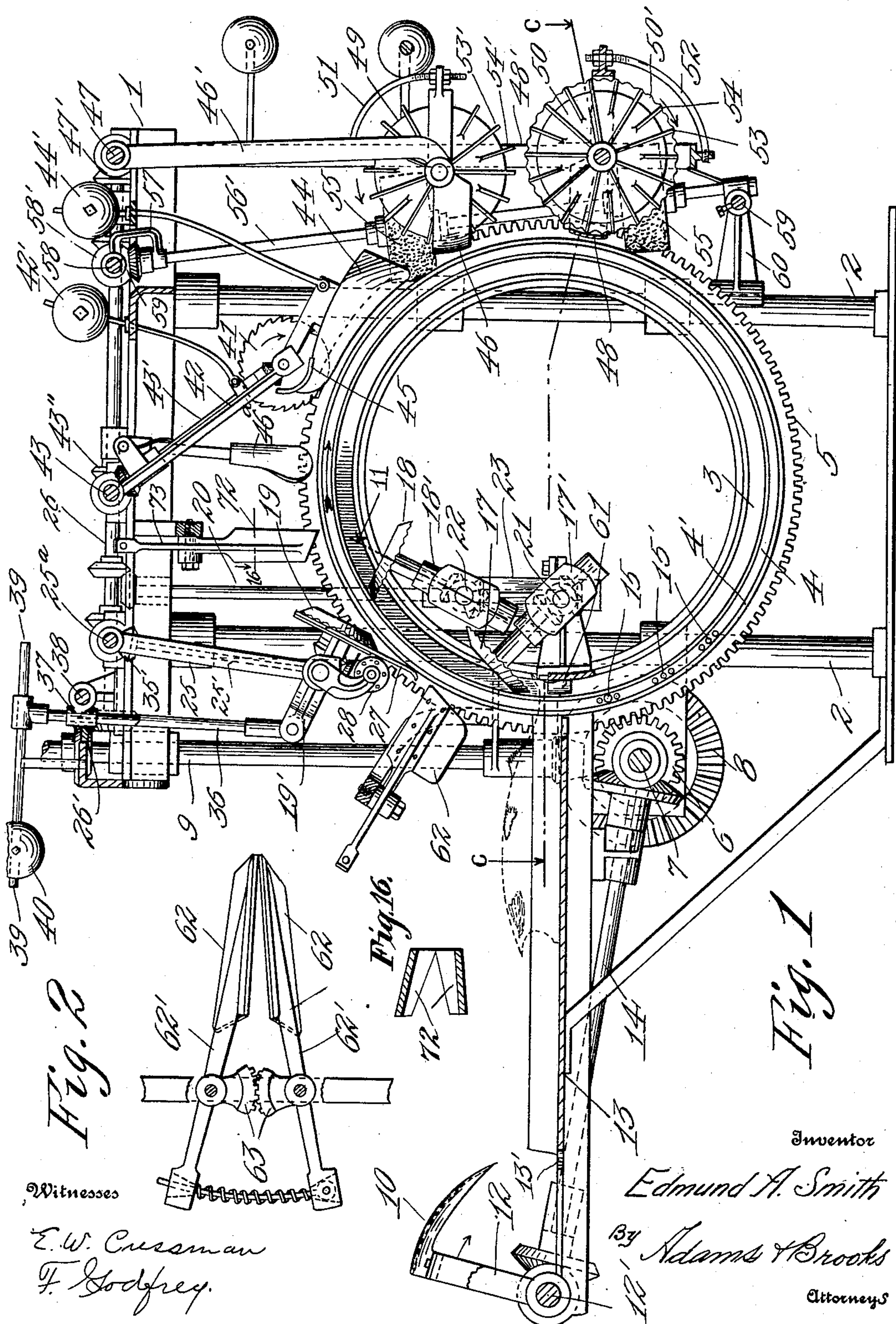


998,129.

E. A. SMITH.
FISH DRESSING MACHINE.
APPLICATION FILED OCT. 14, 1907.

Patented July 18, 1911.

5 SHEETS—SHEET 1.



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5 SHEETS—SHEET 3.

