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W. H. SCOTT.

TEA PACKING MACHINE.

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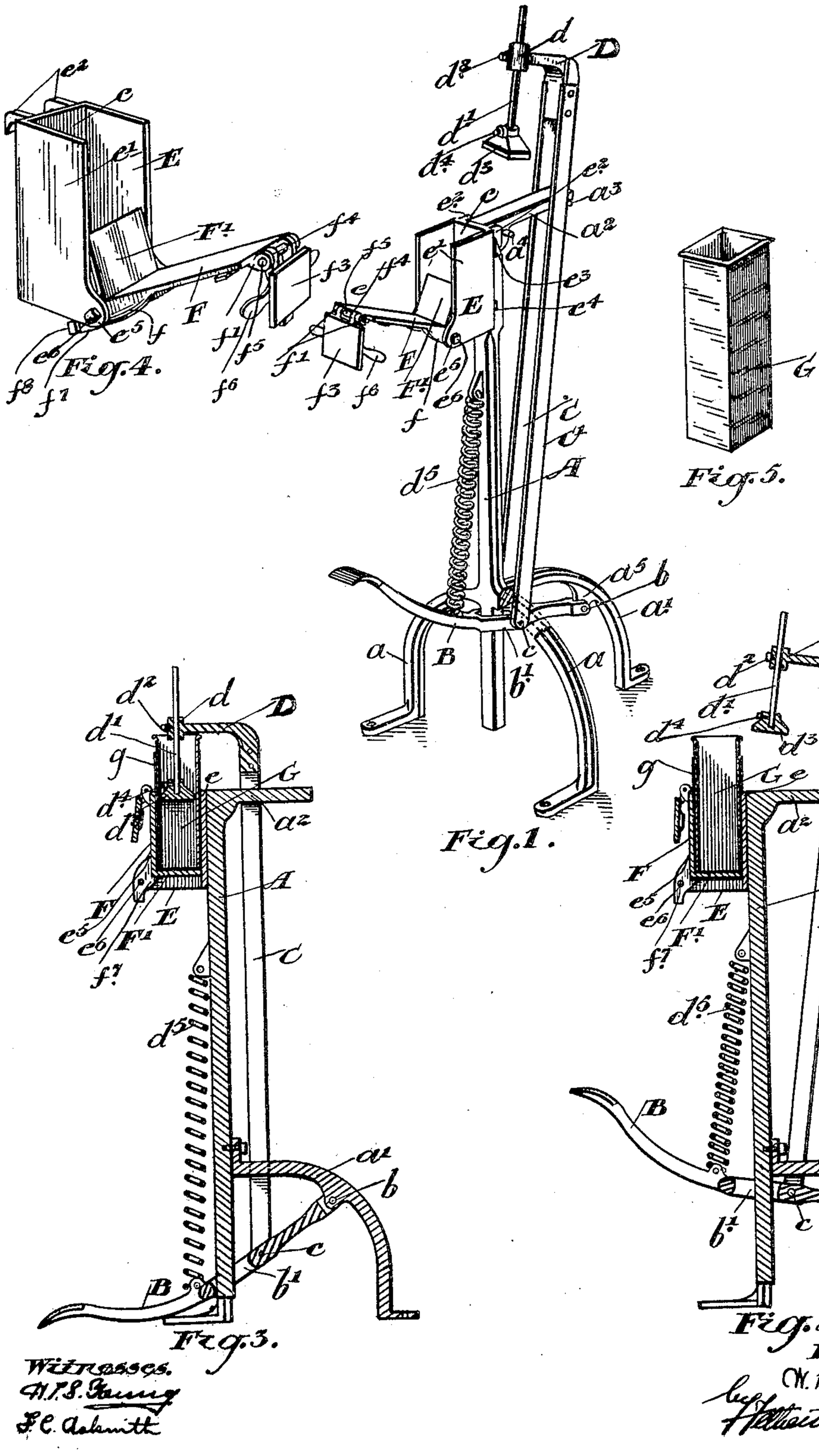

Fig. 1.

Fig. 5.

Fig. 3.

Fig. 2.

Witnesses.
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TEA-PACKING MACHINE.

No. 822,310. Specification of Letters Patent. Patented June 5, 1906.

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To all whom it may concern:

Be it known that I, WILBER HUNTER SCOTT, grocer, of the city of Ottawa, in the county of Carleton, Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Tea-Packing Machines, of which the following is a specification.

