No. 815,987. PATENTED MAR. 27, 1906.

E. A. THOMAS.

CARPET CLEANING AND DISINFECTING MACHINE.

APPLICATION FILED NOV. 2, 1903.

6 SHEETS—SHEET 1.

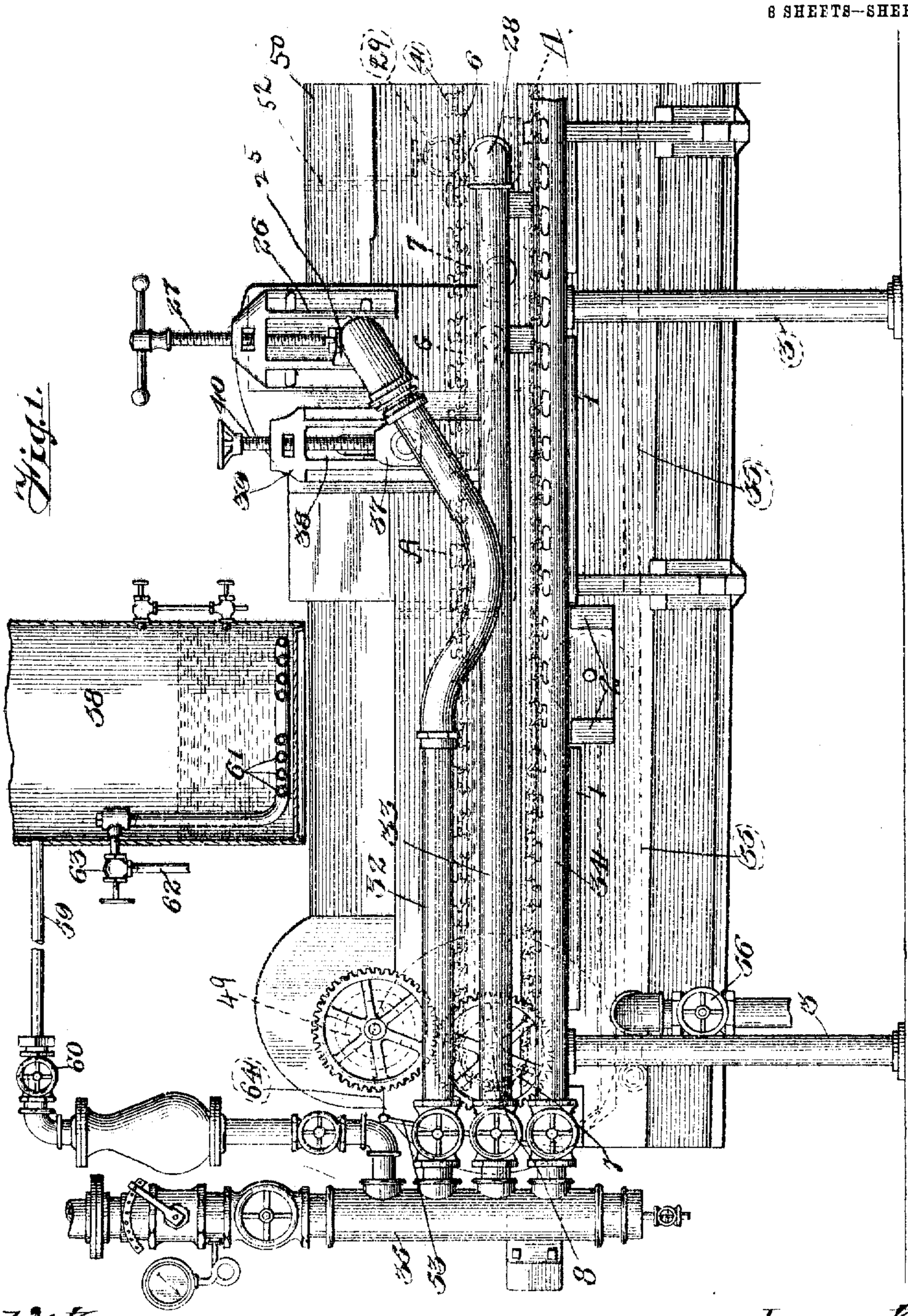

Fig. 1.

