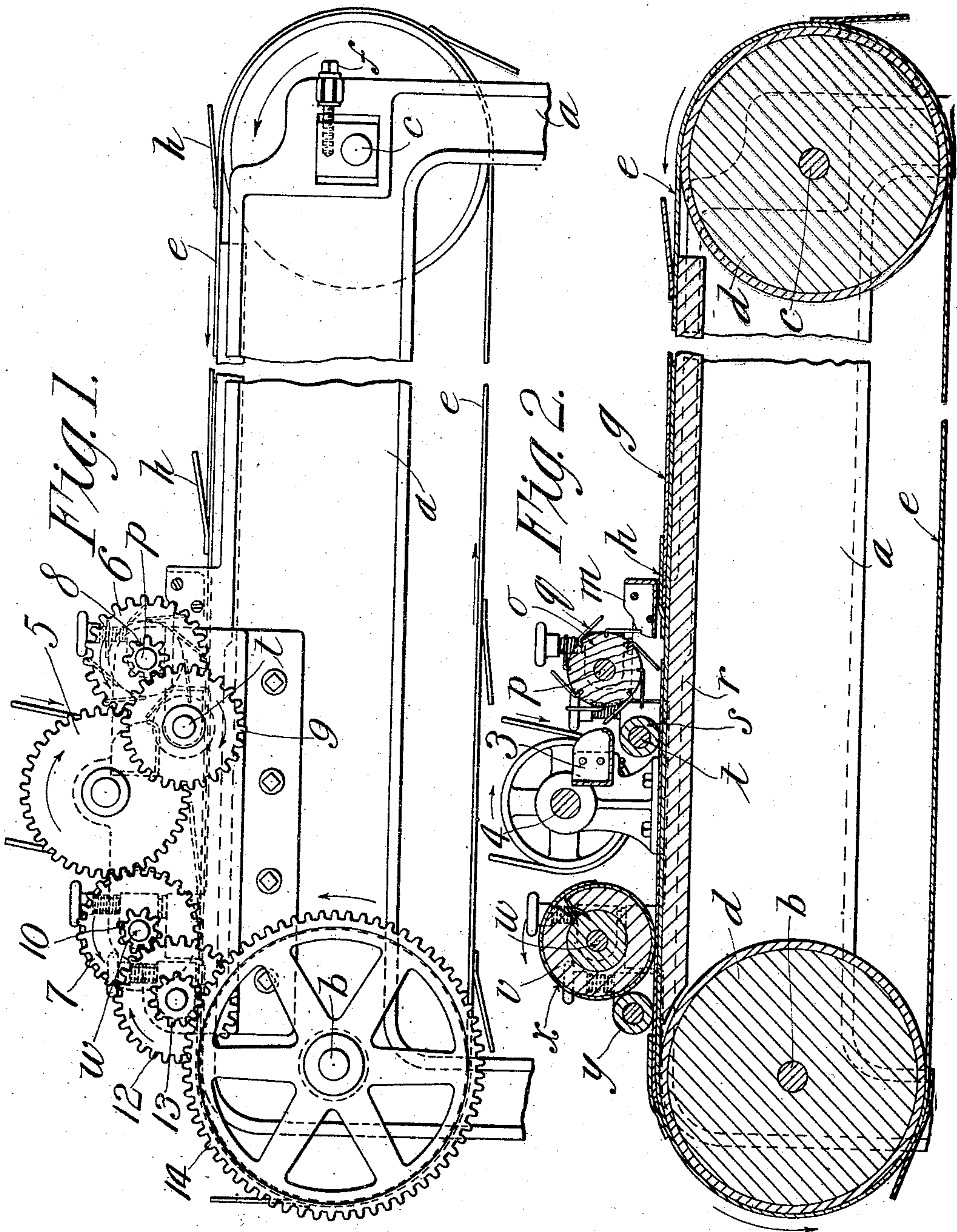


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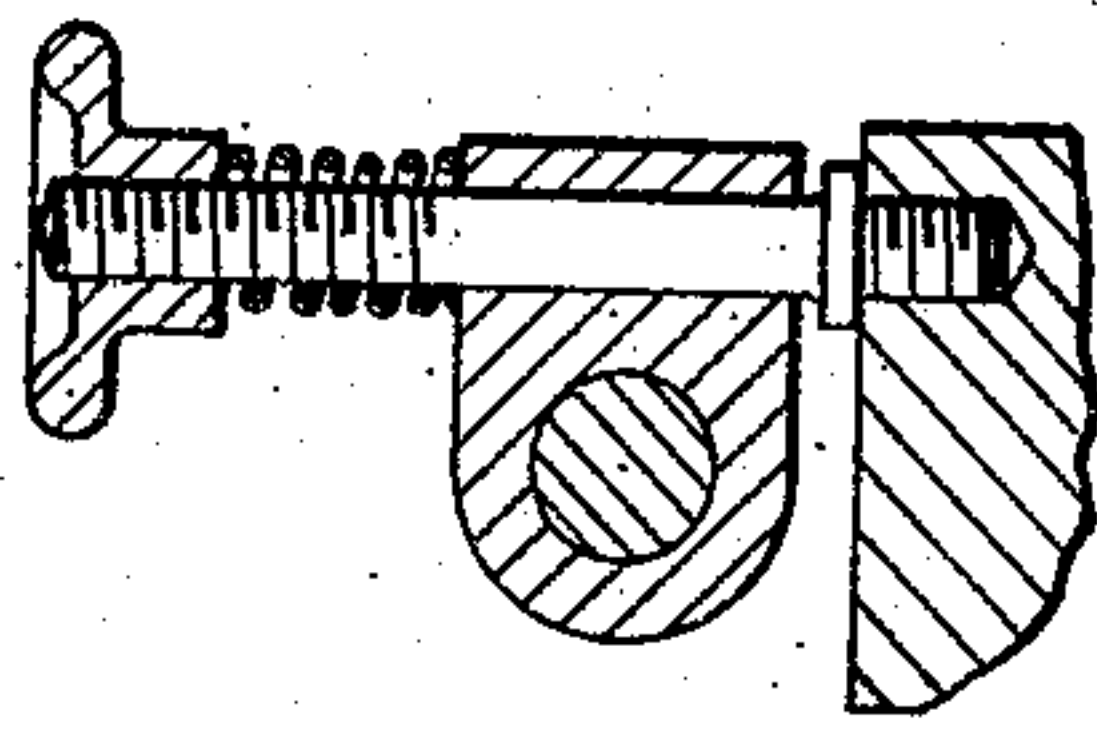
A. L. BAUSMAN.
PLAQUE CLEANING MACHINE.
APPLICATION FILED JUNE 13, 1908.

Patented July 20, 1909.
2 SHEETS—SHEET 1.



Witnesses:
H. L. Sprague
H. W. Brown

Fig. 5.

