

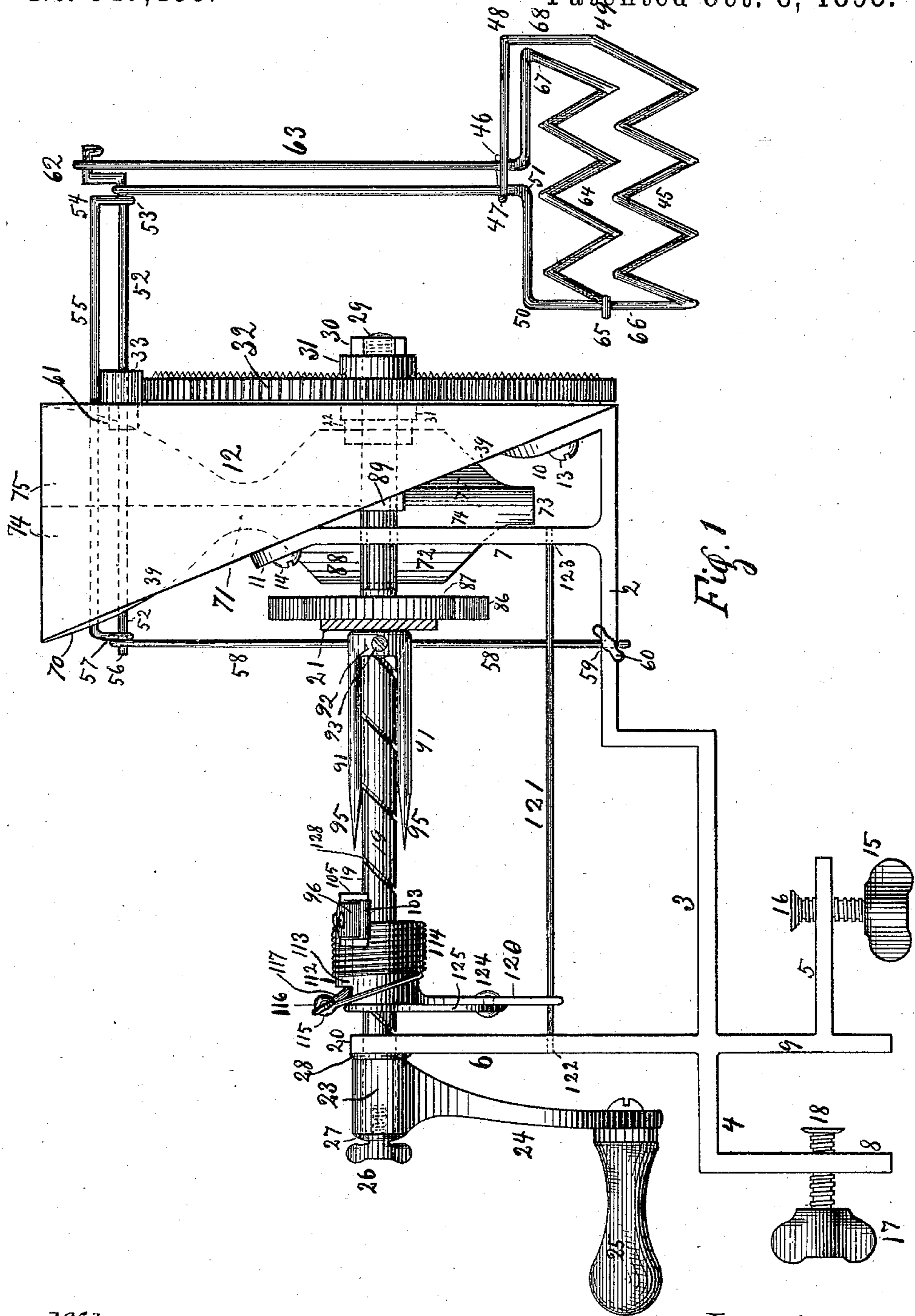
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4 Sheets—Sheet 1.

J. G. HUNZIKER.  
COMBINATION HOUSEHOLD UTENSIL.

No. 547,488.

