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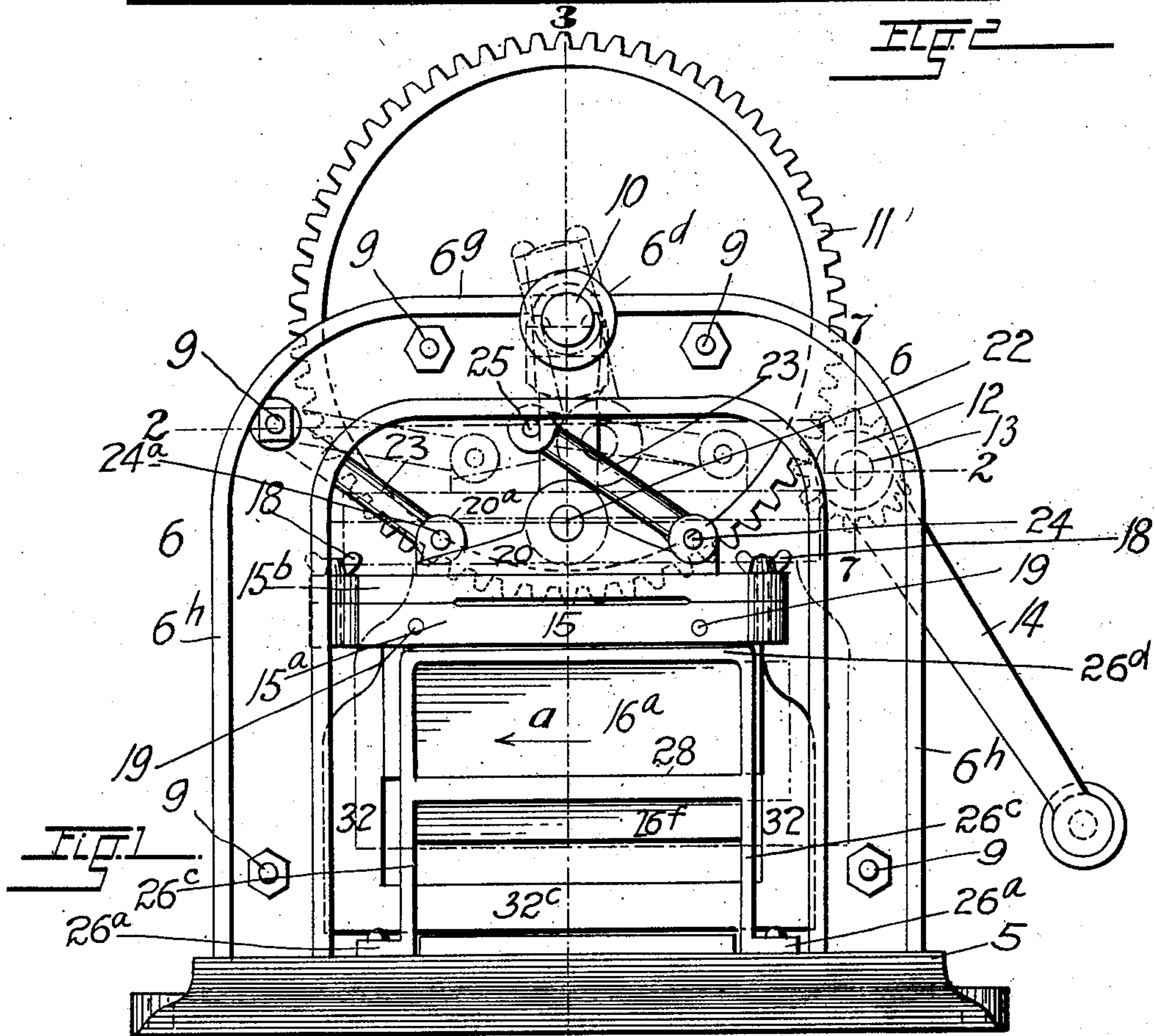