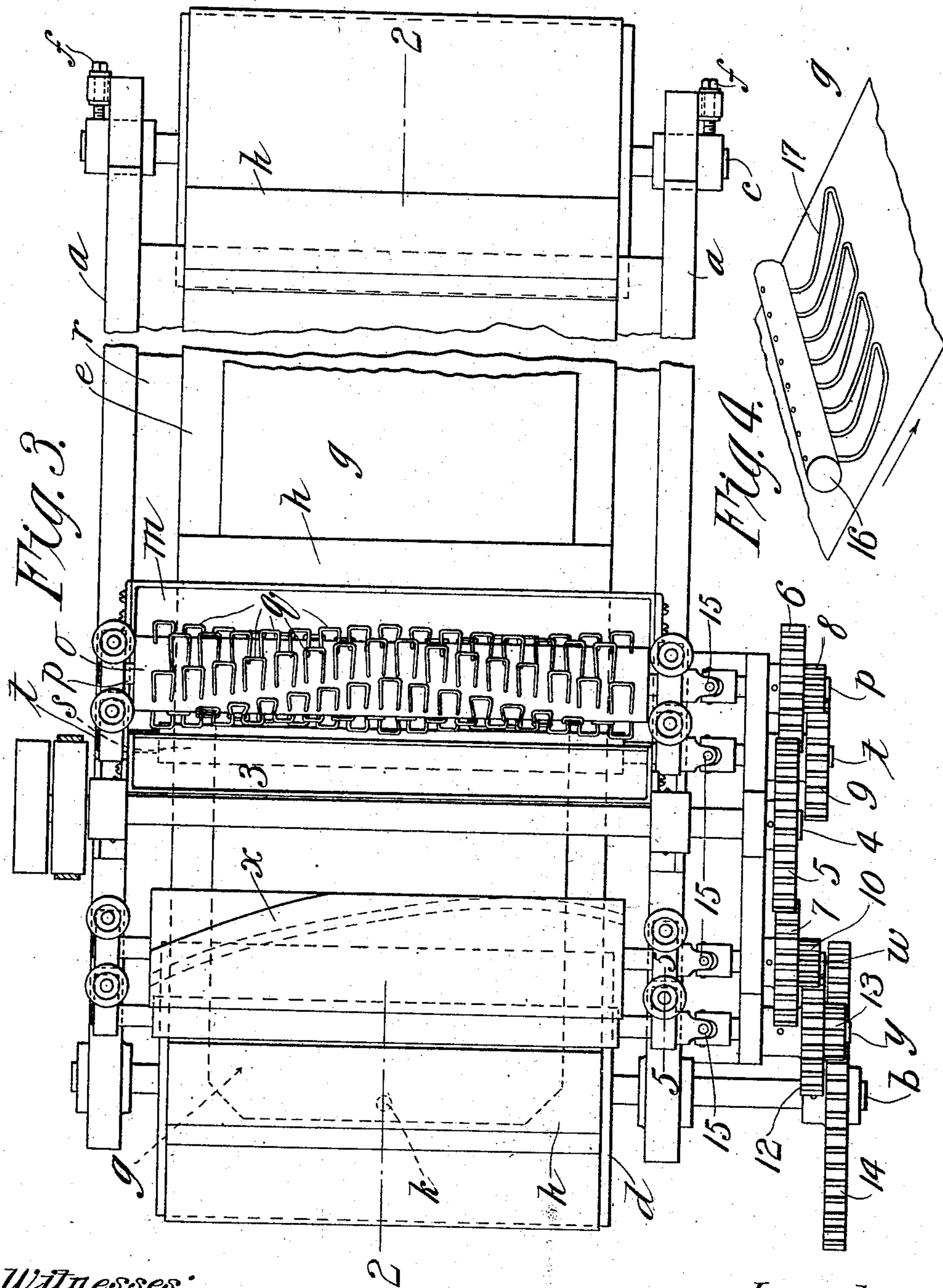


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UNITED STATES PATENT OFFICE.

ALONZO LINTON BAUSMAN, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO CONFECTIONERS' MACHINERY & MANUFACTURING COMPANY, OF SPRINGFIELD, MASSACHUSETTS, A CORPORATION.

PLAQUE-CLEANING MACHINE.

No. 928,730.

Specification of Letters Patent.

Patented July 20, 1909

Application filed June 13, 1908. Serial No. 438,256.

To all whom it may concern:

Be it known that I, ALONZO LINTON BAUSMAN, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Plaque-Cleaning Machines, of which the following is a specification.

This invention relates broadly to confectionery machinery though specifically it is not directly employed in the manufacture of confections.

In the manufacture of certain lines of confectionery, as for example those coated with some substance different from the core, like chocolate creams, long strips of waxed paper are fed through the machines which apply the chocolate coating, and on these strips the coated confections are deposited, being carried by an endless belt away from the coating devices, to the end that the confections may have time to harden before being removed for packing. These strips of waxed paper, or paper plaques as they are called in the trade, eventually accumulate spots of the coating material which, dropping thereon in a liquid or semiliquid state, harden and adhere to the surface thereof to such a degree that it requires a light scraping operation to remove them, which operation has heretofore been performed by hand labor, which, owing to the carelessness of the operative, results in the destruction of many of the plaques which become torn in the process.

The object of the present invention is to provide a machine whereby the plaques may be cleaned much more rapidly and thoroughly and without injury, and the invention will be particularly described in the following specification and pointed out in the claims thereof.