Patented Oct. 8, 1895.



Witnesses.  
O. Bradbury.  
Emil Ellingman

Inventor.  
James G. Hunziker  
By his Attorney. A. M. Carlson.

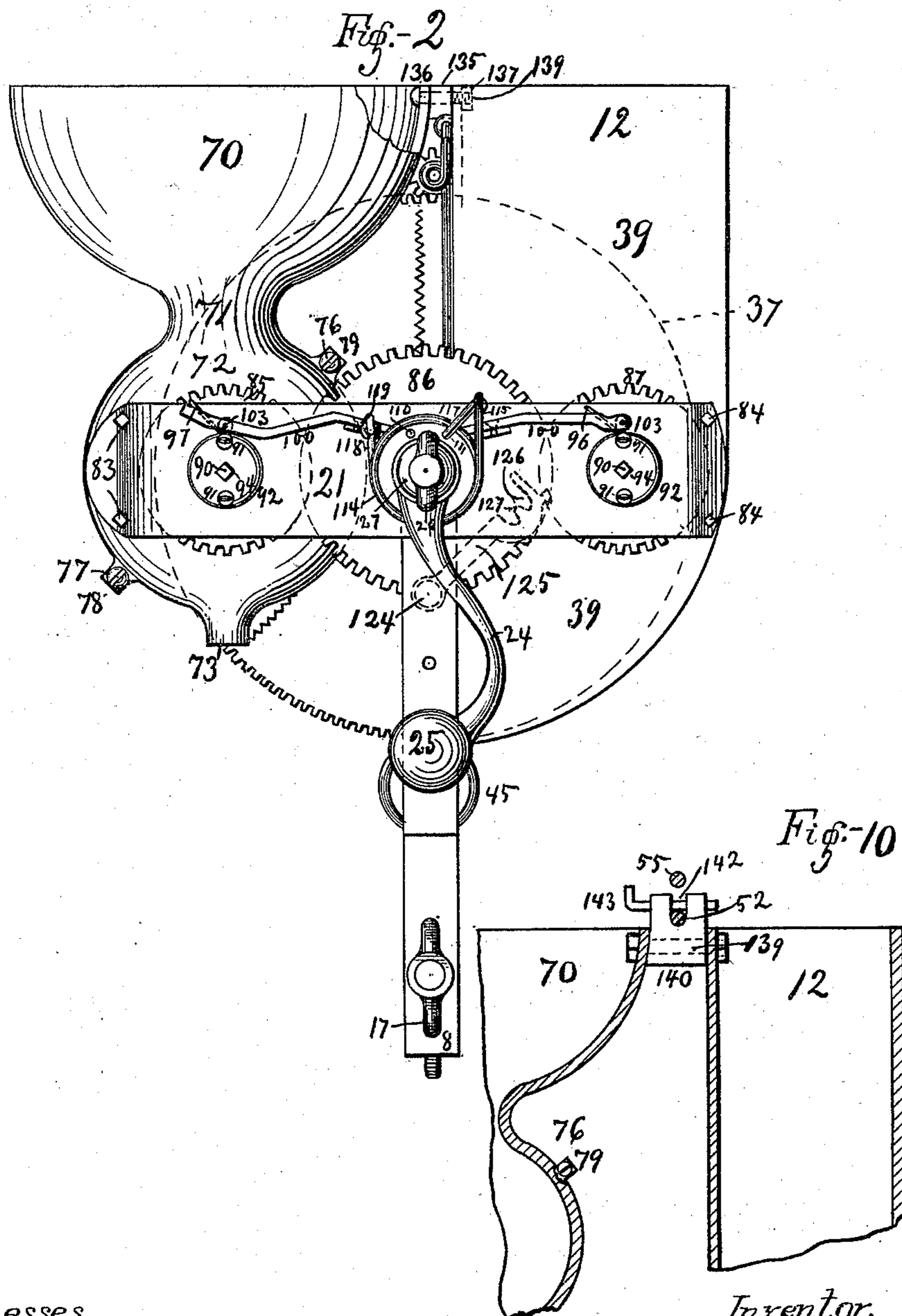
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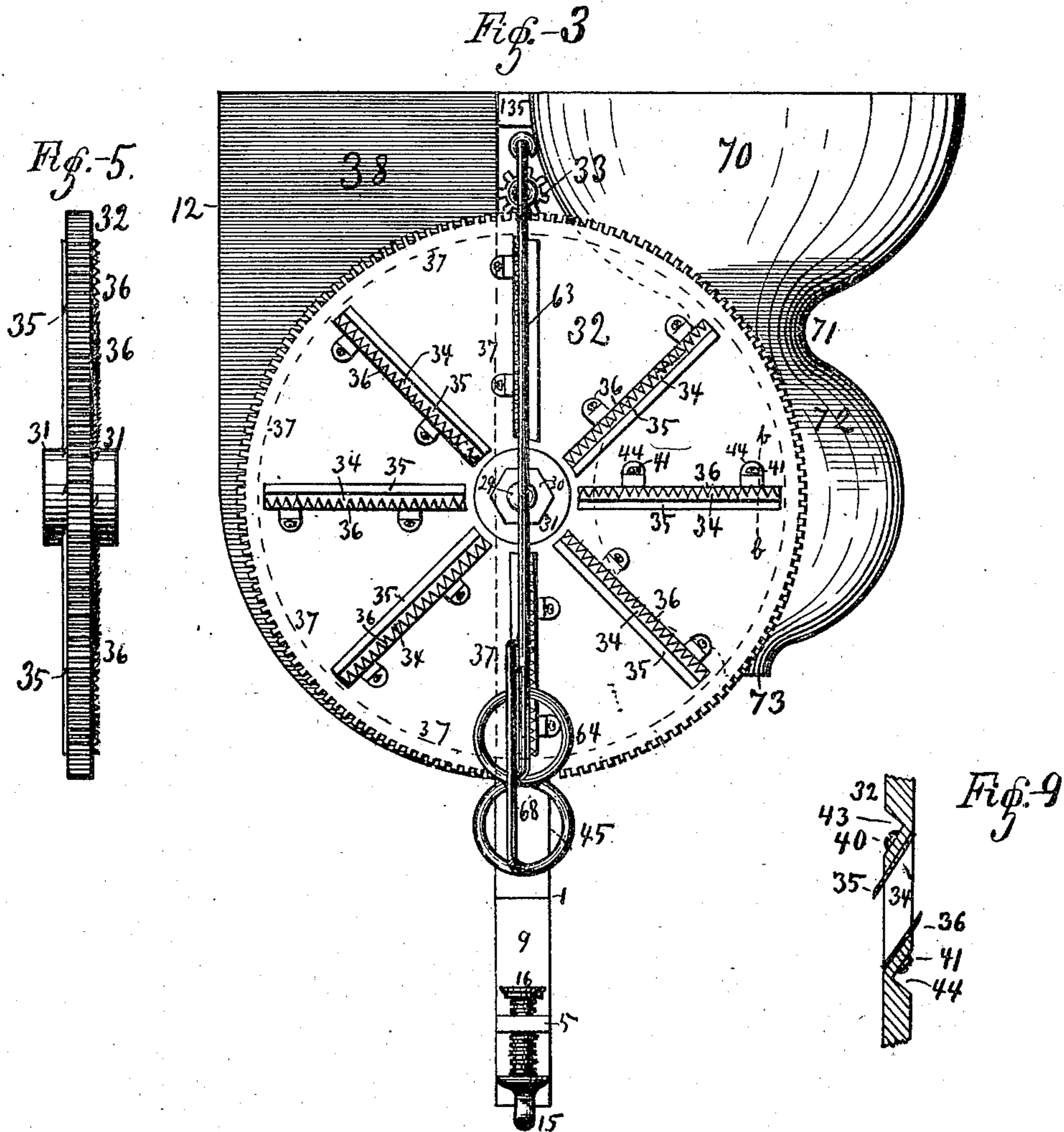
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