A. L. DE LEEUW.

NUT BRANDING PROCESS.

APPLICATION FILED SEPT. 8, 1919.

1,323,620. Patented Dec. 2, 1919.

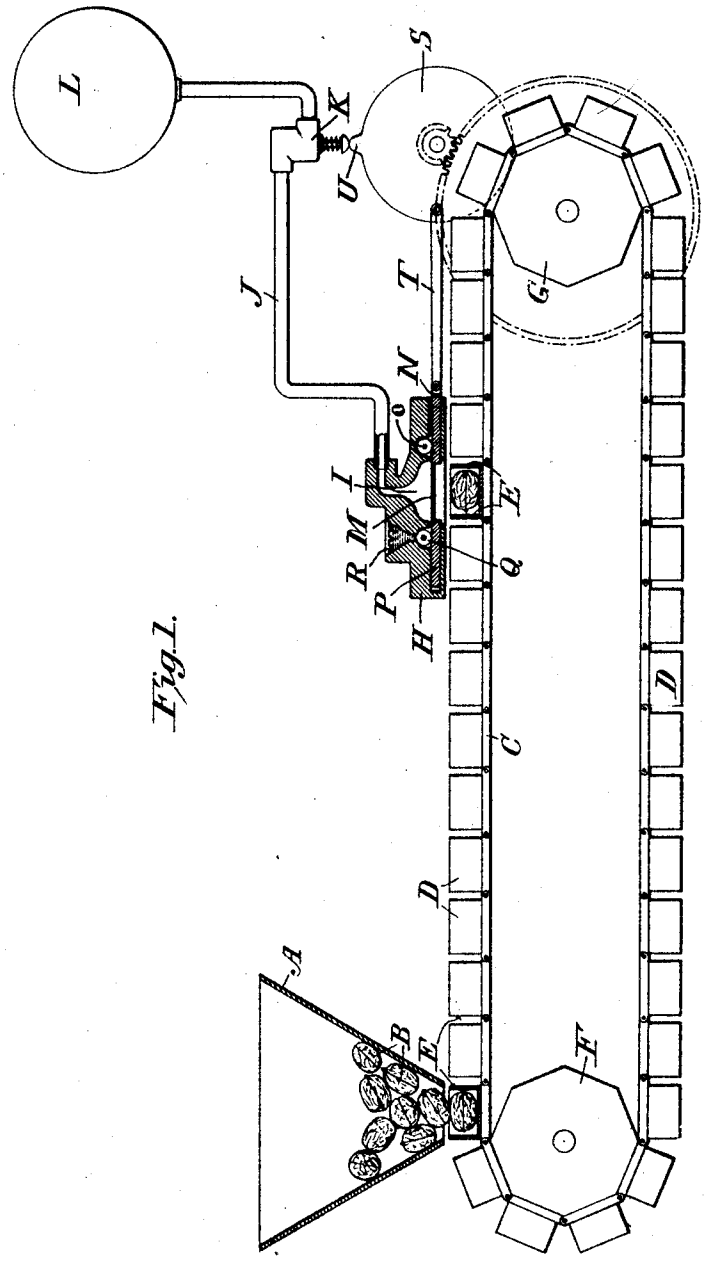


Fig. 1.

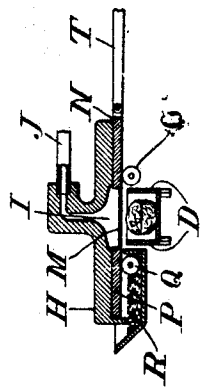


Fig. 2.

WITNESS

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NUT-BRANDING PROCESS.

1,323,620. Specification of Letters Patent. Patented Dec. 2, 1919.

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To all whom it may concern:

Be it known that I, ADOLPH L. DE LEEUW, a citizen of the United States, and residing at 1024 Park avenue, Plainfield, in the county of Union and State of New Jersey, have invented a new and Improved Nut-Branding Process, of which the following specification is a full disclosure.

This invention deals with a method and means for expeditiously branding articles of various sizes and proportions and, especially, articles obtainable with irregular or corrugated surfaces, such as natural products, as walnuts and the like.

Heretofore, growers and producers of natural products, which are available in irregular shapes and sizes, have been obliged to depend upon bags or other receptacles for containing the articles in bulk as a means of identifying such articles before the public. The trade-mark of the producer or distributer has, as a matter of necessity, been applied to the bag or container, but this affords an opportunity for substitution on the part of subsequent handlers. As a consequence, producers who exercise great care in the original selection and classification of the articles for the purpose of standardizing the quality thereof are rendered very liable to have their reputation impaired through improper substitutions of inferior articles.

Attempts have been made to develop some satisfactory method and apparatus whereby the trade-mark or branding of the original packer can be affixed directly to each individual article and thereby render such substitutions impracticable, but difficulties have prevented the successful operation of such means as have heretofore been proposed. These difficulties arise from the fact that natural products, such as walnuts, are available only in irregular sizes and with roughened or corrugated surfaces. Consequently, any mechanism depending upon precision of contact between the article and any branding means is incapable of adapting itself to the unavoidably erratic conditions.

This invention operates under a principle never heretofore applied in this art. That is to say, instead of seeking to effect the branding through a physical contact between the ink carrier and the article, this invention proceeds on the diametrically opposite principle of avoiding any such contact and, in lieu thereof, of utilizing the principle of projection for transferring the branding fluid (preliminarily disposed in conformity with the predetermined design) across the intervening gap and then directly onto the article to be branded.

