March 23, 1937. F. L. FEUERBACH 2,074,466

STUB EJECTOR MEANS FOR CIGARETTE AND CIGAR HOLDERS

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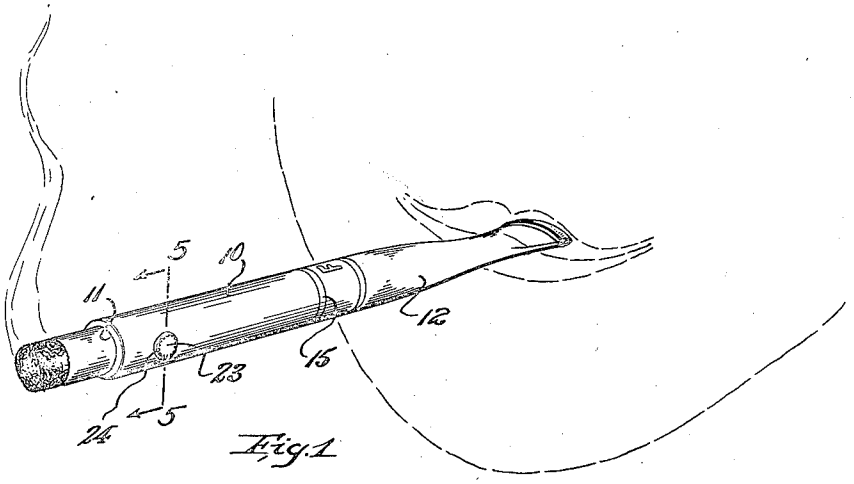


Fig. 1

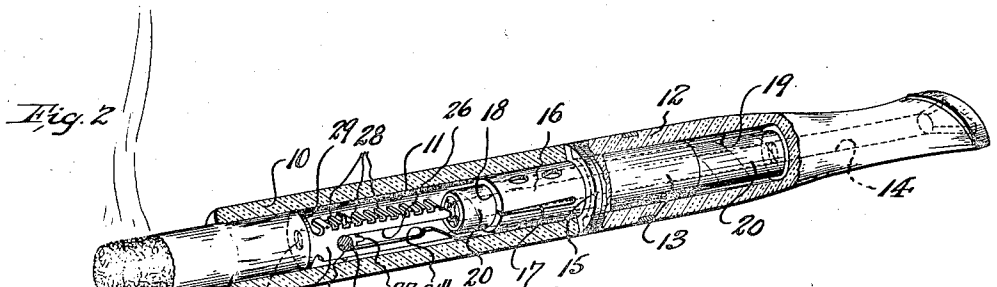


Fig. 2

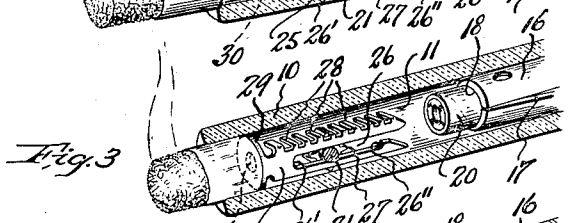


Fig. 3

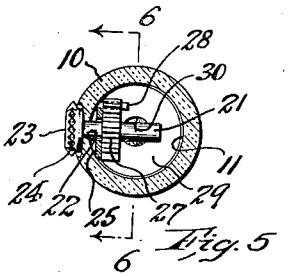


Fig. 5

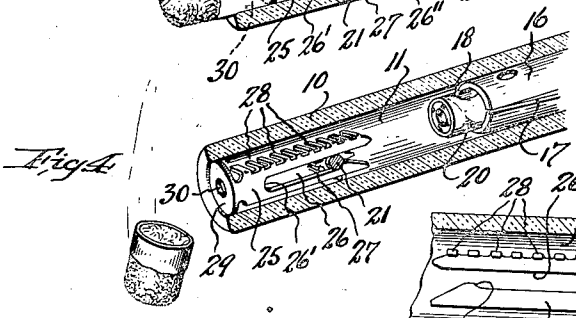


Fig. 4

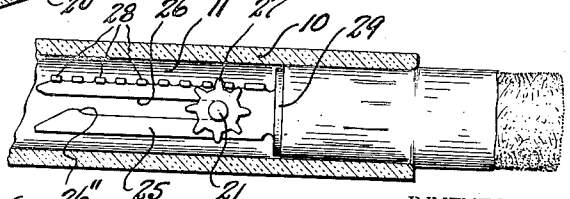


Fig. 6

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STUB EJECTOR MEANS FOR CIGARETTE AND CIGAR HOLDERS

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3 Claims. (Cl. 131—10)

This invention has for its object to provide a novel construction of cigarette or cigar holder equipped with manipulatable means for ejecting the stub of a consumed cigarette or cigar therefrom.

The invention has for a further object to provide a very simple, easily manipulated and efficient stub ejector means for cigarette and cigar holders, which is so designed and combined with the holder body that the necessary externally exposed part thereof, by which the same can be manipulated, is reduced to minimum bulk and consequently, while being conveniently accessible and efficiently adequate for manipulative actuation, nevertheless does not mar the symmetry of the holder to the detriment of its appearance, but rather adds an ornamental value to the appearance of the holder.

