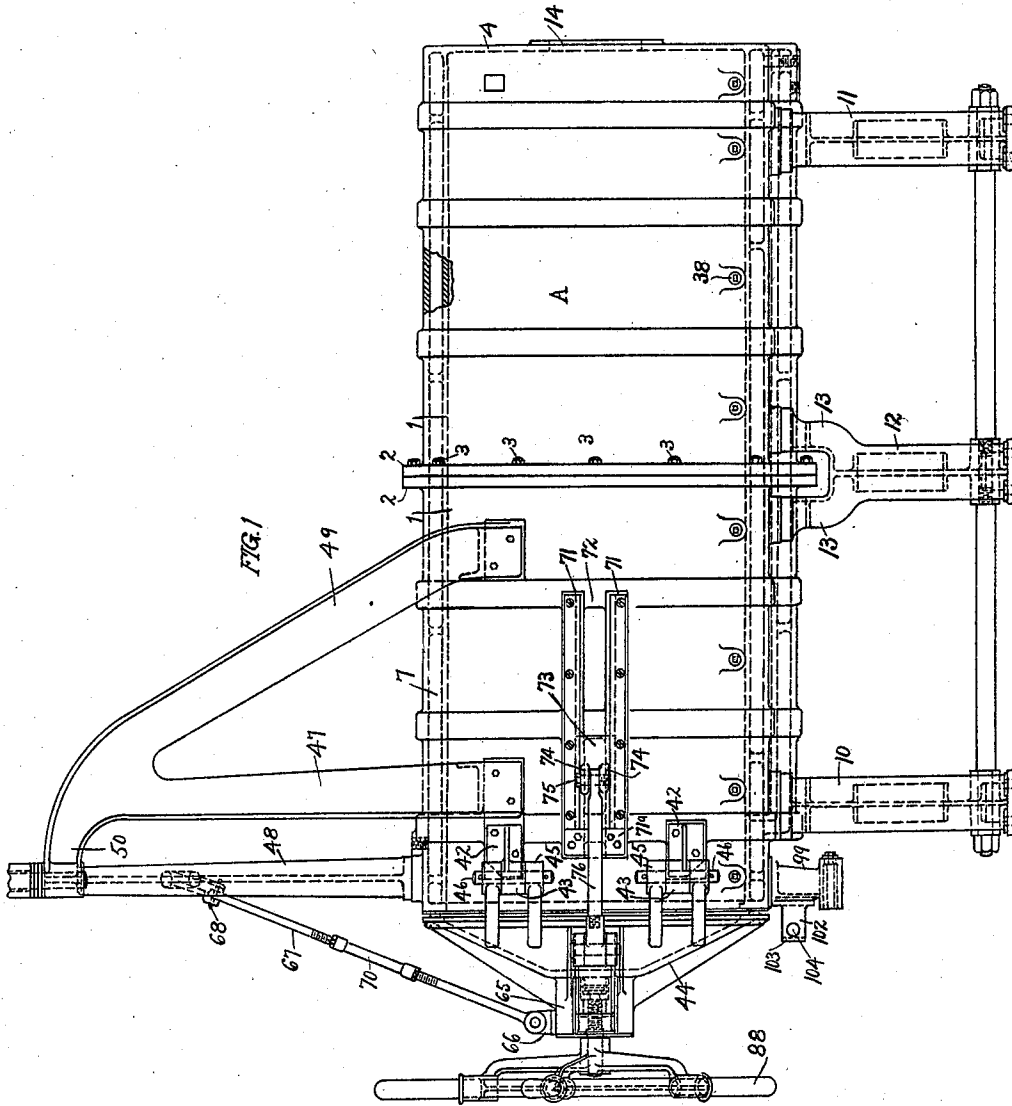


975,349.

D. GESSNER.
CLOTH TREATING APPARATUS.
APPLICATION FILED DEC. 18, 1909.

Patented Nov. 8, 1910.
10 SHEETS—SHEET 1.



WITNESSES
W. A. Pauling
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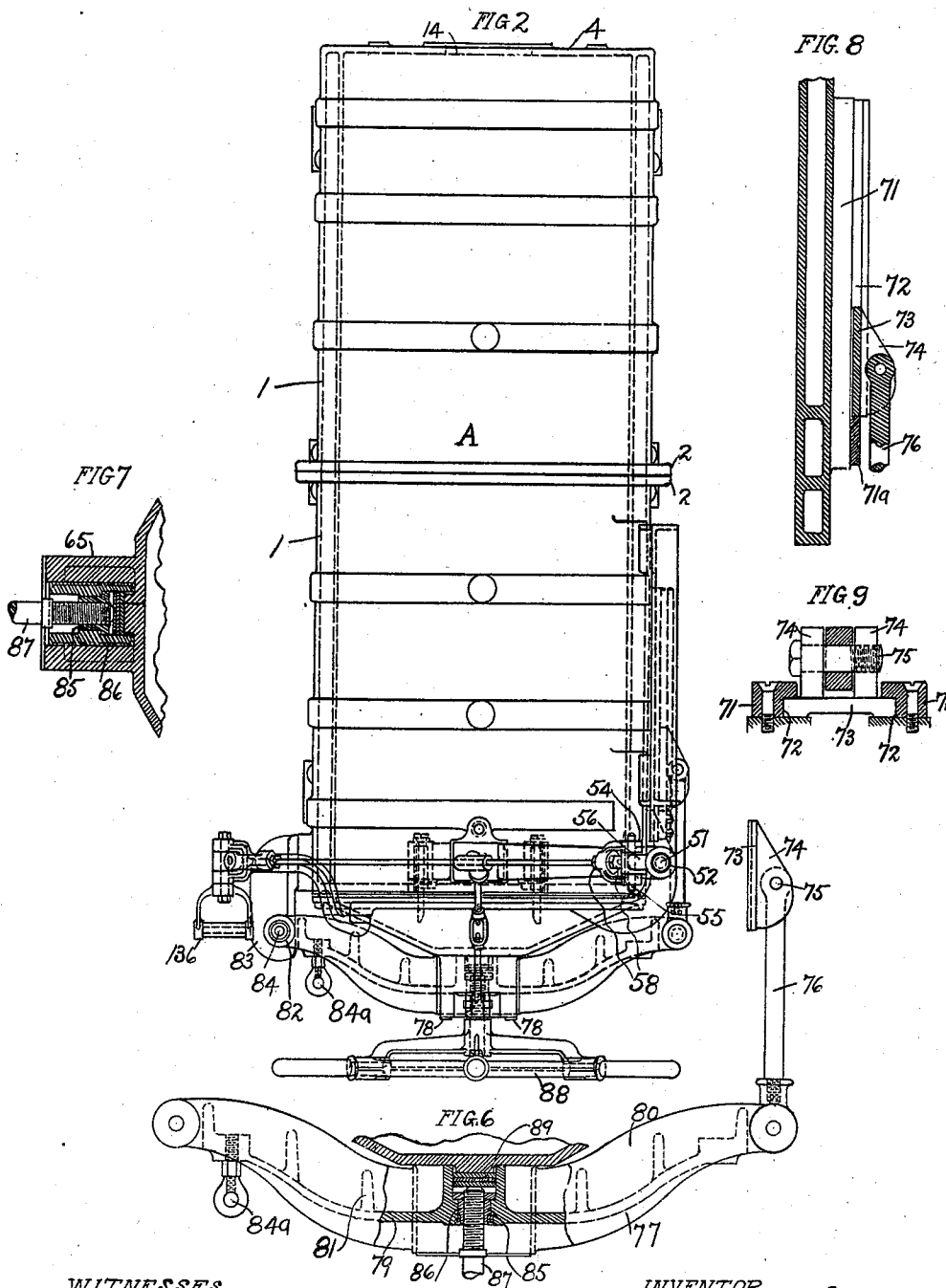
INVENTOR
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10 SHEETS—SHEET 2.