In the drawings illustrating this invention,—Figure 1 is a side elevation of a machine showing the preferred embodiment of the invention. Fig. 2 is a sectional elevation of the same taken in the plane of line 2—2, Fig. 3, this view showing more particularly the application of the rotary scraper-roll to the plaques and illustrates also the devices whereby the plaques are carried under the scraper-roll by means of an endless belt. Fig. 3 is a plan view of Fig. 1 showing the disposition and construction of the scraper-roll, the feed-rolls, and the plaques

on the endless belt. Fig. 4 is a perspective view of a modification of the scraper-roll shown in the other figures of the drawing, and Fig. 5 is a sectional view of one of the bearings of a feed-roll showing the manner of spring-supporting the same, whereby the roll may yield.

Referring to these drawings, *a* indicates the frame of the machine, and at either end thereof the shafts *b* and *c* are mounted carrying rolls *d* over which runs an endless belt *e* of any suitable material, as canvas.

The bearing-boxes, (in which one of the shafts, as *c*, is mounted) are made adjustable in the direction of the length of the belt by means of a bolt *f* screwing into each bearing and rotatably seated in the frame, whereby the belt may be put under proper tension. On this belt, at suitable intervals, (determined by the length of the plaques *g*, Figs. 2 and 3) flaps *h* are secured, which are also preferably made of canvas and extending across the belt to the full width thereof, these flaps being secured to the belt by sewing, or other suitable means, along what would be the front edge thereof, that is, that edge which would first pass under the feed-rolls.

The plaques, as stated, are made of waxed paper, the forward ends thereof, (as shown in dotted lines at the left-hand of Fig. 3) having their corners beveled off and a hole punched through said forward ends centrally thereof, which hole is suitably reinforced and serves to attach the plaques to the apron of the coating machine.

The forward ends of the plaques are slipped in under the flaps *h*, by an operative standing at the right-hand end of the machine, as viewed in Fig. 1, and as the endless belt or apron *e*, moving in the direction of the arrows, passes on toward the feed-rolls, the flaps first run under a bar *m* which presses them down against the plaque; this part of the latter which lies under the flaps is free from adherent particles or spots of the coating material, as no confections are deposited thereon near this end, the flaps being of such width as to expose all of the surface of the plaques which needs to be subjected to the cleaning operation.

Immediately forward of the bar *m* is located the cleaning roll or the scraper-roll *o* which is carried on a shaft *p* mounted in yielding bearings of the type shown in Fig.

5, whereby more or less pressure of the roll against the surface of the plaques may be obtained. This roll has applied and secured by one end to the surface thereof, U-shaped spring-fingers q (very clearly illustrated in Fig. 3) which are applied thereto in staggered relation and preferably in lines extending from end to end of the roll on a slight curve, the disposition of these members q being such that that part thereof parallel with the axis of the roll will, as the latter revolves, sweep over the entire surface of the plaques, the arrangement of these fingers being tangential to the periphery of the roll to the end that their operative extremities will be yieldingly pressed against the surface of the plaques and drawn over the latter contrary to the direction of the movement of the plaques through the machine, thus applying to the surface of the plaques a spring-like scraping movement in a manner to prevent any possible injury to the plaques and yet bearing with sufficient force against the latter to thoroughly remove all particles of coating material which may be adherent thereto.

Extending between the frames of the machine under all of that part thereof covered by the roll o and the feed-rolls (to be described) is a table r of wood or other material on which the belt e is supported during the cleaning operation. Next forward of the scraper-roll o is a small feed-roll s on a shaft t , also supported in yielding bearings like the scraper-roll. The flaps h which hold the plaques will pass under the feed-rolls s thus binding the plaques g to the belt at about the time the scraper-roll first begins to bear on the plaque, and the latter is thus held firmly against slipping by being held firmly against the belt across the entire front end thereof, and the pressure of this feed-roll s is sufficient, after the flap h has passed under it, to hold the plaque from slipping backward under the action of the scraper-roll. Next beyond the feed-roll s is a wiper-roll v mounted on a shaft w , and covered with an enveloping strip of cloth x to maintain which on the roll without wrinkling it is preferably spirally wound thereon, as shown in Fig. 3. This roll is also mounted in yielding bearings, as is the small feed-roll y next forward thereof, and the distance between the centers of the roll w and the feed-roll y , is such that the flap h will pass under the roll y in time to grip the forward end of the plaque before the rear end of the flap h passes out from under the roll v , this being necessary because the latter roll runs contrary to the direction of movement of the plaque, and unless the forward end of the latter were so gripped the wiper-roll would pull the loose end out from under the flap h .