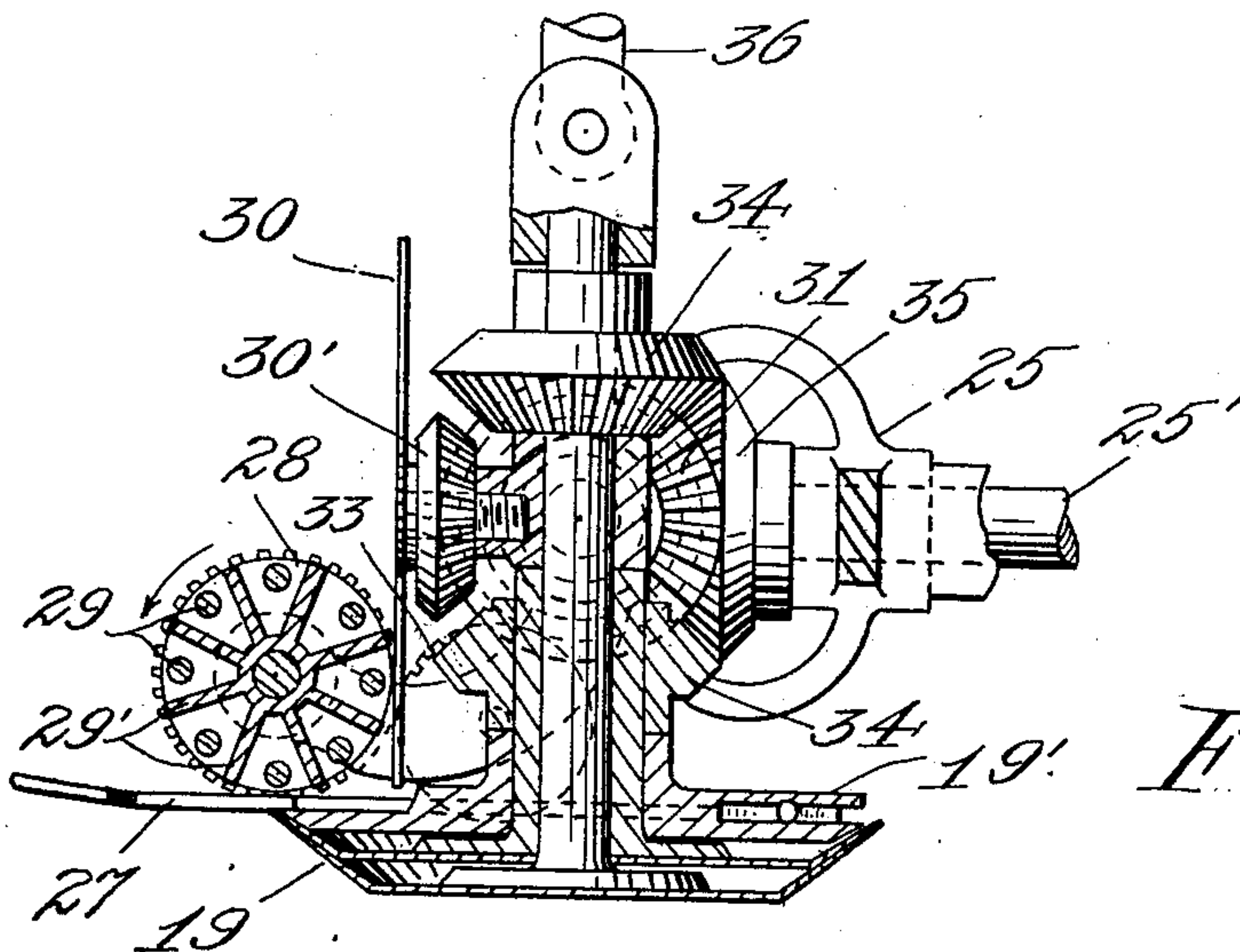


Fig. 9

Fig. 7

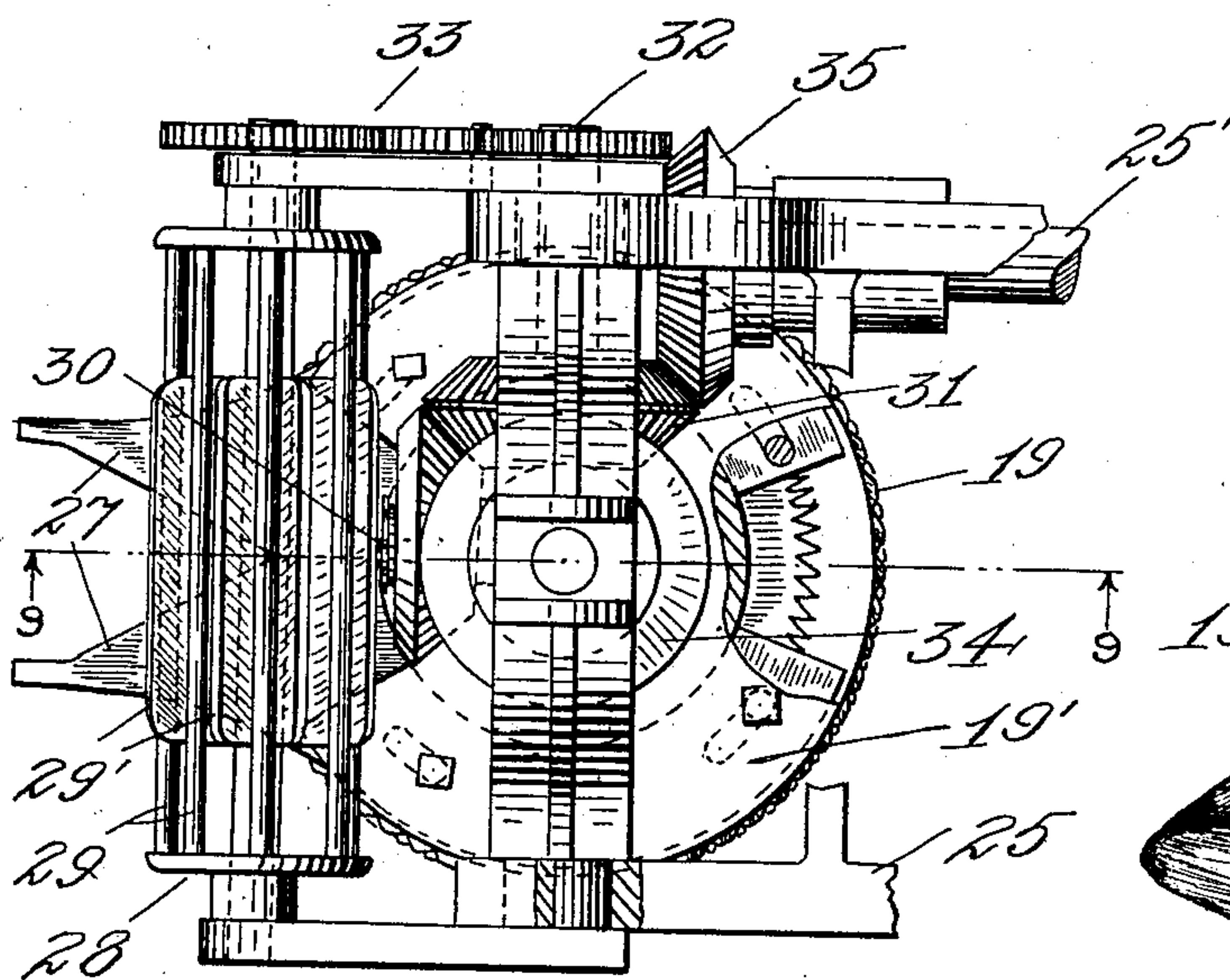
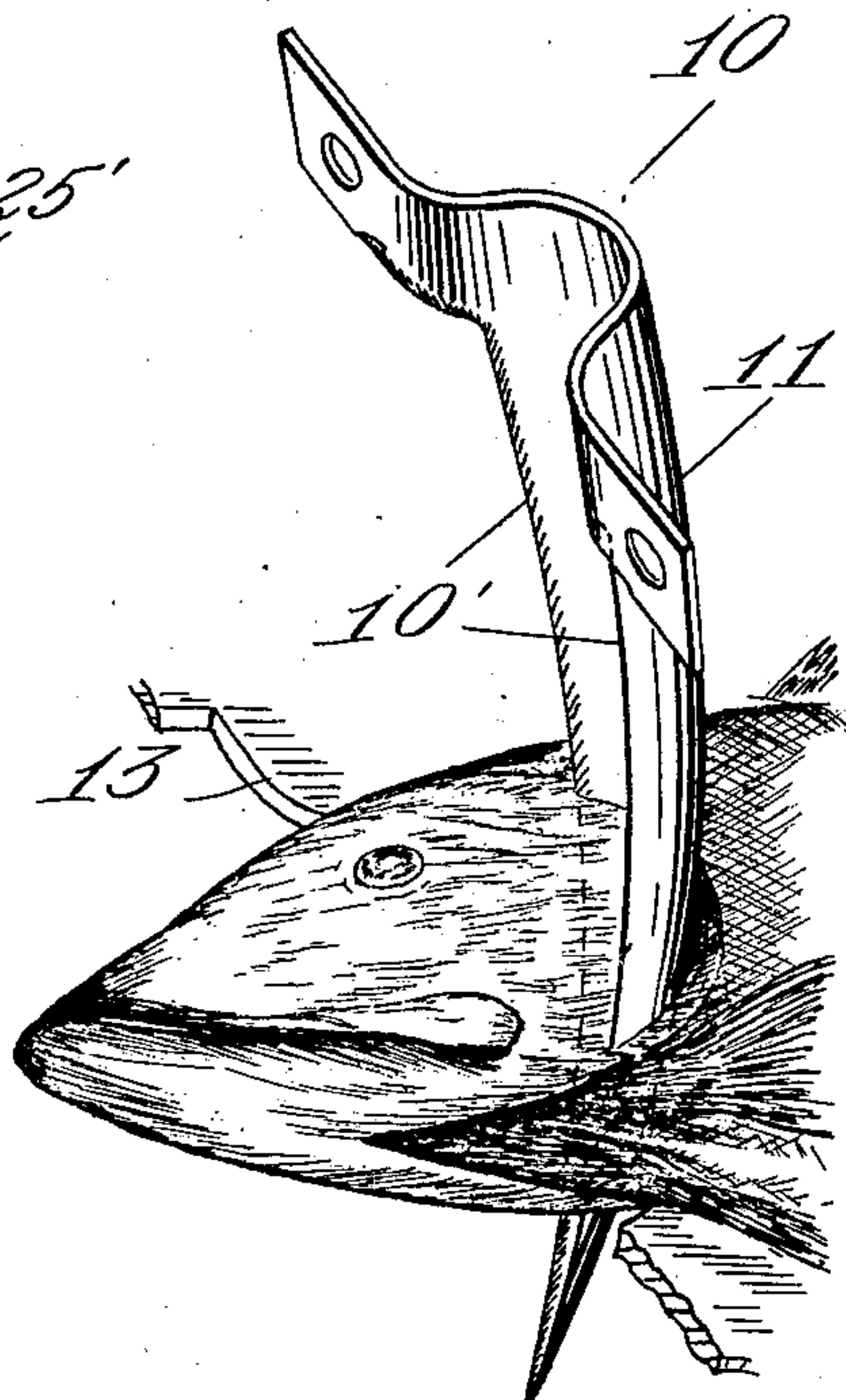


