(No Model.)

2 Sheets—Sheet 1.

J. V. RICHARDSON.

TOBACCO PACKER.

No. 584,241. Patented June 8, 1897.

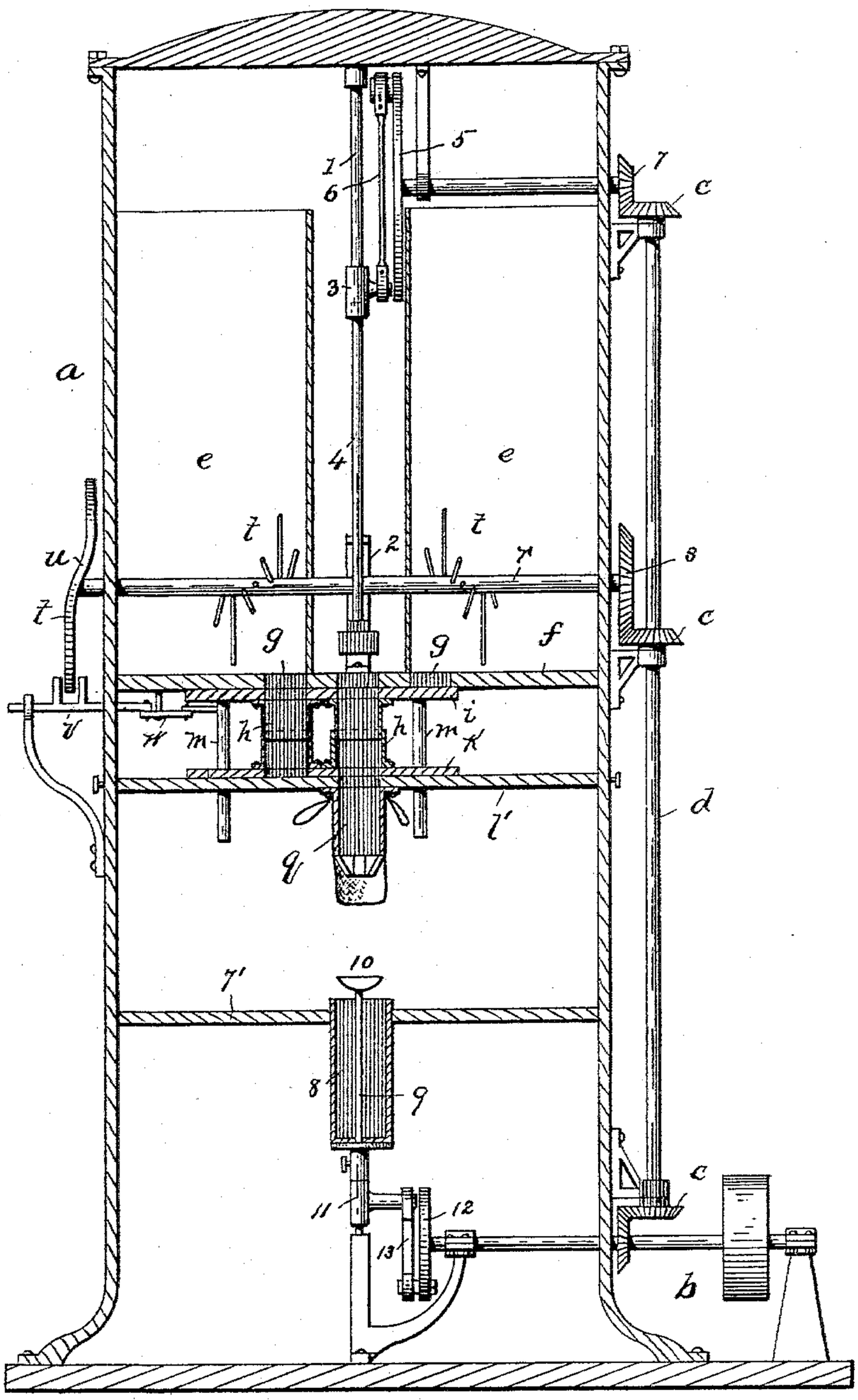

Fig. 1.

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(No Model.)

2 Sheets—Sheet 2.

J. V. RICHARDSON.

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Fig. 4.

