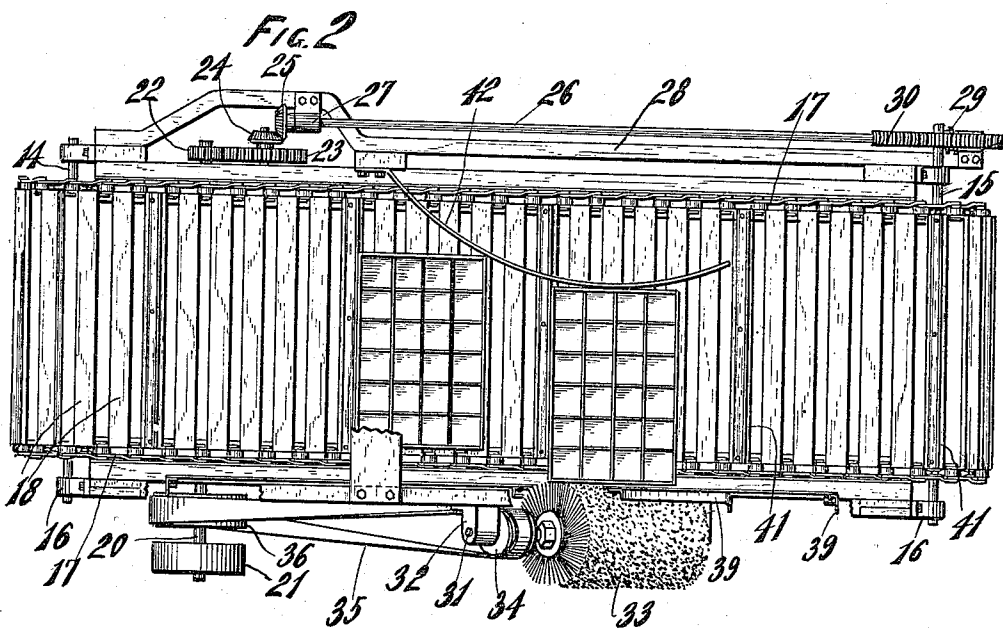
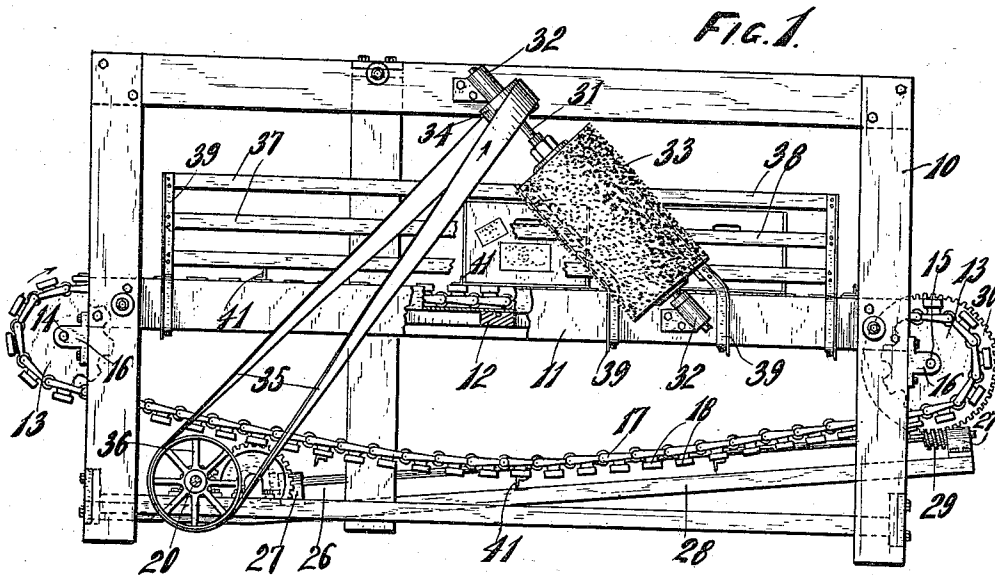


S. VOLZ.
MACHINE FOR REMOVING LABELS FROM CRATES.
APPLICATION FILED FEB. 12, 1914.

1,158,752.

Patented Nov. 2, 1915.
2 SHEETS—SHEET 1.



WITNESSES.

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FIG. 3.