Fig. 8



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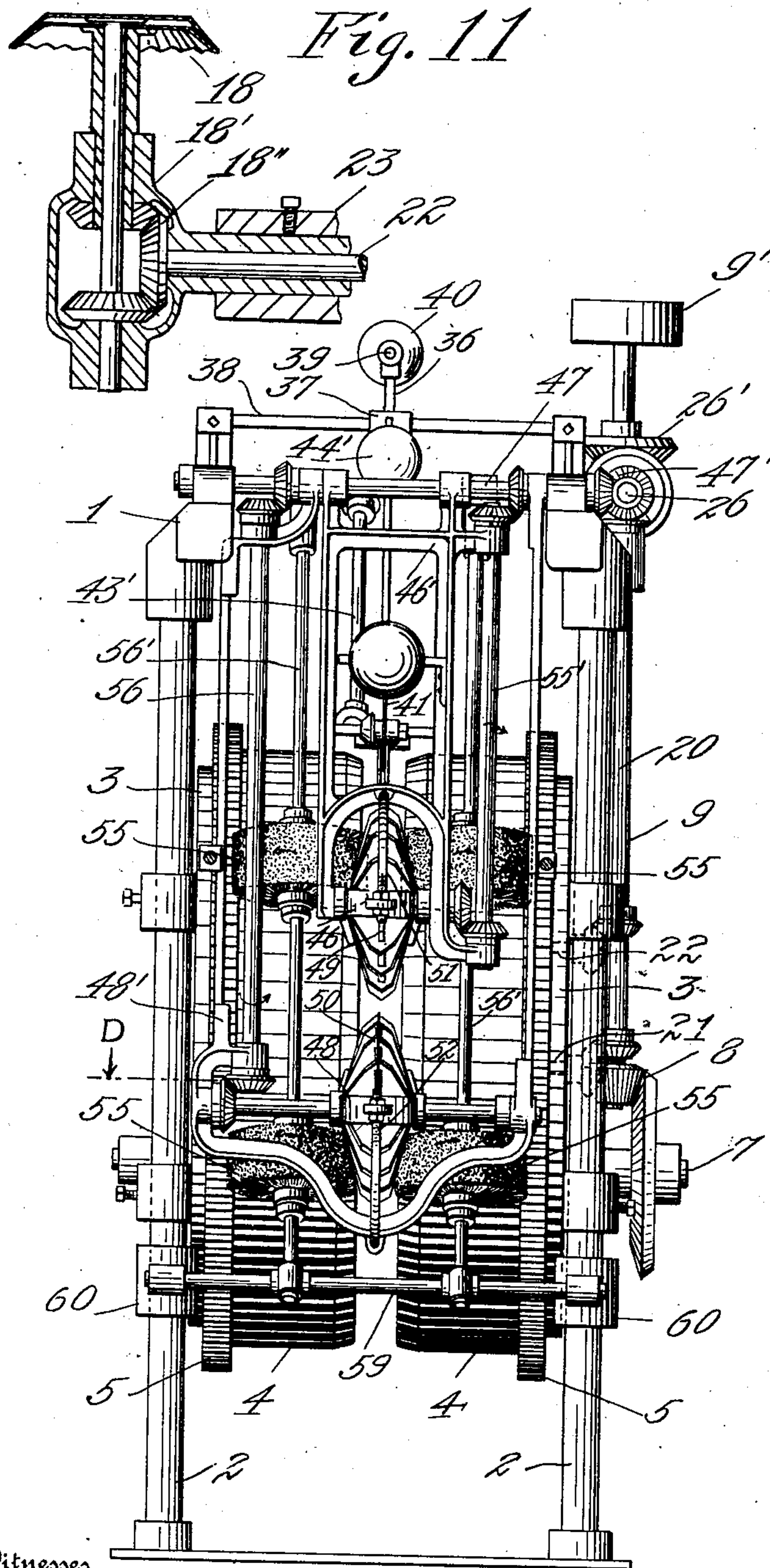
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5 SHEETS—SHEET 4.



Witnesses

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Fig. 10

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5 SHEETS-SHEET 5.