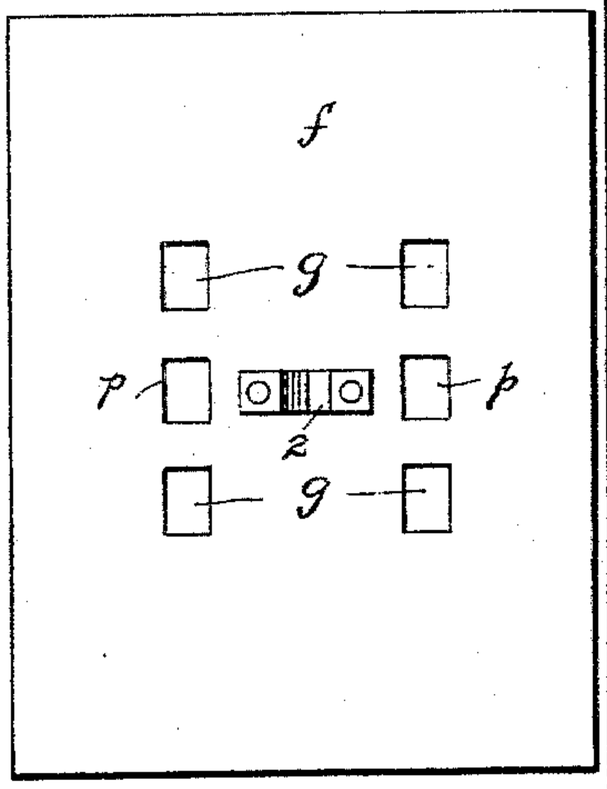
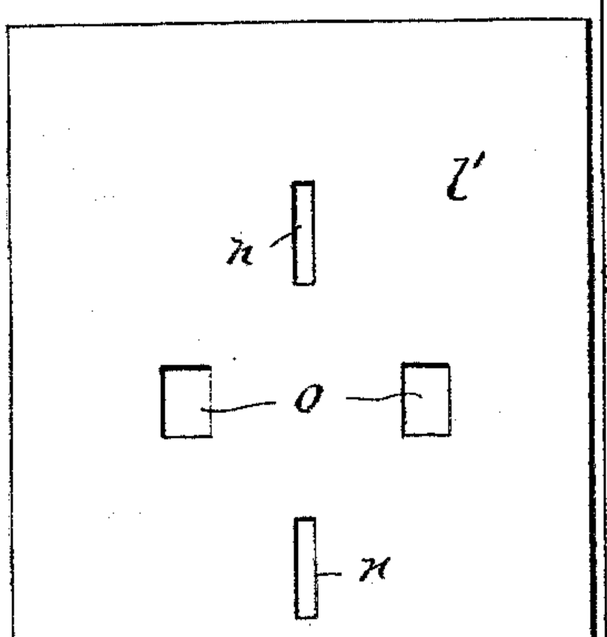


Fig. 5.



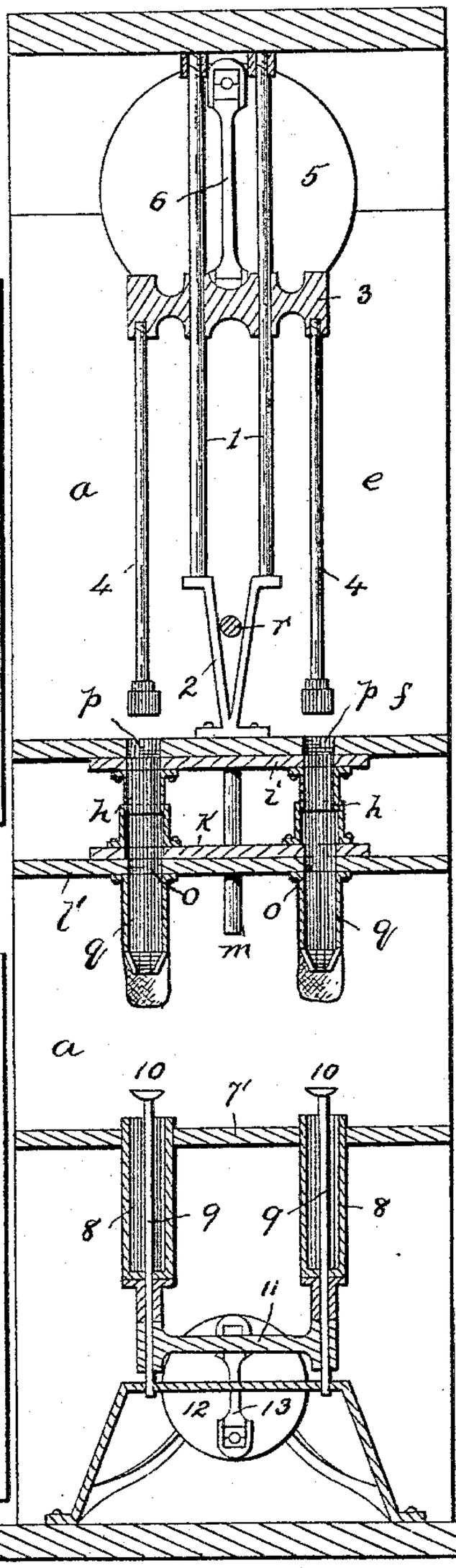


Fig. 3.