Another object of the invention is to provide a novel stub ejector means for the purposes mentioned which, per se, is exceedingly simple and compact, so as to occupy but a minimum of space within the holder interior; the novel construction thereof, from the mechanical standpoint, being such that risk of jamming in operation or of becoming accidentally disorganized or inoperative is reduced to a minimum; at the same time, owing to the compactness and simplicity of the ejector means, the same is capable of use in holders equipped with filter cartridges without necessity for unduly increasing the length or bulk of the holder.

Other objects of this invention, not at this time more particularly enumerated, will be understood from the following detailed description of the same.

An illustrative embodiment of the invention is shown in the accompanying drawing, in which:—

Fig. 1 is a perspective view of the novel ejector equipped cigarette or cigar holder according to this invention; Fig. 2 is in part an elevational view and in part a longitudinal section of the holder on an enlarged scale, and with the ejector means retracted to normal inactive position; Fig. 3 is a fragmentary longitudinal sectional view, showing the ejector means moved to a position to initiate ejection of a consumed cigarette stub; and Fig. 4 is a similar view showing the stub ejection operation completed. Fig. 5 is a transverse sectional view, taken on line 5—5 in Fig. 1, but drawn on an enlarged scale; and Fig. 6 is a fragmentary longitudinal section, taken on line 6—6 in Fig. 5.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring to the drawing, the reference character 10 indicates the tubular main body of the cigarette or cigar holder, which may be made of any suitable material, and the outer end portion of the bore 11 of which is adapted to receive insertion of the end portion of the cigarette or cigar desired to be operatively supported by the holder.

The reference character 12 indicates a mouth-piece or bit which is usually separably connected with the inner end of said main body 10. In the preferred form of holder, as illustrated in the drawing, the mouth-piece or bit 12 is provided at its inner end with a metallic tubular bushing, the inner end portion 13 of which is moulded into the body of the mouth-piece or bit or otherwise fixedly secured thereto in axial alignment with the central smoke passage 14 thereof. Said bushing is provided with an external laterally projecting flange 15 to abut the inner end of the mouth-piece or bit, and projecting exteriorly beyond said flange 15 is an extension of said bushing adapted to provide a coupler portion 16 which, by insertion into the inner end of the bore 11 of the main body 10, serves to operatively join or couple the latter to the mouth-piece or bit. Preferably said coupler portion 16 is split longitudinally, as at 17, so that it will tensionally contract upon insertion into the main body 10 and thus be caused to frictionally bind itself therein against loose movement or accidental displacement therefrom. The bore 18 of said tubular bushing is sized to permit the insertion therethrough, for extension into a chambered portion 19 of said mouth-piece or bit, of a suitable absorbent filter cartridge 20, through which smoke, drawn through the holder and mouth-piece or bit, is caused to pass before entering the mouth of the smoker.

The novel stub ejector means, according to this invention, is located within the bore 11 of the holder body 10 intermediate the outer end thereof and the coupler portion 16 entered in the inner end portion thereof. Said ejector means comprises a rotatable spindle 21 which extends laterally through a bearing opening 22 in the wall of the holder body 10. The outer end of said spindle 21 is provided with a finger wheel or head 23, which may be an integral part thereof, or may be otherwise suitably affixed thereto. The finger wheel or head 23 is provided with a knurled or suitably roughened periphery 24 to as-

sure firm actuating engagement therewith by the operator's thumb or finger when manipulating the ejector means, as will be hereinafter more fully described. Arranged within the interior of the bore 11 of said holder body 10 is an ejector slide plate 25, which is disposed to lie slidingly against the interior surface of the holder body wall through which said spindle 21 extends. Said ejector slide plate 25 is provided with a longitudinal slot 26 to straddle said spindle 21, in such a manner that the latter aids in guiding the longitudinal sliding movements imparted to said ejector slide plate. The ends of said slot 26 serve as stops to limit the longitudinal back and forth movements of said ejector slide plate. Fixed on the inner end portion of the spindle 21 to abut a face of said slide plate 25 is a spur gear or pinion 27. Formed integrally with the body of slide plate 25 along a longitudinal margin thereof are a plurality of spaced teeth 28, the same projecting angularly relative to the plane of said slide plate, thereby providing a rack operatively engaged by the teeth of said spur gear or pinion 27. Connected with the outer end of said slide plate 25, to extend at right angles thereto and across the bore 11 of the holder body 10, is a push-piece 29, preferably of circular peripheral shape, and of a diameter somewhat smaller than the diameter of said holder body bore 11, whereby the same moves freely in the latter, but also further aids in guiding the movements of the ejector slide plate 25 when the ejector means is actuated. Said push-piece 29 is provided with at least one opening or perforation 30 to assure unimpeded draft of smoke past the ejector means and through the cigarette or cigar holder and its filter cartridge when the holder is in use.