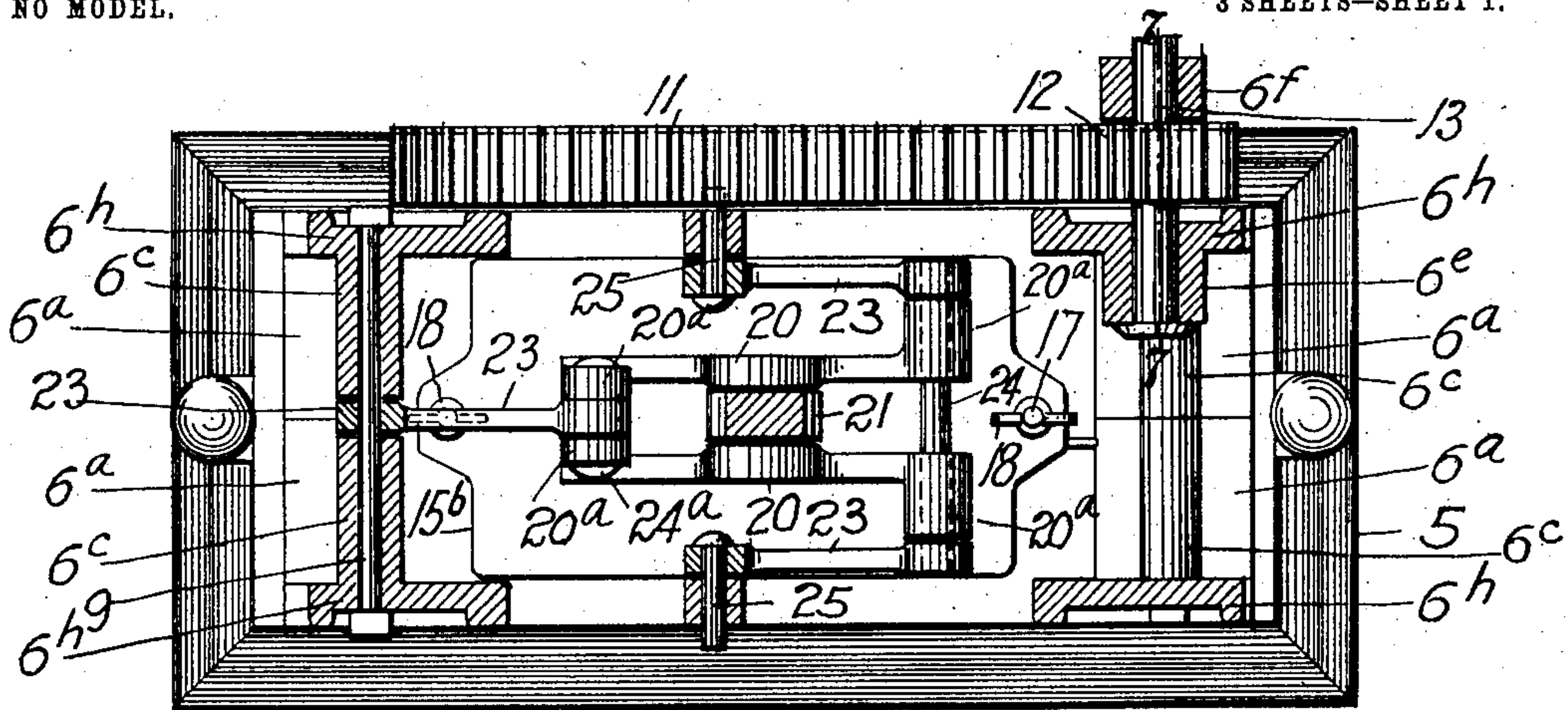
PATENTED DEC. 1, 1903.