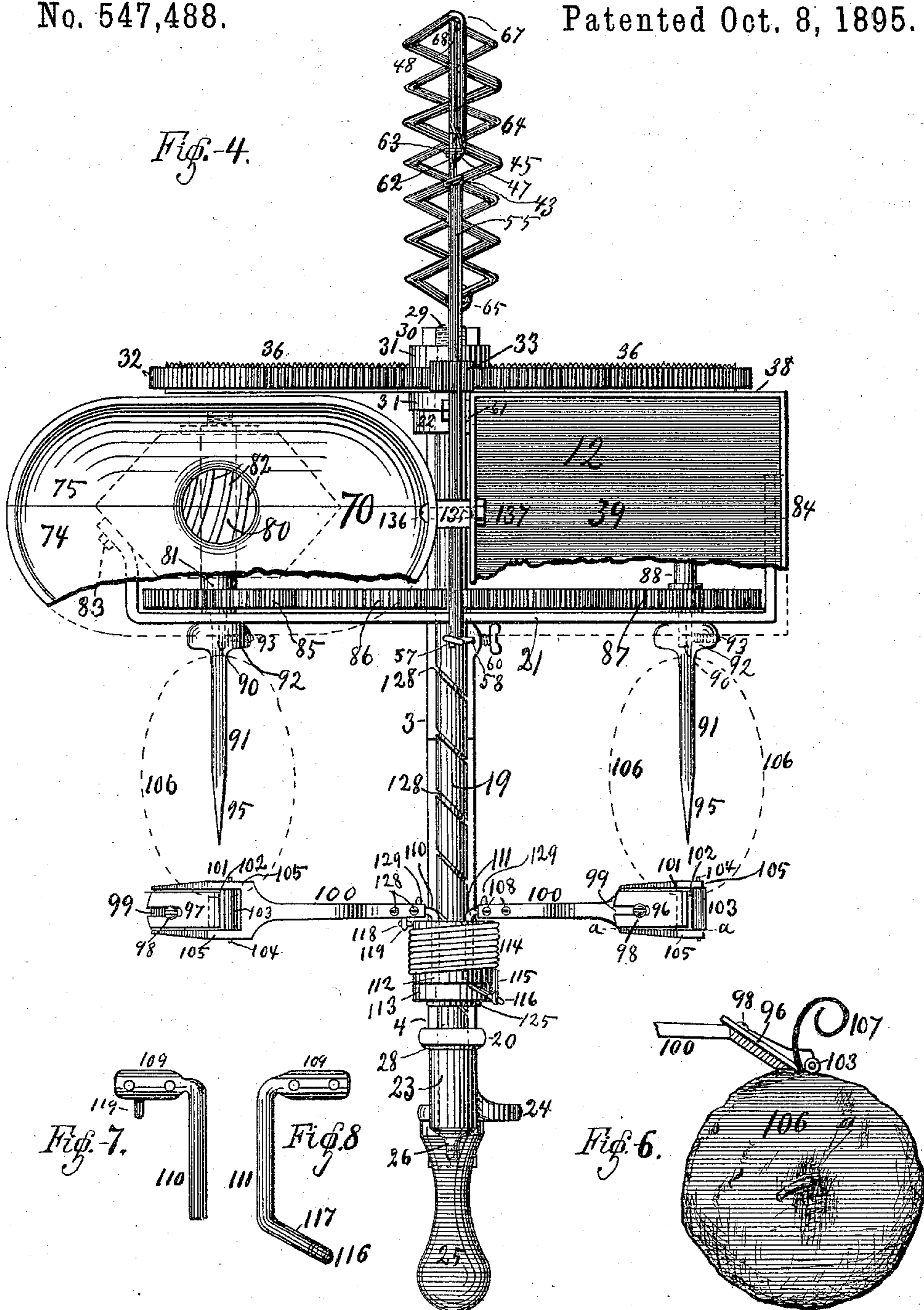
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# UNITED STATES PATENT OFFICE.