My invention relates to improvements in tea-packing machines; and the object of the invention is, first, to provide a plunger for a tea-packing machine capable of being moved out of vertical alinement with the die-box of the machine and which is capable of being adjusted so as to adapt the pressure thereof to different grades of tea, and, secondly, to provide a detachable die-box for the machine which will be constructed so as to retain a sure grip on the package of tea while it is being pressed and also to allow of the said package being readily removed therefrom; and it consists, essentially, first, of a supporting-standard having an L-shaped upper end, a foot-lever pivotally secured to the lower portion of the standard, supporting-bars pivotally connected intermediate of the length of the said lever provided at its upper end with an L-shaped bearing-arm, a plunger-rod designed to extend through the end of the said arm and to be adjustably held therein, and a plunger-head secured to the lower extremity thereof, a spring connecting the outer end of the lever to a suitable portion of the standard, and, secondly, of a die-box the sides and back of which are formed in one piece, suitable hooks forming part of the back thereof designed to hook over corresponding projections forming part of the main standard of the machine, the front and bottom of the box being formed in one piece and being pivotally connected between the lower front angles of the sides by a suitable bolt and the top having a suitable hinge connection to the top edge of the front of the box, the various parts of the device being constructed and arranged in detail as hereinafter more particularly described.

Figure 1 represents a perspective view of my machine, a portion of which is broken away to exhibit more clearly the construction thereof. Fig. 2 is a vertical longitudinal section through my machine, showing the plunger before it is depressed when thrown out of operation. Fig. 3 is a similar view to that shown in Fig. 2 with the plunger and foot-lever depressed so as to compress the tea in the package. Fig. 4 is an enlarged perspective detail of the die-box, the front thereof being thrown down in the position it would assume when the form is inserted or when the package of tea is ready for removal. Fig. 5 is an enlarged detail of a form on which the lead covering of the package is wrapped before it is placed in the die-box.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the main standard, provided at its lower end with suitable legs a a'. The upper end of the standard is provided with an L-shaped backwardly-extending portion a^2, provided with pins a^3 a^4, extending outwardly to each side thereof. a^5 is a lug forming part of the leg a'.

B is a foot-lever pivotally connected to the lug a^5 by the pin b and provided intermediate of its length with a vertical slot b'. It will be noticed that the lower end of the standard A extends downwardly through this slot, thereby forming a guide for the foot-lever B.

C C′ are bars pivotally connected at their lower end to the foot-lever B by a pin c. Between the bars C C′ at their upper end is secured an L-shaped arm D, provided with a tubular bearing d, attached to or forming part of the outer end thereof.

d' is a plunger-rod extending through the tubular bearing d and adjustably secured therein by a set-screw d^2.

d^3 is a suitable plunger-head secured to the end of the plunger-rod by a set-screw d^4.

d^5 is a spiral tension-spring connecting the foot-lever with a suitable portion of the standard A.

E is the die-box, formed of the back portion e and the side portions e'.

e^2 designates hooks attached to or forming part of the die-box and designed to extend over lugs e^3, forming part of the main standard A. It will be seen that these lugs e^3 and hooks e^2 are wedge-shaped, so that the weight of the die-box and the pressure upon the same always tend to draw and hold the die-box tight against the standard.

e^4 designates lugs forming part of the die-box and extending to each side of the standard A.

e^5 designates lugs extending outwardly from the lower front angle of each side of the box. It will be seen that the front, top, and bottom of the box are open.

F is the front of the box, and F′ is the bottom, which are formed in one piece and pro-

vided with lugs f, pivotally connected to the lugs e^5 by the cross-bolt e^6.

f' designates hinge-lugs forming part of the upper edge of the front of the box.

f^3 is the top of the box, provided with corresponding hinge-lugs f^4, connected to the hinge-lugs by the pin f^5.

f^6 designates handles extending out of each side of the lid of the die-box f^3.

f^7 is a downwardly-extending lug forming part of the front of the die-box and having an L-shaped lower end f^8, designed to come in contact with the lower edge of the die-box, so as to hold the front thereof in a suitable open position.

G is the form upon which the lead covering of the package of tea is wrapped before it is placed in the machine.

Having described the principal parts of my invention, I will briefly describe the operation of the same.