M. KAYSER.  
DEVICE FOR CUTTING PLUG TOBACCO.

APPLICATION FILED APR. 6, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:  
W. H. Stockley  
A. M. Stump

Inventor:  
Meyer Kayser  
by *G. J. McLaure*  
his Attorney.



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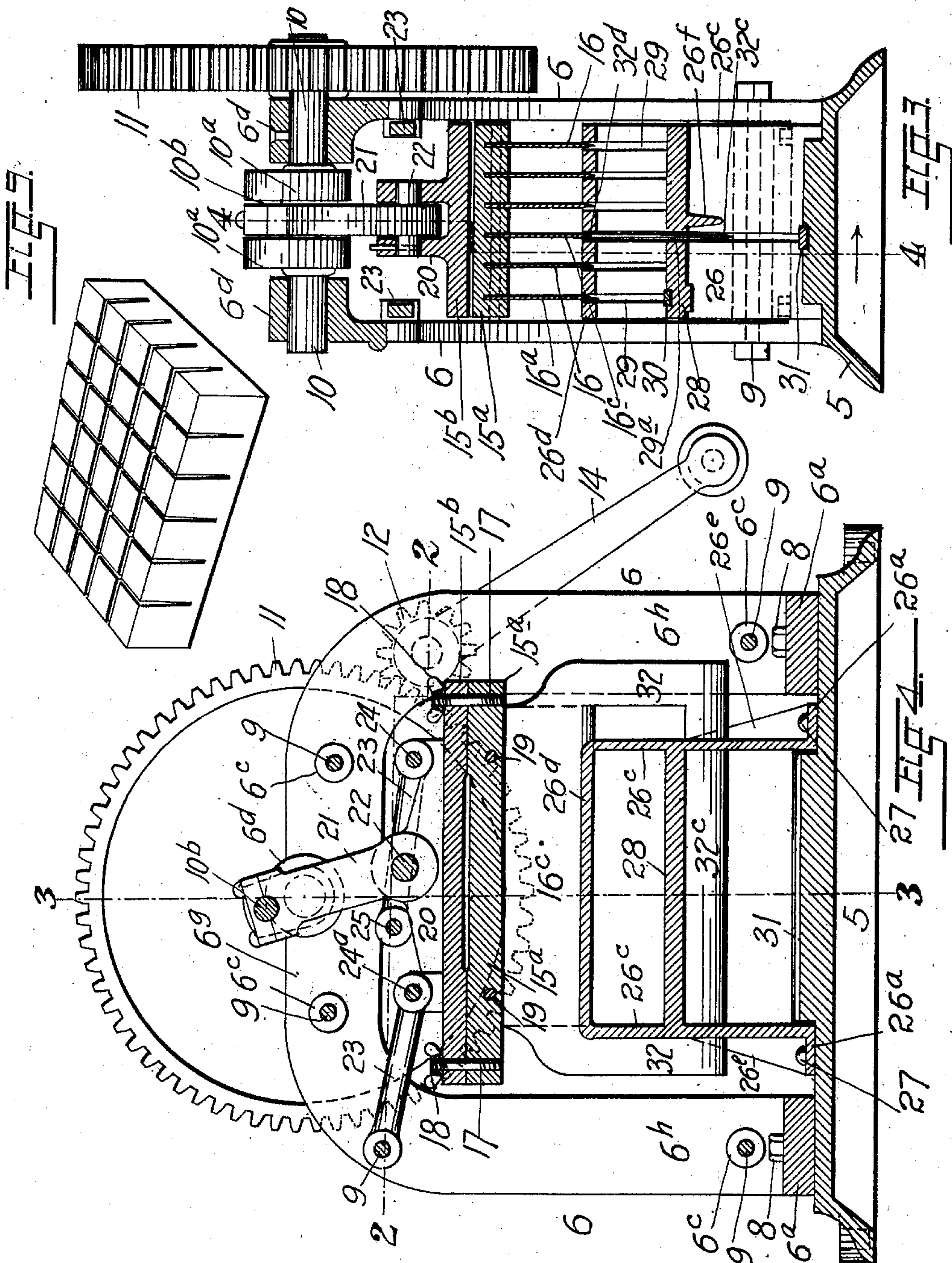
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3 SHEETS—SHEET 2.



