

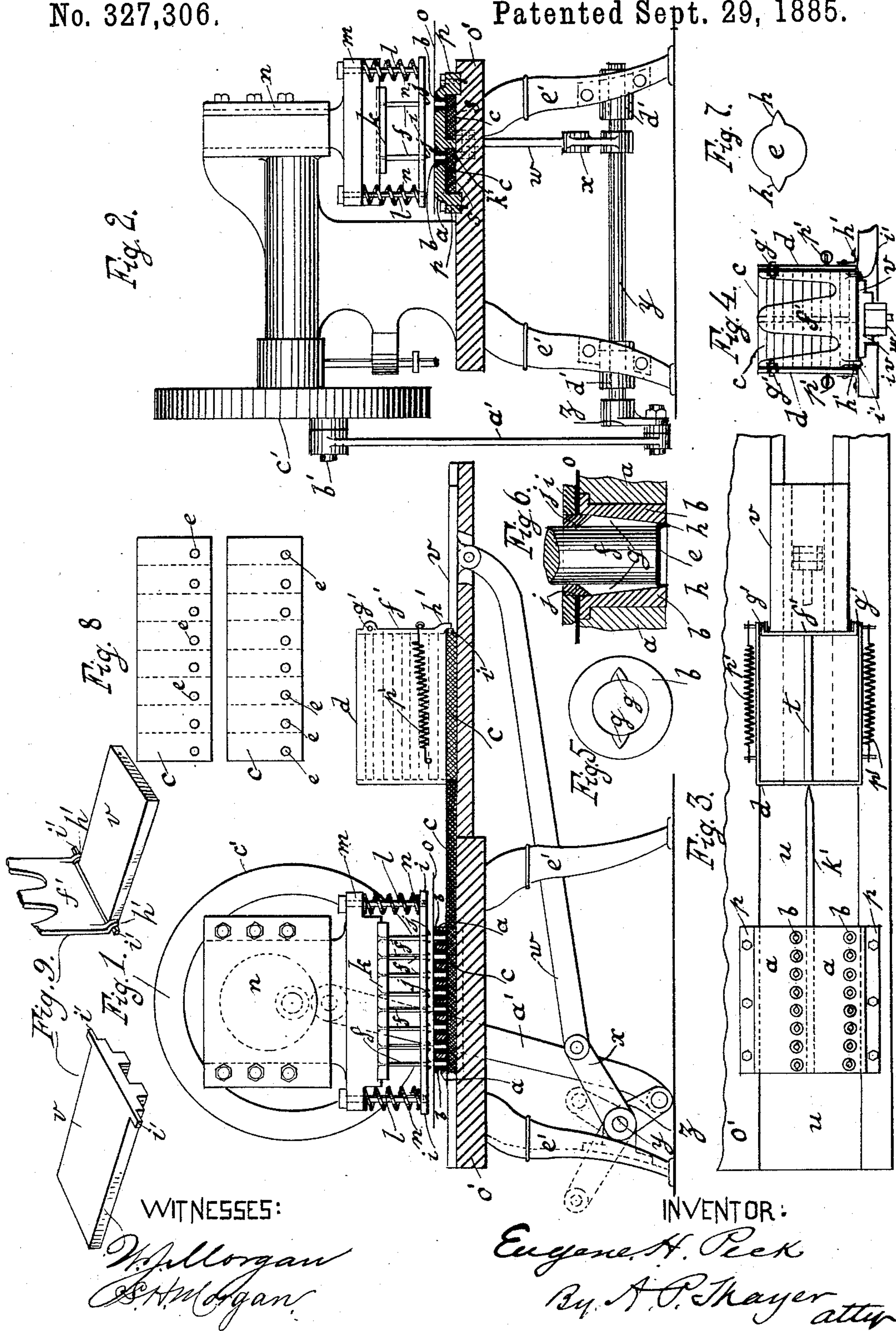
(No Model.)

E. H. PECK.

MACHINE FOR MAKING AND AFFIXING TIN TAGS TO PLUG TOBACCO.

No. 327,306.

Patented Sept. 29, 1885.



UNITED STATES PATENT OFFICE.

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MACHINE FOR MAKING AND AFFIXING TIN TAGS TO PLUG-TOBACCO.

SPECIFICATION forming part of Letters Patent No. 327,306, dated September 29, 1885.

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To all whom it may concern:

Be it known that I, EUGENE H. PECK, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Machines for Making and Affixing Tin Tags to Plug-Tobacco, of which the following is a specification.

