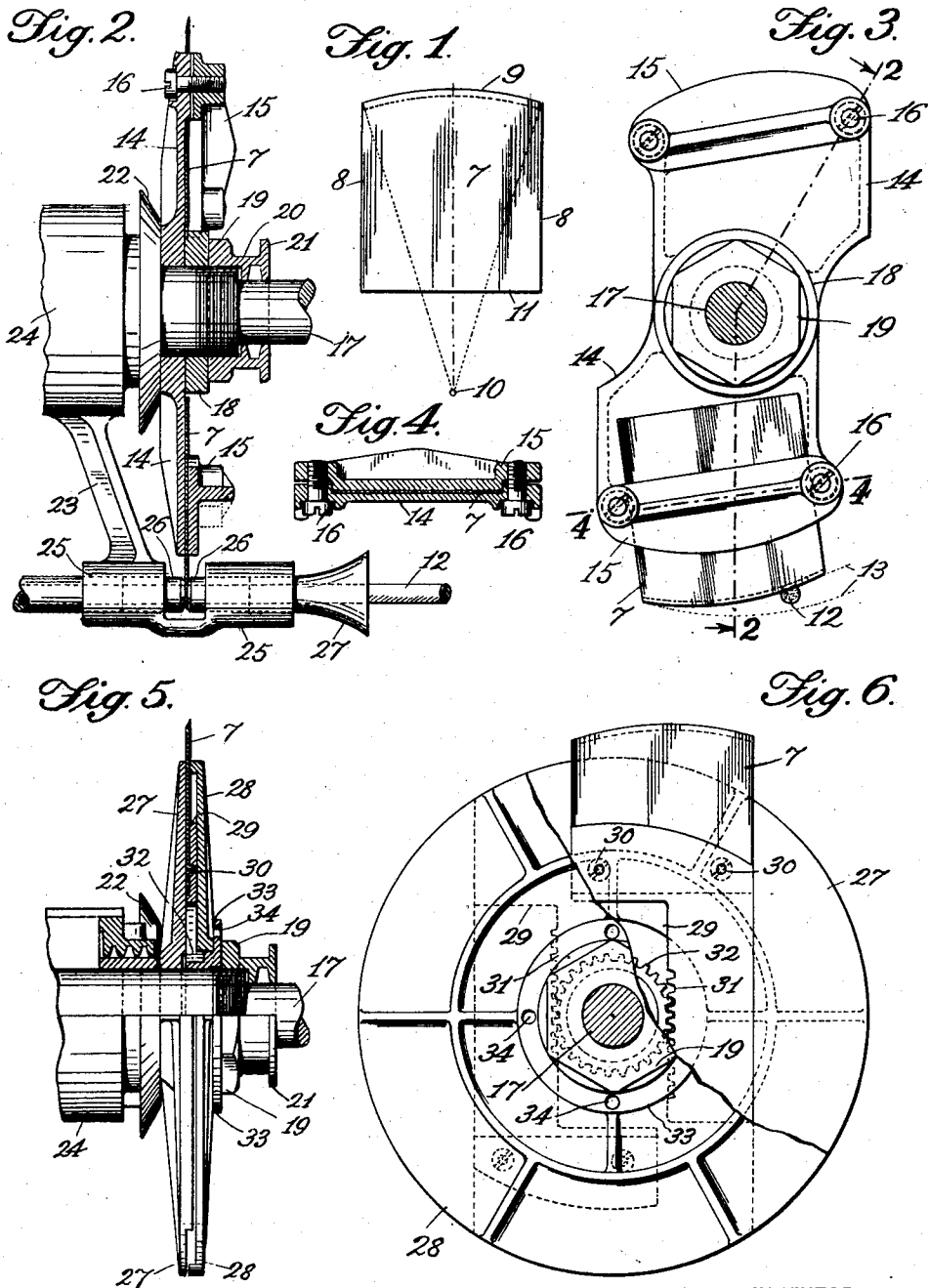


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CIGARETTE MACHINE CUT-OFF

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CIGARETTE-MACHINE CUT-OFF.

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This invention relates to an improved cigarette machine cutoff, and it has for its main object the production of a cutoff for continuous rod cigarette machines which is dynamically balanced to enable it to operate at very high speed, and which is provided with two alternately acting knives that are readily adjustable for wear without disturbing the dynamic balance of the cutoff, and easily exchangeable when worn to the limit of adjustment. Another object of the invention is the production of a very compact and light cutoff of this general character. With these and other objects not specifically mentioned in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then specifically set forth in the claims hereunto appended.