Witnesses:
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Robert W. Weir

Inventor:
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by Wyman & Peach
Atty.

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8 SHEETS—SHEET 2.

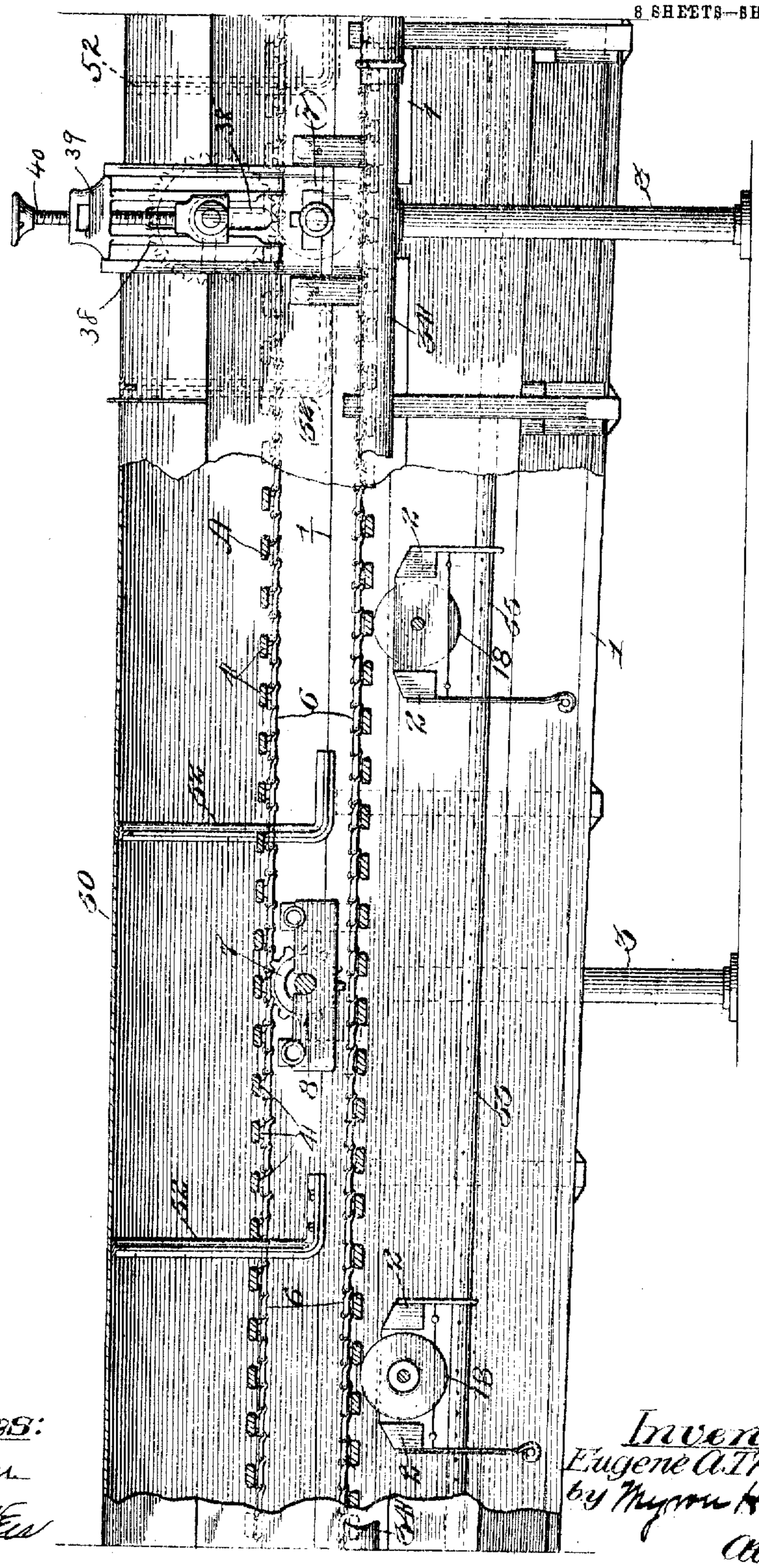

Fig. 1.