Witnesses:  
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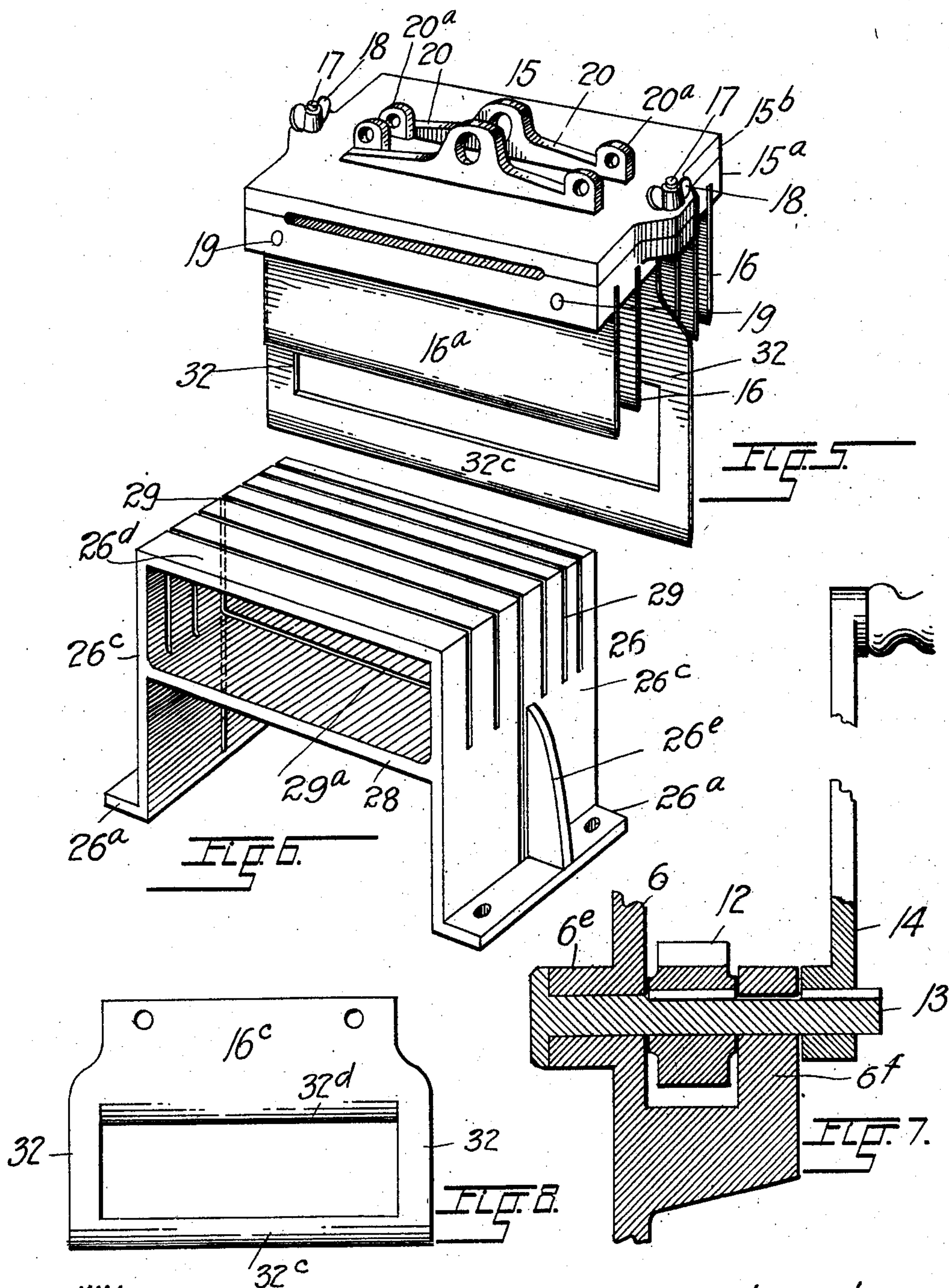
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3 SHEETS—SHEET 3.



