T. S. SLIGH.

NUT BRANDING MACHINE.

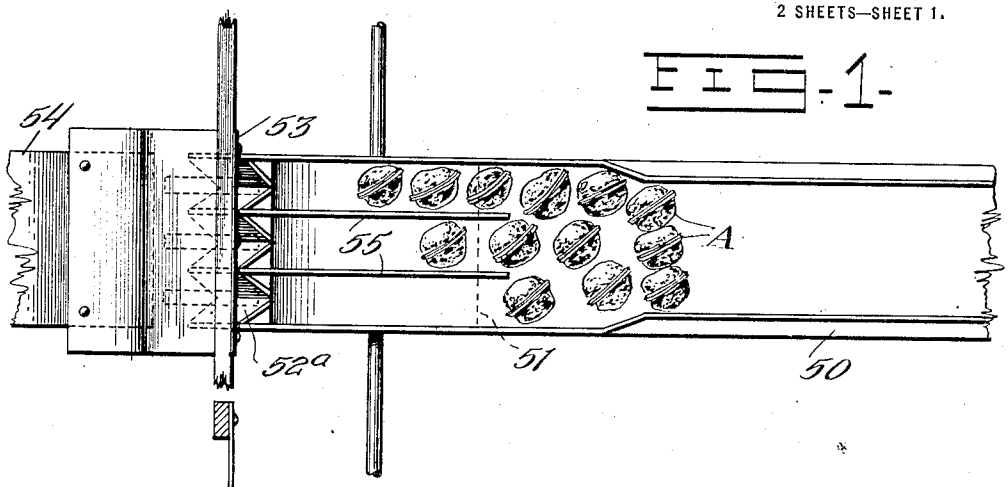
APPLICATION FILED AUG. 2, 1919.

1,370,851.

Patented Mar. 8, 1921.

2 SHEETS—SHEET 1.

Fig. 1.



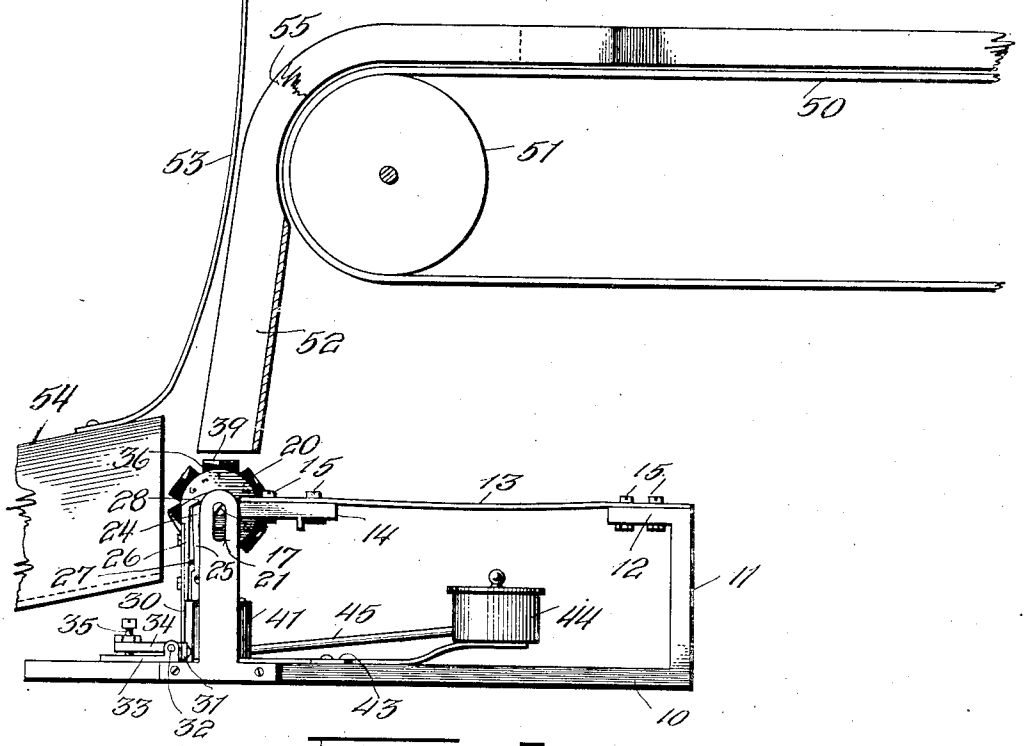


Fig. 2.

WITNESSES

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2 SHEETS—SHEET 2.

