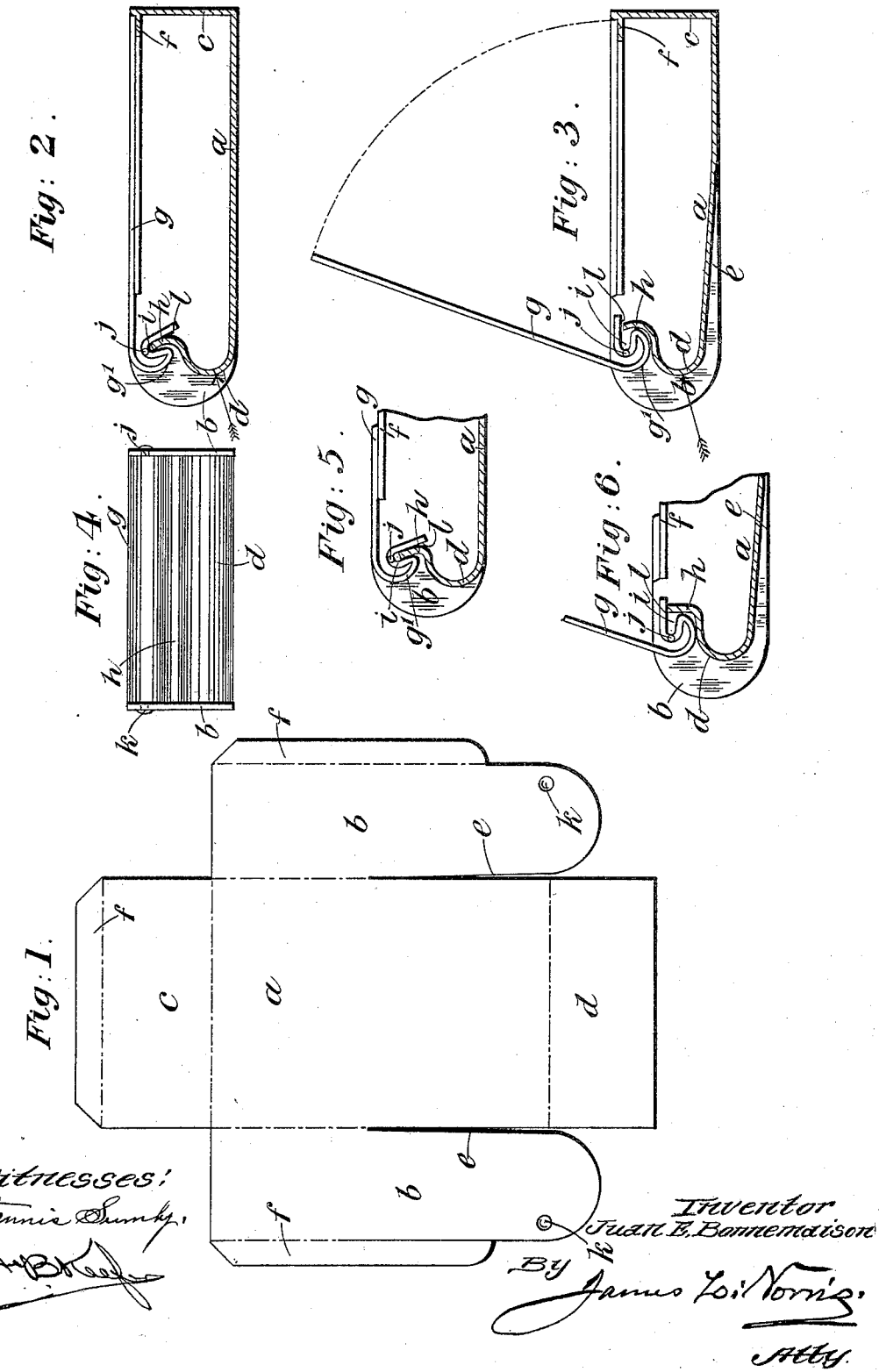
No. 682,524. Patented Sept. 10, 1901.

J. E. BONNEMAISON.

BOX.

(Application filed May 27, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

JUAN ELIAS BONNEMAISON, OF BUENOS AYRES, ARGENTINA.

BOX.

SPECIFICATION forming part of Letters Patent No. 682,524, dated September 10, 1901.

Application filed May 27, 1901. Serial No. 62,094. (No model.)

To all whom it may concern:

Be it known that I, JUAN ELIAS BONNEMAISON, a citizen of the Republic of Peru, residing at Buenos Ayres, Argentina, have invented new and useful Improvements in Boxes, of which the following is a specification.

This invention relates to an improved construction of box whereby the opening and the closing of the same are effected automatically on pressure being applied to and removed from one of its ends or sides.