The lead covering of the package is first wrapped upon the tin form G in the usual manner, the bottom of the wrapping being folded under, so as to form the bottom of the package. The form is then placed upon the front of the die-box F and the die-box is then closed. The operator then brings the plunger by hand vertically over the center of the die-box, and then he depresses the foot-lever B, so as to carry the plunger down into the form G, as shown in Fig. 3, so as to depress the tea within the form. The foot-lever is then relieved, and the plunger flies up into its upper position by means of the spring d^5, and it is then thrust back by hand against the pin a^3, thus carrying it out of vertical alinement with the form G. This enables the form G to be readily removed from the die-box, leaving the lead package of tea therein. The top of the package is then folded over in the usual manner, and the lid f^3 of the die-box is swung over on top of the package, so as to complete the package and give it an even surface. The front of the die-box is then thrown open and the package removed, and the operation can be repeated.

I may state that in old machines of this class where a stationary plunger is used that the form when it is lifted out from the die-box has to be carried up over the end of the plunger and held thereon till the package is complete, when it is removed.

It will be seen that in my machine by swinging the plunger from over the die-box the form can readily be removed from the machine in one operation, and thereby save handling it twice. It will also be seen that in making my plunger adjustable within the bearing D it may be adapted to different grades of tea where difference of pressure is required, thereby preventing the breaking or crushing of the leaf. It will also be seen that in my form of die-box, the bottom and front being formed in one piece and pivotally connected between the sides of the box, the greater the pressure that is brought to bear upon the tea the greater the grip on the package becomes between the front and the back of the die-box.

It will be seen from this description that my machine is very simple in construction and that a package of tea may be formed with a minimum amount of labor and that the package when formed will have an even neat appearance.

What I claim as my invention is—

1. In a tea-packing machine the combination with the main standard, of a suitable die-box secured thereto, a depressible plunger supported vertically above said die-box adapted to be swung out of vertical alinement with the said die-box as and for the purpose specified.

2. In a tea-packing machine the combination with the main standard, of a suitable die-box secured thereto, a vertically-adjustable plunger supported above said die-box adapted to be swung out of vertical alinement with the said die-box as and for the purpose specified.

3. In a tea-packing machine the combination with the main standard, of a die-box secured thereto, a foot-lever pivotally secured beneath the said die-box, bars pivotally secured intermediate of the length of the said lever, having a horizontally-extended upper end, a bearing carried by said end, a plunger rod adjustably secured within the said bearing, a suitable plunger-head therefor, and means for bringing the plunger back to its normal position after the depression thereof, as and for the purpose specified.

4. In a tea-packing machine the combination with the main standard provided with suitable lugs extending from each side thereof, of a detachable die-box provided with hooks designed to hook over the said lugs forming part of the main standard as and for the purpose specified.

5. In a tea-packing machine the combination with the main standard and the depressible plunger, of a detachable die-box and means for detachably securing the same to the main standard as and for the purpose specified.

6. In a tea-packing machine the combination with the main standard and the depressible plunger, of a die-box suitably secured to the said standard comprising the back and side portions of the box formed in one piece and having the front and bottom portions suitably hinged between the sides thereof as and for the purpose specified.

7. In a tea-packing machine the combination with the main standard and the depressible plunger, of a die-box having an open front and ends and the front portion and bottom portion being formed integrally and pivotally secured between the sides of the box

and the top portion of the box suitably hinged to the top of the front portion as and for the purpose specified.

8. In a tea-packing machine the combination with the main standard having a rearwardly-extending upper end, limiting-stops formed upon the sides of the said rearwardly-extending portion and a suitable die-box secured to the said standard, of a foot-lever pivotally secured to a suitable portion of the standard, bars secured to each side of said foot-lever extending upwardly to either side of the rearwardly-extending portion of the standard between the said limiting-stops and having a forwardly-extending bearing portion at their upper ends and a suitable plunger secured within the said bearing portion as and for the purpose specified.

9. In a tea-packing machine the combination with the main standard of a suitable die-box secured thereto, a depressible plunger supported vertically above the said die-box, means for removing it out of vertical alinement with the said die-box as and for the purpose specified.

Signed at the city of Ottawa, in the Province of Ontario, this 25th day of April, 1905.

WILBER HUNTER SCOTT.

Witnesses:
RUSSEL S. SMART,
MAY LYON.