FIG. 3.

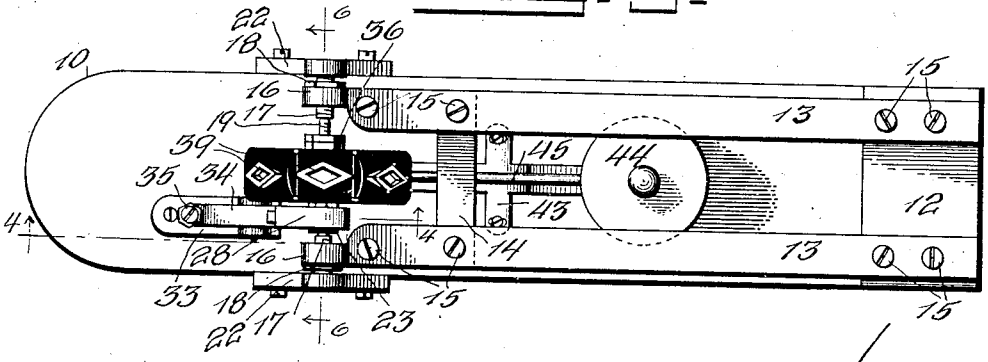


FIG. 4.

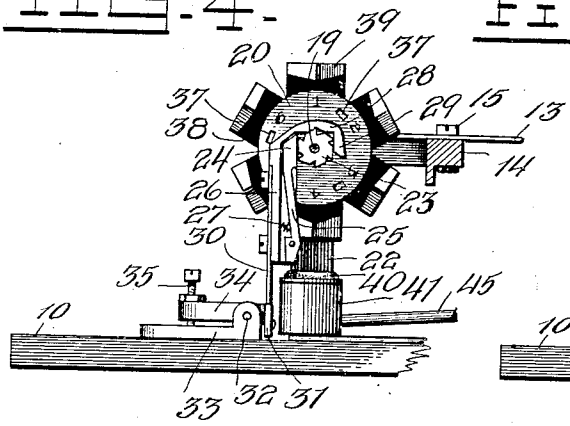


FIG. 5.

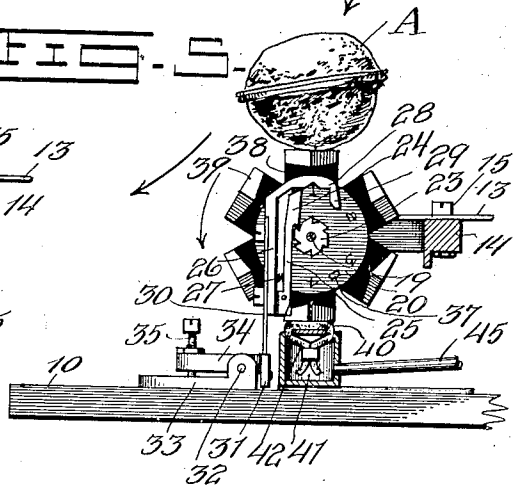
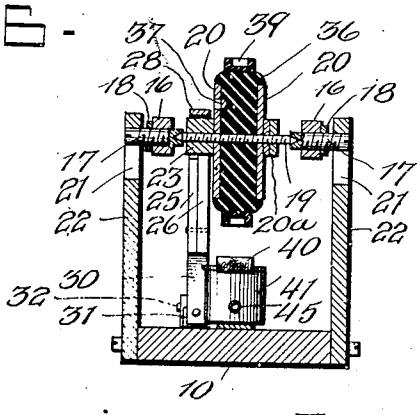


FIG. 6.



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UNITED STATES PATENT OFFICE.

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NUT-BRANDING MACHINE.

1,370,851. Specification of Letters Patent. Patented Mar. 8, 1921.

Application filed August 2, 1919. Serial No. 314,828.

To all whom it may concern:

Be it known that I, TOM STANDIFER SLIGH, a citizen of the United States, and a resident of Washington, in the District of Columbia, have made certain new and useful Improvements in Nut-Branding Machines, of which the following is a specification.

My present invention relates generally to nut branding machines and more particularly to a machine for branding, stamping or marking walnuts and other small articles, the main object of my invention being the provision of a device which will place a distinguishing mark upon articles of the above nature, cheaply, rapidly, and efficiently.

A further object is the provision of a device for the above purpose, wherein the motive power required for its actuation is derived either wholly or in part from the article to be stamped and in particular from the impact of the article after it has fallen under the influence of gravity through a predetermined distance.