WITNESSES
W. E. Pauling
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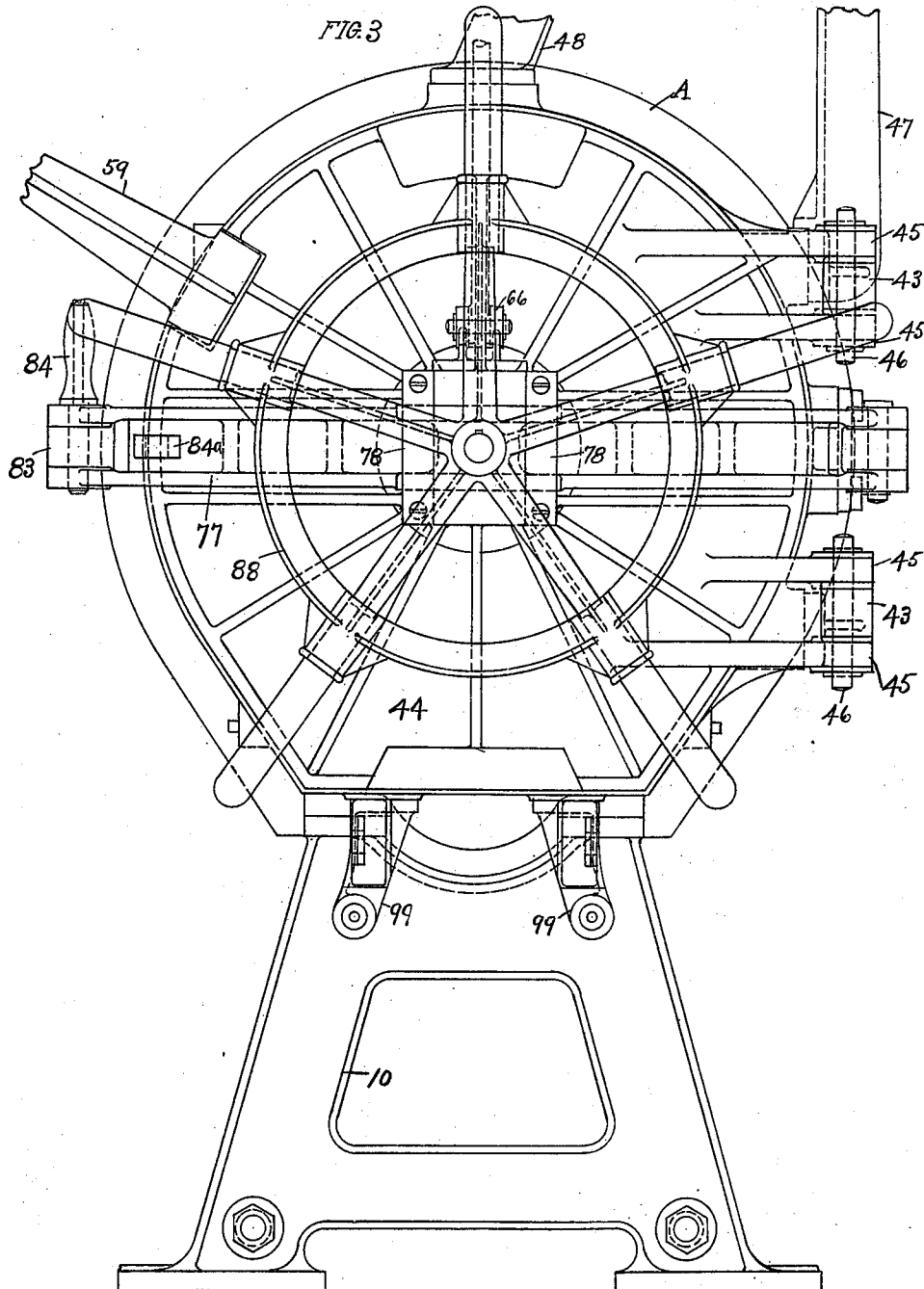
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APPLICATION FILED DEC. 18, 1909.

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10 SHEETS—SHEET 3.



WITNESSES

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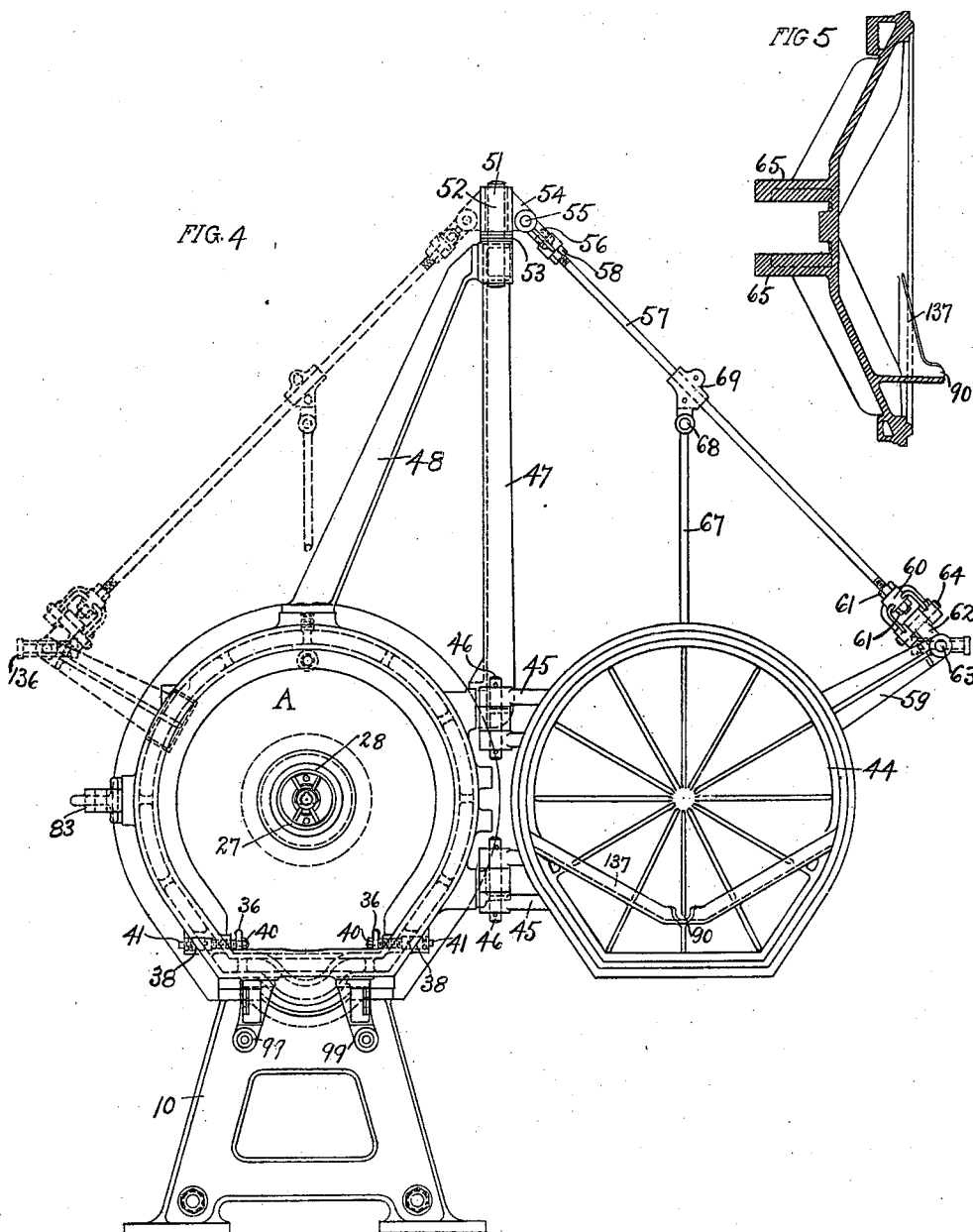
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Patented Nov. 8, 1910.

10 SHEETS—SHEET 4.



WITNESSES

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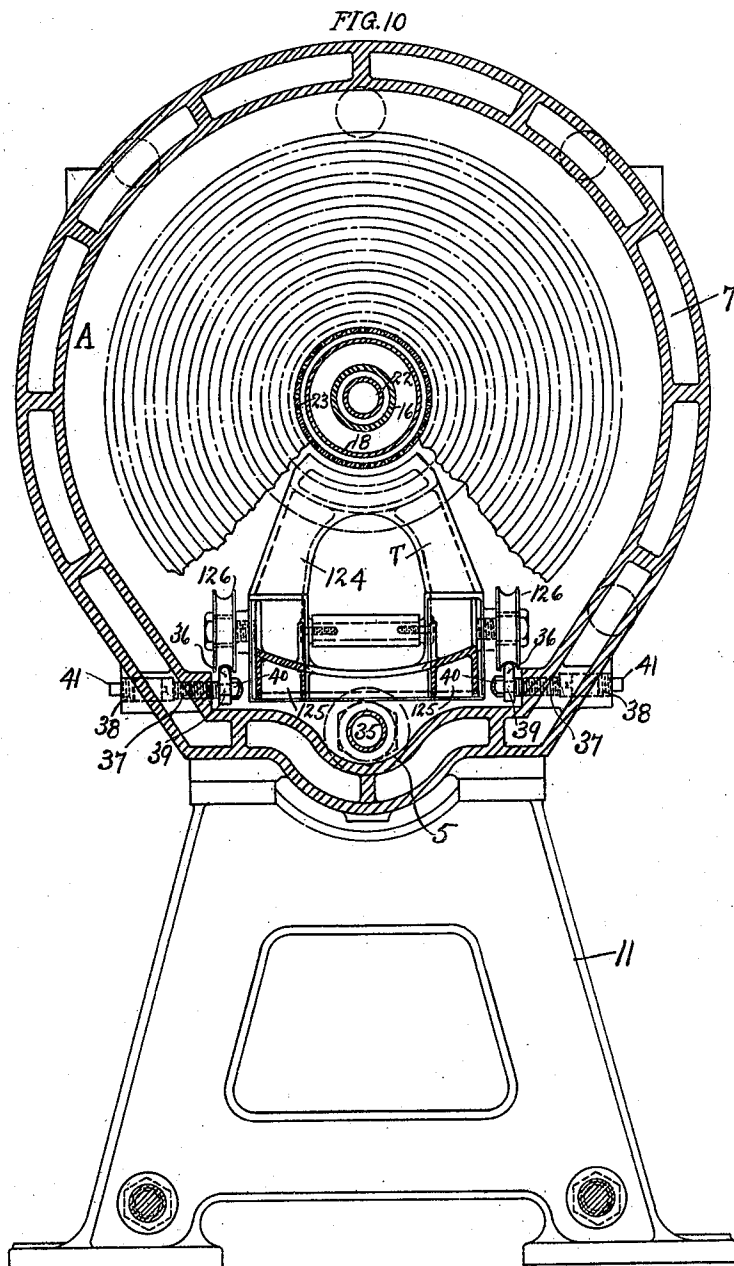
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D. GESSNER.
CLOTH TREATING APPARATUS.
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975,349.