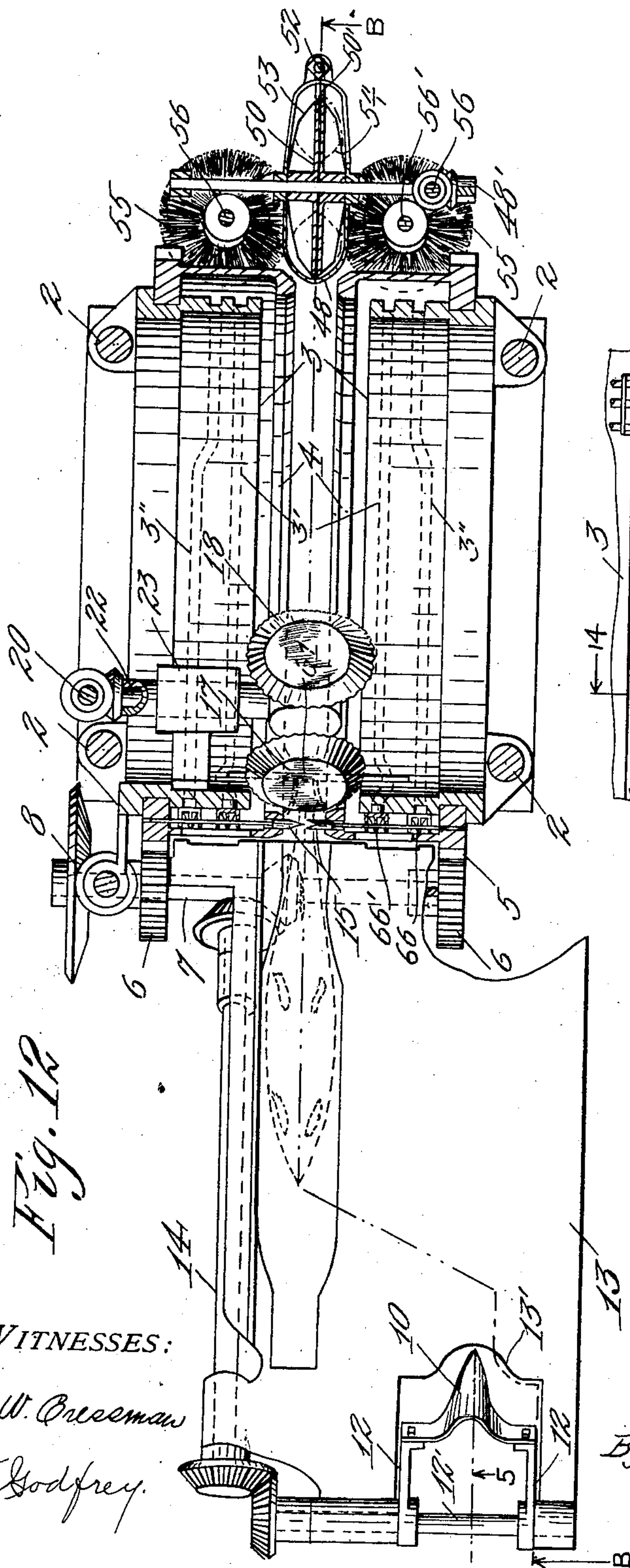


Fig. 12

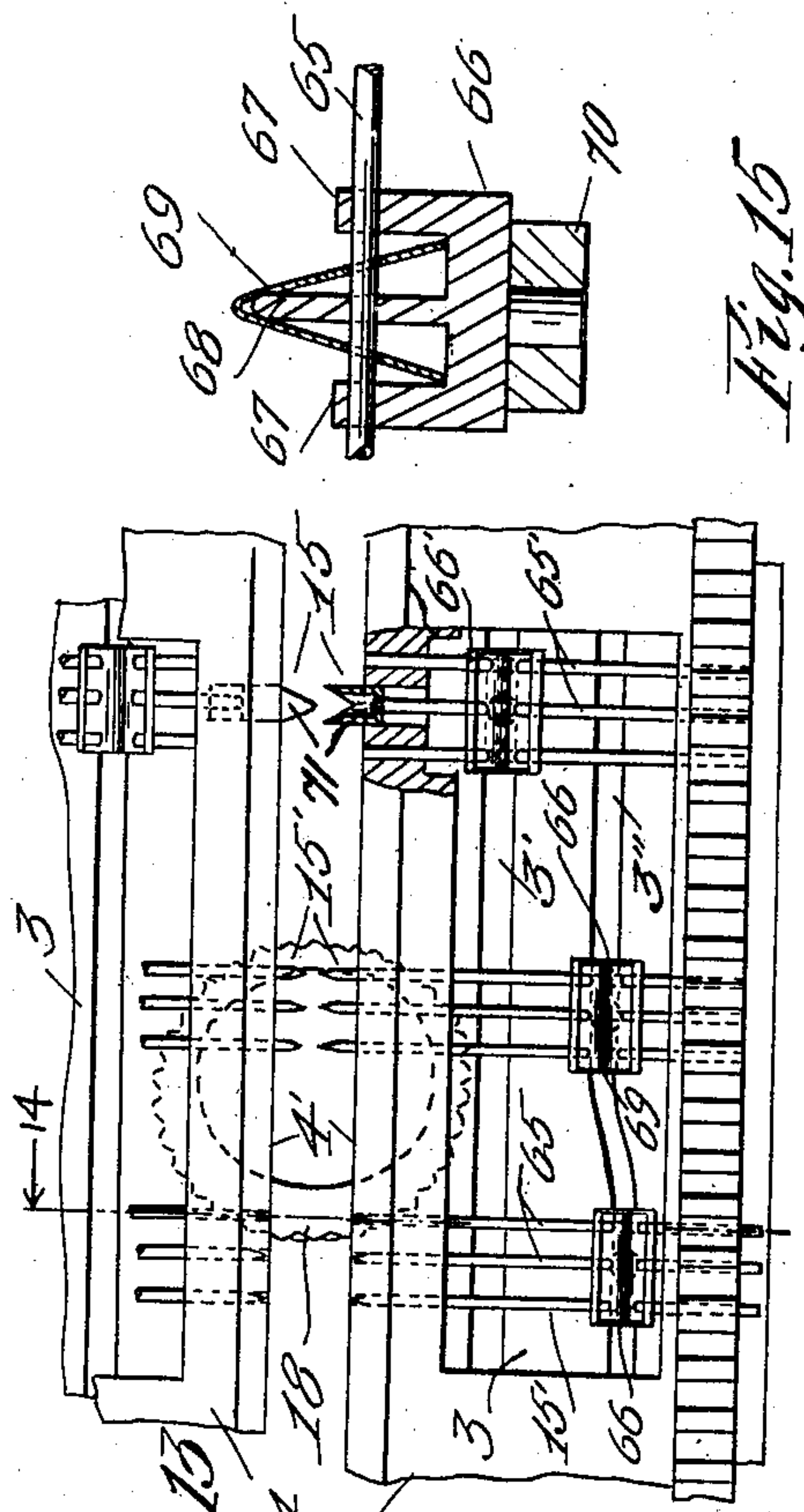


Fig. 13

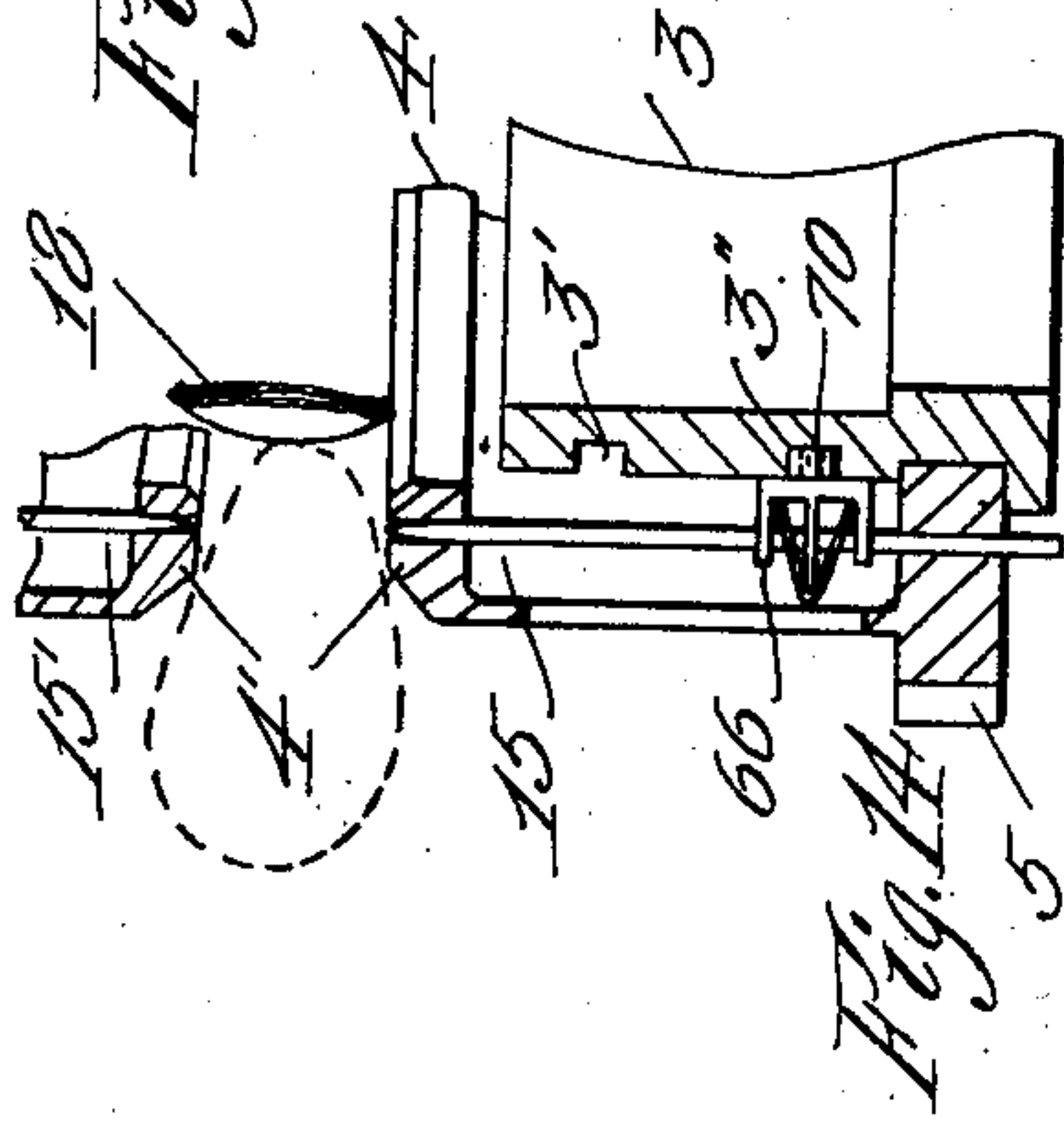


Fig. 14

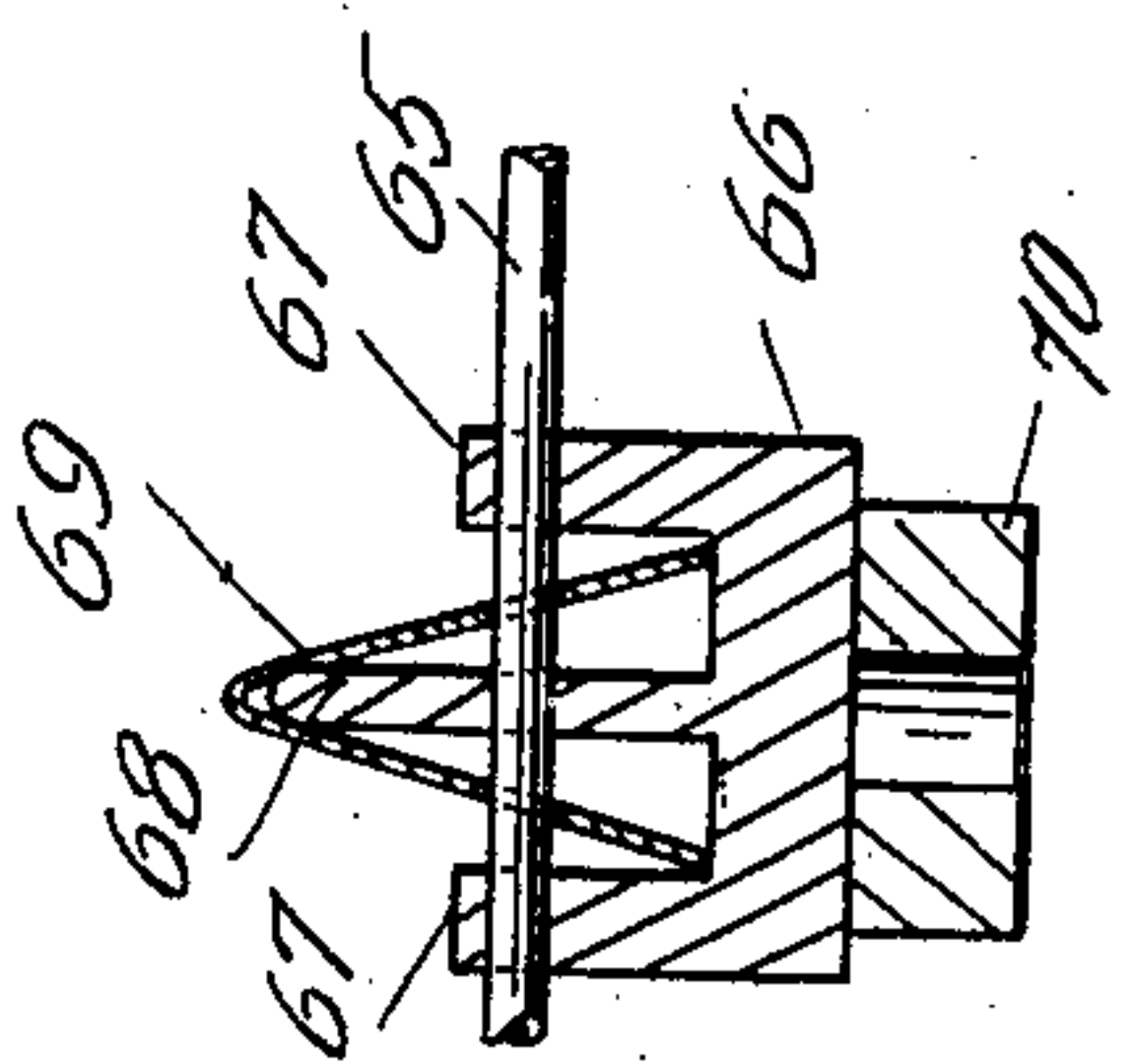


Fig. 15

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UNITED STATES PATENT OFFICE.

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FISH-DRESSING MACHINE.

998,129.

Specification of Letters Patent.

Patented July 18, 1911.

Application filed October 14, 1907. Serial No. 397,436.

To all whom it may concern:

Be it known that I, EDMUND AUGUSTINE SMITH, a citizen of the Dominion of Canada, and a resident of the city of Seattle, in the
5 county of King and State of Washington, have invented certain new and useful Improvements in Fish-Dressing Machines, of which the following is a specification.

My invention has for its primary object
10 to simplify and improve apparatus of the above type.

With reference to the accompanying drawings, wherein like reference numerals designate corresponding parts throughout
15 the several views,—Figure 1 is a longitudinal vertical section of a machine embodying the features of my invention, taken on lines A—A and B—B of Figs. 3 and 12 respectively. Fig. 2 is a plan view of the forward guides removed. Fig. 3 is a plan view
20 of the machine with portions of some of the parts broken away. Fig. 4 shows the decapitating cutter removed and viewed from its outer face. Fig. 5 is a longitudinal section of said cutter taken on line 5 of Fig. 12. Fig. 6 is a transverse section of the
25 same taken on line 6—6 of Fig. 5. Fig. 7 is a perspective view illustrating the application of the said cutter. Fig. 8 is a plan view in partial broken section of the outer fin-severing device removed. Fig. 9 is a
