(No Model.) 4 Sheets—Sheet 1.

J. F. THEURER.

BUNG BRANDING MACHINE.

No. 589,231. Patented Aug. 31, 1897.

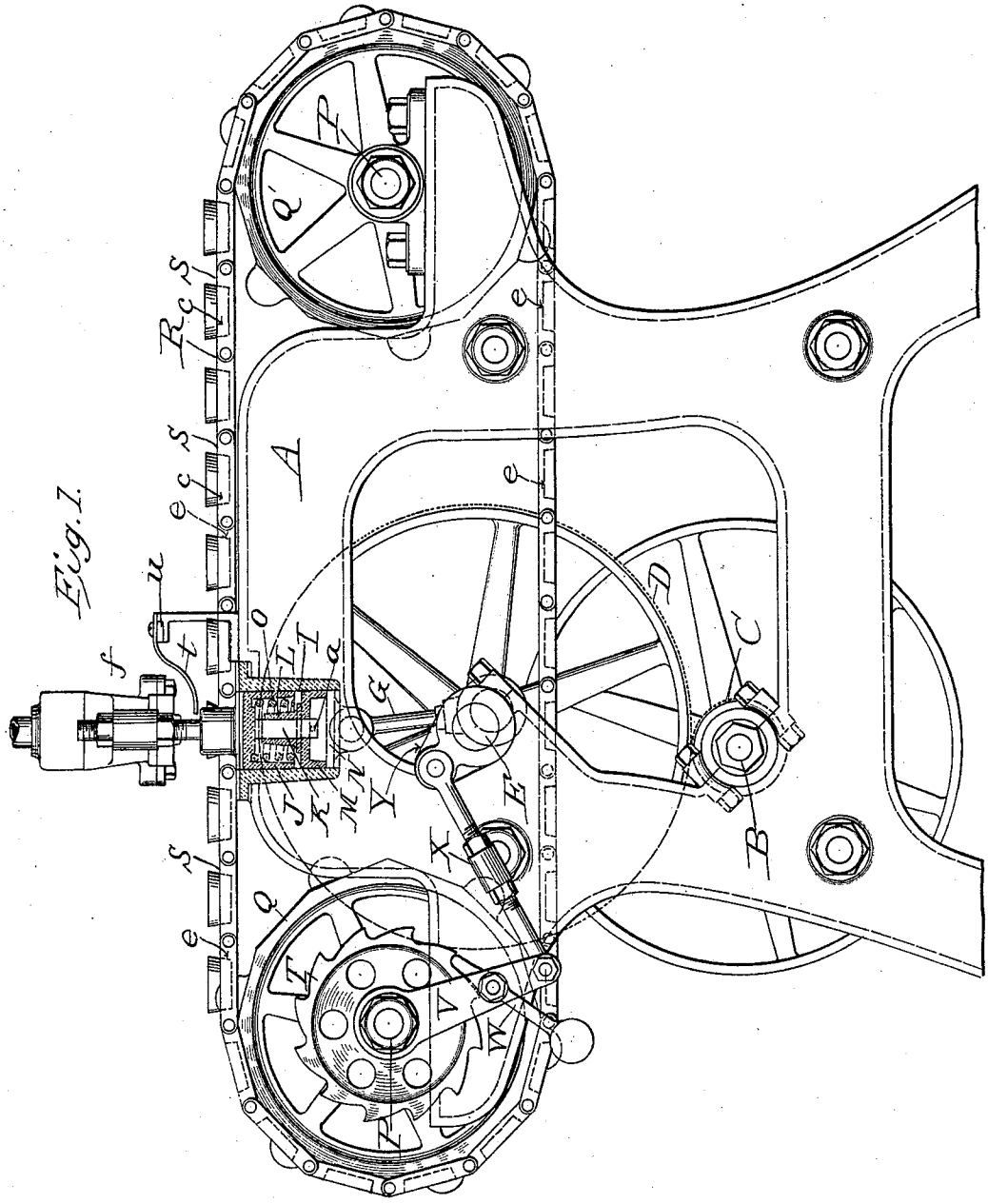


Fig. 1.