A still further object is the provision of a device, which because of its gravity actuation by the article to be stamped, will stamp the articles as rapidly as the physical constants of the construction will permit, as well as one which will be actuated only when an article is in position to be stamped, avoiding idle strokes, as well as the necessity of synchronism between the feeding means and the stamping device, and permitting the articles to be fed intermittently or at irregular time intervals.

A still further object is the provision of a device in which over-feeding of the articles to be stamped can only result in a misbranding of the articles so over-fed and cannot harm the mechanism or affect its subsequent proper operation.

A still further object is to provide a device including a ratchet mechanism operating to shift a fresh branding or marking member into working position after each branding or marking operation and wherein the used branding or marking members are brought into contact with an inking pad before they are again used.

A still further object is the provision of a device including a resilient stamp, stamp backing, and stamp supporting member, whereby the article operated upon may be stamped, or marked clearly and legible, even though it is of irregular outline without danger of injury to or breakage of the article from the mechanical shock.

A still further object is the provision of a fountain inking pad and reservoir, by means of which the marking or branding members are re-inked by and during the process of stamping an article and in such manner as to guard against the promiscuous discharge of ink upon the article being operated on.

With these various objects, relating as they do to the operation and function of my improved invention, other and further advantages relating more particunlarly to the details of construction of the mechanism proposed by my invention will appear in the course of the following description, referring to the accompanying drawings which form a part of this specification and in which:—

Figure 1 is a top plan view of a proposed feeding arrangement.

Fig. 2 is a sectional side elevation of the feeding arrangement with a branding unit in proper relation thereto.

Fig. 3 is a top plan view of one of the branding or marking units.

Fig. 4 is a vertical longitudinal section partially therethrough taken on line 4—4 of Fig. 3 with the marking member in its up inactive position.

Fig. 5 is a similar view showing the marking member lowered in use, and

Fig. 6 is a vertical cross section taken substantially on line 6—6 of Fig. 3.

Referring now to these figures, and particularly to Figs. 3 to 6 inclusive, my invention proposes a branding or marking mechanism in a unit mounted upon a horizontal flat base 10, which thus adapts the unit to ready connection upon any flat surface and lends itself to easy effective duplication by simply utilizing a number of units in juxtaposed relation.

At one end of base 10 is an upstanding arm 11, as seen in Fig. 2, whose upper angular end 12 projects in the direction of the opposite end of the base 10 and forms a support for the respective ends of a pair of longitudinally extending, spaced and parallel stamp supporting springs 13, the opposite ends of which terminate slightly beyond the opposite side of the center of the base 10 and are connected to a U-shaped frame 14. The springs 13 are of the cantaliver type

and parallel to the sides of the U-shaped frame 14, which is supported by their free ends, so that in use the springs may be readily detached by simply removing the fastening members 15 and bent to provide for a greater force in their lifting action.

The free ends of the side members of the U-frame 14 extend forwardly beyond the free forward ends of the springs 13 and terminate in threaded bearings 16 transversely alined and into which screw socket studs 17 adjustably held by lock nuts 18 threaded thereon and engaging the outer faces of the bearings 16. The inner opposed ends of these socket studs 17 have conical recesses which receive the conical ends of the threaded transverse shaft 19 on which are disposed the circular side plates 20 of the die wheel or stamp held by lock nuts 20^a.

The outer ends of the socket studs 17 project outwardly beyond the bearings 16 of the U-frame 14 and are suitably disposed in vertical guide slots 21 of a pair of upright brackets 22 whose lower ends are secured to the sides of the base 10.

Against one of the side plates 20 of the die wheel or stamp member is disposed a polygonal side nut 23 which acts as a ratchet wheel and the side faces of which are notched for engagement by the upper shouldered head 24 of a pawl or dog 25 the lower end of which is pivoted to the combined pawl carrier and guard 26. A spring 27 between the guard 26 and the pawl 25 serves to throw the latter away from the pawl carrier and toward the ratchet wheel 23, opposite to which the head 24 is disposed when the die wheel is in the upper inactive position as shown in Fig. 4, in which it is normally retained through the effect of the supporting springs 13.

The upper end of the guard and pawl carrier 26 has an angular extension 28 above the ratchet wheel 23 terminating in a depending lip 29, the inner faces of the angular extension 28 and its lip 29 conforming in their angular relation to the angular relation between the faces of the ratchet wheel engaged thereby in the upper inactive position of the die, as seen in Fig. 4. Thus, with the pawl head 24 at one side of the ratchet wheel and the inner faces of the extension and lip of the guard in engagement with at least two other faces of the ratchet wheel, the latter and consequently the shaft 19 of the die are prevented from rotation.