In the use of the holder, said slide plate 25 and its push-piece 29 is retracted within the holder body 10 until the forward end 26' of the slot 26 is arrested by abutment against the spindle 21. As thus disposed in initial or inactive position, the push-piece 29 of the ejector means is spaced inwardly and away from the exterior open end or mouth of the holder body 10, thus leaving sufficient room for the insertion and operative supporting engagement of an end of a cigarette or the like in the mouth of the holder body (see Figs. 2 and 6).

As the smoker consumes the cigarette or the like, whereby the same is smoked down toward the mouth of the holder body 10 to a stub, the slide plate 25 and its push-piece 29 may be partially advanced to shift the stub outwardly without entirely ejecting the same, so that further consumption thereof may be carried on (see Fig. 3). When, however, the smoker is ready to abandon the stub, said slide plate 25 and its push-piece 29 is actuated to move the same to its outermost limit, as determined by abutment against the spindle 21 of the rear end 26'' of the slot 26. Such movement carries the push-piece 29 substantially out to the plane of the open end of the body bore 11, and thus operates to thrust the stub bodily outward until it falls from the mouth of the holder body 10 (see Fig. 4).

Actuation of the slide plate 25 and its push-piece 29 is effected as follows:

When ready to eject a stub from said holder body 10, the user places the thumb or a finger of the hand grasping the holder body against the roughened periphery of the finger wheel or head 23, and, by moving the thumb or finger against the latter, imparts thereto a rotary movement in anti-clockwise direction, thereby rotating said spindle 21 and its spur gear or pinion 27 in like direction. Such rotation of said spur gear or pinion 27 is transmitted to the rack teeth 28 of the slide plate 25, thereby moving said slide plate longitudinally outward, and causing the push-piece 29 to thrust against the stub with ejecting effect. After the stub has been ejected, the user, by moving the thumb or finger in the opposite direction, reverses the rotary movement of said finger wheel or head 23, thereby turning said spindle 21 and its spur gear or pinion 27 in a clockwise direction, such rotation being transmitted to the rack teeth 28 of said slide plate 25, thereby moving said slide plate longitudinally inward, and retracting the push-piece 29 to normal initial spaced relation from the mouth of the holder body 10, whereby the holder is again made ready to receive the operative insertion therein of a cigarette or the like.

From the above description it will be apparent that the present invention provides a very simple and yet easily actuatable stub ejector means, which may be manipulated quickly and easily by the thumb or a finger of the hand grasping the holder. It will also be observed that the construction and arrangement of the novel ejector means is such that it does not mar or spoil the exterior appearance of the holder, since the only part of the mechanism which is exposed exteriorly is the finger wheel or head 23, and since this may be made of small diameter and disposed so as to lie quite close to the exterior surface of the holder body, and since it may be provided with a knurled periphery affording a decorative effect as well as a functional utility, the exposure of this finger wheel or head is, from the standpoint of appearance, rather an advantage than a disadvantage.

Due to the compact and simple form of the ejector means, the same occupies but a minimum of space within the holder body, and consequently may be used with holders provided with replaceable filter cartridges without the necessity for unduly elongating the holder as a whole.

I am aware that some changes could be made in the above described constructions without departing from the scope of this invention as defined in the following claims. Hence, I do not limit this invention to the exact arrangements and combinations of the devices and parts described in the foregoing specification or shown in the accompanying drawing, and consequently such disclosures are to be considered as illustrative and not in a limiting sense.

I claim:—

1. In a device of the kind described, a tubular body, a slide plate longitudinally movable along the side of the bore of said body, a push-piece extending transversely from said slide plate across the bore of said body and movable with said slide plate to and from the mouth of said body bore, a spindle transversely journaled in the wall of said body, a pinion on the inner end of said spindle, said slide plate having toothed rack means engaged by said pinion, and a finger wheel on the outer end of said spindle exposed upon the exterior side of said body subject to manipulation for actuating said pinion.

2. In a device of the kind described, a tubular body, a spindle transversely journaled in the wall of said body, a slide plate longitudinally movable within said body bore, a push-piece extending angularly from the outer end of said slide plate

across the bore of said body and movable with said slide plate to and from the mouth of said body bore, said slide plate having a longitudinal slot embracing said spindle, the ends of said slot limiting the movements of said slide plate in opposite directions, cooperative means between the inner portion of said spindle and said slide plate for translating rotary movement of the former to longitudinal sliding movements of the latter, and a finger wheel on the outer end of said spindle exposed upon the exterior side of said body subject to manipulation for rotating said spindle.

3. In a device of the kind described, a tubular body, a spindle transversely journaled in the wall of said body, a pinion fixed upon the inner end portion of said spindle, a slide plate longitudinally movable within the body bore between a side thereof and said pinion, a push-piece extending angularly from the outer end of said slide plate across the bore of said body and movable with said slide plate to and from the mouth of said body bore, said slide plate having a longitudinal slot embracing said spindle, the ends of said slot limiting the movements of said slide plate in opposite directions, rack teeth angularly projecting from a longitudinal margin of said slide plate so as to be operatively engaged by said pinion, and a finger wheel on the outer end of said spindle exposed upon the exterior side of said body subject to manipulation for rotating said spindle and pinion.

FERDINAND L. FEUERBACH.