Witnesses:  
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Inventor:  
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# UNITED STATES PATENT OFFICE.

MEYER KAYSER, OF OURAY, COLORADO.

## DEVICE FOR CUTTING PLUG-TOBACCO.

SPECIFICATION forming part of Letters Patent No. 745,355, dated December 1, 1903.

Application filed April 6, 1903. Serial No. 151,317. (No model.)

*To all whom it may concern:*

Be it known that I, MEYER KAYSER, a citizen of the United States, residing at Ouray, in the county of Ouray and State of Colorado, have invented a new and useful Device for Cutting Plug-Tobacco, of which the following is a specification.

My invention relates to devices for cutting plug-tobacco, and particularly to that class of portable cutting devices used in retail stores for the purpose of severing the purchased piece of tobacco from the large plug.

The object of my invention is to provide a cutting device for plug-tobacco which not only will sever the purchased piece of tobacco from the plug, but which at the same time will divide said piece of tobacco into a number of small parts, either in the form of strips or cubes, which, while held together at the bottom, can be easily broken off from the main piece when so desired. This method of cutting tobacco will obviate the necessity of having to use a knife to cut off a piece of tobacco whenever a chew is taken; and it will do away entirely with the dirty habit of biting off the required chew, which habit when the piece of tobacco is passed from mouth to mouth is very apt to breed contagious diseases.

To attain my object I make use of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of the device, the lowest position of the knife-carrier and knife being shown in full lines, while the highest position is indicated in broken lines. Fig. 2 is a horizontal section taken along the line 2 2, Fig. 1, the gears being left in elevation, while the crank is broken away.

Fig. 3 is a vertical section taken along the line 3 3, Figs. 1 and 4, the gear-wheel, crank-shaft, and pitman being left in elevation. Fig. 4 is a section taken along the line 4 4, Fig. 3, looking in the direction of the arrow.

Fig. 5 is a perspective view of the knife-carrier with the knives in place. Fig. 6 is a perspective view of the knife-guide and cutting-table. Fig. 7 is an enlarged section taken along the line 7 7, Figs. 1 and 2. Fig. 8 is an elevation of the double knife used in my device. Fig. 9 is a perspective view showing the appearance of a plug of tobacco after

having been divided into cubes by my machine.

Similar reference-numerals refer to similar parts throughout the various views.

My device consists of a base 5, made of cast-iron or other suitable material, upon which are erected two parallel inverted-U-shaped standards 6. These standards are provided at their lower extremities with inwardly-extending flanges 6<sup>a</sup>, which rests on the upper surface of the base and are secured thereto by means of bolts 8. To still further insure the rigidity of the device, standards 6 are fastened to each other by means of bolts 9, which pass through inwardly-extending lugs 6<sup>c</sup>, which are integral with the standards. The horizontal portions 6<sup>e</sup> of standards 6 are provided at a point midway between the vertical legs 6<sup>h</sup> with bearings 6<sup>d</sup>, through which passes a crank-shaft 10, the double crank 10<sup>a</sup> of which is located between said standards. Shaft 10, extending beyond one of the bearings 6<sup>d</sup>, is provided with a gear-wheel 11, into which meshes a pinion 12, the shaft 13 of which is journaled in bearings 6<sup>e</sup> and 6<sup>f</sup>, which are integral with one of the standards 6. Bearing 6<sup>e</sup> extends inwardly from the standard, while bearing 6<sup>f</sup> is formed by a bracket which extends underneath and on the outside of the pinion. A crank 14 is keyed onto the extension of the shaft 13 beyond bearing 6<sup>f</sup>, and it is by turning this crank that, through medium of the pinion and the gear-wheel, the crank-shaft 10 is rotated.

