

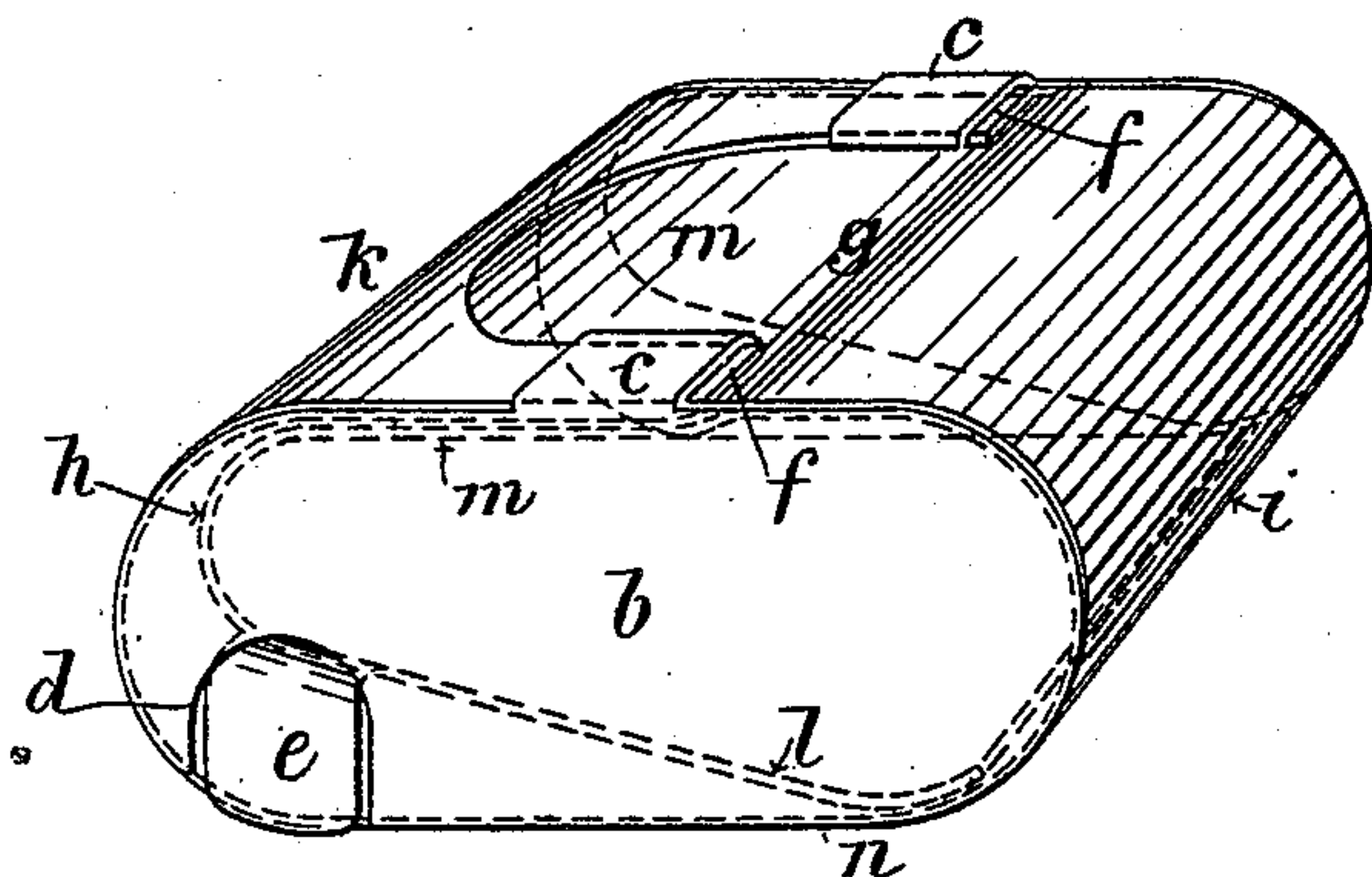
(No Model.)