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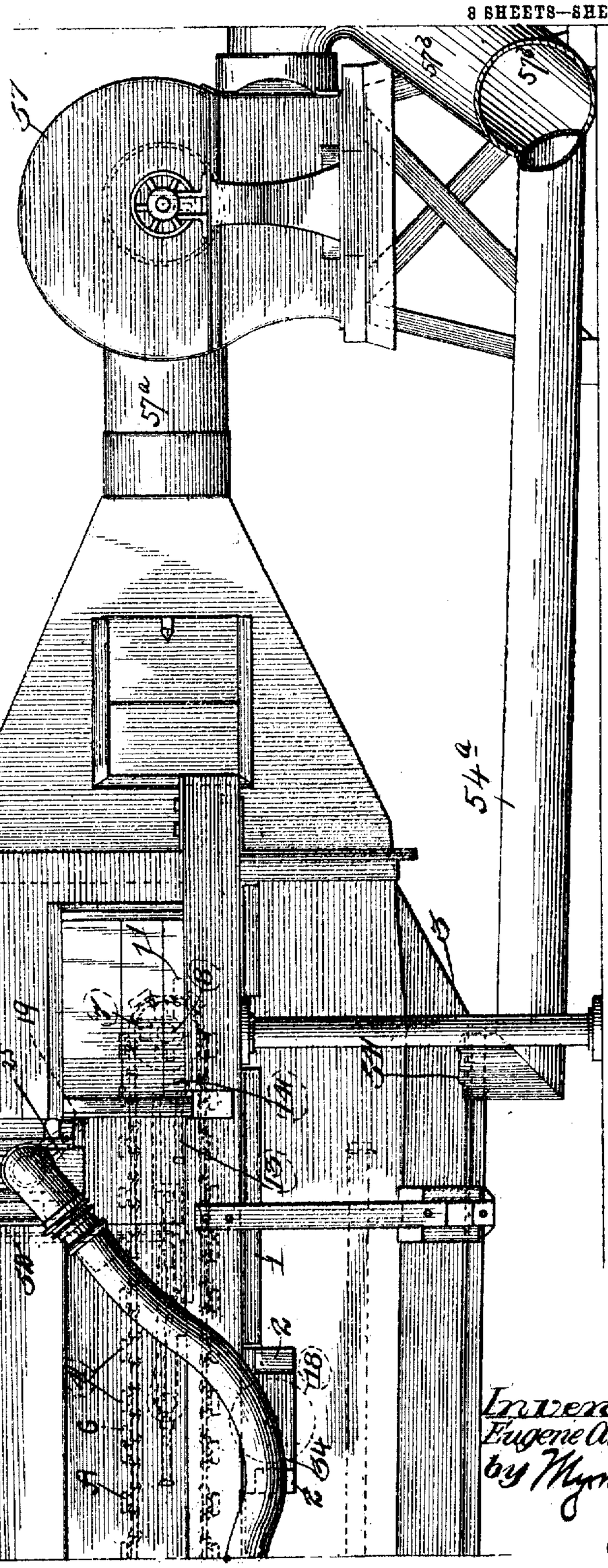
8 SHEETS—SHEET 3.

Fig. 6.



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8 SHEETS—SHEET 4.