15 is the knife-carrier, onto which are secured a number of parallel downwardly-extending knife-blades 16. Carrier 5 is composed of two members 15<sup>a</sup> and 15<sup>b</sup>, placed one on top of the other and secured firmly together by means of screw-bolts 17, which being tapped into the member 15<sup>a</sup> pass through correspondingly-located holes in the other member, 15<sup>b</sup>. Thumb-nuts 18, screwed onto the protruding ends of the bolts 17, secure the upper member to the lower one.

The upper edges of the knife 16 are let into parallel grooves cut into the lower surface of the member 15<sup>a</sup> and are held in place by means of pins 19, which pass through holes in the carrier and correspondingly-located holes in the knife-blades.

Knife-carrier 15 is, furthermore, provided on



its upper surface with oppositely-located upwardly-extending lateral lugs 20, in between which is pivoted a pitman 21 by means of a pin 22, which passes through holes in said lugs and in the lower extremity of the pitman. The upper end or head of the pitman 21 is connected to the crank-pin 10<sup>b</sup> of crank 10<sup>a</sup>. The turning of the crank will impart by means of this pitman a vertical reciprocating movement to knife-carrier 15.

To insure the constantly horizontal position of the knife-carrier during its reciprocating movement and to reduce the amount of strain on pin 22 when the knives are cutting through the tobacco, the knife-carrier 15 is connected to the standard 6 by means of parallel hangers 23, the lower ends of which are pivoted to the extremities 20<sup>a</sup> of lugs 20, while their upper extremities are pivoted to the standards 6. In the construction shown in the drawings three of these hangers have been employed, two of which are pivoted around a transversely-located pin 24, secured to lugs 20 of the knife-carrier 15, while their upper extremities are pivoted to the standards 6 by means of pins 25, secured in lugs on said standards. The third or single hanger is also pivoted to lugs 20 of the knife-carrier by means of a pin 24<sup>a</sup>, secured to said lugs, while its upper extremity is pivoted around one of the pins 9 and in between the lugs 6<sup>c</sup> of the standards, said lugs having been made shorter accordingly. Pins 24 and 24<sup>a</sup> are fastened into the extremities 20<sup>a</sup> of the lugs 20, said extremities being located on opposite sides of the point of pivot 22 of the pitman and at equal distances therefrom. The points of pivot on the standards are located to one side of the center line of the machine, which arrangement compels the carrier 15 when moving downward to move laterally in the direction of the arrow *a*, said movement being reversed when the knife-block is moved upward. The lateral movement of the knife-carrier, in connection with the downward movement of the same, will compel the knives to "shear" through the tobacco or other substance with which it is brought in contact, thus facilitating the process of cutting.

Located underneath the knife-carrier and in between the legs 6<sup>b</sup> of standards 6 is a rectangular inverted-U-shaped frame or casting 26, the vertical sides of which have been provided at their lower extremities with outwardly-extending flanges 26<sup>a</sup>, which rest on the base-plate 5 and are secured thereto by means of bolts 27, while the upper or horizontal portion 26<sup>d</sup>, connecting the vertical sides 26<sup>c</sup>, is parallel to the base-plate.

Located between the upright sides 26<sup>c</sup> of the casting 26 and integral therewith and parallel with the horizontal top 26<sup>d</sup> is a plate or shelf 28, designed to support the tobacco while it is being cut.

26<sup>e</sup> and 26<sup>f</sup> are webs designed to strengthen the casting. The top or horizontal portion 26<sup>d</sup> and those parts of the vertical sides lo-

cated above shelf 28 are provided with a number of parallel slits 29, which being in line with and of a width slightly exceeding the thickness of the knife-blades serve as guides for the latter during their upward and downward movement.

The elevation of the horizontal part 26<sup>d</sup> of frame 26 and of the shelf 28 above the base-plate is such in relation to the moving parts of the machine that when the knife-block 15 is in its highest position the cutting edges of the knives, while still extending in the slits 29, will be above the lower surface of the horizontal portion 26<sup>d</sup> of the casting 26, and when the knife-block 15 is in its lowest position its lower surface will just clear the upper surface of the casting 26, while the cutting edges of the knife-blades, with the exception of the first or front one, will be a certain distance (about one-sixteenth to three thirty-seconds of an inch in actual practice) above the upper surface of the plate 28.