30 vertical section of the same taken on line 9—9 of Fig. 8. Fig. 10 is a rear end elevation of the machine with the weight rod of one of the hangers broken away. Fig. 11
35 is a longitudinal section of the inner fin-severing device taken on line 11 of Fig. 1. Fig. 12 is a horizontal section taken on lines C—C and D of Figs. 1 and 10 respectively
40 and shows the forward grippers advanced to engage the fish. Fig. 13 is a fragmentary view illustrating the relative positions of the fish engaging devices during the fin-severing operation. Fig. 14 is a sectional
45 view taken on line 14 of Fig. 13, and Fig. 15 is a sectional view of one of the engaging devices taken longitudinally of one of the prongs, portions of the latter being broken away. Fig. 16 is a sectional detail
50 view of the guide member 72.

With reference to the drawings, I have shown the main frame of the machine

formed with a top-part 1 supported on up-
rights 2 secured to a suitable base and sup-
porting circular tracks 3, 3 which are spaced
55 apart and secured, each to a respective pair
of the said uprights.

Mounted in the main frame is a carrier
comprising sections 4, 4 conveniently sup-
ported on the tracks 3, 3 for rotation and
60 provided with gear teeth 5 meshing with
respective gears 6 secured to a shaft 7 jour-
naled on the main frame. This shaft has
connection by means of suitable gearing 8
with a shaft 9 rotatably supported on said
65 frame and provided with a pulley 9' (see
Fig. 10) to which power is applied to ro-
tate the carrier in the direction indicated
by the arrow in Fig. 1.