This invention consists of improvements in mechanism for forming tin tags and affixing them to plug-tobacco, the said mechanism being so contrived that the tags are made and affixed to the tobacco plugs consecutively, by one and the same set of apparatus, whereby separate special affixing apparatus and the labor for attending to the same may be saved; and the invention also consists of an improved contrivance of feeding apparatus for supplying the tobacco plugs to the tag making and affixing apparatus, all as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is partly a front elevation and partly a sectional elevation of the machine for making the tags, feeding the tobacco plugs, and affixing the tags to them. Fig. 2 is a side elevation of said machine with a part in section. Fig. 3 represents details in plan view. Fig. 4 is a rear end elevation of the feeding-hopper. Fig. 5 is a top view of one of the dies employed in forming the tags. Fig. 6 is a sectional elevation of said die, also of the punch employed in making the points, and side view of the disk-cutting punch. Fig. 7 is a diagram of the form of a tag as cut from the tin sheet, and Fig. 8 is a plan view of a couple of plugs with the tags as made and affixed by the machine. Fig. 9 represents details of the feed-slide.

In Fig. 3, *a* represents a die-plate having two rows of dies, *b*, with eight dies in each row, for making and affixing eight tags each to two plugs, *c*, at one operation of the machine, the plugs being of the large size in which they are commonly made and tagged preparatory to separating them crosswise between the tags into eight smaller plugs, which have each one tag, to be packed for market, as represented in Fig. 8. The machine is adapted for tagging two of these large plugs at once, side by side, because the attendant

can supply two piles of plugs to the feeding-hopper *d* as conveniently and in about the same time as one pile.

Heretofore the tags have been made by one process and affixed to the tobacco plugs by another, which involves two sets of apparatus, besides means for transferring the tags from the constructing mechanism to the affixing mechanism, and of properly feeding them to the latter. It is apparent that considerable saving in machinery, time, and labor can be effected by making and affixing the tags consecutively with one machine contrived to affix the tags by the act of discharging them from the dies in which they are formed.

This is what I propose to do, as follows: I make the dies *b* for the most part circular, to produce the disks *e* of the tags from sheet metal by corresponding punches, *f*; but at two opposite points in said dies I make the V-grooves *g*, in which to cut the points *h* of the tags which are to be driven into the tobacco, and over the dies I arrange a plate, *i*, having corresponding V-punches, *j*, which are also bevel-pointed, as shown in Fig. 6, to cut the points *h* before punch *f* cuts the disk, and at the same time bend the points downward in the grooves *g* at such an angle that when the punch *f* descends and cuts the rest of the disk and forces it downward through the die the points *h* will be bent inward perpendicular to the plane of the disk in the grooves *g*, which are made to converge from the middle of the die, or thereabout, to the lower end, so that when the tag issues from the bottom of the die the points will be suitably set to be forced into the tobacco at once, which I cause to pass under the dies and rest thereat for receiving the tags; and I arrange the punches *f* to descend sufficiently to so drive the tags through the dies into the tobacco while at rest under said punches. I arrange the punches *f* on the sliding head *k* of a suitable power-press in any suitable way, and I connect the plate *i*, having the point-punches *j*, by, say, four bolts, *l*, fitted loosely through the flanges *m*, and screwing into the plate *i*, with a strong coiled spring, *n*, on each bolt, said springs having sufficient power to force the point-punches through the tin to cut the points, and the length of the bolts being such that the point-

punches will descend sufficiently in advance of the punches *f* to cut the points before the punches *f* act on the tin *o*, and so that the plate *i* comes to a rest on the tin to hold it securely while the punches *f* act. The punches *f* work through plate *i* and guide it, for causing punches *j* to work accurately with the grooves *g*, the arrangement being such that the punches *f* do not ascend out of the holes of plate *i*. When plate *i* rests on the tin sheet *o* and die-plate *a*, while the punches *f* descend, the flanges *m* slide down on the bolts *l*, compressing the springs, and the plate *i* remains at rest on the tin until flanges *m* rise to the heads of the bolts again.

The punch-slide *k* is to be worked by the eccentric *n* of an ordinary power-press, which need not be described; or any other approved means of operating it may be employed.

The die-plate *a* is supported on the bed-plate *o'* of the machine at the back and front edges by flanges *p*, which are bolted to the bed for holding the plate in position, and there is a supporting and guide rib, *k'*, at the middle of the plate, between which and the outside flanges, *p*, are the two guideways *s*, through which the plugs are passed along under the die-plate.