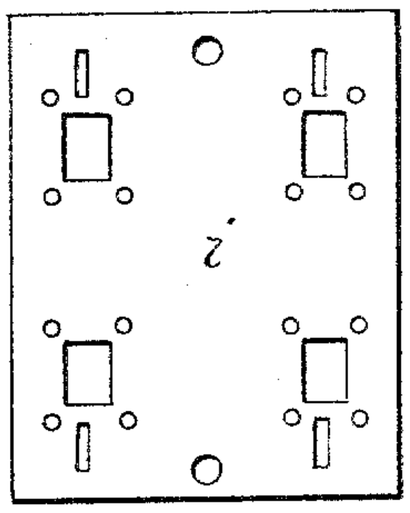


Fig. 2.

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UNITED STATES PATENT OFFICE.

JAMES V. RICHARDSON, OF FARMVILLE, VIRGINIA.

TOBACCO-PACKER.

SPECIFICATION forming part of Letters Patent No. 584,241, dated June 8, 1897.

Application filed March 26, 1896. Serial No. 585,004. (No model.)

To all whom it may concern:

Be it known that I, JAMES V. RICHARDSON, of Farmville, in the county of Prince Edward and State of Virginia, have invented certain new and useful Improvements in Tobacco-Packers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

This invention relates to certain new and useful improvements in packing-machines, and more particularly to that class known as "tobacco-packers."

The object of my invention is to provide a tobacco-packing machine simple, cheap, and durable in construction, composed of a minimum number of parts, and one capable of attaining a high rate of speed.

A further object of my invention is to provide movable telescopic measures adapted to carry the proper amount of tobacco to fill a package of a desired size.

A further object is to provide a spring-mouthed mold or hopper over which the package to be filled is fitted.

A further object of my invention is to provide a vertically-reciprocating mold operated by suitable mechanism and adapted to receive the package from the spring-mouthed hopper as it is being filled, also to shape and remove said package.

The invention consists in certain novel features of construction and in combinations and arrangements of parts more fully described hereinafter and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a vertical section taken through one of the series of measures, spring-mouthed hoppers, and molds. Fig. 2 is a vertical section on the lines 2 2, Fig. 1. Fig. 3 is a plan view of one of the sliding plates. Figs. 4 and 5 are plan views of the top and bottom plates, respectively, between which the sliding plates move.

In the drawings, *a* is the frame of my machine, carrying suitable driving mechanism *b*, consisting, preferably, of the beveled gear-wheels *c*, mounted on the upright shaft *d*, carried by the frame *a* and adapted to mesh with and operate in unison with the beveled gear-wheels *s* and 7 by means of the driving mechanism *b*.

I do not wish to limit myself to any particular mode or design of gearing, and the one shown is only one of many ways that may be employed.

Located near the top and inside the frame *a* are the supply-hoppers *e*, resting on the upper plate *f*, provided with openings *g*, registering with the telescopic measures *h*, which are secured between the sliding plates *i* and *k* and adapted to move therewith between said top plate *f* and the bottom plate *l'*.

The sliding plates *i k* are suitably secured together and held together and at the proper distances apart by the pins *m*, said pins passing through and moving in slots *n* of the bottom plate *l'*. This plate *l'* can be raised or lowered to correspond with the different-sized measures, and can also be held at any desired height by thumb-screws or other suitable means. The bottom plate *l'* is also provided with openings *o*, registering with the openings *p* of the upper plate *f*, and directly below said openings *o* are located the spring-mouthed molds or hoppers *q*, adapted to freely receive the packages or bags to be filled and prevent waste.

The sliding plate *i* is movably and removably secured to the top plate *f* by means of bolts passing through slots in said sliding plate *i* and held to the top plate *f*. Through the hoppers passes a shaft *r*, operated by the gearing *c s* at one end and carrying radial agitators *t*, arranged near the inner walls of said supply-hoppers *e*. At the other end of said shaft *r* is a cam-wheel *u*, adapted to operate the sliding plates *i k* by means of the forked rod *v* and the lever mechanism *w*.