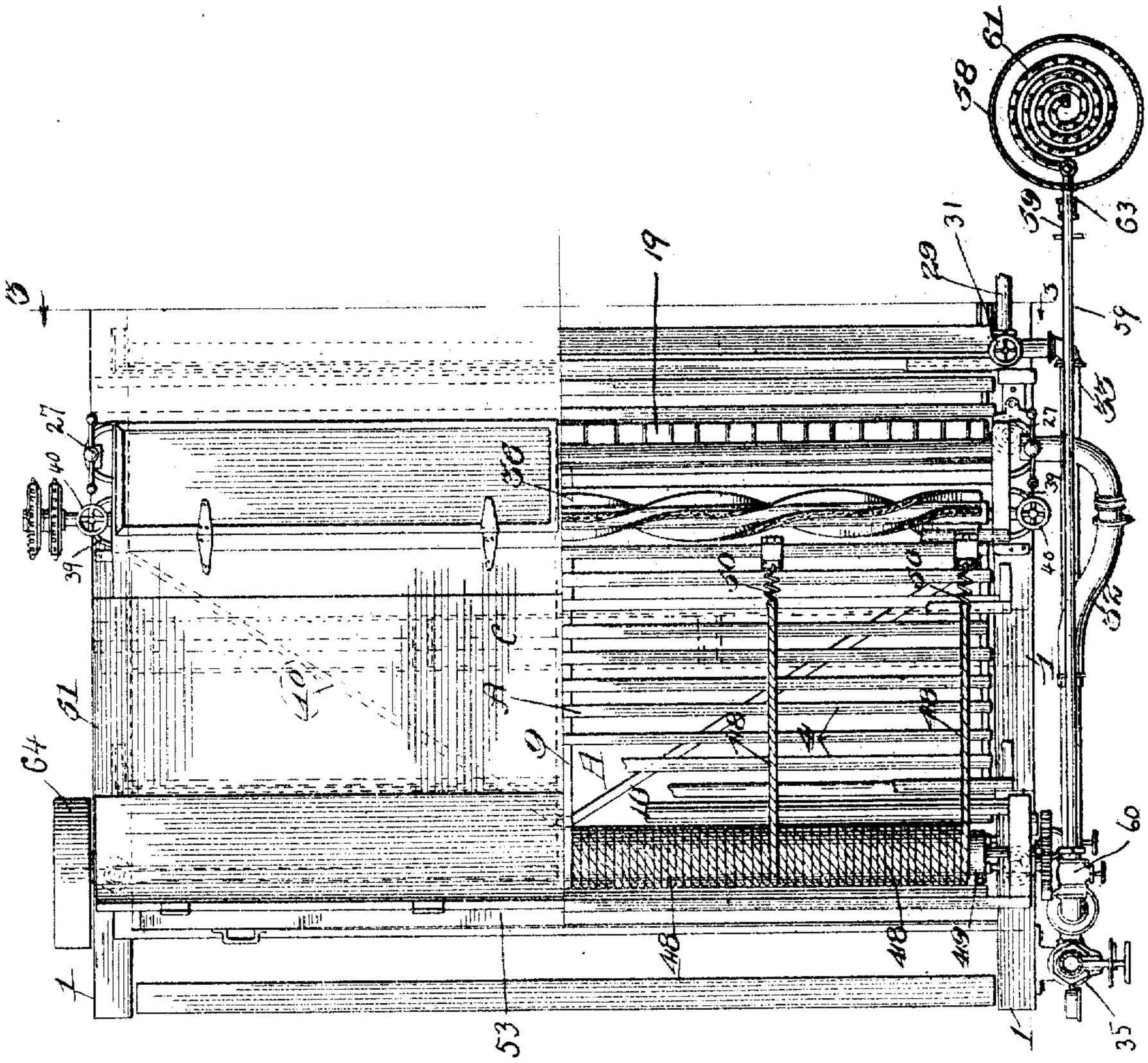

Fig. 12.

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8 SHEETS—SHEET 5.