The guard 26 is supported by virtue of its connection to the upper end of a vertical flat spring 30 whose lower end is connected to one end of an adjusting lever 31 fulcrumed at 32 upon a bracket 33 secured to the base 10, the opposite end of which lever 31 carries a vertical adjusting screw 35. The lower end of this adjusting screw bears upon the bracket 33 so that adjustment thereof will serve to shift the lever 31 on its fulcrum 32 and swing guard 26 to bring the head of pawl 25 more tightly into engagement with the ratchet wheel 23, although it will be understood that the guard 26 is yieldable at all times by virtue of its supporting spring 30, to avoid undue friction.

The die consists of a substantially circular body 36 of soft material, such as sponge rubber, held between the side plates 20, and for instance by inwardly upset lugs 37 of these side plates, and this soft body of the die is provided with radially projecting stamp seats 38 which extend beyond the peripheral edges of the side plates 20 and which receive the article engaging branding elements 39.

It will be understood that the number of these branding members or elements 39, and consequently the number of seats 38, of the body of the die wheel equal the number of the faces of the ratchet wheel 23. In the present arrangement, I have shown six, making the die wheel generally hexagonal as well as the ratchet wheel 23. Although, this particular number need not of course be followed.

The reason for the above is explained by the location of the inking pad 40 immediately below the die wheel and in such relation thereto, that when the die wheel is lowered by the impact of an article to be branded, its upper branding element is in position for actuation, while the lowermost branding element will come into engagement with the pad 40 and be inked thereby. This pad 40 is preferably of a textile or other material, having the necessary absorbent qualities and is disposed upon the upper surface of the ink receptacle 41 through slotted openings in the top of which the extensions 42 of the pad depend into the ink. This ink receptacle is mounted upon one end of a plate 43, secured upon the base 10 and the opposite end of which supports an ink receptacle 44 constituting a reservoir and connected to the pad receptacle 41 by a feed pipe 45.

Thus when an article to be branded falls on the upturned branding element, as for instance a walnut A as seen in Fig. 5, its weight and momentum will force the die wheel downwardly against the tension of its supporting springs 13 and will thus force the lowermost branding element into engagement with the re-inking pad 40. During this movement from the normal position shown in Fig. 4, the ratchet wheel 23 will be lowered from the guard 26 and to a position beneath the upper head 24 of the pawl or dog 25 so that upon the rebound or upward stroke of the die wheel which takes place the instant the inertia of the fall of the article is overcome, the lower shoulder of the pawl

head 24 will engage a notch of the ratchet wheel 23 as seen in Fig. 5, after the stamp has shifted clear of the pad and thus upon further upward movement of the die wheel to normal position, the ratchet wheel 23 will be turned to bring a succeeding face thereof alongside the pawl head 24 and will thus rotate the die wheel to bring a succeeding inked branding element 39 in the uppermost position.

In this way the operation is brought about wholly by virtue of gravity and with the parts in properly adjusted relation, neither manual nor automatic adjustment or attention is required during the operation as each operation depends entirely upon the action of the article to be operated upon.

Various means may be utilized for the purpose of bringing about the feeding of the articles so that they will fall upon the die wheel. The means proposed and shown in Figs. 1 and 2 consists of the feed belt 50 on which walnuts or other articles are fed and permitted to fall from the discharge end of the belt, which latter passes around a roller 51. The nuts are discharged into a feed chute 52 in which they are held by a flexible curtain 53 suspended alongside the chute and beyond the discharge end of the belt 50. The nuts will then fall directly upon the die wheel positioned at the lower end of the chute 52 from which the nuts are free to re-bound into the discharge chute 54.

It is obvious from the foregoing that as the operating means for branding the articles is formed in units, the mechanism is capable of practically endless expansion for purposes of increased production by simply mounting the units in any desired number in juxtaposed relation. For this purpose one or more feed belts 50 may be utilized, which are divided by lengthwise partitions 55 as seen in Fig. 1, adjacent to the discharge end so as to form channels to aline with the upper ends of a plurality of feed chutes 52^a.

My invention as thus fully described and shown is obviously capable of carrying out the various advantages as above mentioned, will be speedy and efficient in operation, economical as to both its cost and upkeep and is readily susceptible of use on both small and large scales.