Patented Nov. 8, 1910.

10 SHEETS—SHEET 5.



WITNESSES

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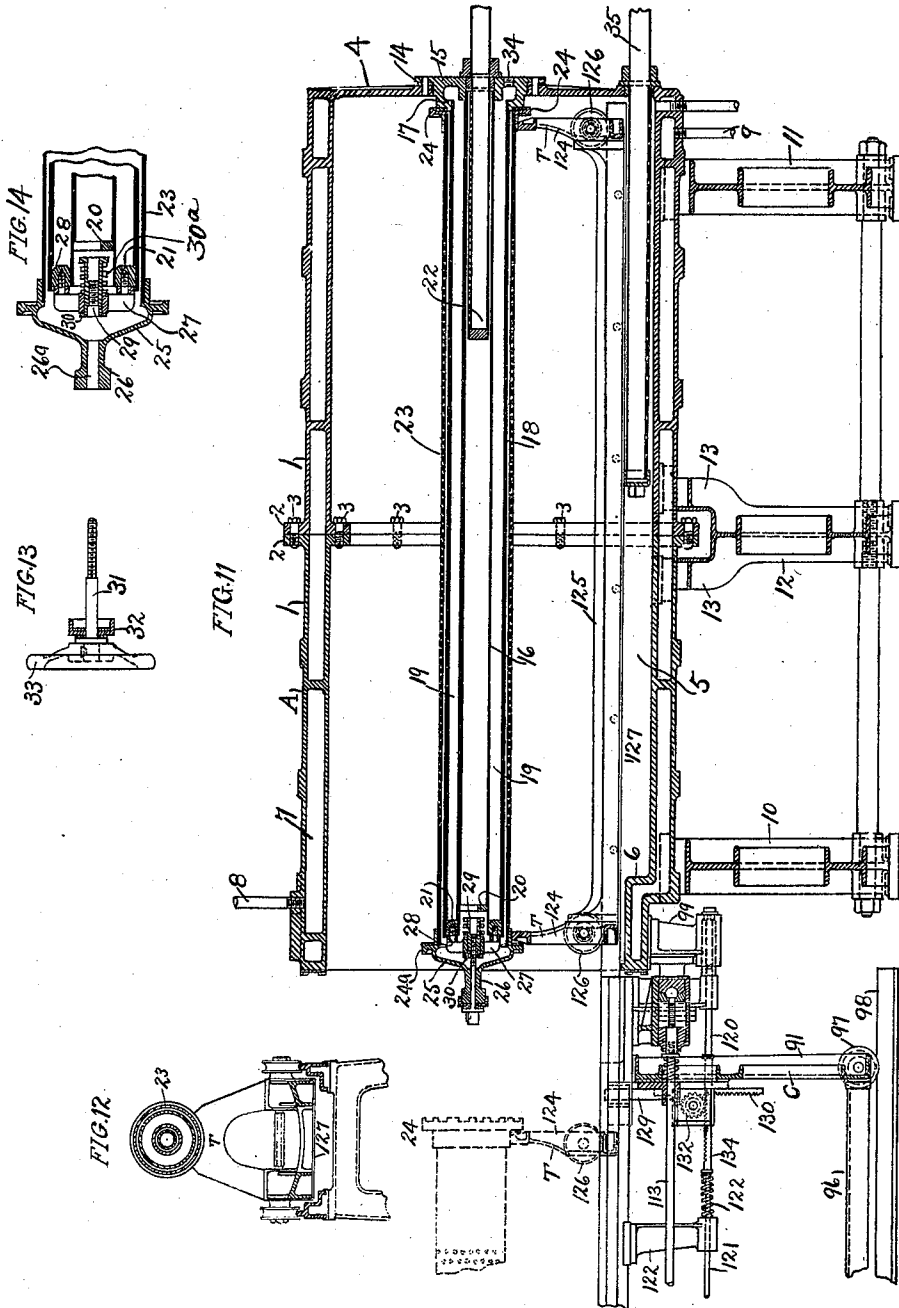
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CLOTH TREATING APPARATUS.
APPLICATION FILED DEC. 18, 1909.

975,349.

Patented Nov. 8, 1910.

10 SHEETS—SHEET 6.



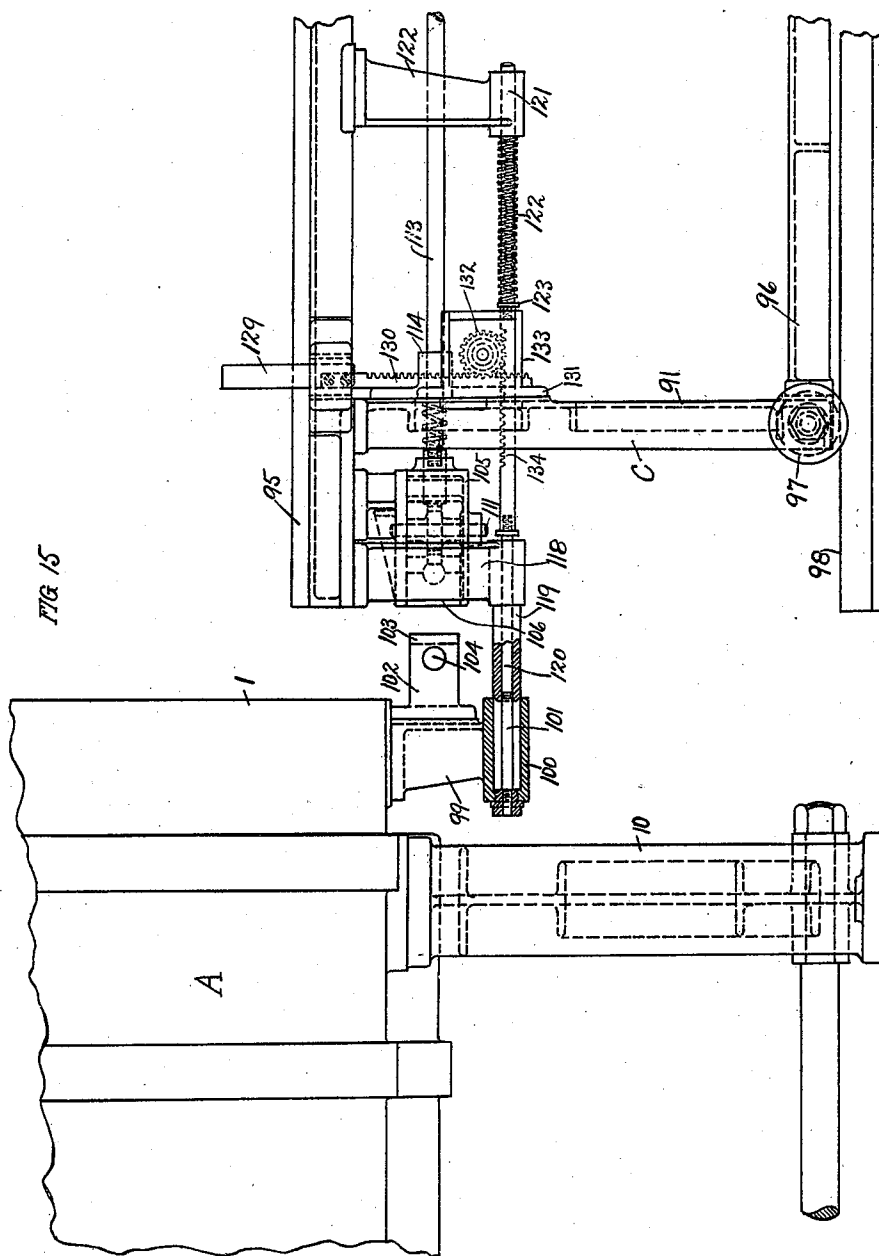
WITNESSES
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975,349.