JAMES G. HUNZIKER, OF COTTONWOOD, MINNESOTA.

## COMBINATION HOUSEHOLD UTENSIL.

SPECIFICATION forming part of Letters Patent No. 547,488, dated October 8, 1895.

Application filed May 27, 1893. Serial No. 475,807. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES G. HUNZIKER, a citizen of the United States, residing at Cottonwood, in the county of Lyon and State of Minnesota, have invented certain new and useful Improvements in Combination Household Utensils; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in household utensils; and it consists of the novel construction and combination of parts illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation of the complete machine. Fig. 2 is a rear end elevation, and Fig. 3 is a front end elevation, of the complete machine. Fig. 4 is a top plan view of the complete machine with the rear portions of the hoppers broken off to admit of better viewing certain gear-wheels. Fig. 5 is an edge view of the slicing and grating wheel. Fig. 6 is a sectional detail view of a portion of the potato-peeling device shown as on the line *a a* in Fig. 4. Figs. 7 and 8 are enlarged detail views of certain rock-shafts of the peeling device. Fig. 9 is an enlarged sectional view on the line *b b* of the slicing-wheel in Fig. 3. Fig. 10 is a rear view showing a modified location of certain parts of the machine.

Referring to the various parts in the drawings by reference-numerals, 1 designates the frame of the machine and consists of the horizontal bars 2 3 4, the horizontal arm 5, the vertical bars or arms 6 and 7, the downwardly-projecting arms 8 9, and the lips 10 11, to which the vegetable-hopper 12 is secured by the screws 13 14. Also, the horizontal cross-bar 21 belongs to the frame of the machine.

15 is a thumb-screw for clamping the machine to a table by letting the edge of the table come between the washer 16 and the bar 3 of the frame and tightening the screw 15 up. 17 is another thumb-screw, by which the machine may be secured to a box or bar-

rel by letting the upper edge of the box or barrel side pass up between the arm 9 and the washer 18 at the end of the screw 17, which is then screwed up tight. In other words, 3 9 55 5 16 15 form a horizontal screw-clamp, and 9 4 8 18 17 form a vertical screw-clamp, for securing the machine to suitable objects.

The main shaft 19 of the machine is journaled in the upper end 20 of the brace 6 in the horizontal frame-bar 21 in the brace 7 and in the lug 22, (shown in Figs. 1 and 4,) projecting from the side of the vegetable-hopper 12. At the rear end 23 of the main shaft 19 I provide a keyed hand-crank 24, of which 25 is 65 the handle.

26 is a shouldered thumb-screw screw-threaded into the end of the shaft, and with its annular shoulder 27 prevents the crank from working off from the shaft. 70

28 is a rigid collar on the shaft.

At the front end 29 of the shaft 19 I secure by a key (not shown) and by the nut 30 the hub 31 of the large cog-wheel 32, the cogs of which engage the pinion 33 of the egg-beater, 75 which will hereinafter be fully described. The web of this wheel 32 is provided with several radial slots or openings 34, (best shown in Figs. 3 and 9,) the edges of which are provided with slicing-knives 35, projecting with 80 their edges toward the slot 34 and on a slant out from the side of the wheel. The opposite edges of each slot are provided with grating teeth or combs 36, pointing also toward the slots and on a slant out from the opposite 85 side of the wheel. Hence the wheel is reversible, so that when the one side of it is placed against the semicircular opening 37 (shown in dotted lines in Fig. 3) in the front wall 38 of the hopper 12 it will when re- 90 volved slice the vegetables placed in the hopper, and if the other side of the wheel is placed toward the opening in the hopper the vegetables will be grated. The slices and the gratings pass through the same slots 34 (only 95 in opposite directions) and drop down in front of the machine. The hub 31 of the wheel 32 touches against the lug 22, as shown in Fig. 4, thereby holding the wheel in the proper nearness to the front of the hopper 12. The 100 vegetables are fed down the hopper by their own weight and forward toward the slicing

and grating wheel by the inclined position of the rear wall 39 of the hopper 12 in which they are placed.