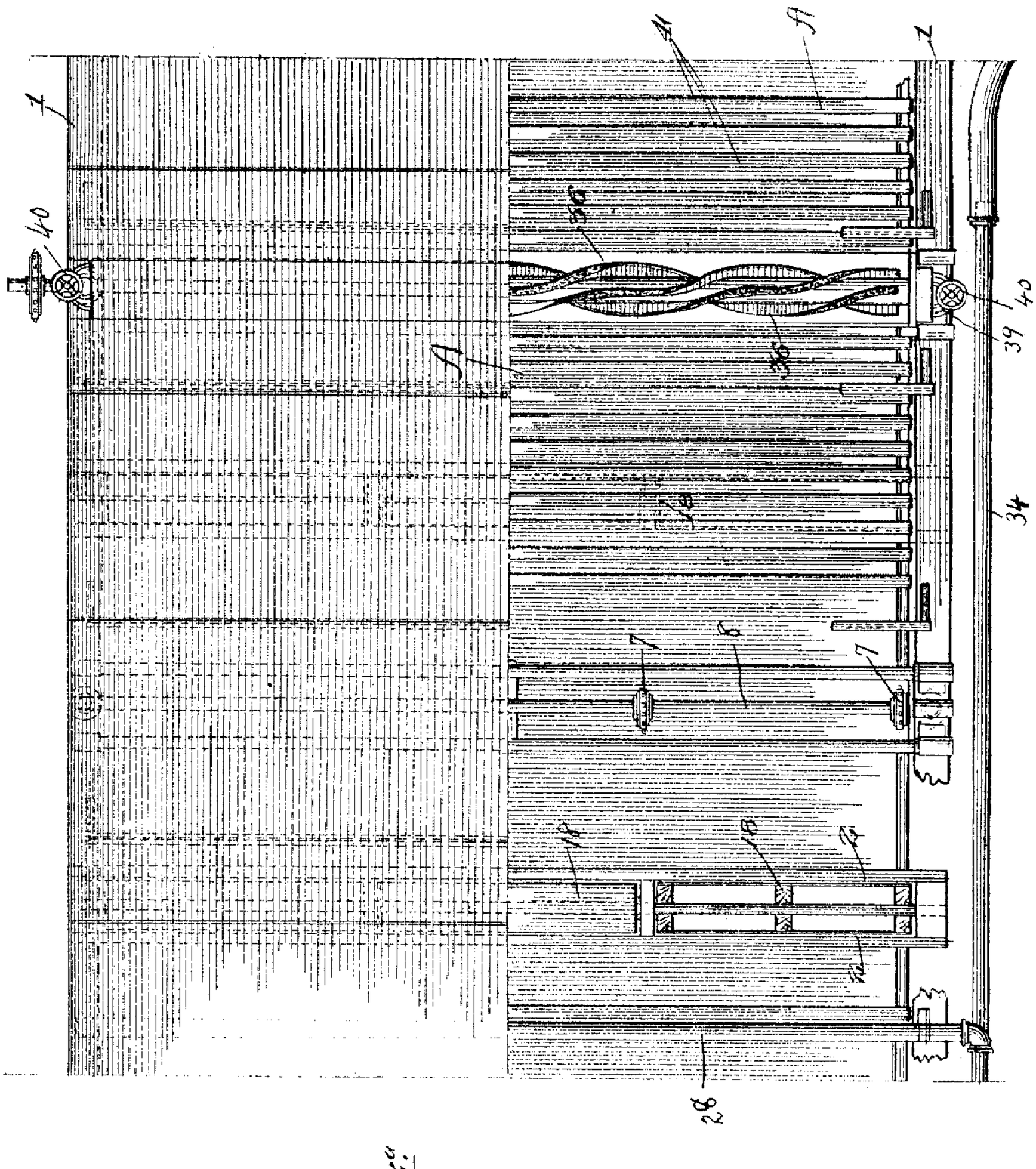

Fig. 5.

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No. 815,987. PATENTED MAR. 27, 1906.

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CARPET CLEANING AND DISINFECTING MACHINE.