The cutting edge of the first or front knife 16<sup>a</sup> extends farther downward than the other knives, and a strip 30, made of brass, copper, or other soft material, has been let into a recess of the plate 28 to receive the cutting edge of knife 16<sup>a</sup> when the knife-carrier has reached its lowest position.

When the plug of tobacco has been placed on top of the plate 28 and the knives are moved downward by turning the crank 14, this first knife 16<sup>a</sup> will sever the purchased piece from the plug of tobacco, while the other knives 16 will cut the tobacco into strips which, as the knives do not reach the upper surface of plate 28, will not be separated entirely from each other, but will be held together at the bottom by a strip of tobacco equal in thickness to the distance between the lower edges of the knife-blades and the upper surface of the plate when the knife-carrier has reached its lowest position. On the return stroke of the crank when the knives are moved upward they will on account of the existing friction carry the severed piece of tobacco with them until the upper surface of the tobacco engages the lower surface of the part 26<sup>d</sup> of the frame 26. The knife-blades on being moved farther upward will thus be drawn out of the tobacco, which the moment that the knives have reached their highest position will fall back upon the table 28.

When it is desired to divide the piece of tobacco into cubes, it is once more laid upon the plate 28 in a position at right angles to its former position or so that the slits cut in the tobacco will be at right angles with the cutting edges of the knife-blades. The above-explained operation is then repeated, and the result will be a piece of tobacco divided into cubes held together at the bottom, as is shown in Fig. 9.

As it may occur that the customer for some reason or other does not desire to have his tobacco cut into strips or cubes, but prefers a



solid piece, I have provided my device with an extra knife-blade, by which the operator may cut the tobacco off the plug, as is done by the machines now in use. For this purpose one of the knife-blades (16°) has been extended on both sides, said extensions 32 having been continued downward and connected at their lower extremities by a second knife-blade 32°, which may be integral with the extensions 32. The distance between this supplementary knife-blade 32° and the knife-carrier is such that when the knife-carrier has reached its lowest position the lower or cutting edge of the knife 32° will engage a strip of soft metal 31, let into a recess in the base-plate 5. The width of the supplementary knife-blade is such that when the knife-carrier has reached its highest position the upper edge of the blade 32° will not extend above the upper surface of the plate or shelf 28, while its cutting edge is elevated sufficiently high above the surface of the base-plate 5 that the plug of tobacco may be placed on the plate 5 and underneath the cutting edge of the blade 32. Thus while the upper cutting edge 32<sup>d</sup> of the knife 16° will still perform the same function as that of the other blades when the tobacco is being divided into strips or cubes the lower edge may be utilized for cutting a piece of tobacco off the plug, as is done by the machines now in use.

The slits 29, which guide the knife 16°, have been extended downward through the vertical sides of the frame 26 below the plate 28, and a similar slit 29<sup>a</sup> has been cut through the plate 28, connecting the two vertical slits, said extensions and said supplementary slit thus guiding the supplementary knife-blade 32° during its upward and downward movement.

To facilitate the removal of the knife-blades for cleaning or sharpening purposes, the distance between the standards 6 has been made sufficiently great to allow the lower member of the knife-block 15 when detached from the upper member by removing the thumb-nuts 18 to be passed between the legs of said standard.

It will be understood that although the form of machine illustrated in the accompanying drawings and hereinabove described is preferable on account of the various uses to which it may be put the supplementary knife-blade is not an essential part of my device and may be eliminated entirely—for instance, in case the purchaser already possesses an ordinary single cutter.

The elimination of the supplementary blade will reduce the device in height, and consequently in weight, owing to the fact that in such a case the shelf 28 can be dispensed with and the standards 6 and frame 26 lowered, so as to allow the first knife-blade 6<sup>a</sup> to engage the upper surface of the base 5 instead of the shelf 28 when the knife-carrier has reached its lowest position.