The manner in which the slicing-knives and grating knives or combs are secured upon the wheel 32 is best illustrated in the sectional view, Fig. 9, in which 40 are screws put through slotted holes in the web of the wheel and engage screw-threaded holes in the slicing-knives 35. In like manner the screws 41 pass through slotted holes in the web and engage the grating-comb 36. The slots for the screws in the web make the knives adjustable forward and backward for finer or coarser grating or thicker or thinner slices.

43 44 are cavities formed in the side of the wheel-web for receiving the heads of the screws 40 and 41 and for giving a bearing-surface for the under sides of the heads of said screws parallel to the surface on which the knives are clamped by said screws.

The egg-beater (best shown in Figs. 1 and 3) consists of a stationary spiral-shaped wire 45, which commences at 46, forms a loop 47, runs horizontally to 48, down to 49, forms the spiral or corkscrew-shaped body 45, then upward to 50, horizontally to 51, up through the loop 47, around the crank-shaft 52, forming for the latter a journal or bearing 53, above which it turns at 54 and runs horizontally, as 55, between the hopper of the vegetable-slicer and the hopper of the coffee-mill, (presently to be described.) It then turns around the rear end 56 of the shaft 52, forming another journal 57 for said shaft. From this point the wire extends down, as 58, close by the shaft 19, into a hole 59 in the frame-bar 2, where it is secured by a thumb-screw 60. The shaft 52 is further journaled in a lug, as 61, (shown in Fig. 4 and in dotted lines in Fig. 1,) provided upon the side of the vegetable-hopper. The front end of the egg-beater shaft 52 is provided with the crank 62, which operates the pitman 63, which passes loosely down through the loop 47 and forms the spiral-shaped body 64, of which the end is formed into a guiding-loop 65, embracing the bar 66 of the stationary spiral 45, already described. When the crank 24, shaft 19, wheel 32, and pinion 33 are turned, the shaft 52, being secured in the pinion 33, turns very rapidly, causing the spiral 64 to move down into the coils of the spiral 45 and up again, thereby beating eggs put into a suitable vessel into which the beater is placed at the time the machine is secured to the table. In Fig. 4 the wire portion 67 is passed outside the wire 68, while in Fig. 1 it is inside of 68, which illustrates that it may be placed either way.

The coffee-mill consists of the hopper 70, which below its narrow extension 71 has a grinding-chamber 72, provided at its lower end with a spout 73, through which the ground coffee is discharged from the mill. The hopper and grinding-chamber are formed of two half-shells 74 75, the lower portions of which form the grinding-chamber and are slightly

adjustable toward each other by the screws 76 77 in the lugs 78 79 of said shells.

80 (shown in Fig. 4) is the grinding-roller, which is located inside the grinding-chamber, nearly filling the same. It is of the same double conical shape as the grinding-chamber and is provided with grinding corrugations, like 82, as are also the inner sides of the grinding-chamber.

The grinder 80 is secured on the revoluble shaft 81, journaled about centrally in the two shells of the grinding-chamber and in the transverse frame-bar 21, which is secured by bolts 83 to the grinding-chamber and at the other end by bolts 84 to the vegetable-hopper 12. Between the grinding-chamber and the frame-bar 21 I secure upon the shaft 81 a gear-wheel 85, which meshes with a larger gear-wheel 86, secured upon the main shaft 19. 87 is another gear-wheel meshing with the large gear 86. This wheel 87 is secured upon a spindle 88, journaled at its front end in a lug or bars 89, (see Fig. 1,) provided upon the rear side of the vegetable-hopper 12, and at its rear end in the cross-bar 21. Both of said spindles or shafts 81 and 88 have rearwardly-extending preferably four-cornered ends 90, extending beyond the bar 21.