D. GESSNER.
CLOTH TREATING APPARATUS.
APPLICATION FILED DEC. 18, 1909.

Patented Nov. 8, 1910.
10 SHEETS—SHEET 7.



WITNESSES
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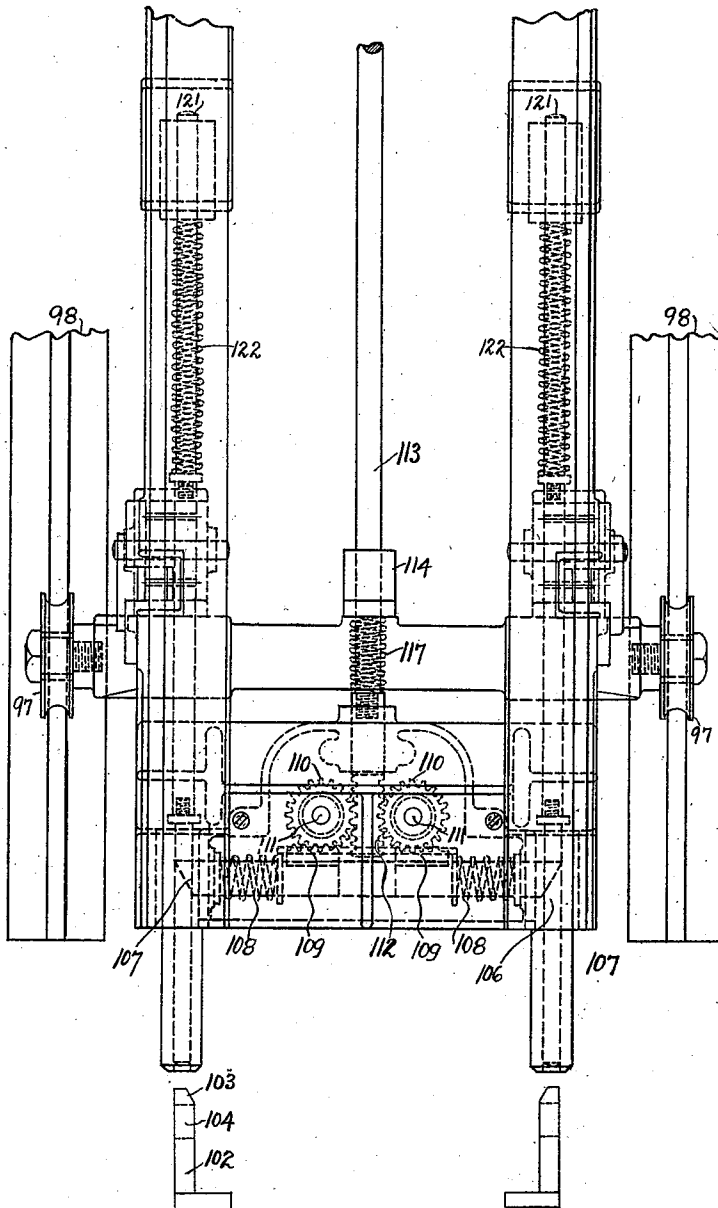
D. GESSNER.
CLOTH TREATING APPARATUS.
APPLICATION FILED DEC. 18, 1909.

975,349.

Patented Nov. 8, 1910.

10 SHEETS—SHEET 8.

FIG 16



WITNESSES

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C. H. Kellum

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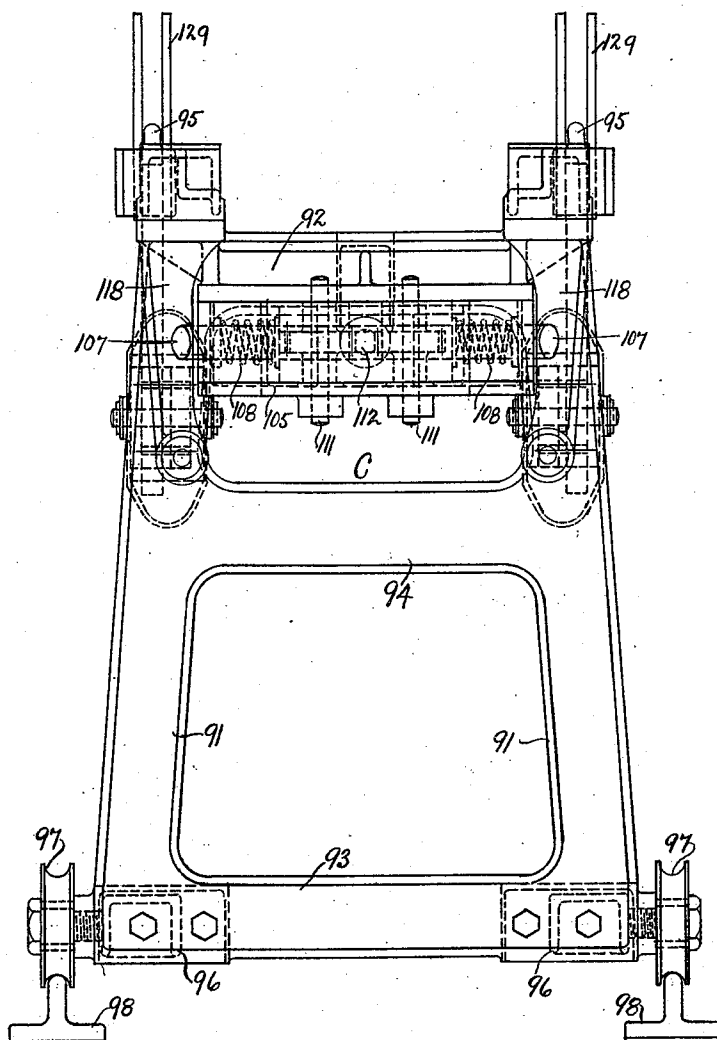
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975,349.

D. GESSNER.
CLOTH TREATING APPARATUS.
APPLICATION FILED DEC. 18, 1909.

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10 SHEETS—SHEET 9.

FIG. 17



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UNITED STATES PATENT OFFICE.

DAVID GESSNER, OF WORCESTER, MASSACHUSETTS.

CLOTH-TREATING APPARATUS.

975,349.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed December 18, 1909. Serial No. 533,941.

To all whom it may concern:

Be it known that I, DAVID GESSNER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Cloth-Treating Apparatus, of which the following is a specification.

My present invention relates to new and useful improvements in cloth treating apparatus of the general character or type disclosed in U. S. Patents Nos. 946,915 and 946,916, granted to me Jan. 18, 1910, respectively, the present application being intended to cover certain improvements made in the several means and apparatus disclosed in said prior applications. In these applications is shown a steaming chamber to receive a roll of cloth for the steaming treatment, means being provided for steaming from both the outer and inner surfaces of the roll, and for inserting the roll in and removing it from the chamber.

The primary object of the present invention is to provide an apparatus which will accomplish its several functions with greater expedition than heretofore known and be mechanically as convenient in operation and as simple as is consistent with the most satisfactory results.

A further object is to provide the steaming chamber with novel means for operating the closure therefor, and locking the same in position to seal the chamber.

Another object is to provide means for facilitating the escape or removal of water of condensation which may collect in the chamber, and particularly on the door, so that a rush of water onto the floor, which supports the apparatus, is prevented when the door is opened.

Another object is to provide efficient and improved means for supporting the door as it swings upon its hinges in its movements toward and away from position to close the chamber.

Another object is to provide an improved track construction upon which the roll truck travels within the steaming chamber and an improved carriage and truck construction for facilitating the insertion of the roll in the chamber and the removal therefrom.

The invention further consists in the improvements to be more fully described hereinafter, and the novelty of which will be

particularly pointed out and distinctly claimed.