E. J. HILL.  
MATCH BOX.

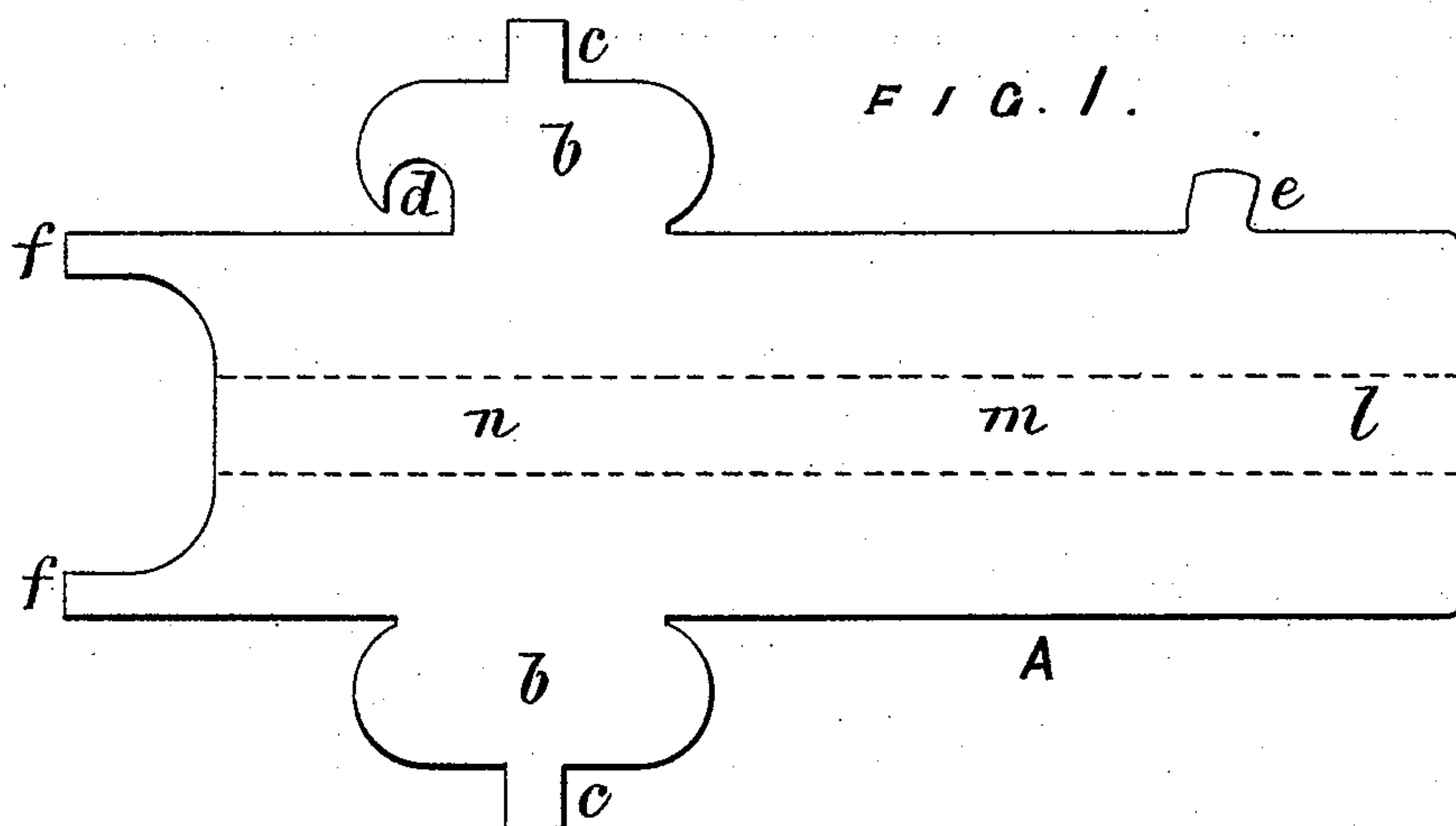
No. 496,261.

Patented Apr. 25, 1893.