Reference numeral 10 designates a cutter
70 provided with cutting edges 10' diverging
rearwardly from a common point and hav-
ing base portions extended in relatively op-
posite directions. Intermediate the said
edges is a portion 11 which is suitably
75 curved in cross section at a gradually in-
creasing degree rearwardly from the point
of the cutter and serves to adjust the work
relatively to cutting edges 10' as will be later
understood. As shown, the cutter 10 is
80 curved longitudinally and secured to arms
12 rotatable with a shaft 12', which is jour-
naled on a plate like extension 13 of the
main frame and connected with shaft 8 by
means of suitable gearing 14, whereby the
85 said cutter in operation is moved point fore-
most to pass the adjacent edge 13' of ex-
tension 13. The cutter 10 is employed in
decapitating the fish, the latter being placed
flatwise on the extension 13 so that as the
90 cutter descends the point thereof will enter
between the body and head portion of the
fish and the part 11 engage the pectoral
girdle as indicated in Fig. 7 and thereby
adjust the fish relatively to the cutting edges
95 10' so that cuts severing the head from the
body will be produced at the ends of said
girdle as the cutter passes through the fish,
thereby avoiding the cutting away of un-
due portions of meat from the body. 100

Mounted on the carrier are devices 15 ar-
ranged in opposing relations on respective
sections 4 for gripping the fish body and
engaging respective cam grooves 3' suitably

provided in the tracks 3 to move the grippers 15 apart as they approach the extension 13, upon which the fish body is fed to the machine, and move the said grippers to engage the fish when they reach the point of feed. Lying above the point of feed, within the sweep of the grippers 15, are cutters 17 and 18 and adjacent the latter, but on the opposite side of the path of the carrier, is a cutter 19. Each of these cutters comprises a pair of circular blades secured to suitable spindles and formed with outwardly flaring cutting rims rotatably fitting one within the other in substantially the same manner as disclosed in my former Patent No. 796538. The cutters 17 and 18 are mounted on heads 17' and 18' respectively and connected with a shaft 20 journaled on the main frame by means of suitable gearing, including drive shafts 21 and 22 rotatably supported, each on a respective one of said heads and having gear connections with shaft 20. The heads of these cutters are supported on a bracket 23 secured to the adjacent track section 3, and the connection between the cutter 17 and its drive shaft is identical to that disclosed for the cutter 18, see Fig. 11 in which bevel gears secured to respective spindles of the cutter are shown engaging a similar gear 18'' secured to drive shaft 22. With reference to Fig. (1), it will be observed that the cutter 17 is positioned with its cutting edge presented for cutting adjacent the point at which the fish is fed to the machine so as to produce a cut severing the caudal fin, as will be later understood. In the case of the cutter 19, I have shown the same mounted on a head 19' carried by a hanger 25 swingably supported on a shaft 25^a journaled on the frame part 1 and connected by suitable gearing with a shaft 26 having driving connection with shaft 9 by means of gears 26'. Associated with this cutter are spring-pressed fin guides as 27 having segmental stem portions slidably fitting in a suitable channel in the head 19'.

Operating above the guides 27 is a means for engaging the fins, as lifted by the guides, to maintain them for a more perfect cutting action of the cutter, the same comprising a member 28 rotatably mounted on head 19' and formed with bars 29 spaced apart and radial wings 29' projecting between said bars.

Rearwardly of the member 28 I have shown a means 30 for removing the severed fins from about the cutter 19, the same comprising oppositely disposed arms, as in my present pending application Serial No. 335517, secured to a bevel gear 30' rotatably mounted on head 19', and meshing with a gear 31 secured to a shaft 32 journaled on head 19'. This shaft is connected with the arbor of member 28 by a train of gears 33 and is also connected with cutter 19 by

means of oppositely disposed gears 34, meshing with gear 31 and secured to respective arbors of said cutter.

The head 19' is pivotally connected with hanger 25 concentric with shaft 32, which is driven through the medium of a gear 35 meshing with gear 31 and secured to a shaft 25' journaled on said frame and connected with shaft 25^a by gears 35'.

With reference to Fig. 1, it will be observed that the head 19' is positioned with the lower corner or heel of the cutter 19 in the path of the carrier at the forward side of said head so that the fish body will engage the said heel and thereby swing the frame 25 outwardly.

As it is essential for a perfect operation of the cutter 19 that the degree of pressure applied by the heel thereof to the fish body be adjusted to a nicety I have provided means whereby this may be readily effected, the same including a rod 36 pivotally connected with the head 19' and secured to a bracket 37 swingably supported on a cross member 38 of the frame part 1. The rod 36 is provided at its upper end with extensions 39 projecting laterally from opposite sides of the pivotal support of bracket 37 and adapted to receive a weight 40 which is transposable from one of said extensions to the other to increase or decrease the degree of resistance offered by head 19' to movement by the fish as it engages the heel of cutter 19.

Reference numeral 41 designates a cutter or splitter arranged in line with the center of the path of the carrier to split the fish and rotatably mounted on a frame 42 swingably supported on a shaft 43 journaled on frame part 1 and connected with shaft 26 by means of gears 43''. The shaft 43 is connected with the arbor of cutter 41 by suitable gearing including a shaft 43' rotatably mounted on frame 42.

Extending rearwardly from the splitter 41 is a spreader of substantially the same construction and operation as the spreader described in my aforesaid pending application and likewise swingably connected with the arbor of the splitter and provided with outwardly diverging extensions 44 and laterally projecting shoes 45. In the present instance however I have shown weights 42' and 44' connected with the frame 42 and extensions 44 respectively to keep the same from bounding outwardly when the fish body strikes the shoes 45. In advance of the splitter is a spring pressed presser 46^a of substantially the same construction and operation as the presser described in my aforesaid pending application and likewise swingably mounted on the frame of the splitter.

Reference numerals 46 and 48 designate scrapers mounted in the path of the fish

body beyond the splitter 41 on hangers 46' and 48' respectively which are swingably supported on a shaft 47 journaled on frame part 1 and connected with shaft 26 by gears 5 47'. Associated with the scrapers 46 and 48, respectively, are rotary devices 49 and 50 which serve to remove the entrails dislodged by the scrapers. As shown, each scraper extends about the edge of its respective re-
10 moving device adjacent the carrier and is provided with outwardly extending arms swingably mounted on the spindle of said device so that the scraper may be adjusted to present its upper edge in the proper posi-
15 tion for scraping. To secure the scrapers in adjusted positions I have shown curved bolts 51 and 52 seated on the hangers 46' and 48' respectively and provided with screw threads engaging lock nuts arranged
20 at opposite sides of respective lugs provided on the outer extremities of the scrapers.

The removing device 50 is formed with a disk like center portion provided with a circular cutting edge 50' and having at each
25 side laterally projecting wings 53 and 54 arranged alternately in spaced apart relations. These wings extend inwardly from the outer edge of the center portion and, as will be observed, each is formed of considerable
30 width throughout the major portion of its length so as to offer support for the entrails dislodged from the fish body. The device 49 is substantially the same as device 50 excepting that the cutting edge is omitted and
35 the wings 53' and 54' are extended across the edge of the center portion.

The devices 49 and 50 are driven through the medium of shafts 55', 56 journaled on the frames 46', 48' and connected, by suit-
40 able gearing, with shaft 26 and with the spindles of respective removing devices to rotate the latter in the directions indicated by the arrows shown in Fig. 1.

Reference numeral 55 designates adjusters
45 conveniently in the form of circular brushes secured to respective shafts 56' disposed at opposite sides of the scraping and removing devices and rotatably supported on angle brackets 57, swingably engaged with a shaft
50 58 journaled on frame part 1, and connected with shaft 26 by means of gears 58'. These adjusters are arranged adjacent their respective scraping and removing devices to en-
55 gage the fish body at opposite sides as said devices enter the same, and the shafts 56' are connected with shaft 58 by means of gears 59 suitably arranged to rotate the ad-
60 justers in the direction indicated by the arrows shown in Fig. 3, whereby the opposing sides of the adjusters will hold the side walls of the fish body in position during the scrap-
ing and removing operation. To support the shafts 56' at their lower extremities I have shown the same engaged with suitable
65 journals provided on a bar 59 having se-

cured thereto lateral extensions 60 which en-
gage adjacent uprights 2 of the main frame.