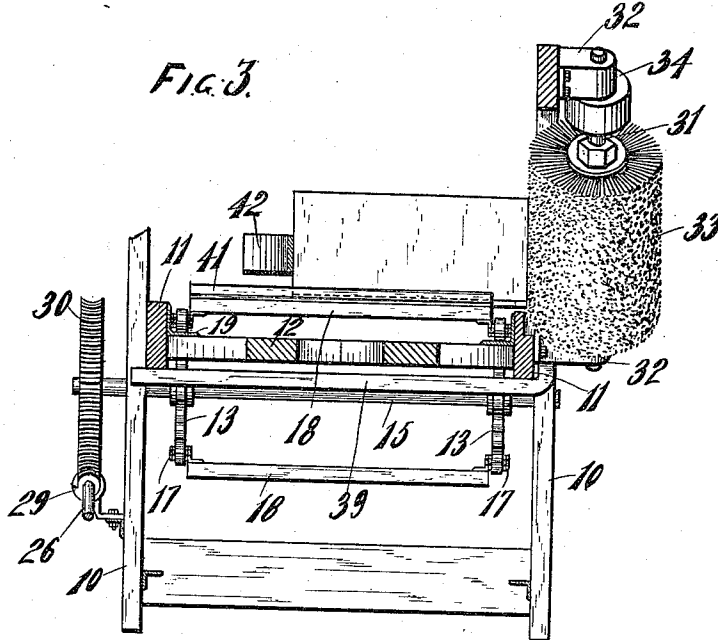
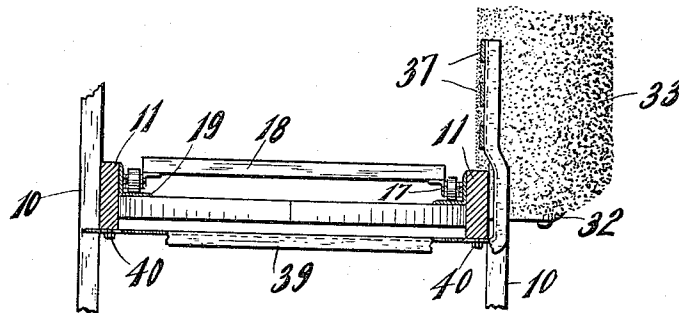


FIG. 4.



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MACHINE FOR REMOVING LABELS FROM CRATES.

1,158,752.

Specification of Letters Patent.

Patented Nov. 2, 1915.

Application filed February 12, 1914. Serial No. 818,435.

To all whom it may concern:

Be it known that I, SIMON VOLZ, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Machines for Removing Labels from Crates, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention has for its object to provide a machine for quickly removing paper labels or stencil marks from the ends of shipping crates so as to present a clean surface to which may be attached new labels or marks when the crate is again used.

Heretofore it has been customary to scrape the ends of crates by hand in order to remove the old labels and marks in preparing the crate for reuse and this hand work in large breweries and the like requires the work of thirty or forty employees and requires the work of one man in sharpening the scraping tools alone, as the scrapers are quickly dulled by their engagement with tacks left in the wood.

By means of the present invention all of this work of scraping and cleaning the ends of crates may be performed by a machine which by reason of its rapidly rotating wire brush is capable of performing better work and without necessitating the sharpening of tools and can clean the crates as rapidly as they can be fed thereto.

With the above and other objects in view the invention consists in the machine for removing labels from crates and the like as herein claimed and all equivalents.

Referring to the accompanying drawings in which like characters of reference indicate the same parts in different views: Figure 1 is a side elevation of a machine constructed in accordance with this invention, a part of the guide being broken away to show the labels on the end of the crate; Fig. 2 is a plan view thereof; Fig. 3 is a transverse sectional view thereof; and, Fig. 4 is a similar sectional view thereof on a different plane showing the guide for the crates on their way to the brush.

In these drawings 10 indicates a pair of side frames suitably connected together to support the other parts of the machine and carrying a pair of sills 11 which have cross-pieces 12 connecting them to form a horizontal bed for a crate conveyer. Sprocket

wheels 13 are mounted on shafts 14 and 15 journaled in bearings 16 at the ends of the frame and have roller chains 17 passing around them, said chains being connected by slats 18 to form a crate conveyer, there being angle iron tracks 19 secured to the sills 11 and resting on the crosspieces 12 to form a bearing support for the chains.

The shaft 20 is journaled across the lower part of the frames 10 and carries at one end a belt pulley 21 by means of which the machine may be driven from any suitable source of power, while at the other end is a pinion 22 meshing with a gear wheel 23 carrying a beveled pinion 24 which meshes with a corresponding beveled pinion 25 on a shaft 26. The shaft 26 is journaled in bearings 27 on an inclined bar 28 secured to one side of the frame 10 and has a worm 29 meshing with a worm wheel 30 on shaft 15 to cause the traveling movement of the crate conveyer.

An inclined shaft 31 is journaled in suitable bearings 32 on one of the side frames of the machine and carries a cylindrical, stiff wire brush 33 and also a belt pulley 34, the latter being connected by a belt 35 with a belt pulley 36 on shaft 20. The brush 33 is thus caused to rapidly rotate by the same driving means which produces the traveling movement of the crate conveyer.