Witnesses
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D. E. Burdine

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

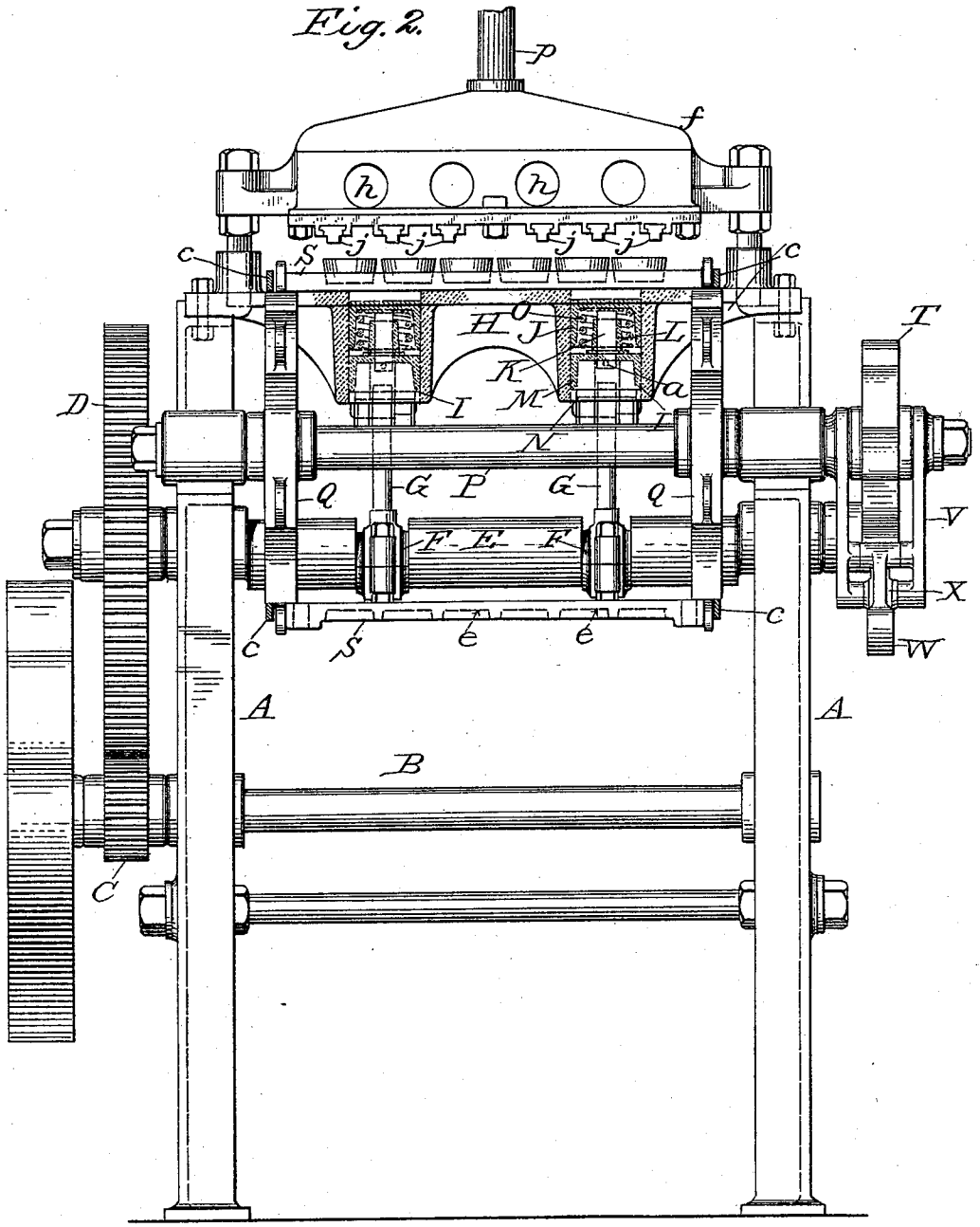
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J. F. THEURER.

BUNG BRANDING MACHINE.