91 are two-armed forks or spears, of which the heads 92 are provided with square holes 94, fitted snugly upon the four-cornered spindle ends 90, where they are retained by set-screws 93. The bodies of the prongs 91 may be of round, oval, or any other shape; but their pointed ends 95 are formed into thin oval-shaped double-edged and sharp points, of which the edges point in peripheral direction relatively to the heads 92. When the machine is turned these forks 91 92 95 are revolved and the points 95 will cut a cylindrical hollow or hole in an apple held against the end of the fork, thereby removing a part or all of the core of the apple. These forks further serve as the means by which potatoes and the like vegetables and fruits are held and revolved in peeling them with my peeling apparatus, which, further than these forks, consists of the two peeling-knives 96 97, which are adjustably secured by the screws 98 to the flattened cross portion 99 of the arms 100. The sharp ends or edges of the knives project on a slant down through the openings 102 in the outer and flat ends of the arms 100 and engage with the surface of the potatoes, apples, &c., stuck upon the forks 91 to be peeled, as indicated by the dotted lines 106 in Fig. 4. 103 are rollers revolving on shafts or pins 104, passing through them and secured with their ends in the side portions 105 of the ends of the arms 100. The rollers 103, by touching against the surface of the fruit, regulate the depth that the knives can cut. The knives, being slotted and screw-fastened, may be adjusted to project more or less below the rollers, as may be best understood from Fig. 6, in which 106 represents a potato.

107 is the peeling escaping between the

roller 103 and the peeling-knife 96, held by the adjustment-screw 98. The arms 100 are at their inner ends loosely secured by screws 108 to the flattened angular extensions 109, which at the top side are slightly rounded to allow the arms 100 to rock, (best shown in Figs. 7, 8, and 2,) of two rock-shafts 110 111, which are journaled in the upper portion 112 of a traveling sleeve 113, journaled slidingly upon the shaft 19.

114 is a coil-spring wound loosely around the traveling sleeve and having its rear end 115 engaging a hook 116, formed at the free end of the lever or arm 117 which extends from the rear end of the rock-shaft 111 in an outward and upward direction. The other or front end 118 of the spring 114 engages with a peg or, in the present instance, a staple 119, secured in the side of the arm 109. (Best shown in Figs. 7, 4, and 2.) By this arrangement the spring 114 tends at all times to hold the up and down swinging arms 110 and 111 down upon the fruits placed on the forks 91 in such an elastic manner that the rollers 103 and the peeling-knives will adjust themselves to the various sizes and the uneven surfaces of the fruits. The traveling-sleeve 113 is provided with a rigid downwardly-extending flat arm 120, through a hole in the lower end of which is passed loosely a horizontal guiding-rod 121, which is rigidly secured at both ends 122 123 in the frame of the machine. To the arm 120 I pivot at 124 a hook-shaped latch 125. (Best shown in dotted lines in Fig. 2, where it will be observed that the latch has a semicircular notch 126, adapted to fit over the main shaft 19, while in the bottom of said notch there is a tooth 127, adapted to engage the slanting screw-thread or groove 128 of the main shaft 19.)

129 (shown in Fig. 4) are pegs projecting from the traveling sleeve 113. Their object is to stop the arms 100 from swinging farther down than would be desirable.

The dotted lines 106 in Fig. 4 represent the position of fruits stuck upon the forks 91 to be peeled, as already above mentioned.

For the accommodation of those who may very seldom have use for the egg-beater, I make the machines with the modified arrangement shown in the rear view, Fig. 10, in which the hoppers 12 and 70 are united by a block, as 140, and the bolt 141. The block 140 has in its upper side a notch or groove 142, in the bottom of which the shaft 52 of the egg-beater is journaled by having the pin 143 transversely inserted in a hole in the block 140 close above the shaft. By this arrangement the pin 143 may be pulled out, the thumb-screw 60 loosened, and the entire egg-beater lifted upward and thus removed from the machine at any time so desired.

