

C. VON PHILP.
TAG MAKING MACHINE.
APPLICATION FILED JULY 2, 1908.

965,323.

Patented July 26, 1910.

4 SHEETS—SHEET 1.

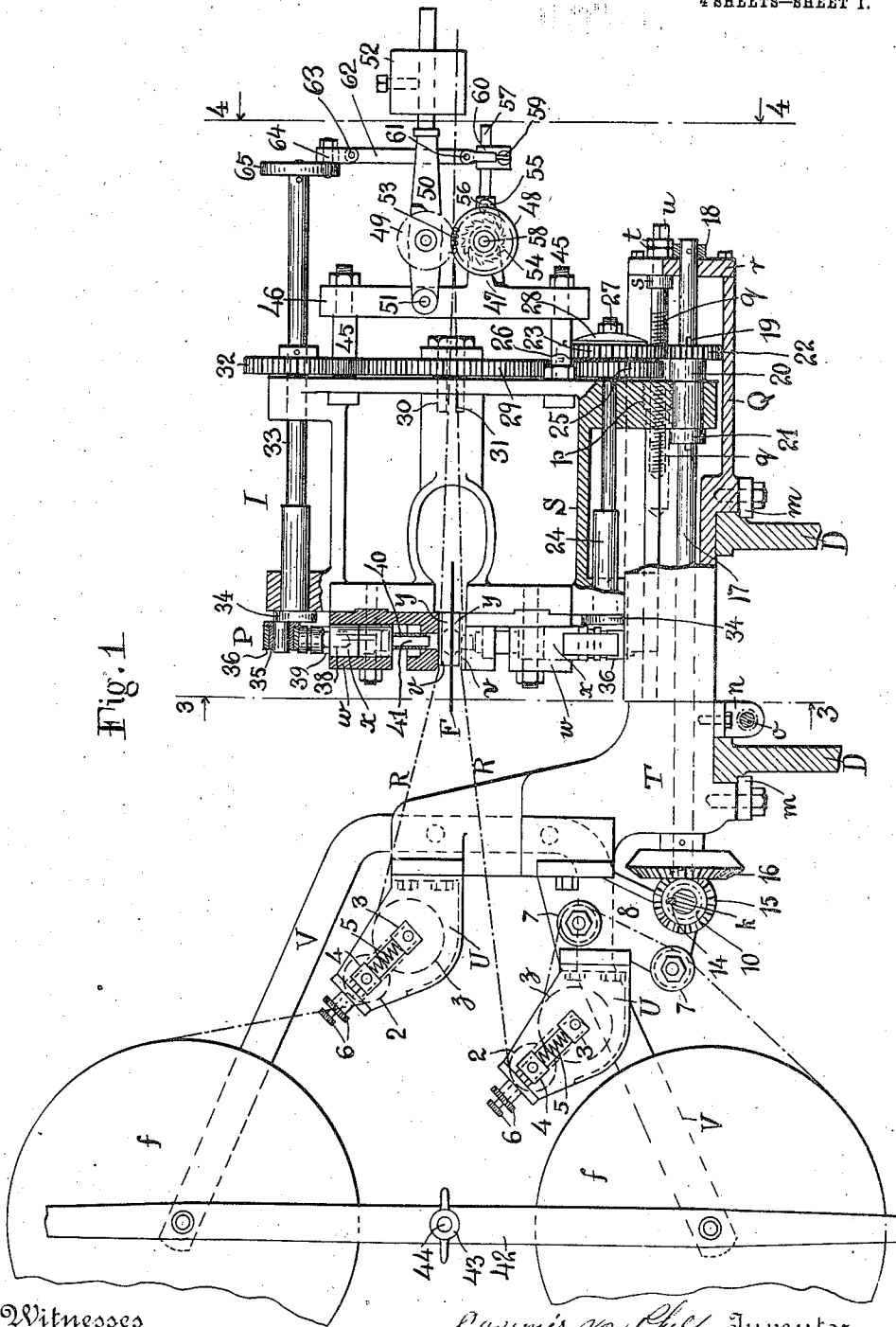


Fig. 1

Witnesses
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Keruan Morris

Casimir von Philp Inventor