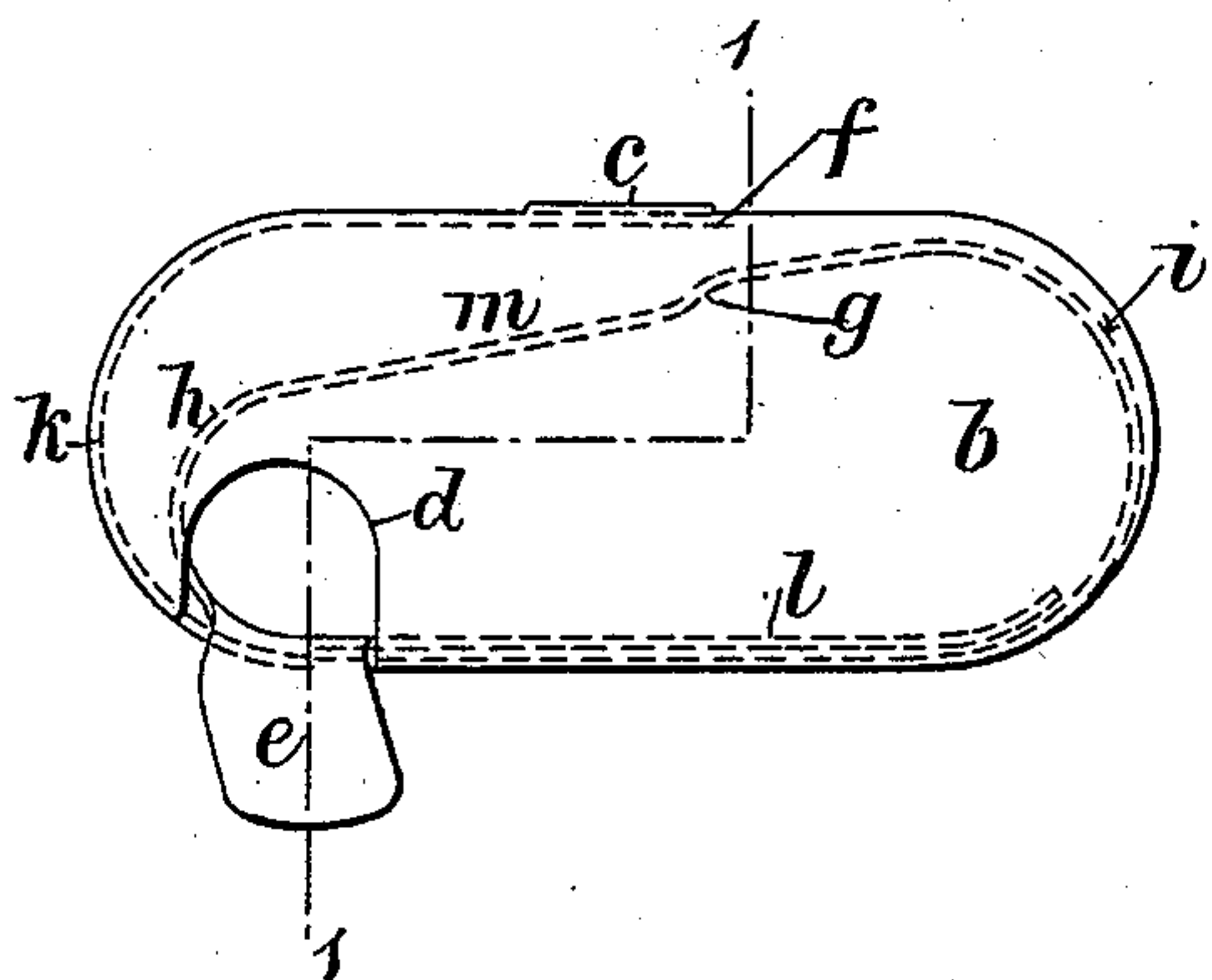
**FIG. 2.**



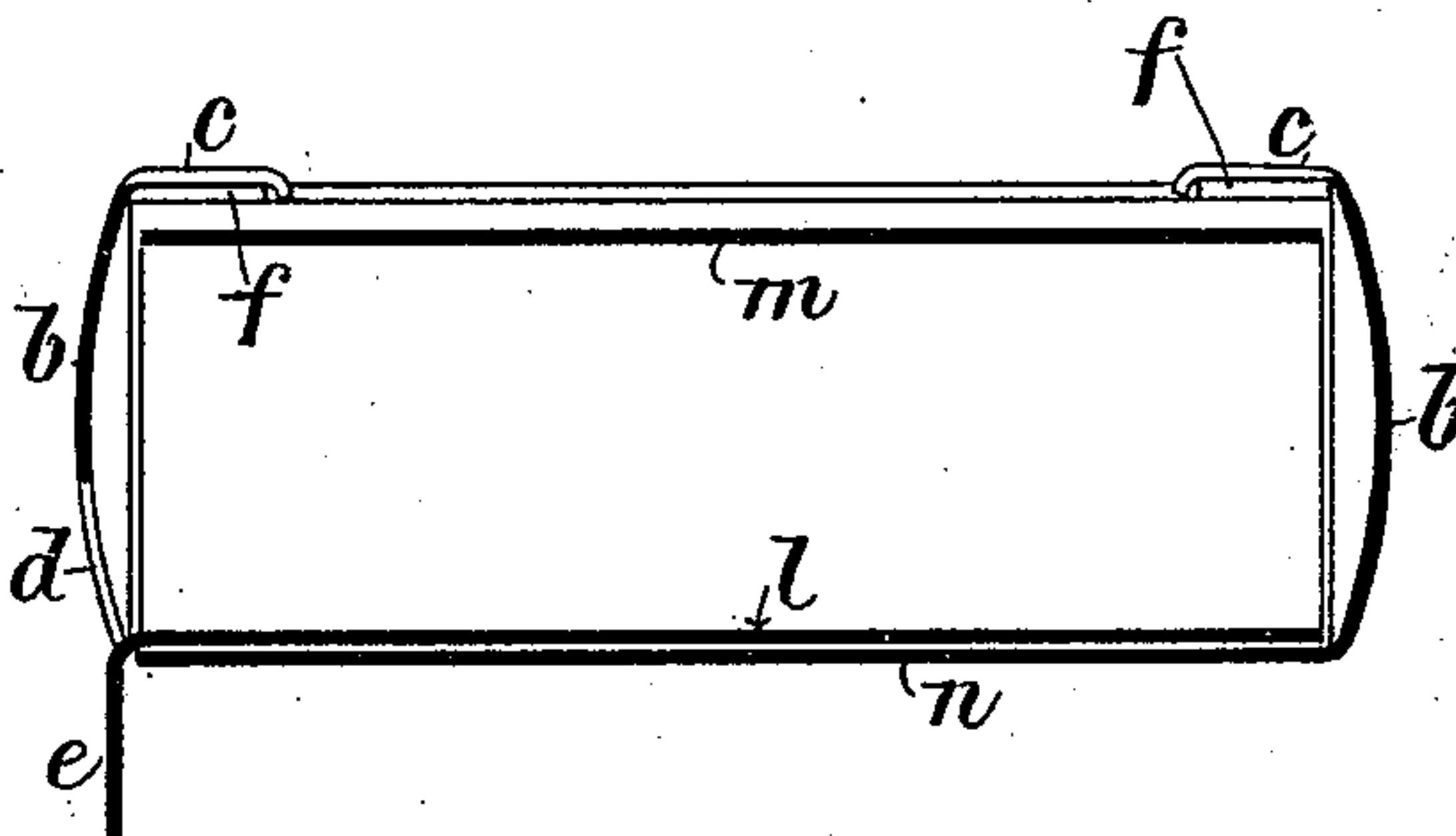
*F. G. I.*



F I C.3.



F / G. 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

EDWARD JACOB HILL, OF LONDON, ENGLAND.

## MATCH-BOX.

SPECIFICATION forming part of Letters Patent No. 496,261, dated April 25, 1893.

Application filed December 29, 1892. Serial No. 456,660. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD JACOB HILL, of 11 Victoria Street, in the city of Westminster, London, England, have invented new and useful Improvements in Match and other Boxes, of which the following is a full, clear, and exact description.

My invention consists of a box (for holding matches, cigarettes, cigars, lozenges, and other small articles) made of a single piece of preferably sheet metal stamped or cut of such shape and folded in such manner as to form a complete self-closing spring-box having a movable part forming a container and a discharge orifice with which, by reason of the spring action of the box, the movable part does not in its normal position communicate but with which it may be made to communicate in order to give passage to the articles one at a time, as hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows the shape to which the blank is cut out to form the self closing spring-box. Fig. 2 is a perspective view of the box in the closed position. Fig. 3 is an end view, showing the box when compressed to bring the container into communication with the discharge aperture. Fig. 4 is a longitudinal section on line 1—1 Fig. 3. Fig. 1 is drawn to a smaller scale than the other figures.

The same letters of reference denote like parts in all the figures.

The boxes may be made of various sizes suited to the articles they are to contain, a match-box being here illustrated and described only by way of example.