I have fully and clearly illustrated my invention in the accompanying drawings to be taken as a part of this specification and wherein:—

Figure 1 is a view in side elevation of the improved steaming chamber forming part of my invention, showing the means for supporting the door and for securing the same in closed position. Fig. 2 is a top plan view of the steaming chamber showing the door supporting and locking means. Fig. 3 is an enlarged detail view in front elevation of the steaming chamber showing the door securing means. Fig. 4 is a view in front elevation of the steaming chamber showing the door in open position, the supporting means for the door being shown in dotted lines in the position it assumes when the door is closed. Fig. 5 is a vertical central sectional view through the improved door. Fig. 6 is a top view partly in section of the securing member for holding the door in applied position. Figs. 7, 8 and 9 are detail sectional views of parts associated with the door-secur ing means. Fig. 10 is a transverse vertical section through the steaming chamber and the roll supporting truck located therein, the improved track construction for the roll truck being shown in end elevation. Fig. 11 is a central longitudinal section through the steaming chamber and a portion of the floor carriage showing the same locked to the steaming chamber in position to guide the roll truck to and from the latter. Fig. 12 is a detail view partly in section of the track portion of the floor carriage and the roll truck mounted thereon. Figs. 13 and 14 are detail views of the means for securing the roll to the heating core. Fig. 15 is an enlarged view in side elevation partly in section of a portion of the steaming chamber and the floor carriage, the parts being in the position taken just previous to the locking of the carriage to the chamber. Fig. 16 is a top plan view of the parts in the same positions shown in Fig. 15. Fig. 17 is a view in front elevation of the floor carriage with the truck guards raised to limit the movement of the roll truck before locking to the chamber. Fig. 18 is a view in side elevation partly in section of the floor carriage, the locking parts thereof being shown in the positions

assumed prior to the locking operation, the roll truck being shown on the carriage together with the roll supported thereby.

Referring to the drawings: A designates said chamber in its entirety, the same consisting of a hollow body substantially horse-shoe shaped in cross section, and preferably consisting of two castings 1, 1 arranged in longitudinal alinement in engagement with each other, the meeting ends being provided with flanges 2, 2 which, when the parts are assembled, are located about the middle of the chamber and are secured to each other by bolts 3, 3. I prefer this construction owing to the fact that a better casting can be produced than is possible by making the chamber in one piece. The rear end of the chamber is closed by a partition 4 and the front being left open to provide for the ready insertion and removal of the cloth roll to be treated.

As shown in the drawings, the bottom of the chamber is formed with a trough 5 extending from the rear end of the chamber to a point adjacent but removed from the front of the chamber, the forward end of the trough being cut off or dammed by a transverse wall or partition 6. This trough is designed to catch any water of condensation which may be formed in the chamber, and the partition 6 serves to prevent the water from flowing against the door or closure of the chamber.

The entire chamber is preferably steam-jacketed as at 7, the steam being admitted and exhausted through pipes 8 and 9, respectively, located at the top and bottom of the chamber. This jacket is intended to receive steam for heating purposes so that the interior of the chamber will be maintained at a high temperature during the steaming operation to be described hereinafter.

The chamber is supported upon any suitable support but preferably upon front and rear standards 10, 11, located beneath the ends of the chamber, and by an intermediate standard 12 having upper rests 13, 13 adapted to straddle the joint between the chamber sections, and engage the bottom of the chamber in front and rear of the joint. This arrangement provides for the rigid and substantial support of the chamber and relieves the joint between the sections of any strain thereon.

The rear wall of the chamber is formed with an opening 14 in which is removably secured a circular head or closure plug 15 formed with a central opening through which extends a tube or pipe 16 which runs longitudinally and axially of the chamber for substantially the entire length of the latter. The plug 15 is formed with a flange 17 to which is secured a tube 18 coaxial with and surrounding the tube 16 so that an

annular steam space 19 is formed between said tubes, the tubes being of substantially the same length. Located in the inner tube 16 adjacent the forward end thereof is a dam 20 for a purpose to be more fully described hereinafter. The annular steam space 19 is closed at the forward ends of the tubes 16 and 18 by means of an annular plug 21 brazed into position between said tubes.

The inner tube 16 is designed to receive low pressure or moist steaming steam for use in the steaming operation, the supply being furnished from a perforated supply pipe 22 extending through the plug 15 and projecting into the said tube 16, substantially as shown in Fig. 11 of the drawings.

In Fig. 11 the roll truck and the steaming roll supported therein is shown in the chamber in proper position to be subjected to the steaming operation. In this position the steam roll shown at 23 surrounds the tubes 16 and 18, said roll consisting preferably of a cylindrical metal body having perforations along its length to permit steam injected within the roll to pass from the same into the body of material carried by the roll. At its inner or rear end this roll carries an annular abutment flange 24 which, when the roll is adjusted for the steaming operation, abuts the plug 14, and at its forward end is closed by an imperforate head cap 25 formed with a central neck 26 having an opening 26^a provided for a purpose to be presently described. Secured to the end of the steam chamber formed by the tubes 16 and 18, and preferably to the ring or plug 21, is a spider 27 (Fig. 4) the legs of which are secured to said ring by bolts 28. This spider is formed with a central opening in which is slidably mounted an internally threaded nut 29 (Fig. 14) having an abutment 30. Upon said nut or sleeve is arranged a spring 30^a which engages the spider and said abutment 30 to cushion the sliding movement of the said nut or sleeve in one direction. The opening through said nut or sleeve and the opening 26^a in the head are disposed in alinement, and are adapted to receive a fastening bolt 31 having a threaded end to engage the opening in the nut, said bolt also carrying a pressure collar 32 which, when the bolt is screwed home, engages the neck of the head on the roll to push the latter into proper position on the heating core and hold it in said position. The bolt is provided with a key in its head 32 to be engaged by a detachable hand-wheel 33 by means of which the bolt is rotated.

The cushioned or yielding support for the roll provided by the sliding nut 29 is of great importance for the reason that it provides for the longitudinal expansion of the roll and prevents the latter from buckling

as the bolt may move longitudinally as the roll expands. It will be understood that the roll, when inserted in the chamber, is cold, and as the bolt is screwed up tightly the result would be disastrous as soon as the roll began to expand. With the provision of the yielding securing means all such disastrous results are effectually obviated. I do not desire to be understood as limiting myself to the exact yielding device shown and described as I believe myself to be the first to provide means for automatically providing for compensating for the expansion of the steaming roll.

The annular steam chamber 19 is supplied with high pressure steam for heating the interior of the roll, and the tube 16, to obviate the formation of water of condensation in the latter, the heating steam being supplied from any suitable source through an opening 34 in said head 15. It will be seen that with steam of sufficient pressure in the annular chamber, the heat attending the presence thereof will be adequate to evaporate any water which may collect in the tube 16.

The tubes 22, 16 and 18, just referred to, provide for the internal heating and steaming of the roll, and the jacket of the chamber provides for the external heating of the roll; the external steaming being accomplished by a pipe 35 let into the chamber through the rear wall of the chamber and extending longitudinally thereof. This pipe is preferably located at the bottom of the chamber in the trough 5 so as to be out of the way of the cloth roll, as will be presently set forth. This pipe 35 is preferably perforated on its under side only so that the wet steam will be thrown against the bottom of the chamber instead of up against the cloth carried by the steam roll.

The track rails upon which the roll truck, to be more fully described, travels are shown at 36, 36 in Fig. 10, and are secured in position longitudinally of the chamber at the sides thereof above the trough 5. These rails are mounted on bolts 37 threaded through openings 38 in the wall of the chamber, said openings being in alinement longitudinally of the chamber, the inner end of each bolt having a reduced extension 39 to receive the rail, the rail being secured to the bolts by nuts 40 threaded onto the reduced extensions of the bolts. In securing the rails in position the bolts are first located in the holes in the chamber, after which the properly drilled rails are adjusted upon the bolts and the nuts 40 applied. The rails having been secured in place, the openings 38 in the chamber are plugged by means of threaded plugs 41, this arrangement preventing leakage of steam through said bolt holes.

The truck upon which the steaming roll is mounted and moved as shown in Fig. 11 will be described presently.

I will now proceed to describe the improved door forming a part of my invention, the means for supporting the door in its opening and closing movements, and the improved means for securing the door in position to close and seal the chamber during the steaming operation:—Mounted on one side of the steaming chamber, are a pair of vertically disposed upper and lower brackets 42, 42 each carrying a hinge ear 43, said ears being in vertical alinement and having alining pin openings, said openings being elongated or oval in cross section for a purpose to be presently set forth.

44 designates the door proper consisting of a casting strongly braced by ribs and flanges so as to effectually withstand the internal pressure within the chamber, and being of substantially the same general contour as the boundaries of the open end of the chamber. This door is formed with upper and lower pairs of hinge ears 45, 45 which receive the hinge brackets 42 on the chamber, said brackets and ears being pivotally connected by hinge pins 46, 46 let through alining apertures in the said ears and the oval openings in the brackets. This hinge construction provides not only for the pivotal connection of the door to the chamber but for the movement of the door toward and away from the chamber independent of the pivotal movement on the hinges. In an apparatus of this character the door is of great weight and is liable to sag on the hinges so as to not swing true, and not to register properly with opening in the chamber, and I, therefore, provide means for supporting the door during its movements. This supporting means includes a rigidly mounted frame preferably secured to the chamber, said frame being substantially tripod in form, said tripod having a vertical leg 47, and inclined legs 48, 49. The leg 47 is mounted on the side of the chamber adjacent the door hinge, and is provided at its upper end with a forwardly overhanging arm 50. The leg 48 is connected to this arm 50 and is inclined downward from said point of connection to a point in the top of the chamber where it is secured, said inclined leg being in the same plane transversely of the chamber as the vertical leg. The leg 49 is also connected to the top of the leg 47 and extends rearwardly downward into engagement with the chamber where its lower end is secured, said leg 49 being in the same vertical plane longitudinally of the chamber as the leg 47.