By his Attorney & Counselmen

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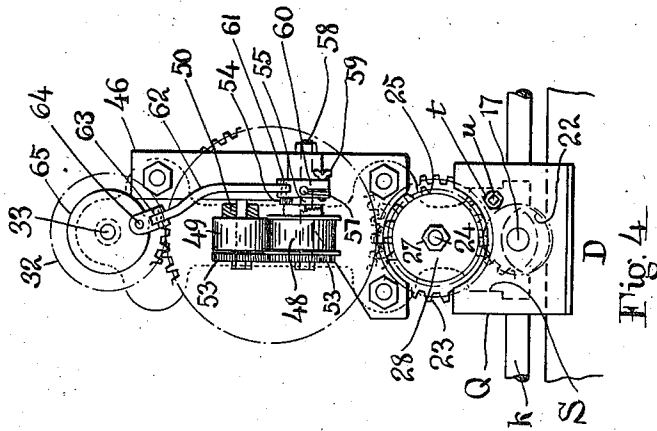


Fig. 4

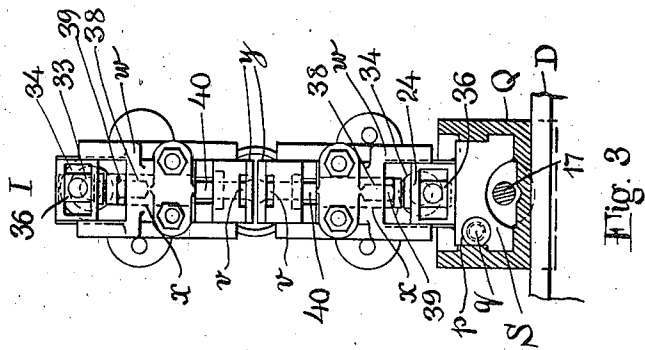


Fig. 3

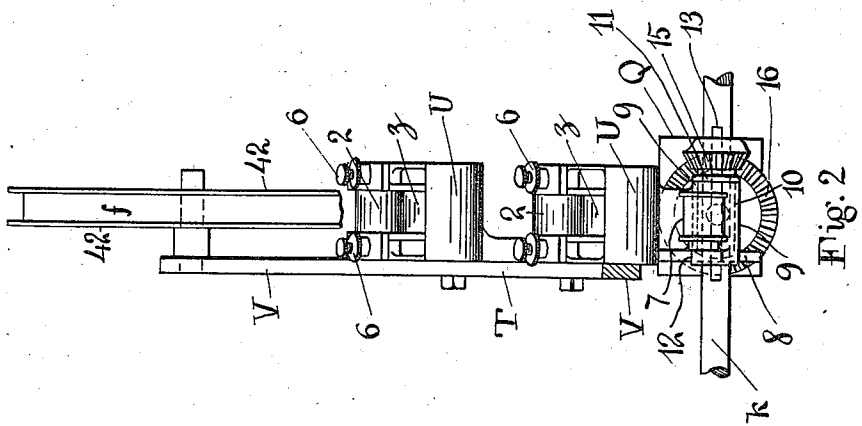


Fig. 2

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4 SHEETS—SHEET 3.