Arranged in the top and at about the center of my machine are vertical parallel guide-rods 1, securely held normally by the V-shaped support 2, secured to the plate *f*.

Located on the guide-rods 1 a cross-head 3, carrying the plungers 4, vertically reciprocates by means of the crank-disk 5 and pitman 6, operated by the gearing 7 *c*.

In the frame *a*, below the spring-mouthed hopper or mold *q*, is located a table 7′, and through this table the molds 8 vertically reciprocate. The guides 9 are suitably secured in the lower portion of my machine and are arranged so as to pass through the centers of the molds 8, and at the top of said guides are the stationary heads 10. Sliding on these guides and carrying the molds 8 is the cross-head 11, operated by the crank-disk 12, and the pitman 13, operated by the driving mechanism *b*. The V-shaped support 2 may be arranged or constructed to form guides for the plungers 4.

The parts of my machine being in the position shown the operation is as follows: Packages or bags to be filled are slipped over the spring-mouthed hopper *q*. The machine is then put in motion by the driving mechanism *b*, and power is imparted to the several parts by the vertical shaft *d* and gearing *c*. The plungers 4, carried by the cross-head 3, sliding on the guides 1 and operated by the crank-disk 5 and pitman 6, begin to descend. At the same time the shaft *r*, carrying agitators *t* and cam-wheel *u*, begins to revolve. This cam-wheel *u*, being loosely held between the forks of the forked rod *v* and revolved by the rod *r*, forces the rod *v* inwardly against the short arm of the lever *w*, the long arm of said lever moving the sliding plates *i k*, carrying the measures *h*. The filled measures pass under the plungers and the ones to be filled under the openings *g* of the supply-hoppers *e*, where they rest long enough for the plungers to pass through said filled measures into the spring-mouthed hoppers *q* almost to their full length and return. The molds 8, having risen to their highest point, receive the packages or bags from the spring-hoppers *q*, the contents of the measures being forced by the plungers through the spring-hoppers *q* into the packages or bags, and the packages by reason of their being filled are forced to the bottom of molds 8 and are supported there against downward pressure by the stationary heads 10 until the molds 8 have passed to their lowest point, when the filled packages or bags are removed. The heads 10 form a firm support for the packages or bags, so that the plungers can compress the contents of said packages or bags.

The gearing is so arranged that the plungers 4 and molds 8 make a complete stroke while the cam-wheel *u*, carried by the rod *r*, has made but half a revolution, thus holding the measures under the plungers while they pass through and return.

The measures being telescopic, they can be adjusted to measure any desired quantity of tobacco or the like. The lower plate *l′* can also be raised or lowered to correspond with the measures by any suitable means, preferably thumb-screws, as shown.

It is evident that various slight changes might be made in the forms, constructions, and arrangements of the parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the exact construction herein set forth, but consider myself entitled to all such changes as fall within the spirit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A tobacco-packing machine comprising movable telescopic measures, the reciprocating plungers, the vertically-reciprocating molds and the hoppers *q*, substantially as described.

2. A tobacco-packing machine comprising the movable measures, the reciprocating plungers, the reciprocating molds, the spring-mouthed hoppers, and means for operating the same, substantially as described.

3. In a tobacco-packing machine the combination of the stationary guides, stationary heads on said guides, the reciprocating molds, a cross-head supporting said molds and means for operating said cross-head and molds for the purpose set forth.

4. In a tobacco-packer, the combination of a shaft carrying agitators, a cam-wheel on said shaft, a sliding forked rod, lever mechanism, and movable measures operated by said cam-wheel, as set forth.

5. A tobacco-packer comprising a frame *a*, the perforated top plate *f*, the perforated bottom plate *l′*, the sliding plates *i*, *k*, carrying measures *h* moving between said plates *f*, and *l′* and supported therein, and operating mechanism, substantially as described.

6. A tobacco-packing machine comprising the movable measures, the perforated plates carrying said measures, the spring-mouthed hoppers or molds, the reciprocating plungers, vertically-reciprocating molds and gearing arranged to operate the whole in unison, as described.

7. A tobacco-packing machine comprising a frame, the top and bottom plates having openings, sliding plates having openings, telescopic measures carried by and between said sliding plates, hoppers *q*, plungers 4, and means for sliding the plates, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES V. RICHARDSON.

Witnesses:

J. W. BEAL,

W. HOWELL RICHARDSON.