No. 589,231. Patented Aug. 31, 1897.

Fig. 2.



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(No Model.) 4 Sheets—Sheet 3.

J. F. THEURER.

BUNG BRANDING MACHINE.

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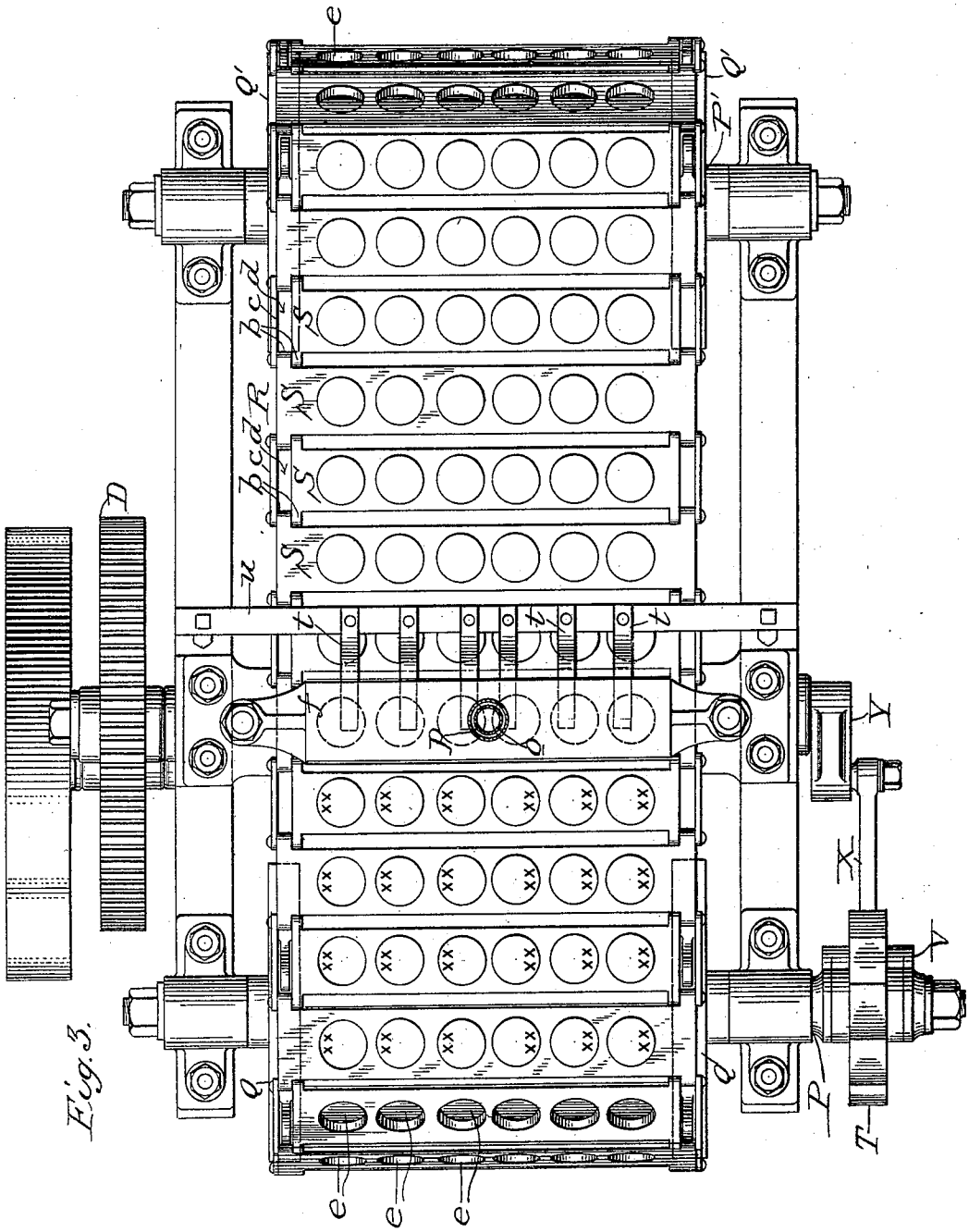


Fig. 3.