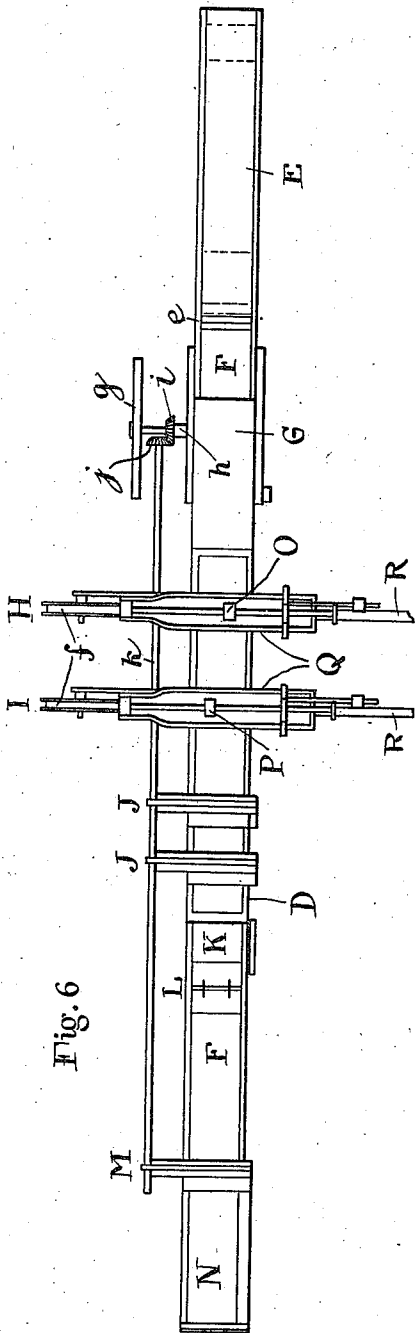


Fig. 6

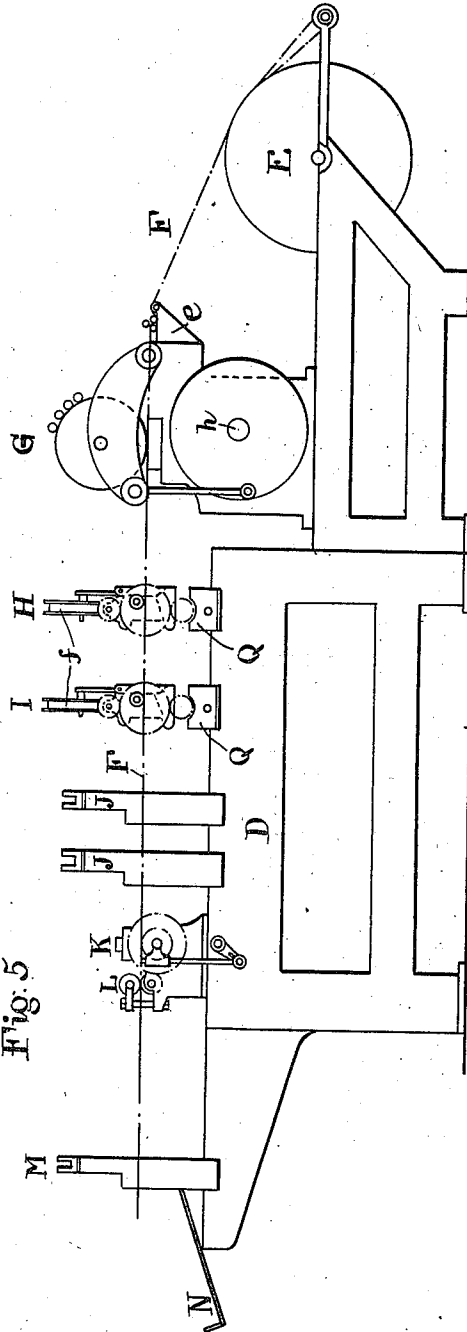


Fig. 5

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4 SHEETS—SHEET 4.