In the accompanying drawings, in which like characters of reference indicate the same or like parts, Fig. 1 is a side view of a knife forming a part of the invention; Fig. 2 is a side elevation, partly in section, of a cutoff constructed in accordance with the invention; Fig. 3 is an end elevation of the knife holder shown in Fig. 2; Fig. 4 is a cross section taken on the line 4-4 in Fig. 3; Fig. 5 is a side elevation, partly in section, of a modified form of knife holder; and Fig. 6 is an end elevation of the holder shown in Fig. 5.

In carrying the invention into effect, there is provided two alternately acting knives, a dynamically balanced holder for said knives, and means whereby said knives may be adjusted and held at diametrically opposite positions in said holder without disturbing the dynamic balance of the cutoff. In the best constructions contemplated, said means includes slides to which the knives are secured, and means for producing simultaneous and equal movements of said slides and knives to take up knife wear. These parts may be varied in construction within the scope of the claims, for the specific structure selected to illustrate the invention is but one of numerous possible concrete embodiments of the same. The invention, therefore, is not to be restricted to the precise details of the structure shown and described.

Referring to the drawings: The knife 7 is a thin and easily manufactured wafer-like blade having parallel side edges 8, and a segmental cutting edge 9 which has its centre

10 on the median line of the parallel side edges, the rear edge 11 being a straight line perpendicular to the side edges 8. By placing such a symmetrical knife eccentrically in the holder, the sweep of the cutting edge, as shown by the dotted lines in Fig. 3, will be such as to gradually cut through an object 12 placed between the concentric circles 13 described by the two ends of the cutting edge.

The knives 7 are clamped to the holder 14, Figs. 2 to 4, by means of clamps 15 set at the proper angle to obtain the required cutting range between the circles 13, 13. The clamps 15 are secured to the holder 14 by means of screws 16. The holder 14, which is shaped symmetrically and dynamically balanced, is secured to a driving shaft 17 by means of a washer 18 and nut 19, the latter having an annular groove 20 for lightness, and a flange 21 for shedding oil. A dished ring 22, placed behind the holder 14, keeps oil from the other side of the knives.

A bracket 23, depending from a bearing 24, supports a carrier 25 for the ledger plates 26 through which the cigarette rod 12 passes to be cut by the knives 7, the rod 12 being guided into the ledger plate tubes 26 by the bell mouth 27.

Referring particularly to Figs. 5 and 6, the holder consists of two discs 27 and 28 between which are clamped the slides 29 by means of a nut 19. These slides, to which the knives 7 are permanently fastened by means of screws 30, are set eccentrically and are provided with racks 31 which engage an operating pinion 32 placed on the shaft 17. The pinion 32 has a flange 33 provided with a series of holes 34 by means of which it may be turned by a suitable spanner, thereby moving both knives simultaneously and equally in order to preserve the dynamic balance of the cutoff. The symmetrical positions of the two slides or racks in all possible positions of the pinion 32 within the range of the adjustment, insures perfect dynamic balance of the cut-off during the entire life of the knives, and of similar knives subsequently used.

What is claimed is:

1. In a cigarette machine cutoff, the combination with two alternately acting knives, of a dynamically balanced holder for said knives, and means for simultaneously and equally adjusting and holding said knives

at diametrically opposite positions in said holder without disturbing the dynamic balance of the cutoff.

2. In a cigarette machine cutoff, the combination with two alternately acting knives, of a dynamically balanced holder for said knives, and means whereby said knives may be adjusted and held at diametrically opposite positions in said holder without disturbing the dynamic balance of the cutoff, said means including two slides one of which is attached to each knife, and means for simultaneously and equally moving said slides.

3. In a cigarette machine cutoff, the combination with two alternately acting knives, of a dynamically balanced holder for said knives, and means whereby said knives may be adjusted and held at diametrically opposite positions in said holder without dis-

turbing the dynamic balance of the cutoff, said means including two racks one of which is attached to each knife, and a pinion engaging said racks and provided with a series of holes whereby it may be turned.

4. In a cigarette machine cutoff, the combination with two alternately acting knives, of a dynamically balanced holder for said knives, and means for simultaneously and equally adjusting and holding said knives at diametrically opposite positions in said holder without disturbing the dynamic balance of the cutoff, each of said knives being symmetrical in form but eccentrically positioned in said holder.

In testimony whereof, I have signed my name to this specification.

THOMAS C. SHEEHAN.