Guide frames 37 and 38 are formed by slats secured to angle iron end pieces 39 which are bent to extend beneath the sills 11 and are adjustably attached thereto by means of bolts 40 passing through slots of the end pieces 39, as shown in Fig. 4, so that the guide frames may be adjusted laterally of the path of travel of the crate conveyer. The inner end pieces 39 of the guide frames 37 and 38 are inclined to correspond with the inclination of the cylindrical wire brush 33 and the two guide frames are spaced apart sufficient to enable the wire brush to extend between them into the path of travel of the ends of the crates on the conveyer.

At intervals the slats 18 of the crate conveyer are provided with angle cleats 41 which are adapted to engage the rear edge of a crate when placed upon the conveyer and prevent said crate from sliding on the conveyer when brought in contact with the wire brush. When the crates are placed on the conveyer they are preferably positioned against the guide frame 37, but in any event before reaching the wire brush they are

moved against this guide frame by means of one or more leaf spring guides 42 secured to one of the upright posts of the side frame opposite the wire brush. The spring guide 42 is curved to constitute a yielding cam surface in the path of the crates and is engaged by them in their travel on the conveyer and prevents the crates yielding against the action of the wire brush thereon. As the crates pass the wire brush their ends are exposed to the action of the brush which in its rapid rotation quickly cuts into the surface of the end of the crate, removing all labels or marks therefrom. In passing the brush the crate is guided by the guide frame 38 until it is free from the brush and may then be removed from the machine for use. As the wire brush becomes worn, and consequently of smaller diameter, the guide frames 37 and 38 are adjusted outwardly so that the path of travel of the end of the crate will bring it into the desired degree of contact with the brush.

By means of this invention the crates may be fed to the machine as rapidly as they may be handled and the cleaning operation may be practically continuous, the crates being fed by the conveyer past the rotary brush which thoroughly cleans the ends without becoming injured by the presence of tacks or other hard objects. In practice it is found that the work performed by the wire brush is superior to the work done by hand scraping and there is not as much wear resulting to the crate.

The wire brush may be mounted with its axis vertical, but it is preferred to give it an incline, as shown, and to turn the brush in the opposite direction to the direction of travel of the crate, as it is believed that more thorough work may be done and there is less liability of the crate being dislodged from its position on the conveyer by the action of the brush.

While the invention has been described as intended for use in removing labels from crates, it is obvious that it may be used for cleaning the ends of boxes or containers of various forms.

What I claim as new and desire to secure by Letters Patent is:

1. A machine for removing labels from crates and the like, comprising a guide along which a crate may be moved, and a cylindrical brush mounted on the opposite side of the guide from the side on which the crate travels, and projecting through the plane of the guide to engage the face of the crate which bears against the guide.

2. A machine for removing labels from crates and the like, comprising a guide along which crates may be passed in bearing therewith, said guide being provided with an oblique opening, and a cylindrical, rotary wire brush positioned obliquely with relation to the guide and projecting through the opening in the guide to engage the bearing face of the crate.

3. A machine for removing labels from crates and the like, comprising a crate conveyer, a guide against which the crates bear in their travel with the conveyer, a cylindrical wire brush on the opposite side of the guide from the side on which the crates travel and projecting through the plane of the guide into the path of the crates and adapted to engage the ends of the crates during their travel, and means for revolving the brush in the direction to cause such projecting portion thereof to travel in the opposite direction to the direction of travel of the crates.

4. A machine for removing labels from crates and the like, comprising a crate conveyer, a rotary, cylindrical, wire brush positioned at the side of the conveyer in the path of the crates carried by the conveyer, means for rotating the brush in a direction opposite the direction of travel of the crates, said brush being inclined in a direction opposite the direction of travel of the crates to cause it to work downwardly against the ends of the crates.

5. A machine for removing labels from crates and the like, comprising an endless crate conveyer, cleats on the conveyer to engage crates when placed on the conveyer, a guide positioned at the side of the conveyer and provided with an oblique opening therethrough, an inclined, cylindrical, rotary, wire brush projecting through the opening of the guide to engage the surface of the crate, and means for holding the crate against the guide in its travel past the brush.

6. A machine for removing labels from crates and the like, comprising a crate conveyer, a guide adjustably mounted alongside of the conveyer and capable of adjustment toward or away from the conveyer, a rotary, wire brush also positioned at the side of the conveyer with the ends of its wires extending across the plane of the guide and adapted to engage the face of the crate in its travel, means for holding the crate against the guide in its travel past the brush, the adjustability of the guide causing the crate to travel nearer to or farther from the axis of the brush.

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

SIMON VOLZ.

Witnesses:

C. H. KEENEY,

GERTRUDE H. SCHOLZ.