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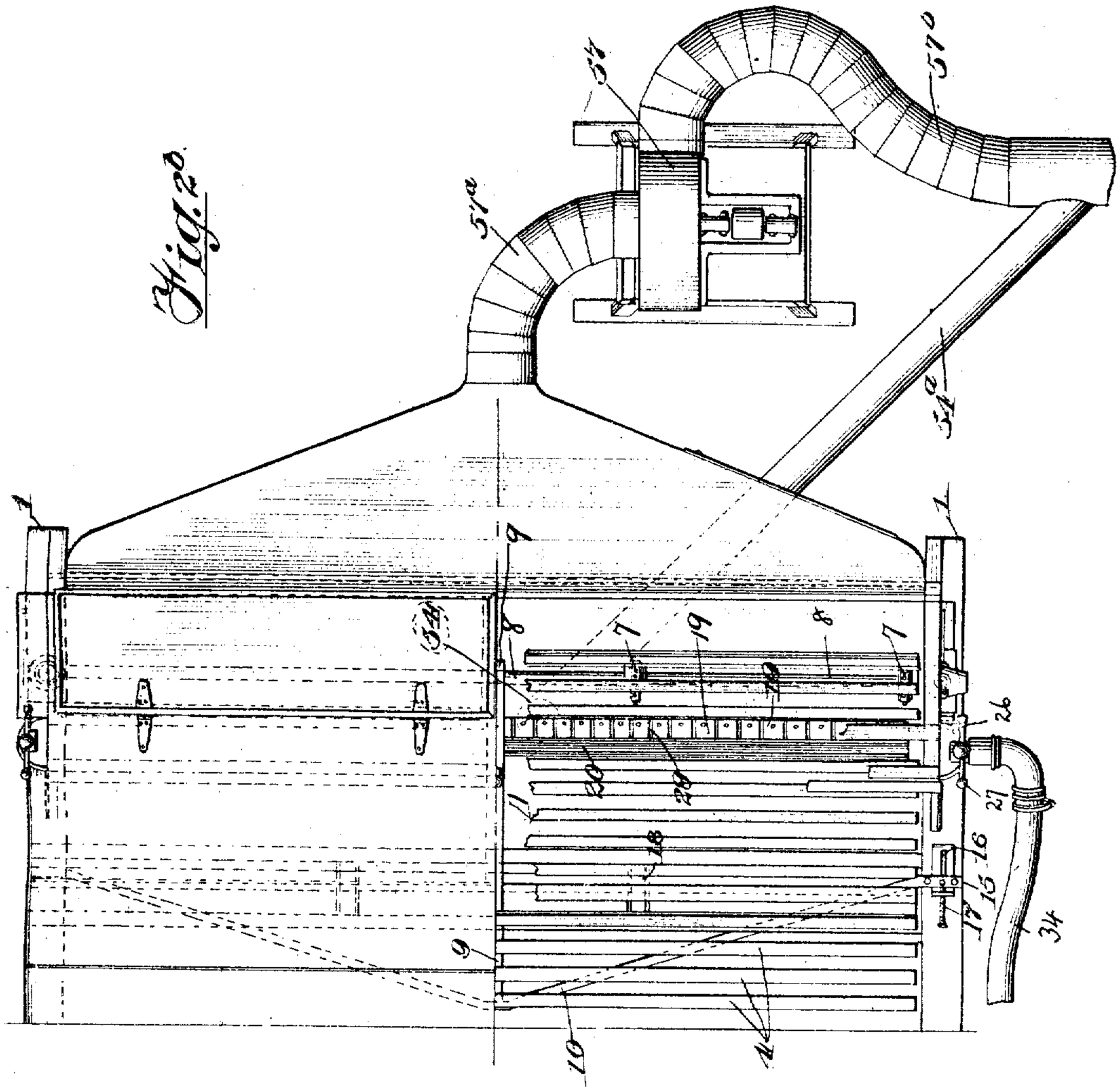
8 SHEETS—SHEET 8.

Fig. 20.



Witnesses:
H. C. Domarus
Robert N. Wein

by

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No. 815,987. PATENTED MAR. 27, 1906.

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8 SHEETS—SHEET 7.