Fig. 7

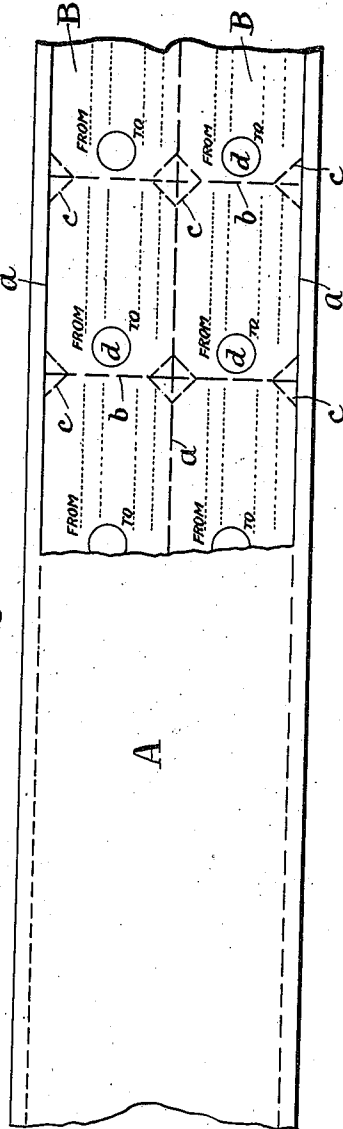
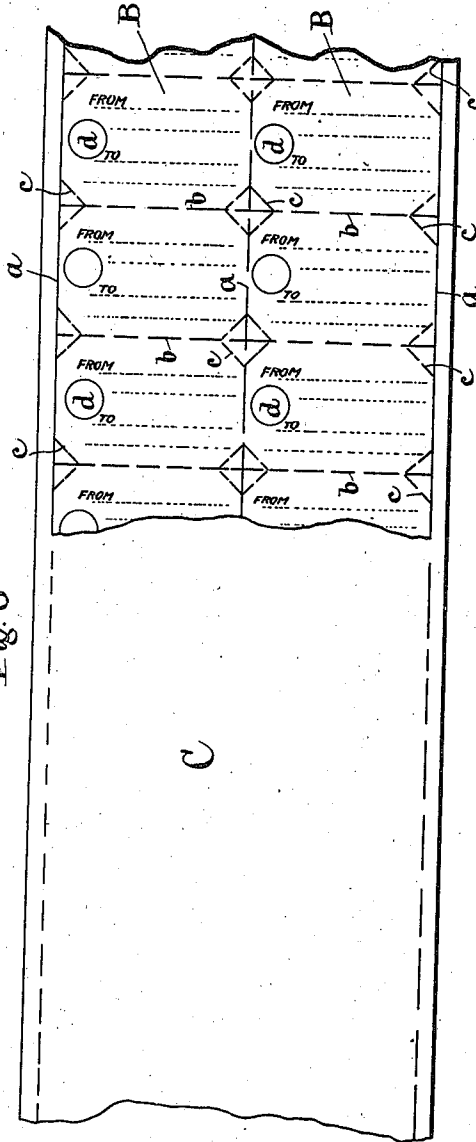


Fig. 8



Witnesses:
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UNITED STATES PATENT OFFICE.

CASIMIR VON PHILP, OF NEW YORK, N. Y.

TAG-MAKING MACHINE.

965,323.

Specification of Letters Patent. Patented July 26, 1910.

Application filed July 2, 1908. Serial No. 441,613.

To all whom it may concern:

Be it known that I, CASIMIR VON PHILP, a citizen of the United States, and a resident of New York, borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Tag-Making Machines, of which the following is a specification, accompanied by drawings.

10 This invention relates to machines for making tags and other articles having reinforcing pieces applied thereto.

The objects of the invention are to improve upon the construction of such machines and increase the capacity of the machine.

Further objects of the invention will hereinafter appear and the invention consists of the machine fully described and claimed in this specification and shown in the accompanying drawings, in which—

Figure 1 is a side elevation partly in section of the mechanism for applying the reinforcing pieces; Fig. 2 is a front elevation of Fig. 1; Fig. 3 is a vertical sectional view on the line 3, 3 of Fig. 1, looking in the direction of the arrows; Fig. 4 is a rear elevation partly in section on the line 4, 4 of Fig. 1; Fig. 5 is a diagrammatical side elevation of a complete machine embodying the devices for applying the reinforcing pieces to the tags; Fig. 6 is a plan view of Fig. 5; Fig. 7 is a plan view partly broken away of a blank from which the tags are made; and Fig. 8 is a plan view partly broken away of a modification of the blank.

In Figs. 7 and 8, two forms of blank are shown, from which the tags are cut. In Fig. 7, A is a blank or web of suitable material, as paper or cardboard, from which two series of tags B are formed, side by side, thus doubling the capacity of the machine. The tags B lie end to end in each series, but if desired, a wider blank or strip C may be used as in Fig. 8, and the tags B formed out of the blank in two series, the tags in each series lying side by side. In each case, the blank is cut along the longitudinal lines *a*, and on the transverse lines *b* by suitable machinery. The corners of the tags are also beveled at *c*. The reinforcing pieces *d* are secured to the tags in the machine by means of the devices hereinafter fully described in detail.