My method avoids any direct contact with the printing element, and therefore is in no wise dependent upon or materially affected by the character of the surface of the nut, since it utilizes the principle of projecting the branding material, which will usually be in the nature of a paint adapted to be projected under control so as to impinge on the article and thereby automatically compensate for the irregularities thereof.

In carrying out my process, the articles to be branded are caused to travel past and in close proximity with a foraminous diaphragm; the perforations of which are disposed to represent the symbol or trade-mark to be imprinted. These perforations are minute and are periodically filled with the branding fluid, which may be in the nature of a pigment or of a liquid adapted to react with the husk of the nut to effect a permanent marking thereof. As the walnuts move past the diaphragm, and when they are in opposition with the pores thereof, a blast of air is caused momentarilly to act against the other side of the diaphragm to dispel the branding fluid from said pores and project it, in the form of minute projectiles, directly toward the corrugated or uneven surface of the nut. The little perforations in the diaphragm operate, in effect, like so many little guns and throw their projectiles of paint onto the nut, where they will be deposited in a manner faithfully to preserve the outlines of the trade-mark to the subsequent purchaser. The action being substantially instantaneous, the travel of the nut need not be arrested for the printing interval in order to obtain a satisfactory definition of the branded trade-

mark. During the intervals between the successive air blasts, the pores of the diaphragm are filled with the branding-fluid or ink, as by any suitable inking mechanism employing a brusher, roller or other suitable sweeper.

This invention will be easily understood by way of a diagrammatic drawing to which reference may now be made.

Figure 1 illustrates the branding instrumentality in side elevation; showing the diaphragm holder extending longitudinally with the conveyer. Fig. 2 illustrates a modified diaphragm holder arranged transversely to the conveyer.

In such drawing, A denotes a conventional hopper adapted to contain a supply of nuts or similar objects indicated by B. A suitable conveyer here indicated as a conventional belt C presenting a series of side walls D and of partitions E, which form an endless series of pockets or containers, each adapted to receive a nut during its transit past the discharge opening of the hopper A. This endless belt is suitably mounted, as by means of rolls F and G, so that it may be continuously driven in the same direction; as through power applied to one of said rolls. These pockets pass successively past and in proximity with a diaphragm which may be arranged, operated, and mounted in various ways within the scope of this invention. In the diagrammatic drawing, H indicates a casting providing an air chamber I which is supplied with air through a pipe J controlled by a valve K, here indicated as of the puppet type; the source of air under pressure being indicated by L. The mechanism is such that the diaphragm, properly inked, receives a momentary blast of air at the instant each pocket containing the article arrives in coincidence with it.

In the diagrammatic drawing, the foraminous diaphragm is indicated by M as being carried by a slide N arranged to reciprocate in a suitable slideway provided by the frame element H; said slideway providing an inking platen P on which rides an inking roller Q for the purpose of spreading the ink and distributing it evenly on to the diaphragm when the ink roller rides over its surface. The ink is supplied to the inking platen by means of a suitable source indicated by R. The slide N is reciprocated in a suitable manner, here indicated diagrammatically by a rotary crank S connected to the slide by a connecting rod T. This crank S carries a cam U, which momentarily actuates the puppet valve K at the instant the diaphragm and the adjacent nut are in coincidence. The crank S is driven in a suitably timed relation with the travel of the conveyer C so that the operation takes place for each nut in succession. If desired, a series of similar diaphragm devices may be arranged in series along the conveyer, so as to operate each on different pockets of the conveyer and thereby enable its speed to be increased.

Without further analysis, the foregoing will so fully reveal the gist of this invention that others can by applying current knowledge readily adapt it for various applications without omitting certain features that, from the standpoint of the prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention, and therefore such adaptations should and are intended to be comprehended within the meaning and range of equivalency of the following claims.

Having thus revealed this invention, I claim as new the following combinations of steps and elements or equivalents thereof, and desire to secure the same by Letters Patent of the United States:

1. A process of the nature disclosed for branding articles which consists in effecting the relative lateral movement between an inked stencil and the article; and momentarily utilizing air under pressure for projecting the ink from the pores of the stencil across the gap between the stencil and the article, and thereby depositing it on said article in conformity with the outlines of the stencil.

2. A branding process consisting in causing the article to be branded to travel past a stencil laden with branding fluid; and momentarily utilizing air pressure to project the branding fluid across the intervening gap and onto the article during its transit.

3. A branding process consisting in causing an article to travel laterally in spaced relation with a stencil; applying branding fluid to the stencil previous to the moment of conjunction of the article; and abruptly applying air under pressure to the remote side of the stencil at the instant of conjunction to force the branding fluid from the pores of the stencil and project it across the intervening gap and onto the article while in transit.

4. A branding process of the nature disclosed consisting in causing a series of articles to travel successively past a stencil at a slight distance therefrom; applying branding fluid to said stencil synchronously with the intervals between the articles; and momentarily utilizing air pressure at the moments of conjunction of the articles with respect to the stencil to project the branding fluid from the pores of the stencil in substantially right lines across the gap and onto the articles.

5. A branding apparatus comprising a perforated diaphragm; a conveyer mounted to travel in proximity therewith, means for

periodically applying branding fluid to said diaphragm; a source of air under pressure; and valve mechanism for periodically releasing a blast of air to project fluid from the pores of said diaphragm onto articles carried by the conveyer.

In witness whereof I hereunto subscribe my name as attested by the two subscribing witnesses.

ADOLPH L. DE LEEUW.

Witnesses:
CLAIRE FLEMING,
ALBERT F. NATHAN.