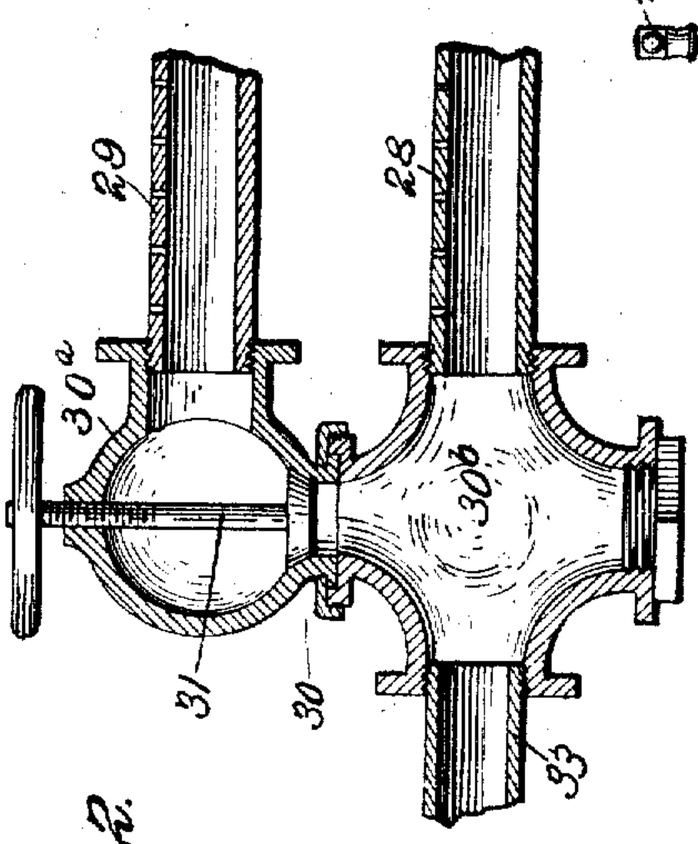

Fig. 12.