Rigidly mounted in the end of the arm 50 is a vertical bearing pin 51 upon which is arranged a horizontally rotatable collar

52, a roller or ball bearing, as at 53 being arranged between the collar and arm to provide for the easy rotation of the former. On the collar 52 is an ear 54, in which is
 5 mounted a pin 55 to the opposite ends of which are connected the arms 56 of a yoke the base of which is slidably mounted on one end of a suspension bar 57, the end of the bar being threaded and carrying nuts
 10 58 on opposite sides of the yoke whereby the yoke may be adjusted longitudinally of said bar.

The lower or opposite end of the bar 57 is connected to an arm 59 bolted to the door
 15 and extending radially therefrom. The bar 57 is connected to the arm 59 by a yoke 60 slidably and adjustably held on the said rod by nuts 61 and the arms of which yoke receive between them a link 62 which is pivotally
 20 connected to the arm 59 by a pin 63. The yoke arms and link are pivotally connected by a pin 64. By properly taking up the yokes in the bar 57 the door is supported from its outer end by the tripod above described and the hinges are relieved from
 25 detrimental strains due to the weight of the door. This support also insures the door moving into position to register properly with the entrance to the chamber. The door
 30 proper is provided on its outer side with two projections 65 to the upper of which is secured an ear 66, to which is pivotally connected one end of a brace or tie bar 67, the upper end of which is pivoted as at 68 to
 35 a bar clamp 69 which is securely clamped on the bar 57. The bar 67 is preferably formed in two sections connected by a turnbuckle 70 providing for the adjustment of the length of the bar 67 so as to properly
 40 perform its function in supporting the door. This bar 67 in connection with the bar 57 and tripod serves to support the door in its proper vertical plane during its open and closing movements. It will thus be seen that
 45 by the supporting means just described the door is at all times supported to move in the proper horizontal path, and is always maintained in the proper vertical plane.

I will now proceed to describe the means
 50 for securing the door in closed relation to the chamber. Rigidly secured to the side of the chamber on a horizontal line running between the door hinges is a guideway extending longitudinally of the chamber and consisting of two parallel guide rails 71, 71
 55 bolted to the chamber and each having a lengthwise undercut groove 72. Between the rails and in said grooves travels a slidable shoe 73 having spaced ears 74 projecting
 60 outward from between the rails, and to these ears is pivotally connected by means of a cross-pin 75 one end of a connecting bar 76. The shoe is free to slide back and forth in the ways but its movement toward the front
 65 of the chamber is limited by a stop 71^a bridg-

ing the space between the rails 71 in the path of the shoe. The end of this bar 76 opposite to that secured to the shoe is pivoted to one end of a holding member 77 which extends
 70 horizontally across the door and is located between the projections 65 on the door heretofore described, said holding member being held in place on the door by straps 78 bridging the space between projections 65 and
 75 secured thereto over said member. This holding member is preferably in the form of a substantial casting consisting of a central vertical web 79 from which projects flanges 80 which may be connected and braced by webs or pins 81. The door itself, as will be
 80 apparent from reference to the drawings, is convex and this holding or securing member is curved horizontally to conform to the contour of the door. At its free end this holding member is bifurcated as at 82 to set over
 85 a bracket 83 rigid with the chamber, the arms of said bifurcation and said bracket having alining openings to receive a locking pin 84.

The holding member is formed at its central portion with a passage 85 in which is
 90 seated a fixed nut 86 through which is threaded a bolt 87 which projects outward beyond the member upon which is rigidly
 95 mounted a hand-wheel 88 by means of which said bolt is operated to have the end of the same impinge the door to move the latter into position to close the chamber. Suitable washers 89 may be inserted in the passageway between the inner end of the bolt and
 100 the door to prevent the bolt from cutting into the door.

When the chamber is to be closed, the door is swung around to engage the open end of the chamber, and the bifurcated end of the
 105 holding member straddles the bracket 83 after which the pin 84 is slipped into place. This closing movement of the door, through virtue of the connecting rod 52 pulls the shoe 73 up against the stop 71^a so that when
 110 the door is closed both ends of the holding member are rigidly connected to the chamber, the central portion of the member being movable between the projections 65 on the door but not being otherwise connected
 115 thereto. The door is then forced strongly into position by turning the hand-wheel to feed the screw into engagement with the door to force the latter into steam-tight engagement with the chamber, it being, of
 120 course, understood that proper packing is provided between the door and the chamber. By use of this hand-wheel I am enabled to secure the door with greater facility than has
 125 been hitherto known, particularly in constructions in which a plurality of pivot bolts and wing nuts have been employed for securing the door.

When the door is to be opened the revolution of the hand-wheel is reversed to retract
 130

the pressure screw 87, and the holding pin 84 is then withdrawn, and for convenience may be placed in an eye 84^a carried by the holding member, after which the door may be swung away from the chamber opening, the tripod frame and bars 57, 67 supporting it in said movement. During this opening movement of the door, the shoe 73 slides back in the ways toward the rear end of the latter.

During the steaming operation water of condensation may form upon the inner side of the door, and I provide means for preventing this water from splashing out of the door opening of the chamber when the door is opened. I accomplish this by casting integral with the door a trough 137 consisting of opposite portions downwardly inclined toward each other at the center of the door at which point is a spout 90, which, when the door is closed, projects over the dam 6 to cause the water to run from the trough 89 into the trough 5 heretofore described.

I will now proceed to describe the floor carriage, the roll truck, the means for holding the roll truck on the carriage, and the locking means for securing the floor carriage to the chamber to permit the roll truck to move onto and off said carriage. The floor carriage is designated generally at C and consists of a frame including end frames having substantially vertical standards 91, 91 connected by upper and lower horizontal tie members 92, 93, respectively, and by an intermediate tie member 94. Supported on said end members or frames are track rails 95 running parallel to each other longitudinally of the floor carriage, said rails being provided to constitute a track for the wheels of a roll truck to be presently described, and also serving to rigidly connect the upper portions of the end frames. The lower portions of the end frames are connected by longitudinal tie members 96, 96, and outside these tie members at the ends of the carriage are rotatably mounted channeled running wheels 97 arranged to run on track rails 98 on the floor. The rails 98 are so arranged that the carriage can be moved toward and away from the chamber in longitudinal alinement therewith. The top rails 95 are spaced apart a distance equal to that between the rails inside the steaming chamber, and at such an elevation that when the carriage is moved up to the chamber opening, both sets of rails 95 and 36 abut so as to form a continuous track from the carriage into the chamber. In order that the rails will be held in proper engagement to form such continuous track for the roll truck, during the movement of the truck into and out of the chamber, I provide novel means for locking the carriage to the chamber. Depending from the steaming chamber and arranged on opposite sides of the longitudinal center of said chamber are rigidly mounted

brackets 99, 99 upon the lower end of each of which is carried a tubular guide member 100, said guide members extending longitudinally of the chamber, and in each is an axially extending abutment pin 101 which performs a function to be presently described. Each depending bracket 99 is also provided with a horizontally extending latch-piece 102 having at its free end an inclined striker face 103 and intermediate its ends an opening 104 to receive a bolt carried by the floor carriage.

At its forward end the floor carriage is provided with a casing 105 which contains the operative elements of the locking mechanism. Mounted in suitable guides in said casing are oppositely disposed, longitudinally alining bolts 107, 107 extending transversely of the carriage, and having their outer ends projecting within the guide-ways 106, 106, respectively, to enter the openings 104 in the latch-pieces and lock the carriage to the steaming chamber. The bolts are normally thrust outward to locking position by springs 108 around said bolts, one end of the spring on each bolt engaging the latter and a fixed part of the carriage. The rear face of each bolt is provided with a rack 109, and with each rack meshes a pinion 110, said pinions being mounted to rotate in a horizontal plane, on vertical journal pins 111 secured in the upper and lower walls of the casing. These pinions 110 are spaced apart from each other and in the space with its teeth in engagement with both said pinions is a reciprocable double rack 112 which is carried on the end of a pull rod 113 which runs through suitable guide brackets 114, 114 to the rear of the carriage where it is connected to an operating lever 115 fulcrumed on the carriage at 116. By swinging the lever 115 in the direction of the arrow in Fig. 18, the rack will be pulled in the proper direction to rotate the pinions to retract the bolts from locking position. The rack is normally urged forward to assist the bolts to locking position by an expansion coil spring 117 surrounding the rod 113, and abutting the bracket 114 and a projection on the rod. Associated with the locking means is means for automatically pushing the carriage away from the chamber when the locking means is released, and for cushioning the impact of the carriage when pushed up against the chamber.