After the fish has been decapitated as heretofore described the body portion is moved back downward on the extension 13
70 to project the tail part between the carrier sections 4 into engagement with a suitable stop 61 provided within the sweep of the grippers 15, as indicated by dotted lines in Fig. 1. As the said grippers pass the point
75 of feed they are moved into engagement with the fish body, as heretofore described, and hold the same to movement with the carrier, thereby bringing the tail portion of the fish body against the cutter 17 to pro-
80 duce a cut severing the caudal fin. During upward movement of the fish body from the point of feed it passes between suitable guides 62 carried by spring pressed arms 62' pivotally supported on a cross member of
85 the main frame and connected by suitable gear sectors 63 to obtain equal adjustment of the guides 62 to insure the fish body swinging to position between the carrier sections 4, the opposing edge portions 4' of
90 which serve as a seat for the fish body as it moves toward the cutters 18 and 19. As the fish body approaches cutters 18, 19 the guides 27 lift the side fins to engagement between the wings and bars of the device 28,
95 whereby they are supported for severing action of cutter 19, while the cutter 18 severs the dorsal fin, and in addition thereto supports the body as it is drawn between said cutters and adjusts the same outwardly, as
100 indicated in Fig. 14, to position it for subsequent operations.

Associated with the grippers 15 are other means for engaging the fish body to secure the same in adjusted position following the
105 fin severing operation, the said means comprising devices as 15' arranged in opposing relations on the carrier sections 4 and engaging respective cam grooves 3''. These grooves are suitably provided in the track
110 sections 3 to move the devices 15' into engagement with the fish body as it passes the cutter 18 and move them to relatively disengaging positions as the body passes be-
115 neath said sections.

In Figs. 13, 14 and 15 I have shown the devices 15' of such forms as now preferred by me, each of the same including a plurality of prongs 65 supported on a head 66 and
120 slidably engaged in suitable apertures provided in the edge portions of the respective carrier section 4. Each head 66 is provided with a suitable roller 70, for engaging the adjacent cam groove 3'', and formed with upwardly projecting extensions 67, 67 and
125 68 provided with suitable apertures which slidably receive respective prongs 65 so that the latter may be adjusted longitudinally for proper engagement with the fish body. To secure the prongs in adjusted position I
130

provide a resilient means 69 for each head in the form of a V-shaped spring which straddles the extension 68 and is provided with apertures through which the prongs 65 pass. These apertures are suitably arranged so that the edges of the walls thereof normally engage respective prongs to secure the same from movement. When desired to release the prongs for adjustment, the operator presses the leaves of the spring toward each other.

The devices 15 are identical in form and construction to that just described for the devices 15' excepting that in lieu of prongs 65 I provide a plurality of stems 65' for each device 15. These stems are slidably mounted in suitable apertures provided in the edge portions of respective carrier sections 4 and adjustably engaged with respective heads 66' in the same manner as that described for the prongs 65 of the heads 66. On the opposing ends of the center stems 65' I provide gripping members 71 which are suitably mounted on respective stems for rotary movement to avoid mutilation of the fish body as it swings toward and from the carrier.

Referring now to further operation of the machine, the fish body passes from cutter 18 between guide members 72 mounted on spring pressed swing arms 73, arranged substantially the same as those disclosed in Fig. 2 to center the body relatively to the splitter 41 as the heads 66 are moved to engage the prongs 65 with the body to secure it in adjusted position. From the guides 72 the fish body passes into engagement with the presser 46^a, splitter 41 and spreader 44 successively, the latter of which spreads the side walls of the body apart for entrance of the scraper 46 as the body passes between the adjacent adjusters 55, which act to draw the said walls about the scraper as the wings on device 49 break the entrails crowded out by the scraper. As the fish body passes scraper 48, the device 50 severs the membrane along the back bone and conveys away the entrails and pigment dislodged while the adjacent adjusters 55 hold the walls of the body in proper position to be acted upon by said scraper. As the fish body passes beneath the carrier the heads 66 are moved in the manner heretofore described to disengage the prongs 65, and as the grippers 15 approach the point of feed they are moved apart to release the said body from the carrier.

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

1. In a fish dressing machine, a main frame, a carrier comprising annular sections spaced apart to receive a body therebetween, means on said carrier for holding a body,

relatively fixed supporting means having a curved peripheral portion on which said annular carrier sections are mounted for riding thereon, means arranged in the path of said carrier for operation on a body conveyed thereon, and means to rotate said carrier sections.

2. In a fish dressing machine, a main frame, a carrier comprising annular sections spaced apart to receive a body therebetween, means on said carrier for holding a body, relatively fixed circular track means on which said carrier sections are mounted for riding thereon, means arranged in the path of said carrier for operation on a body conveyed thereon, and means to rotate said carrier sections.

3. In a fish dressing machine, a main frame, a carrier movably supported thereon, means for supporting a fish at an angle to said carrier, means on said carrier to engage the fish for movement to swing it to the carrier, means to move the carrier, a relatively fixed cutter, and means supporting said cutter across the path of swing of the fish to the carrier.

4. In a fish dressing machine, a frame, a carrier rotatably supported thereon, means extending at an angle to said carrier to support a fish, means on said carrier to engage the fish for movement therewith, a relatively fixed cutter and means supporting said cutter adjacent said supporting means to engage the fish as it is moved therefrom by being engaged by said last named means.

5. In a fish dressing machine, a main frame, a vertically movable carrier mounted thereon, means for supporting a fish endwise relatively to the path of the carrier, means on said carrier for engaging the fish for movement therewith, means to move the carrier, and a relatively fixed means arranged to cut transversely of the fish as moved from said supporting means by said engaging means on said carrier.

6. In a fish dressing machine, a main frame, a carrier rotatably mounted thereon, means for supporting a fish in the path of the carrier at the upwardly moving side thereof, means on said carrier for engaging the fish for movement therewith, means to move the carrier, a relatively fixed cutter, and means supporting said cutter in the path of the fish from said supporting means to said carrier.

7. In a fish dressing machine, a main frame, a carrier movably supported thereon comprising spaced apart sections, means for supporting a fish at one side of said sections for movement endwise between and for projection beyond the opposite side thereof, means on said carrier for engaging the fish for movement therewith, means for moving said carrier, and a relatively fixed cutting

means arranged to sever that portion of the fish projected through said sections during movement of the fish with the carrier.

8. In a fish dressing machine, a main frame, a carrier rotatably supported on the frame a cutter supported at the inner side of the path of movement of said carrier, means for moving said carrier, means proximately to the cutter for supporting a fish in the path of the carrier, means on said carrier for engaging the fish for movement therewith, and means immovable with the carrier supporting said cutter across the path of movement of the fish from said supporting means.

9. In a fish dressing machine, a main frame, a cutter, means proximately to said cutter for supporting a fish, means rotatably supported on said frame for movement between said first means and said cutter to swingingly engage the fish, and means to move said means, said cutter being secured to a fixed part and extending across the path of swing of the fish to said carrier.