My invention will be readily understood on reference to the accompanying drawings, in which—

Figure 1 shows the form of the blank from which the box about to be described is made. Fig. 2 is a longitudinal section showing the box closed. Fig. 3 is a similar view, but showing it open; and Fig. 4 is an end elevation of the box closed. Figs. 5 and 6 are fragmentary sections showing a modified construction in which the opening only is effected automatically.

The blank is stamped or punched out from sheet metal, and the parts *b c d* are then turned up or folded (by any suitable means) to form the body of the box.

a is the bottom of the box; *b*, the sides; *c*, one of the ends, and *d* the other of the ends. The sides *b* are separated from the body for a portion of their length by slits *e*, so causing the bottom *a*, together with the end *d*, to act as a spring for the purpose hereinafter mentioned.

f represents strips which when the box is made up, as shown in Figs. 2 and 3, form a ledge or seat for the lid *g*.

The end *d* is advantageously bent into semicircular form, as shown, (although other suitable forms may, however, be employed,) and terminates in a curved tongue *h*, which acts as a lever, as hereinafter pointed out.

The lid *g* is bent or folded at its end corresponding to *d* of the box-body to form a recess or channel *i*, into which the tongue *h* engages when the box is closed, as seen in Fig. 2, and said lid is further provided with an axis or pivots *j*, whose ends take into holes or depressions *k*, Figs. 1 and 4, formed in the sides *b* of the box-body.

The parts being thus assembled the automatic opening and closing are effected as follows: On pressure being applied by the thumb or fingers to the semicircular end *d* in the direction of the arrow such end is forced to move inward and upward, as seen in Fig. 3, and its tongue to act against the wall *l* of the recess or channel *i* and by exerting a leverage thereon cause said lid to turn on its axis and fly open. At the same time the recess or channel completely leaves the tongue and assumes the position shown in Fig. 3, with the cam-shaped end *g'* of the lid impinging against the spring end *d* of the box-body. So long as pressure is continued the lid remains open and the contents of the box can be readily got at; but immediately pressure is removed the semicircular end *d* returns to its normal position by reason of the spring portion of the bottom *a* endeavoring to regain its alinement, and so causes said lid to turn on its axis or pivots and to close the box. In so doing the recess or channel *i* and the curved tongue *h* again reëngage the one with the other, as seen in Fig. 2. When the lid is lowered, it rests on the ledge *f*, which extends three parts around the interior of the box-body. By making the recess or channel *i* deeper and the tongue *h* straight, (instead of curved,) as seen in Figs. 5 and 6, the box can open automatically only, and the lid remains raised when pressure is removed. To close the box, it is only necessary to slightly strike the lid with the finger, when it will immediately turn on its axis, it being assisted, as in the preceding arrangement, by the spring portion of the bottom tending to regain its alinement with the fixed portion.

The box is by preference made of metal; but wood or other suitable material—as, for instance, celluloid—may be employed, provided the same be thin enough to allow of the desired elasticity or flexibility being obtained at the requisite parts. When made of certain metals—aluminium, for example—the bottom *a* may be corrugated to give it greater strength, or, if preferred, the body may be be made in separate pieces and then soldered or otherwise fixed together, care being taken to leave the slits *e* to allow the bottom *a* and end *d* to act as a spring in the manner hereinbefore explained.

It is obvious that the box may be arranged

to open and close, or to open only, from the side.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A box having its bottom, sides and ends formed from a single blank, the said bottom being disconnected from the sides for a portion of its length to constitute a free tongue-like portion, the end of which is curved inward and upward, a cover pivoted to the sides of the box, and an interlocking connection between the cover and tongue-like portion, whereby an inward pressure on the latter will cause the cover to open.

2. A box having its bottom, sides and ends formed from a single blank, the said bottom being disconnected from the sides for a portion of its length to provide a yielding tongue-like portion, the end of which is curved inward and upward, and a cover pivoted to the sides of the box and having its pivotal end bent to form a channel into which the free end of the tongue-like portion fits, the arrangement being such that an inward pressure on the tongue-like portion will cause an opening of the cover.

3. A box having its bottom disconnected from the sides for a portion of its length to provide a yielding tongue-like portion, the free end of which is curved inward and upward, and a cover pivoted to the sides of the box and having its pivotal end interlocked with the free end of the tongue-like portion, the arrangement being such that an inward pressure on said tongue-like portion will cause an opening of the cover.

4. A box having its bottom a disconnected from the sides for a portion of its length to provide a yielding tongue-like portion, said tongue-like portion being curved upward at its rear end d to form an end for the box and having its free end h bent upward, and a cover g pivoted to the sides of the box, said cover having a downwardly-curved portion g' and a channel i at its pivotal end, the said end h of the tongue fitting freely into said channel, the parts being constructed and operating substantially as described.

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

JUAN ELIAS BONNEMAISON.

Witnesses:
GEORGE ERNEST MINTERN,
JOSEPH LAKE.