Having thus described my invention, what I claim is—

1. In a device for cutting plug-tobacco, the combination with a suitable operating mechanism of a knife designed to sever a piece of tobacco from the plug, and suitable means for dividing said severed piece into a number of smaller partly-severed parts, substantially as described.

2. In a device for cutting plug-tobacco, the combination with a suitable operating mechanism, of a knife designed to sever a piece of tobacco from the plug, and a plurality of knife-blades for dividing said severed piece into a number of smaller partly-severed parts, substantially as described.

3. In a device for cutting plug-tobacco, the combination of a bed-plate with a suitable frame erected thereon, a knife block or carrier supported in said frame, suitable means for imparting a reciprocating movement to said carrier toward and from said bed-plate, a plurality of knife-blades secured to said carrier, said knives being so arranged that, when the carrier is in its lowest position, one of the knives will engage the bed-plate while the cutting edges of the other blades remain a certain distance above said bed-plate for the purpose specified.

4. In a device for cutting plug-tobacco, the combination of a bed-plate with a suitable frame erected thereon, a knife block or carrier supported in said frame, suitable means for imparting a reciprocating movement to said carrier toward and from said bed-plate, a plurality of knife-blades secured to said carrier, said knives being so arranged that, when the carrier is in its lowest position, one of the knives will engage the bed-plate while the cutting edges of the other blades remain a certain distance above said bed-plate, and an additional knife connected with the operating mechanism for the purpose of severing the tobacco independently from the aforementioned knife-blades for the purpose specified.

5. In a device for cutting plug-tobacco, the combination of a bed-plate with a suitable frame erected thereon, a carrier, having a reciprocating movement in said frame toward and from said bed-plate, suitable means for imparting said movement to said carrier, a plate or table elevated a certain distance above said bed-plate, a plurality of parallel knives secured to said carrier and so arranged that when the carrier is in its lowest position, one of the knives will engage said elevated table while the cutting edges of the other will remain a certain distance above said table, and an additional knife-blade secured to said carrier, the cutting edge of which will engage the bed-plate when the carrier is in its lowest position, substantially as described.

6. In a device for cutting plug-tobacco, the combination of a bed-plate, with a suitable frame erected thereon, a carrier having a reciprocating movement in said frame toward and from said bed-plate, suitable means for



imparting said movement to said carrier, a plate or table elevated a certain distance above said plate, a plurality of parallel knives secured to said carrier and so arranged that, 5 when the carrier is in its lowest position, one of the knives will engage said elevated table while the cutting edges of the other will remain a certain distance above said table, and an additional knife-blade secured to said carrier, and provided with two cutting edges the 10 upper one of which is in line with the cutting edges of the before-mentioned knives while the lower edge will engage the bed-plate when the carrier is in its lowest position, substantially as described. 15

7. In a device for cutting plug-tobacco, the combination with a bed-plate, of two standards secured thereto, a crank-shaft mounted in journals on said standards, suitable means 20 for rotating said crank-shaft, a knife-carrier movably connected to said standards by means of suitable hangers, a pitman connecting said carrier with the crank-pin, a rectangular frame secured to said bed-plate and pro-

vided with a number of slits through which 25 the knife-blades travel, a shelf rigidly secured to said frame at a point between its top and the bed-plate, a plurality of downwardly-extending knives secured to said carrier and so arranged that when the knife-carrier has 30 reached its lowest position the first one of said knives will engage said shelf while the cutting edges of the other knives will remain a certain distance above said shelf, one of 35 said knives being extended on both sides, said extensions extending downward and connected at their lower extremities by means of a supplementary knife-blade designed to engage the upper surface of the bed-plate when 40 the carrier is in its lowest position, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MEYER KAYSER.

Witnesses:

C. N. CARROLL,  
B. T. WASHBURN.