I claim:—

1. A stamping mechanism, including a base having upright vertically slotted guides, an elevated support at one end, springs secured at one end to said support, a movable frame to which the opposite ends of said springs are connected having laterally projecting members extending into the slots of the said guides, a stamping wheel rotatable in the said frame having a peripheral series of stamping elements, a ratchet mechanism including a ratchet wheel carried by the said stamping wheel and a pawl supported by the base for engagement by said ratchet wheel.

2. A stamping mechanism, comprising a base having upright guides, a stamping wheel bodily shiftable in the said guides, a stamping wheel frame, a spring having connection with the stamping wheel frame and forming the sole connection between said frame and the base, said spring also serving to tension bodily shifting movement of the frame and wheel, said stamping wheel being rotatable and having an annular series of peripheral stamping elements, a ratchet wheel at one side and a pawl supported by the base and extending adjacent to the clamping wheel for engagement by the said ratchet wheel when the stamping wheel is bodily shifted whereby to rotate the wheel.

3. The combination of a rotatable and bodily shiftable stamping wheel, having an annular series of peripheral stamping elements, a polygonal ratchet wheel carried by the stamping wheel and having notches in the faces thereof, a pawl having a shouldered head, with respect to which the stamping wheel and its ratchet wheel are movable, engageable with the notches of the ratchet wheel, a base with which the stamping wheel has a spring connection, a pawl carrying guard supported by the base and with which the pawl has a spring connection, said guard having an extension partially embracing the ratchet wheel in the normal position of the stamping wheel to prevent accidental rotation thereof.

4. The combination of a rotatable and bodily shiftable stamping wheel, a base in connection with which the said wheel has a spring support, a ratchet wheel carried by the stamping wheel, a pawl co-acting with the ratchet wheel upon bodily shifting movement of the stamping wheel to rotate the latter, and a member supported on the base in connection with which the pawl is mounted, having means co-acting with the ratchet wheel to prevent accidental rotation of the stamping wheel in the normal position of the latter.

5. The combination of a rotatable and bodily shiftable stamping wheel, a base in connection with which the said wheel has a spring support, a ratchet wheel carried by the stamping wheel, a pawl co-acting with the ratchet wheel upon bodily shifting movement of the stamping wheel to rotate the latter, and a member supported on the base in connection with which the pawl is mounted, having means co-acting with the ratchet wheel to prevent accidental rotation of the stamping wheel in the normal posi-

tion of the latter, said last named member having an adjustable connection with the base as and for the purpose described.

6. The combination of a rotatable and bodily shiftable stamping wheel, a base in connection with which the said wheel has a spring support, a ratchet wheel carried by the stamping wheel, a pawl co-acting with the ratchet wheel upon bodily shifting movement of the stamping wheel to rotate the latter, and a member supported on the base in connection with which the pawl is mounted, having means co-acting with the ratchet wheel to prevent accidental rotation of the stamping wheel in the normal position of the latter and an adjusting member on the base with which the said pawl carrier member has a yieldable connection.

7. In a stamping device, a stamping wheel having a soft compressible body provided with integral radially extending stamping seats around the periphery thereof independent of one another and stamping elements secured upon the said seats to yield laterally and circumferentially with the seats.

8. In a stamping device, a stamping wheel, comprising a soft compressible body, having radially extending peripheral seats projecting beyond the body, side plates at opposite sides of the body and beyond which the said seats extend, an axial shaft on which the said plates are adjustably held and flexible stamping elements secured on the said seats and yieldable with the seats, as described.

9. A stamping mechanism including a base, an elevated support at one end of the base, springs secured at one end to said support, a movable frame to which the opposite ends of said springs are connected, a stamping wheel rotatable in the said frame and having a peripheral series of stamping elements, a ratchet mechanism including a ratchet wheel carried by the stamping wheel and a pawl supported on the base for engagement by said ratchet wheel.

10. A stamping mechanism including a base, having guides, a stamping wheel bodily shiftable in the said guides, spring supports approximately paralleling the base, said supports being secured one end to the base and supporting the stamping wheel at their opposite ends to tension bodily shifting movement of the wheel, said stamping wheel being rotatable and having an annular series of peripheral stamping members, a ratchet mechanism for rotating the wheel during shifting movement thereof and an inking device supported by the base and including a pad arranged below the stamping wheel and into and out of engagement with which the stamping wheel is movable.

TOM STANDIFER SLIGH.