55 Figs. 5 and 6 illustrate diagrammatically the general assembly of the machine em-

bodying the tag devices or mechanism for securing the reinforcing pieces to the tags. This mechanism is the subject matter of the present invention, and Figs. 5 and 6 illustrate diagrammatically the general mode of operation of the machine embodying this mechanism.

Referring to Figs. 5 and 6, D represents the frame of the machine and E is a paper stock roll from which the web or blank F is supplied. From the tension bracket *e*, the web passes through the printing head G, from thence through the two washer applying devices H and I by means of which the reinforcing pieces are applied to the web on the two series of tags lying side by side. From thence the blank passes on through the machine through the punching heads J and feed device K, the slitters L and the cut off head M to the receiving board N. The punching heads J, slitters L and cut off head M properly punch, slit and cut the tags from the blank, and these devices are only shown diagrammatically because they form specifically no part of the present invention and any suitable devices may be used for these purposes. As shown, the washer applying devices H and I are mounted on the frame D and extend transversely across the bed of the machine. Each device is provided with a punching head O and P adapted to punch circular reinforcing pieces from webs R of material fed from the rolls *f* through the washer applying devices transversely of the web F. These circular reinforcing pieces *d* are pressed against the tags opposite each other on opposite sides of the web F and then holes are punched through the reinforcing pieces and the web, by means of the punching heads J in any suitable manner. The bases Q of the washer applying devices H and I are movable longitudinally of the frame D of the machine, and the punching heads O and P of the said devices are movable transversely of the frame D, so that these heads may be adjusted in any desired relative positions for punching the reinforcing pieces *d* from the web F and securing them to the tags. By these means, the punching heads O and P may be adjusted to cooperate with either of the blanks A or C shown in Figs. 7 and 8 or with any other desired form of blank. As shown in Fig. 6, the punching heads A and P are adjusted at each side of the longitudinal center line of the bed of the machine,

and in feeding the blank A through the machine the punching head O first operates automatically to punch and apply the reinforcing pieces to the tag presented in the tag devices. The blank is then automatically fed forward and the adjacent tag B of the other series has applied thereto the reinforcing pieces by the punching head P, while at the same time reinforcing pieces are being applied to the next tag B in the rear of the first tag of the opposite series. The machine then operates continuously to apply the reinforcing pieces to two tags simultaneously staggered with relation to each other in opposite series. In accordance with this invention, tags of different sizes may have the reinforcing pieces applied thereto owing to the means for adjusting the relation of the punching heads O and P.

In the general assembly drawings, Figs. 5 and 6, power may be supplied to the pulley *g* on shaft *h*. Said shaft is provided with a bevel gear *i* meshing with the bevel gear *j* on the extension shaft *k* which extends longitudinally of the machine, and supplies power for driving the remaining mechanisms of the machine.

The details of the tag devices H and I are fully illustrated in Figs. 1, 2, 3 and 4, and referring to these drawings, the base Q is mounted for longitudinal adjustment upon the frame D and adapted to be clamped in position by the clamps *m*. The base Q is provided with a suitable ear or bracket *n* co-operating with the screw threaded rod *o* by turning which the base Q may be adjusted longitudinally on the frame D. The base Q has slidably mounted thereon a transversely adjustable sub-frame S. The frame S has an interiorly screw threaded bushing *p* inserted in an aperture therein and adapted to be engaged by an adjusting screw *q* guided in the guide plate *r* and having a collar *s* abutting against one side of said plate, the outer end of the screw *q* having lock-nuts *t*. By turning the squared head *u* of the screw *q*, the transverse position of the sub-frame S and punching head P and other parts carried thereby may be adjusted.

The sub-frame S as shown, is provided with an extension T carrying the fountains U and suitable supports V secured to the extension T carrying the rolls *f* of plain or gummed paper or cloth R which are fed through the fountains U and through slots *v* in the guide frames *w* of the punch bars *x*, so that the webs R pass above and below the main web F and transversely across the same. The punch bars *x* and punches connected thereto operate automatically to punch reinforcing pieces out of the webs R through the die plates *y*, and press said reinforcing pieces against the sides of the web F. The

fountains U may contain water or gum according to whether gummed or plain strips R are used.