The plugs are placed in two piles in the hopper *d*, separated by the partition *t*, to be fed along the feedway *u* by pushing the lowermost plugs from the piles through an opening in the end of the hopper next to the punches by the pusher *V*, which is made to slide along the way *u* through the bottom of the box, from one end to the other, a distance equal to the length of the tobacco plugs. From the hopper to the position under the die-plate for receiving the tags the plugs are pushed along by those behind, and the distance is such that the plugs will register properly with the die-plate for receiving the tags. The tagged plugs are pushed out and discharged by the next plugs behind when pushed forward under the die-plate *a*.

The feeding-slide *v* is connected by rod *w* with the long arm *x* of a rock-shaft, *y*, which has a short arm, *z*, connected by rod *a'* with a crank-pin, *b'*, on the driving-pulley *c'*, and said shaft is mounted in boxes *d'*, which I attach to the legs *e'* of the machine suitably for the purpose.

For preventing the plugs in the hopper from dropping on the slide *v* and resting thereon with the weight of the piles above, which would produce considerable friction and some abrasion of the lower surface of the plugs, I construct the hopper with the rear end, *f'*, hinged to the sides at *g'*, and construct the end *f'* with lugs *h'*, against which lugs *i'* on the forward end and outer edges of the slide or pusher bear and force the said end *f'* back a little, when the slide *v* returns to the end of its stroke and passes from under the plugs, which releases the plugs from the pressure of the end *f'* on them, caused by springs *p'*, and which

holds up the plugs by friction on the ends until so released. The plugs then fall so that the bottom plugs rest in front of the slide ready to be pushed forward. The end *f'* of the hopper is relieved of the studs *i'* when the pusher *v* moves forward, so that it binds the plugs above the lower one, and prevents them from falling until the pusher returns and releases them again. The pusher is made not quite so thick as the plugs, and thus will pass forward and backward without rubbing the plugs so suspended over it.

The partition *t* of the hopper does not extend quite to the bottom of the hopper, and thus allows one pusher-slide *v* to serve for both sides of the hopper. The guide *k'* extends along the feedway *u* from the die-plate *a* to the hopper, or near it, for guiding the plugs to the slideways *s*, respectively. Said guide *k'* may have a taper-pointed end at or near the box for parting the plugs.

The tin sheets of which the tags are to be made are to be fed in on the die-plate *a* by hand. They will be inserted far enough at first for both rows of punches, and will be shifted along the width of the tags consecutively until the breadth of material between the two rows of punch-holes is exhausted. Then the sheet will be withdrawn, reversed, and fed in again as before, which will consume the whole of the sheet of a certain predetermined length. Any suitable guides and other gages may be employed for assisting the feeding of the sheets properly.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of tag making and affixing devices, consisting of the combined tag-cutting, point-bending, and affixing punches and dies, feed-table, and feed-slide, substantially as herein shown and described.

2. The combination of a die, *b*, having grooves *g*, converging from the top downward, point-punches *j*, adapted to punch and bend the points *h* downward in said grooves, and a punch, *f*, adapted to cut the disk portion of the tags and to force said tags down through the die to complete the bending of the points and affix the tags to the tobacco plugs, substantially as described.

3. The combination of the die-plate *a*, having a series of grooved dies, *b*, ways *s*, plate *i*, having a series of point-punches, *j*, and the reciprocating punch-slide *k*, having punches adapted to cut the tag-disks *e* subsequently to the cutting of the points *h*, and to force said tags down through the dies into the tobacco plugs, substantially as described.

4. The combination, with the feed-slide *v* and feeding-way *u*, of a feed-hopper, *d*, adapted to receive one or more piles of tobacco plugs over the feedway, and having a movable end fitted with springs to grip the plugs and hold them above the feedway by compression, and also arranged with relation to the feed-slide

for being struck and shifted by it to release the plugs and drop them in advance of said feed-slide, substantially as described.

5 5. The plug-hopper *d*, having the hinged end *f'*, provided with lugs *h'*, and springs *p'*, for pressing said end against the tobacco-plugs, in combination with the feed-slide *v*, having studs *i'*, for releasing the plugs from the pressure of end *f'*, substantially as described.

In witness whereof I have hereunto signed in my name in the presence of two subscribing witnesses.

EUGENE H. PECK.

Witnesses:

D. D. CLARK,
ISAAC KELLY.