At some point below the roll d a suitable table may be placed to receive the cleaned

plaques which will be automatically released from the flaps as the belt passes over the roll d and falls on the table.

During the operation of the machine, the chocolate which is freed from the surface of the plaques will be thrown centrifugally away from the roll o in order to prevent these particles from falling back onto the plaque or apron, receptacles are provided both in front of and back of the roll to catch them. One of these receptacles is formed by making the bar m L-shaped in cross section and closing the ends thereof, as shown in Figs. 1 and 2, the other receptacle, indicated by 3, being placed on the opposite side of the roll o and above the feed-roll s . These two receptacles serve to catch all of the particles of coating material which may fly off of the roll.

The driving-shaft of the machine is indicated by 4, and from it, by means of the gear 5, movement is imparted to the roll o by the gear 6, and to the wiper-roll v by the gear 7. On the end of the shaft p of the scraper-roll is a pinion 8 meshing with the gear 9 on the end of the shaft t whereby movement is imparted to the feed-roll s . Similarly on the end of the roll v is a pinion 10 meshing with the gear 12 on the shaft of the feed-roll y , on the end of which, in turn, is a pinion 13 meshing with the large gear 14 on the shaft b whereby movement is imparted to the endless belt e .

As heretofore stated, certain of the rolls are mounted in spring bearings whereby they may yield vertically when the flaps h pass thereunder, and to permit such yielding movement of the rolls, the connection between the ends of the latter and the short shafts on which the various driving gears are mounted are made in the form of universal couplings 15 of any well known type.

While the type of scraping device heretofore described is the preferred one, any device of a different construction, whereby the same yielding scraping movement may be applied to the surface of the plaques is deemed to fall within the scope of the invention.

One construction for example, which might be substituted therefor to produce this effect, is illustrated in Fig. 4, and it consists in mounting on an endwise reciprocating shaft or bar 16, the U-shaped spring-fingers 17 which are of the same type as those used on the roller heretofore described, though longer, and are adapted to bear yieldingly against the surface of the plaque, means being provided to impart reciprocating endwise movement to the shaft 16, whereby as the plaque g , moving in the direction of the arrow, passes under said fingers, all parts of the surface of the plaque would be covered by the scraping movement of the fingers and subjected to the yielding scraping action

necessary to remove the adherent particles of coating material.

What I claim, is:

5 1. A machine of the class described comprising an endless belt, flexible and pliable means stitched at one edge to said belt to removably secure a paper plaque or the like at the forward end thereof in a temporary position on the belt, whereby said plaque
10 will move with the latter, and a device mounted in operative relation to the surface of the belt to apply a scraping action to the plaque.

15 2. A machine of the class described comprising an endless belt having flaps extending transversely thereof secured to the belt by one edge to receive the end of a paper plaque or the like inserted between the flap and the surface of the belt, whereby when the flap runs
20 under a feed-roll the plaque will be held in fixed position on the belt, together with means to subject the plaque or the like to the action of a device for cleaning the surface thereof.

25 3. A machine of the class described comprising

a roll having spring-fingers secured to the surface thereof substantially tangential thereto, adapted to apply a spring-like scraping action to the surface of a strip of material moving past it in contact with the
30 fingers, an endless belt to carry said strip past the roll, and feed-rolls bearing on the belt to hold the strip against movement on the belt.

35 4. A machine of the class described comprising a roll having spring-fingers secured tangentially to the surface thereof, adapted to apply a spring-like scraping action to the surface of a strip of material moving past the roll in contact with the ends of the fin-
40 gers; an endless belt to carry said strip past the roll, and feed-rolls bearing on the belt to hold the strip against movement thereon, and means to yieldingly support said scraping-roll and feed-rolls for movement at right
45 angles to the belt.

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