In the fountains U are provided the rollers *z* coöperating with the rollers 2 between which the webs R are fed. The rollers *z* and 2 are supported in the sliding blocks 3 and 4, separated by springs 5, the tension of which may be adjusted by the pressure adjusting screws 6 to vary the pressure of the roller 2 upon the roller *z*. The lower web R first passes over the guide rollers 7 carried on the bracket 8 secured to the extension T and then over the roller *z* and under the roller 2, so that when the web R is presented underneath the blank F in the slot *v*, the upper side of the web R is covered with gum. The upper web R passes under the roller 2 and over the roller *z*, so that the under side of said web is covered with gum as it passes over the web F.

In a boss 9 on bracket 8, is a sleeve 10 held from longitudinal movement by the flange 11, and the collar 12. The extension shaft *k* passes through the sleeve 10 and is provided with a key way 13 in which the key 14 engaging the sleeve 10 slides, so that longitudinal movement of the tag device along the frame D will move the sleeve 10 on the shaft *k*. The sleeve carries a bevel gear 15 meshing with the bevel gear 16 on the shaft 17 which is supported in a bearing in the extension T and in another bearing in the guide plate *r*. To the end of the shaft 17 is pinned a collar 18. Sliding on the shaft 17, but keyed thereto in the key way 19, is a sleeve 20 having a collar 21 and this sleeve carries a pinion 22 meshing with a gear 23 loose on the crank shaft 24. The gear 25 is fast to the shaft 24 and between the gears 23 and 25 is a friction washer 26 of leather or other suitable material. Between the nut 27 on the end of shaft 24 and gear 23 is a spring washer 28 for adjusting the pressure between the gears 23 and 25. Rotation of pinion 22 causes rotation of shaft 24 through the intermediary of the friction clutch formed between the gears 23 and 25, so that if the punches and die plates should become clogged, the parts of the machine will not be broken, because provision is made for slipping or lost motion between the gears 23 and 25.

Gear 25 meshes with a gear 29 carried by the stud 30 and this stud has a longitudinal aperture 31 therein to permit the webs R to pass therethrough as they are fed forward after the reinforcing pieces have been cut out. Gear 29 meshes with a pinion 32 pinned to the crank shaft 33. The crank shafts 24 and 33 are each provided with cranks 34 having pins provided with bearings 35 in sliding heads 36, which are adapted to slide vertically in the forked ends of the guide frames *w*. The punch bars *x* are

connected to the sliding heads 36 by screw bolts 38 having lock nuts 39 whereby the distance between the sliding heads 36 and the punch bars *x* may be adjusted. The punches are adjustably connected to the punch bars *x* and comprise the outer sleeves or cylinders 40 and the inner solid cylinders 41 which project beyond the outer sleeves 40 in order to obtain the proper pressure for stamping letters or figures on the patches or washers forming the reinforcing pieces. To this end the inner cylinders may be engraved on their faces in order to stamp letters or figures on the reinforcing pieces. The punches operate through the die plates *y* simultaneously to punch the washers or reinforcing pieces and press them against the web F. The spring strips 42 at each side of the rolls *f* may be clamped together by means of the wing nut 43 on the bolt 44 which passes through the strips 42, and thus the strips act as a brake on the rolls *f*, giving the proper tension to the reinforcing material.

Supported by the bolts 45 on sub-frame S is a support 46 having an extension 47 carrying lower feed roll 48 for the strips of reinforcing material R. The upper feed roll 49 is carried on a lever arm 50 pivoted at 51 to the support 46 and having an adjustable weight 52 at its outer end to adjust the pressure between the feed rolls 48 and 49. The feed rolls 48 and 49 are provided with gears 53 meshing with each other and the upper roll is driven from the lower roll. The lower roll is driven intermittently from the crank shaft 33 by a ratchet and pawl device. The lower roll 48 is provided with a ratchet wheel 54 having a spring pressed pawl 55 coöperating therewith and pivoted at 56 to lever 57, which lever is pivoted on the shaft 58 which carries feed roll 48. Clamped to lever 57 by clamp bolt 59 is an adjustable collar 60 to which is pivoted in turn at 61 the double jointed lever 62 pivoted at its other end at 63 to a collar 64 on crank 65 which is carried by the end of crank shaft 33. Rotation of crank shaft 33 will rock lever 57 and actuate feed roll 48 by means of the ratchet and pawl.