10. In a fish dressing machine, a main frame, a carrier rotatably supported thereon, a relatively fixed cutter adjacent the carrier, means proximately to said cutter for supporting a fish at an angle to said carrier, means rotatably supported on said carrier for engaging the fish for movement therewith, means for operating said engaging means to engage the fish by movement of the carrier, and means to operate said carrier, said cutter extending to engage the fish during movement thereof from said supporting means toward the carrier.

11. In a fish dressing machine, a main frame, a carrier movably mounted thereon and provided with seating portions spaced apart to receive a body, means on said carrier for holding the body on said seating portions for movement with the carrier, relatively fixed means in the path of the carrier for engaging the body to adjust it from its seat while held by said first means, means movable on said carrier for engaging said body as adjusted to support the same, and means to move said last means by movement of the carrier.

12. In a fish dressing machine, a main frame, a carrier movably mounted thereon and provided with seating portions spaced apart to receive a body, means on said carrier for holding the body for movement with the carrier, relatively fixed cutters disposed in opposing relations at opposite faces of said carrier in the path of the body, one of said cutters being movable from the carrier and yieldingly pressed toward the same, and the other of said cutters being immovable to hold the body against pressure of the opposite cutter.

13. In a fish dressing machine, a main

frame, a carrier movably mounted thereon and provided with seating portions spaced apart to receive a body, means on said carrier for adjustably holding the body for movement with the carrier, relatively fixed cutters disposed in opposing relations at opposite faces of said carrier and provided with means for engaging the body to limit the depth of cut, one of said cutters being movable from the carrier and yieldingly pressed toward the same, and the other of said cutters being immovable to hold the body against pressure of the opposite cutter.

14. In a fish dressing machine, a main frame, a carrier movably mounted thereon and provided with seating portions spaced apart to receive a body, means on said carrier for engaging the body for movement therewith, relatively fixed means for engaging the body beneath said seating portions to adjust the same while held by said first means, means movable on said carrier for engaging the body to hold the same in adjusted position, and means to operate said last means to engage the body as adjusted.

15. In a fish dressing machine, a main frame, a carrier movably mounted thereon, and provided with seating portions spaced apart to receive a body, means on said carrier for engaging the body for movement therewith, relatively fixed means for engaging the body beneath said seating portions to adjust the same, a cutter adjacent said last means at the opposite face of the carrier secured to a fixed part, means movable on said carrier for engaging the body to hold the same in adjusted position, means to operate said last means to engage the body as adjusted, a splitter rearwardly of said adjusting means in the path of the body supported on the frame for movement toward and from the carrier, and means for engaging the body to move the splitter outwardly from said carrier.

16. In a fish dressing machine, a main frame, a carrier movably mounted thereon, means on said carrier for adjustably holding a body, cutters mounted on said frame and disposed in opposing relations at opposite sides of the path of the body, each of said cutters having a web portion inclined toward the carrier, and a rim portion projecting forwardly from the web portion, in the path of the body.

17. In a fish dressing machine, a main frame, a carrier comprising annular sections spaced apart to receive a body therebetween, means supporting said carrier for rotation on said frame comprising relatively fixed circular tracks spaced apart and each having a respective carrier-section mounted for riding thereon, means for rotating said carrier, means for holding a body for movement with said carrier, and means arranged

in the path of said carrier for operation on a body conveyed thereon.

18. In a fish dressing machine, a main frame, a carrier comprising annular sections spaced apart to receive a body to be dressed therebetween, independent means secured to said frame and engaging each its respective carrier section to rotatably support the same, means to rotate said sections, and means on said carrier for holding the body for movement therewith.

19. In a fish dressing machine, a main frame, a carrier comprising sections rotatably supported on said frame and spaced apart to receive a body to be dressed therebetween, means supported on said sections for movement between the same to engage the body, means to rotate said sections, and means to operate said engaging means by and during movements of said sections.

20. In a fish dressing machine, a main frame, a carrier comprising annular sections spaced apart to receive a body to be dressed therebetween, means secured to said frame for rotatably supporting said sections, means for gripping the body supported on said sections for movement into the space between the same, means for rotating said sections, and means to operate said gripping means by and during movement of the sections.

21. In a fish dressing machine, a main frame, a carrier movably mounted thereon, means on said carrier for holding a body to be dressed for movement therewith, means for dressing the body swingably supported on said frame to yieldingly press upon the body, a rod swingably mounted on said frame and pivotally connected with said dressing means, a weight, and means connected with said rod for supporting the weight at either side of the point of swing of the rod.

22. In a fish dressing machine, a frame, a carrier movable thereon, a holder movable with the carrier, means adjustably mounted on said holder for engaging a fish for movement with the carrier, and means seated on said holder and engaging said first means to secure the same in adjusted position, said securing means being yieldable to release the engaging means.

23. In a fish dressing machine, a frame, a carrier movable thereon, a holder movable with the carrier, means for engaging a fish for movement with the carrier adjustably mounted on said holder, and a V-shaped spring seated on said holder and engaging said first means to secure the same in adjusted position.

24. In a fish dressing machine, a frame, a carrier movable thereon, a holder movable with the carrier, a prong adjustably mounted on said holder for engaging a fish, and a V-shaped spring seated on the holder and

provided with opposite apertures receiving said prong to normally secure the same in adjusted position.

25. In a fish dressing machine, a main frame, a carrier movable thereon, a V-shaped spring provided with opposite apertures, a plurality of prongs for engaging a body for movement with the carrier extending transversely through said spring and normally engaged thereby, and means to support said spring on the carrier for compression to release said prongs.

26. In a fish dressing machine, a main frame, a carrier movable thereon, a holder movably supported on said carrier, a V-shaped spring seated on said holder, means for engaging a fish for movement with the carrier extending transversely through said spring and normally engaged thereby, and means to move said holder by movement of said carrier.

27. In a fish dressing machine, a main frame, a carrier movably mounted thereon, means on said carrier for holding a fish body for movement therewith, a head secured to a fixed part, a cutter on said head, guides on said head diverging forwardly from said cutter to opposite sides of the path of the body for engaging the fins, and means for supporting the fins including wings mounted on said head adjacent the cutter and diverging toward said guides.

28. In a fish dressing machine, a main frame, a carrier movably mounted thereon, means on said carrier for holding a fish body for movement therewith, a cutter in the path of the body secured to a fixed part, guides projecting forwardly of said cutter to engage the fins of the body, and rotatable means for supporting the fins adjacent the cutter including radially disposed wings, and bars disposed between said wings, and means to rotate said supporting means.

29. In a fish dressing machine, a main frame, a carrier movably mounted thereon, means to move said carrier, means on said carrier for holding a body to be dressed for movement therewith, a cutter secured to a fixed part and arranged in the path of the body to split the same, a substantially U-shaped member secured to a fixed part and arranged rearwardly of the cutter with its base portion extending transversely of the path of the body, a member mounted to rotate between the arms of said first member in concentric relation to the base portion thereof and provided with wings projecting from opposite sides thereof, and means to rotate said last member.

30. In a fish dressing machine, a main frame, a carrier movably mounted thereon, means to move said carrier, means on said carrier for holding a body to be dressed for movement therewith, a cutter secured to a fixed part and arranged in the path of the

body to split the same, a rotatable member
provided with wings projecting from oppo-
site sides thereof, means to support said
member in the path of said body, a substan-
5 tially U-shaped scraper extending about the
member in the path of the body and swing-
ingably connected with said supporting
means for adjustment, means to secure said

scraper in adjusted positions, and means to
rotate said member.

Signed at Seattle, Washington, this 30th
day of August 1907.

EDMUND AUGUSTINE SMITH.

Witnesses:

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B. B. BRIERLY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."