Witnesses

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(No Model.)

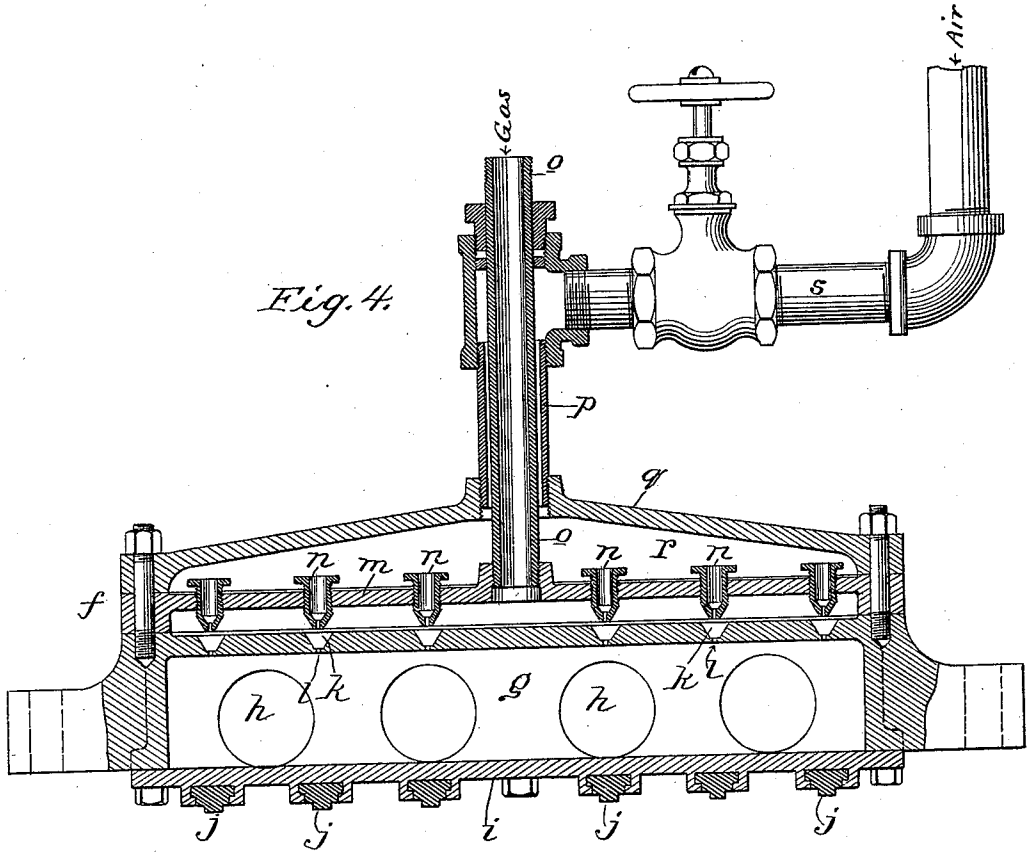
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J. F. THEURER.

BUNG BRANDING MACHINE.

No. 589,231. Patented Aug. 31, 1897.

Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JACOB FRED THEURER, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE PABST BREWING COMPANY, OF SAME PLACE.

BUNG-BRANDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 589,231, dated August 31, 1897.

Application filed May 12, 1897. Serial No. 636,187. (No model.)

To all whom it may concern:

Be it known that I, JACOB FRED THEURER, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Bung-Branding Machines, of which the following is a specification.

My invention pertains to a machine for branding bungs, the construction and operation of which, together with its advantages, are set forth in the following description, reference being made to the annexed drawings, in which—

Figure 1 is a side elevation of the machine; Fig. 2, an end elevation, part of the chain being removed and the pistons shown in section; Fig. 3, a top plan view, and Fig. 4 a sectional view of the branding-dies and the heating device.

The object of my invention is to construct a machine for branding a series of bungs at one time and to present the bungs to the dies in successive series.

It also has for its object to provide means for carrying out the foregoing steps and to provide a machine simple in its construction and certain in its operation.