In the operation of the machine, the punching heads O and P are so adjusted that the punches will punch and apply the washers or reinforcing pieces at the proper points on the tags to be made out of the blank F. To this end the tag devices are adjusted both longitudinally and transversely of the machine, to the proper points. The web F out of which the tags are to be formed is intermittently fed longitudinally through the machine and between the punches in the tag devices. Power applied from the shaft *h* actuates shaft 17 and through the gearing described, rotation is imparted to the crank shafts 24 and 33, so that the punches are re-

ciprocated in the guide frames, and the webs R of reinforcing material are intermittently fed forward by means of the feed rolls 48 and 49. If plain material is used for the webs R, the fountains should be filled with gum to enable the washers punched out by the punches to be secured to each side of the web F. The parts are properly timed to enable the patches of reinforcing material to be applied in the proper places to the web F.

According to my invention, the capacity of the machine for accomplishing the reinforcing of the tags is very greatly increased and the cost of this operation is greatly reduced.

I claim and desire to obtain by Letters Patent the following:

1. In a machine for applying reinforcing pieces to webs of material, the combination of means for intermittently feeding a main web of the stock to be treated, a plurality of relatively longitudinally and transversely adjustable reinforce applying mechanisms, means for feeding webs of reinforcing material to said mechanisms, and a plurality of independent punching devices.

2. In a machine for applying reinforcing pieces to webs of material, the combination of means for intermittently feeding a main web of the stock to be treated, a plurality of reinforce applying mechanisms adjustable longitudinally and transversely of the main web, means for feeding webs of reinforcing material to said mechanisms, and a plurality of independent punching devices.

3. In a machine for applying reinforcing pieces to webs of material, the combination of means for intermittently feeding a main web of the stock to be treated, a plurality of reinforce applying mechanisms independently adjustable longitudinally and transversely of the main web, means for feeding webs of reinforcing material to said mechanisms, and a plurality of independent punching devices.

4. In a machine for applying reinforcing pieces to webs of material, the combination of means for intermittently feeding a main web of the stock to be treated, a plurality of reinforce applying mechanisms adjustable longitudinally and transversely of the main web, means for feeding webs of reinforcing material to said mechanisms, above and below the main web, and a plurality of independent punching devices.

5. In a machine for applying reinforcing pieces to webs of material, the combination of means for intermittently feeding a main web of the stock to be treated, a plurality of reinforce applying mechanisms independently adjustable longitudinally and transversely of the main web, means for feeding webs of reinforcing material to said mechanisms, above and below the main web, and

a plurality of independent punching devices.

6. In a machine for applying reinforcing pieces to webs of material, the combination
5 of a plurality of intermittently acting web feeding mechanisms for intermittently feeding pairs of webs of reinforcing material, means for intermittently feeding the main
10 web of the stock to be treated between the individual webs of said pairs, longitudinally and transversely adjustable reinforce applying mechanisms for applying said reinforcing webs, and means for actuating said mechanisms to cut and apply pieces from
15 said reinforcing webs.

7. In a machine for applying reinforcing pieces, at intervals to both sides of a web from which tags are to be cut, the combination of means for intermittently feeding

a main web of the stock to be treated longitudinally of the machine, a plurality of
reinforce applying mechanisms independently adjustable longitudinally and transversely of the machine, means for intermittently feeding webs of reinforcing material
25 to said mechanisms transversely of the machine and above and below said main web, and means for actuating said mechanisms to cut pieces from the reinforcing webs and apply said pieces to opposite sides of the
30 main web.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses, July 1, 1908.

CASIMIR VON PHILP.

Witnesses:

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HERBERT G. OGDEN.