Mounted on the forward part of the carriage adjacent the locking means are depending brackets 118, each carrying a tubular member 119 of an exterior diameter substantially equal to the bore of the guides 100, the internal bore of the members 119 being substantially equal to the diameter of the abutment pins 101. The members 119 are so arranged that when the carriage is pushed up to the steaming chamber the said

members will enter the guides 100 on the chamber, and the pins 101 will enter the bore of the members 119. In each of the members 119 is a slidably disposed pusher rod 120 which is guided in suitable guides on the carriage and the rear end of which moves in a guide 121, in a bracket 122 on the carriage. The rods 120 normally assume the position shown in Fig. 15 and are urged to this position by the cushioning spring 122 mounted on said rod and engaging a collar 123 thereon, and said bracket 122. When the carriage is pushed up to the chamber before engaging the same, the rods 120 are as shown in Fig. 15; but upon the guide members 119 entering the members 100 the pins 101 in the latter force the rods back against the expansion power of the springs 122, the compression of the springs becoming greater as the carriage approaches locking position. The carriage is moved up until the bolts engage the latch-pieces and locks the carriage to the chamber, and it will be seen that as long as the carriage is locked to the chamber the rods 120 will be forced back and the springs 122 held in compression. Upon operating the bolts to release the carriage, the springs 122 expand and their force operates to release the carriage from the chamber and push it away therefrom.

The roll truck is shown generally at T and consists of end frames 124 connected by longitudinal tie members 125, the frame being substantially equal in width to the distance between the tracks in the steaming chamber. The truck is provided with suitable channeled running wheels 126 to travel on the tracks on the floor carriage and also in the chamber. The upper ends of the end frames are formed to serve as rests for the steaming roll, the longitudinal movement of the roll being prevented by the flange 24 and a flange 24^a on the ends of the roll outside the end frames of the truck.

It will be apparent that the roll of cloth on the steaming roll will project down adjacent the trough 5 and pipe 35, and, in order to prevent water of condensation in the trough from being splashed up against the cloth, I close the space between the end and side members by a plate 127, which effectually protects the cloth from any spattering or splashing which may occur.

Means is provided for holding the truck on the carriage during the movements of the latter so that the truck will not be displaced. This means comprises a pair of fixed stops 128 at the rear of the carriage which are located in the path of the movement of the truck wheels to prevent the latter over-running the rails at the rear end of the carriage and movable stops are provided at the forward end of the carriage, which, after the truck is in place, are moved into position to prevent displacement of the truck

from the forward end of the carriage. These stops are arranged in the path of the movement of the running wheel, and each consists of a pair of vertically slidable members 129 arranged in each side of the track rail, said members being carried by a vertically movable rack 130 moving in suitable guideways 131 on the carriage. This rack is in mesh with a pinion 132 mounted on a bracket 133 which pinion is in mesh with a rack 134 formed on the adjacent bar 120. The arrangement is such that whenever the carriage is detached from the chamber the springs 122 in forcing the rod 120 forward also cause the latter to rotate the pinion to raise the members 129 to the position shown in Figs. 15 and 18 so as to project into the path of movement of the truck wheels and prevent the latter from running off the rails. However, when the carriage is locked to the chamber it will be seen that the rod 120 will be pushed back and this will reverse the action of the pinions and retract the members 129 to permit the truck to move freely from or into the carriage.

The truck is provided at its rear end with a suitable handle 135 by means of which the truck can be moved back and forth on the track-ways, and I also provide the door of the chamber with a suitable handle 136.

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

1. In an apparatus for the treatment of cloth, a horizontally disposed steam jacketed chamber, comprising sections arranged end to end, said sections being substantially horse-shoe shaped in cross section, means for securing the sections together, and a standard for supporting the chamber having arms upon which the sections rest.

2. In an apparatus for the treatment of cloth, a horizontally disposed steam jacketed chamber comprising flanged sections arranged end to end with the respective flanges engaging each other, said sections being substantially horse-shoe shaped in cross section, means for securing the flanges together, supports for the ends of the sections, and an intermediate support having a yoke which bridges the connection between the sections and engages the latter on opposite sides of the flanges.

3. In an apparatus of the character described, a chamber, a door hinged to the chamber, means for preventing sagging of the door on its hinges comprising an elevated support, a bar connecting the door and support, said bar being rotatably mounted on the support, and means connecting the bar and the door at a point away from the connection between the bar and said door for maintaining the door in a vertical plane.

4. In an apparatus of the character described, a chamber, a door hinged to the

chamber, an elevated support, a bar rotatably connected at one end to the support and at the other end to the door, and a bar connecting said first-named bar and the door, the point of connection of the second bar with the door being outside the vertical plane occupied by said first-named bar.

5. In an apparatus of the character described, a chamber, a door hinged to the chamber, an elevated support comprising a tripod frame mounted on the chamber, and a member connecting the tripod frame with the door whereby the latter is supported independently of its hinge connection, the connection between the frame and member being in line with the door hinge.

6. In an apparatus of the character described, a chamber, a door hinged to the chamber, an elevated support consisting of a vertical member, rearwardly and laterally directed inclined bracing legs for said member, and a bar rotatably connected at one end to the support and at the other end to the door, the connection between the bar and the support being in line with the door hinge.

7. In an apparatus of the character described, a steaming chamber, a door hinged to the chamber, an elevated support consisting of a vertical member, and rearwardly and laterally inclined bracing legs therefor, a bar rotatably connected at one end to the support and connected at the other end to the door, said rotatable connection being in line with the door hinge and a member connecting said bar with the door, the point of connection with the door being outside of the vertical plane occupied by said bar.

8. In an apparatus of the character described, a steaming chamber, a door hinged to the chamber, an elevated support consisting of a tripod having a vertical member and rearwardly and laterally disposed bracing members therefor, a bar rotatably connected at one end to the support and connected at the other end to the door, said rotatable connection being in line with the door hinge and a second bar connected to the first-named bar at a point intermediate the ends of the latter and to the door, the connection with the door being outside the vertical plane occupied by the first-named bar.

9. In an apparatus of the character described, a horizontally disposed steaming chamber open at one end, and having a longitudinally extending trough in the bottom thereof to receive water of condensation, and a dam for said trough adjacent the open end of the chamber.

10. In an apparatus of the character described, a steaming chamber having a door to close said chamber, and means carried by the door to cause water of condensation formed thereon to flow into the chamber.

11. An apparatus of the character described, a steaming chamber, a door to close

the same, said door carrying a trough to catch water of condensation formed on the door and direct it into the chamber.

12. In an apparatus of the character described, a horizontally disposed steaming chamber open at one end, and having a longitudinally extending trough in the bottom thereof to receive water of condensation, a dam for said trough adjacent the open end of the chamber, a door for closing the chamber and means on the door for catching water of condensation formed thereon and directing it into the trough in the chamber.

13. In an apparatus of the character described, a horizontally disposed steaming chamber open at one end and having a longitudinally extending trough in the bottom thereof to receive water of condensation, a door to close the chamber, and means carried by the door for catching water of condensation formed thereon and delivering it into the trough in the chamber.

14. In an apparatus of the character described, a horizontally disposed steaming chamber open at one end, and having a longitudinally extending trough in the bottom thereof, and a dam for said trough adjacent the opening to the chamber, a door to close the chamber, and means on the door for catching water of condensation thereon and delivering the same over the dam into the trough.

15. In an apparatus of the character described, a horizontally disposed steaming chamber, track rails arranged at the bottom portion thereof, and bolts extending through the wall of the chamber and upon the inner ends of which said rails are mounted.

16. In an apparatus of the character described, a horizontally disposed steaming chamber, track rails disposed in the bottom of the chamber and extending longitudinally thereof, openings extending transversely of the chamber adjacent the bottom side portion thereof, and bolts inserted through said openings into the chamber, and means for mounting the track rails upon the inner ends of said bolts.

17. In an apparatus of the character described, a horizontally disposed steaming chamber, track rails disposed in the bottom of the chamber and extending longitudinally thereof, openings extending transversely of the chamber adjacent the bottom side portion thereof, bolts inserted through said openings into the chamber, and plugs for closing the opening in the chamber.

18. In an apparatus of the character described, a steaming chamber, a door to close the same, a holding member extending across the door, means connected to one end of the member and slidably engaging the chamber, a stop for said means, means for securing the other end of the member to the chamber, and means for exerting pres-

sure between the member and the door to force the latter into closed position.