In the drawings, A represents the frame of the machine, B a shaft mounted in suitable bearings therein, said shaft being provided with a relatively small pinion C, intermeshing with a larger gear D, mounted upon a shaft E, which extends through the frame. Shaft E is formed with two cranks F, upon which are journaled pitmen G.

H denotes a cross-bar or casting secured to the frame above shaft E and provided with two cylindrical openings I in line with the cranks and pitmen. Within these cylindrical openings are mounted pistons, comprising a cup-shaped section J, provided with a central downwardly-extending lug or arm K, which enters and passes through a hollow collar L, formed upon a cup M, and a cap-piece N, to which the pitman is pivotally connected. A pin *a* is passed through the lower end of the arm K when the parts are assembled to prevent their being drawn or forced apart.

Within the upper cup, surrounding collar L and bearing at its lower end upon the upper face of cup M, is a coiled spring O, which normally tends to keep the cups apart.

Upon each end of the frame is mounted a shaft P, upon which are mounted sprocket-wheels Q Q', in line with each other and designed to receive and carry a chain R. Said chain is composed of a series of bars S, the alternate bars being short and each bar being provided with laterally-extending lugs *b*, which fit together, as shown in Fig. 3. Connecting the lugs of the longer bars are links *c*, rivets or bolts being passed through the ends of said links and through the lugs upon the bars, as shown in Fig. 3. These links and the ends of the shorter bars form pockets or openings *d*, which are engaged by the teeth upon the sprocket-wheels. The shaft P, carrying the sprocket-wheel Q, has securely fastened to it a ratchet-wheel T and also a yoke V, carrying a weighted detent W, designed to engage with the teeth of said ratchet and imparting motion to it under certain conditions.

To the lower end of the yoke V there is connected an adjustable link or pitman X, which in turn is connected with a crank Y, secured upon the outer end of shaft E.

Each of the bars of the chain is provided upon its upper face with a series of openings or depressions *e*, designed to receive the bungs which are to be branded. Secured to the frame above the cross-bar or casting H is mounted the die-holder *f*. Upon reference to Fig. 4 it will be seen that this holder comprises a hollow frame *g*, having openings *h* in its side faces, the bottom being formed by a plate *i*, in which are mounted the branding-dies *j*. The upper face of the box *g* is provided with a series of truncated conical openings *k*, terminating in smaller openings *l*, which communicate with the interior of the box *g*.

A plate *m* is secured upon the top of the box *g* and is provided with a series of adjustable nozzles or nipples *n*, which are in line with the openings *k* and *l*. The plate *m* is provided with a central opening into which is screwed a pipe *o*, designed to be connected with a gas-supply. Surrounding this pipe

and at a distance therefrom is a pipe *p*, screwed into or otherwise suitably connected to a hood or cover *q*, said hood being placed over the plate *m* and forming a chamber *r* above said plate and the nipples *n*. Said pipe *p* is connected by a valved lateral *s*, through which air is introduced in the desired quantity. The air passes into the chamber *r* and through the nipples *n*, mingling with the gas introduced through the pipe *o* beneath the plate *m*, the mingled air and gas finally passing through the openings *k l* and being burned in the chamber or box *g* above the die-holder and dies.

Upon reference to Figs. 1 and 2 it will be seen that the die-holder *f* as a whole may be adjusted vertically to compensate for the difference in the thickness of the bung being operated upon or for the difference in the height of the dies being used.

Motion being imparted to the shaft E, assuming one of the cross-bars of the chain to be over the piston, the cranks F and pitmen G will elevate the pistons and carry the bar up against the hot dies, impressing or burning the figure upon the upper face of the bungs carried by said bar. A further rotation of the shaft will, through the connections before described, rotate the sprocket Q, imparting motion to the chain, withdrawing the bungs which have just been printed from beneath the dies and drawing the next link with its bungs into position to be elevated by the pistons. The parts are so timed that as the pistons ascend the yoke V and its detent will be moving backward over the teeth of the ratchet-wheel T into a position to again move the chain one step forward, and this motion continues, the bungs being presented to the dies by the piston and then being moved out from beneath the same and a new set drawn forward.