The blank A is a parallel sided strip with wings or extensions as hereinafter described, the width of the strip proper corresponding to the length of the box and the length of the strip to about one and a half times the girth of the intended box, so as to admit of the strip being folded as hereinafter described. This strip has lateral extensions *b, b*, formed in one with it, said extensions being of approximately oval form to constitute the ends of the box, and these end portions have additional extensions or tags *c, c*, formed on them for a purpose hereinafter described. The portions *b, b*, are stamped up in dies to a slightly

dished form, as shown in cross-section in Fig. 4, so as to present a rounded external contour and they may be roughened externally to form friction surfaces for igniting matches. One of the portions *b* has a gap or opening *d* in the position shown, to form the orifice at which the articles are to be withdrawn from the box.

The blank may or may not be formed with an extension *e* which is bent down at right angles to the plane of the blank to form a lip which when the box is completed passes through the orifice *d*, as shown in Fig. 2. The end of the blank which is outermost when the box is completed (namely the end adjacent to the extensions *b*) has two longitudinal extensions *f* which when the blank is folded to box-form come into position to be engaged by the tags *c* whose ends are bent inward so as to form hooked clips adapted to embrace and to be sprung into engagement with the extensions *f*. These tags serve as additional means to support the ends *b* of the box and retain the circumferential part of the box in proper position, but they may be dispensed with.

The blank has a slight transverse crease at *g* and it is folded on a mandrel or otherwise to the form shown in Figs. 2 and 3. As seen in these figures there are three cross-bends *h, i, k*, of which the first is about half the radius of the other two which respectively correspond in curvature to the semi-circular configuration of the ends *b* of the box. It will be observed that the smaller bend *h* is not quite a semi-circle so that the inner end portion *l* of the blank diverges from the side *m* of the box and its extremity bears against the interior of the side *n* so that it will act as a spring tending to keep the box in the most expanded position which the extensions *f* will admit of, the spring-like action of the part *l* supplementing the elasticity of the metal at the bend *i*. It is the space bounded by the inner end portion *l* and the side *m* and the bends *h* and *i* which constitutes the holding capacity of the box, and it will be observed that in the normal position of the box, as shown in Fig. 2 the orifice *d* lies outside of this space but by pressing inward the side *m* as shown in Fig. 3 by pressure applied to the side *m* at the part exposed by the gap between the extensions *f*, the orifice *d* is brought into communication



with this space and gives passage to the matches or other articles the box may contain.

The function of the lip *e* is to obstruct the orifice *d* when the box is in its normal position and so prevent the introduction of matches between the parts *l* and *n* of the box, which might be carelessly done either in filling the box or in replacing matches when more than one is accidentally taken from the box.

If the box be intended for holding cigarettes or cigars these will so nearly correspond in size to the orifice *d* that more than one cannot escape at once, and the lip may therefore be dispensed with.

The box may either be filled at the orifice *d* or at one of the ends before the latter are closed up.

I prefer to make the box of thin sheet spring metal, but it may be made of celluloid; or it may be made of card-board or of paper-covered veneer of wood, the necessary spring action being in this case obtained by a longitudinal band or strip of spring metal secured in any suitable manner to the blank, as indicated by the dotted lines in Fig. 1.

I claim—

1. A self-closing spring-box formed of a single piece or blank of springy material stamped or cut to the form of an oblong strip with lateral extensions adapted to form the ends of the box, the strip being bent at three places so as to cause it to be overlapped upon itself and inclose an inner cavity (preferably of approximately V-form in section) this inner folded part being itself partially inclosed by the overlapping portion of the strip in such manner that the inner part of the box is free

to be moved to a limited extent within the outer part and is caused by the spring-like action of the bends to normally assume such a position within the outer part that the inner cavity does not coincide with an orifice in one of the lateral extensions forming the ends of the box but may be made to coincide therewith by moving the inner within the outer part of the box by pressure applied to the former, as described.

2. A self-closing spring-box formed of a single piece or blank of springy material stamped or cut to the form of an oblong strip with lateral extensions adapted to form the ends of the box, the strip being bent at three places so as to cause it to be overlapped upon itself and inclose an inner cavity (preferably of approximately V-form in section) this inner folded part being itself partially inclosed by the overlapping portion of the strip in such manner that the inner part of the box is free to be moved to a limited extent within the outer part, in order that it may be brought into and out of communication with the exit orifice as described, the lateral extensions forming the ends of the box having hooked tag-like further extensions formed in one therewith and engaged, when the strip is folded to box-form, with longitudinal extensions formed at the outer end of the strip, so as to connect the box ends with the body of the box, substantially as specified.

Dated this 13th day of December, 1892.

EDWARD JACOB HILL.

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