In operation any and all parts of the machine are operated by the hand-crank 24 25. When said crank is turned, the main shaft 19 revolves the slicing and grating wheel 32, which will then either slice or grate the veg-

etable placed in the hopper 12, according to which side of the wheel it is placed toward the hopper. The teeth of the wheel 32 will further turn the pinion 33 and thereby operate the egg-beater. The gear-wheel 86, engaging the smaller gear 85, will thereby operate the coffee-mill and one of the forks 91, at the same time the wheel 86, engaging also the wheel 87, causes thereby the other fork 91 to revolve, so that fruits placed upon either or both of them will revolve pretty rapidly. Now, to peel the fruits the arms 100 are raised a little so as to enter upon the surface of the fruit, the latch 125 is thrown into engagement with the spiral groove or thread 128, which feeds the sleeve 113, and with it the arms 100 and peeling-knives 96 97, along the surface of the fruit till the knives approach the heads 92 of the forks. Then the latch 125 is thrown out of engagement with the grooved shaft 19 and the sleeve 113, with all its contents of arms, knives, &c., is quickly slid back, ready for peeling another pair of apples, &c. To remove the eye or the core from an apple, as already mentioned, this is done by pressing the apple against the points of the prongs of one of the forks 91 while it is being revolved by the crank. The coffee is placed in the hopper 70 and is ground between the corrugations 82 of the grinder 80 and the similar corrugations (not shown) provided at the inner walls of the grinding-chamber, and when ground fine enough it passes to the bottom of the grinding-chamber and is discharged from the spout 73. The operation of the egg-beater has already been described.

It will thus be seen that I combine into one comparatively handy and compact machine six important kitchen utensils, of which each may be used alone, one or two or more or nearly all of them may be used simultaneously.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The grating and slicing machine consisting of the vegetable hopper 12, having a wedge-shaped interior, widest at the top, the front wall of said hopper being perpendicular and provided with a delivery opening, a shaft journaled upon one side of the hopper and having its rear end provided with a hand crank, and upon its front end secured a reversible wheel having its web provided with radial slots, in which are adjustably secured steel plates, of which the opposite edges are formed into slicing knives and grating combs, projecting on a slant out of the slots in the web, and moving in front of the delivery opening in the hopper, so as to slice or grate the vegetables by reversing the wheel and turning the crank; all mounted on a suitable frame adapted to be secured to the edge of a table or of a vessel, substantially as and for the purpose set forth.

2. In an article of the class described, and mounted in a suitable frame, adapted to be secured to a table, the combination of the

vegetable hopper 12, having a delivery opening in its front side, the hand crank shaft 19, journaled up to one side of the hopper, the reversible grating and slicing wheel 32, secured upon the front end of said shaft, and moving in front of the delivery opening of the hopper, said grating and slicing wheel having its periphery provided with cogs, a pinion as 33, engaging said cogs at the upper edge of the wheel and driving thereby an egg beater, suspended in front of the wheel by a suitable frame, detachably secured to the upper part of one side of the hopper, and to the main frame, substantially as shown and described.

3. The combination with the vegetable grater and slicer, having the frame 1, 2, 3, 6 and 7, the horizontal frame bar 21, and the horizontal and vertical screw clamps formed in the lower portion of the frame, the vegetable delivery hopper 12, secured thereto, the crank shaft 19, journaled in said frame and extending forward near one side of the hopper, and carrying secured on its front end a reversible wheel as 32, for grating or slicing the vegetables escaping from the hopper, with a coffee mill also secured to said frame and to the hopper at the opposite side of the crank shaft, and being geared to the said shaft by

a cog wheel as 85, meshing with a cog wheel as 86, secured upon the crank shaft in the rear of the hopper and the mill, substantially as and for the purpose specified.

4. The combination with a vegetable slicer and grater, having a suitable frame, vegetable hopper as 12, a crank shaft journaled therein and carrying a slicing and grating wheel in front of the hopper, and having its main body, in rear of the hopper, provided with a slanting screw thread or spiral groove as 128, a sleeve sliding on said shaft and having means for interlocking it with the spiral groove or detaching it therefrom; spring pressed arms carried by said sleeve and being provided near their free ends with peeling knives, the rearwardly pointing forks 91, for holding and revolving potatoes, apples and other vegetables against said peeling knives, said forks being geared by cog wheels as 85 and 87 to a cog wheel as 86, secured on the crank shaft in the rear of the hopper, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES G. HUNZIKER.

Witnesses:

F. A. SPAETH,

HENRY BOSSHARD.