To prevent the bungs from sticking to the dies, I provide a series of spring-fingers *t*, which are mounted upon a cross-bar *u*, secured to the frame to one side of the die-holder *f*. Upon reference to Fig. 1 it will be seen that these fingers are curved downwardly and extend over the bungs, but not far enough to interfere with the proper impression of the die upon the bung. As the chain and bungs are elevated these spring-fingers bear upon the bungs and are carried up thereby. Being under tension when the bungs are against the dies, when the pistons begin to descend the springs will exert a downward force upon the upper face of the bungs, and consequently force them from the die and hold them in their proper position in the pockets *e*.

Having thus described my invention, what I claim is—

1. In a bung-branding machine, the combination of a frame; a die-holder mounted above said frame; a bung-carrying chain mounted upon the frame and designed to be traversed beneath the die; and yielding mechanism for elevating the chain and presenting the bungs carried thereby to the printing-die.

2. In a bung-branding machine, the combination of a frame; a branding-die secured above the same; a bung-carrying chain mounted upon the frame and designed to be traversed beneath the die; yielding mechanism for elevating the chain; and means for advancing the chain step by step beneath the die, said elevating and chain-advancing mechanisms operating alternately.

3. In a bung-branding machine, the combination of a frame; a branding-die secured above the same; a chain mounted upon the frame and designed to be traversed beneath the branding-die, said chain comprising a series of links or bars provided with a series of pockets or depressions in their upper faces; means for elevating the bars and presenting the bungs carried thereby to the die; and means for moving said chain, the elevating and chain-moving mechanisms operating alternately.

4. In a bung-branding machine, the combination of a frame; a fixed branding-die mounted above the same; a bung-carrying chain mounted upon the frame and designed to be traversed beneath said die; means for elevating the chain to the die and a series of spring-fingers mounted above said chain contiguous to the die, substantially as and for the purpose set forth.

5. In a bung-branding machine, the combination of a frame; a branding-die mounted thereover; a bung-carrying chain mounted upon the frame and designed to be traversed beneath the die; a series of pockets formed in each cross-bar of the chain; and a series of spring-fingers secured above the chain in line with the pockets in the bars, substantially as described.

6. In a bung-branding machine, the combination of a frame; a branding-die secured above the same; a chain mounted upon the frame and designed to be traversed beneath the die; a series of pockets or recesses formed in the cross-bars of said chain; and a series of spring-fingers mounted above the chain in line with the pockets, said spring-fingers being curved downwardly and extending beneath the die-holder, substantially as described.

7. In a bung-branding machine, the combination of a frame; a branding-die mounted thereover; a bung-carrying chain mounted upon the frame and designed to be traversed beneath the die; and means for elevating the chain, comprising shaft E, cranks F and pitman G; and yielding pistons working in the frame and connected to the upper end of the pitman, substantially as described.

8. In a bung-branding machine, the combination of a frame; a branding-die mounted above the same; a bung-carrying chain designed to be traversed beneath said die; a cross-bar H secured to the frame beneath said die and provided with cylindrical openings I;

yielding pistons mounted within said openings; and means for raising and lowering said pistons.

9. In a bung-branding machine, the combination of a frame; a cross-bar H mounted thereon and provided with cylindrical openings I; pistons working in said openings and comprising cups J having centrally-depending lugs K; cup M provided with a collar L extending upwardly therefrom and embracing the stud K; a spring O mounted within the cup J and bearing at its lower end upon the upper face of the lower cup M; and connections between said cup M and the moving part of the machine, for elevating and lowering the pistons.

10. In a bung-branding machine, the combination of a frame; a chain mounted thereon, comprising a series of alternately long and short bars, each bar having laterally-extending lugs *b* formed upon its ends; links *c* connecting the lugs upon the ends of the long bars; and pins passing through the ends of the links and the lugs upon the long and short bars, substantially as shown and described.

In witness whereof I hereunto set my hand in the presence of two witnesses.

JACOB FRED THEURER.

Witnesses:

C. W. H. EWING,

H. C. GOETZ.