19. In an apparatus of the class described, a steaming chamber, a door to close the same, 5 a holding member extending across the door, a shoe slidably mounted on the chamber and pivotally connected to one end of said holding member, a stop for the shoe, means for connecting the opposite end of the holding 10 member to the chamber, and means for exerting pressure between said member and the door for forcing the latter to closed position.

20. An apparatus of the character described, a steaming chamber, a door to close the same, a holding member extending across the door, a shoe slidably mounted on the chamber, a stop for the shoe, a connecting 15 member pivotally connecting one end of the holding member and the shoe, means for connecting the opposite end of the holding member to the chamber, and means for exerting pressure to the holding member and the door to move the latter into closed position. 25

21. An apparatus of the character described, a steaming chamber, a door to close the same, a holding member extending across the door, a guide disposed longitudinally of the chamber, a shoe cooperating with the guide, a stop for the shoe, means for connecting the shoe and one end of the holding 30 member, means for connecting the opposite end of the holding member with the chamber, and means for exerting pressure between the holding member and the door to move the latter to closed position. 35

22. In an apparatus of the character described, a steaming chamber containing a 40 horizontally disposed heating core having an open forward end, means for supplying steam to the core, and a dam within the core at said forward end for preventing escape of the water of condensation at said 45 end.

23. In an apparatus of the character described, a steaming chamber, a heating core therein having an opening, a spider supported at said opening, a cushioned fastening device supported by said spider, and 50 means associated with said cushion device for yieldingly holding a steaming roll on the core, to provide for expansion of the steaming roll.

24. An apparatus of the character described, a steaming chamber, a heating core in the chamber, a cushion fastening device 55 on the core, and means associated with said fastening device for holding a steaming roll in position on the core, said cushion device providing for the longitudinal expansion of the steaming roll.

25. In an apparatus of the character described, a steaming chamber, a support for 65 the steaming roll, and yielding means

mounted within the chamber for holding the steaming roll in engagement with a wall of the chamber.

26. In an apparatus of the character described, a steaming chamber having an end wall, a heating core supported by the wall 70 and including concentric tubes, the inner of which is open at one end, means for closing the annular space between said tubes, a dam in the inner tube to retain water of 75 condensation therein, and means for feeding steam to said inner tube and to the annular space between said concentric tubes.

27. In an apparatus of the character described, a horizontally disposed steaming 80 chamber having a track therein for a roll-bearing truck, a floor carriage having a track for the truck, guiding brackets secured to the chamber, and means on the carriage to engage the brackets to guide and hold 85 the carriage in proper relation to the chamber to cause the tracks in the chamber and on the carriage to aline.

28. An apparatus of the character described, a horizontally disposed steaming 90 chamber having a track therein for a roll-bearing truck, a floor carriage having a track for the truck, and means for connecting the carriage and chamber, to cause the tracks to aline, said means comprising hol- 95 low brackets on the chamber and members on the carriage to enter said brackets.

29. In an apparatus of the character described, a horizontally disposed steam chamber adapted to receive a roll-bearing truck, 100 a floor carriage for the truck, means on the chamber for guiding the carriage into proper relation with the chamber, and means carried by the chamber and carriage 105 for locking the same together.

30. In an apparatus of the character described, a steaming chamber, a floor carriage for supporting a roll truck, latch pieces on the chamber and bolts on the carriage to engage the latch pieces to lock the 110 carriage to the chamber.

31. In an apparatus of the character described, a steaming chamber, a floor carriage for supporting a roll truck, latch pieces on the chamber and bolts on the carriage to 115 engage the latch pieces to lock the carriage to the chamber, and means for releasing the bolts.

32. In an apparatus of the character described, a steaming chamber, a floor carriage 120 for supporting a roll truck, latch pieces on the chamber and bolts on the carriage to engage the latch pieces to lock the carriage to the chamber, and means for releasing said bolts simultaneously. 125

33. In an apparatus of the character described, a steaming chamber, a floor carriage for supporting a roll truck, latch pieces on the chamber, bolts on the carriage to engage 130 the latch pieces, said bolts having racks, and

means engaging said racks for disengaging the bolts from the latch pieces.

34. In an apparatus of the character described, a steaming chamber, a floor carriage for supporting a roll truck, latch pieces on the chamber, bolts on the carriage to engage the latch pieces, said bolts having racks, and pinions engaging said racks, and a manually operated rack engaging said pinions.

35. In an apparatus of the character described, a steaming chamber, a floor carriage for supporting a roll truck, to permit the truck to pass to and from the chamber, carriage repelling means, and means for locking the carriage to the chamber.

36. In an apparatus of the character described, a steaming chamber, a floor carriage for supporting a roll truck, to permit the truck to pass to and from the chamber, carriage repelling means, and means for locking the carriage to the chamber, said repelling means being effective to repel the carriage upon disengagement of the locking means.

37. In an apparatus of the character described, a steaming chamber, a floor carriage for supporting a roll truck in position to move to and from the chamber, cushioned repelling means on the carriage placed under compression when the carriage is engaged with the chamber and acting to repel the carriage when released from the chamber.

38. In an apparatus of the character described, a steaming chamber, a floor carriage for supporting a roll truck adapted to cooperate with the chamber to permit the truck to pass to and from the latter, reciprocating members mounted on the carriage and adapted to be moved in one direction by engagement with the chamber, and springs for resisting such movement.

39. In an apparatus of the character described, a steaming chamber, a floor carriage adapted to support a roll truck, a truck stop on the carriage to retain the truck thereon, and means for automatically rendering the stop ineffective while the carriage is engaged with the chamber.

40. In an apparatus of the character described, a steaming chamber, a floor carriage adapted to support a roll truck, a vertically movable truck stop, and means for automatically lowering the stop when the carriage is in proper relation to the chamber to leave the truck free to move thereon to and from the chamber.

41. In an apparatus of the character described, a steaming chamber, a floor carriage adapted to support a roll truck in a position to move the truck to and from the steaming chamber, means for repelling the carriage from the chamber, and a truck stop operable by said repelling means.

42. In an apparatus of the character described, a roll truck having means for sup-

porting a roll, and a protecting plate for the roll on the truck beneath said roll.

43. In an apparatus of the character described, the combination of a steaming chamber having a steam inlet pipe, a roll support adapted to enter the chamber, and a protector member carried by the roll support and arranged to be interposed between the steam inlet pipe and the roll when the roll support is in the chamber.

44. In an apparatus of the character described, the combination of a steaming chamber provided with a latch piece having an aperture, a floor carriage having a spring-actuated bolt to enter the aperture in the latch piece and thereby lock the carriage to the chamber, and manually operated means for retracting the bolt.

45. In an apparatus of the character described, a steaming chamber having an opening, a dam to prevent escape of liquids through said opening, a door to close the opening and means for collecting water of condensation formed on the door and causing it to flow over the dam into the chamber.

46. In an apparatus of the character described, a steaming chamber, a door to close the same, a holding member extending across the door, said member slidably engaging the chamber at one end, means for limiting the sliding movement of said member, means for securing the other end of the member to the chamber, and means for exerting pressure between the member and the door to force the latter into closed position.

47. In an apparatus of the character described, a steaming chamber adapted to receive a roll-bearing truck, a floor carriage for the truck, and cooperating means between the chamber and truck to guide the latter into proper position for a roll truck to pass into and out of the chamber.

48. In an apparatus of the character described, a steaming chamber adapted to receive a roll-bearing truck, a floor carriage for the truck, cooperating means between the chamber and truck to guide the latter into proper position for a roll truck to pass into and out of the chamber, and means for locking the chamber and floor carriage together.

49. In an apparatus of the character described, a steaming chamber adapted to receive a roll-bearing truck, a floor carriage for the truck, and means on the chamber and floor carriage respectively adapted to cooperate to guide the carriage into proper position for a roll truck to pass into and out of the chamber.

50. In an apparatus of the character described, in combination, a chamber adapted to receive a roll bearing truck, a floor carriage for said truck, means for positioning the carriage relative to the chamber to permit the truck to pass into and out of the chamber, a movable stop on the carriage for

the truck, said stop being controlled by said positioning means to release the truck when the latter is in position to have the truck pass into or out of the chamber.

- 5 51. In an apparatus of the character described, a chamber to receive a roll bearing truck, a floor carriage to support the truck in position to pass into and out of the chamber, means for positioning and locking the
10 carriage to permit the truck to pass in and out of the chamber; means for releasing the

carriage, and a truck stop on the carriage rendered effective to hold the truck on the latter when the releasing means is operated.

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

DAVID GESSNER.

Witnesses:

M. E. McNinch,
C. E. Heglmier.