder in a stationary position, said bolt extending crosswise of the said slide and having in its bottom a slot which receives the point end of said wedge-block whereby the bolt is drawn from engagement with the notches in the disk-holder, and a spring device for shooting the bolt when the wedge-block has been withdrawn from the slot.

In testimony whereof I affix my signature in the presence of two witnesses.

HOWARD L. WILSON.

Witnesses:

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