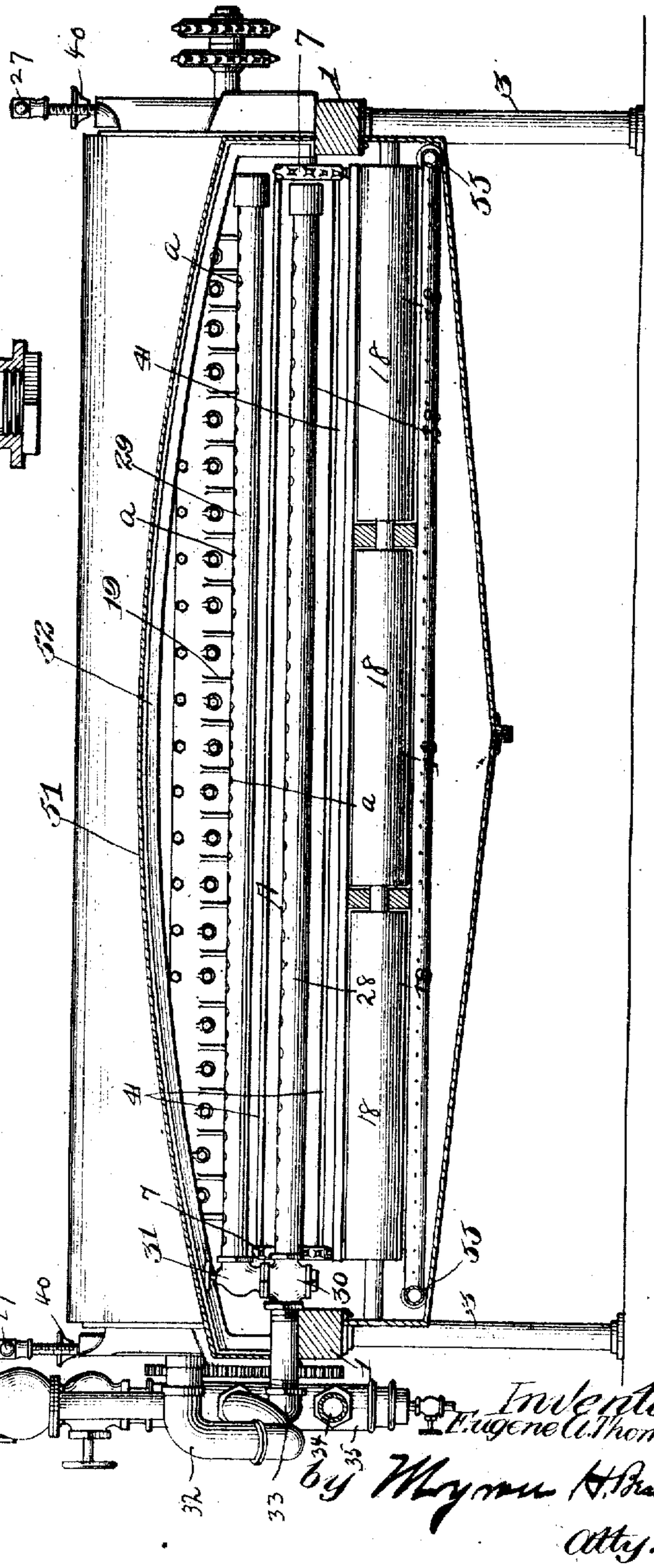

Fig. 3.

Witnesses
G. V. Donahue
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No. 815,987. PATENTED MAR. 27, 1906.

E. A. THOMAS.

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8 SHEETS—SHEET 8.

Fig. 4.

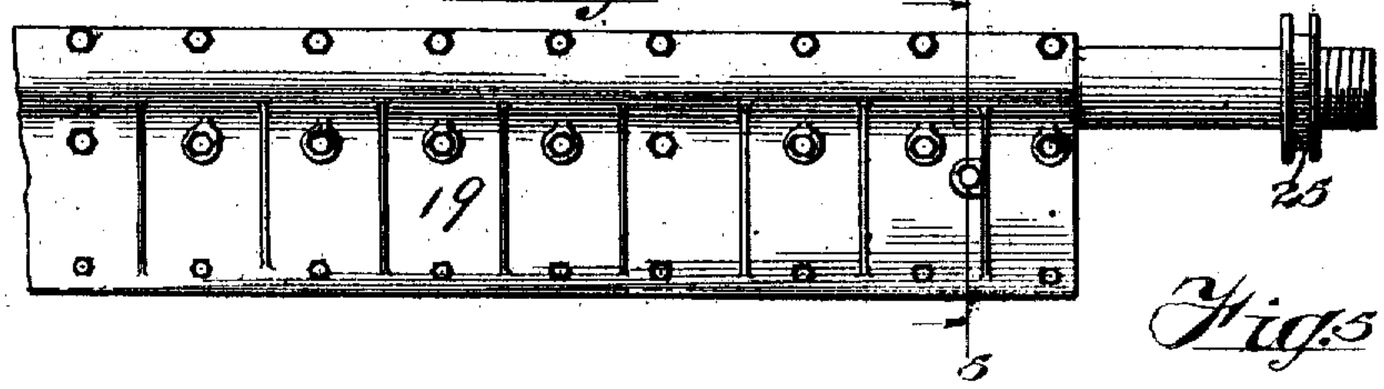


Fig. 5

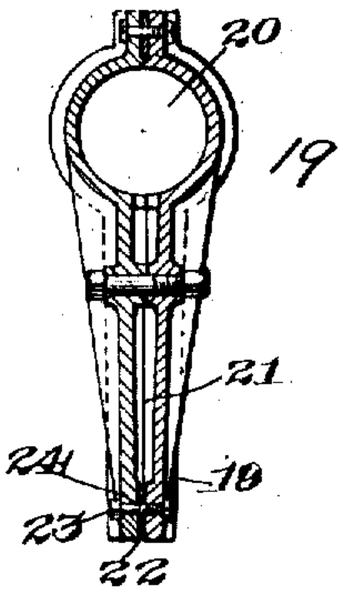


Fig. 6

Fig. 7.

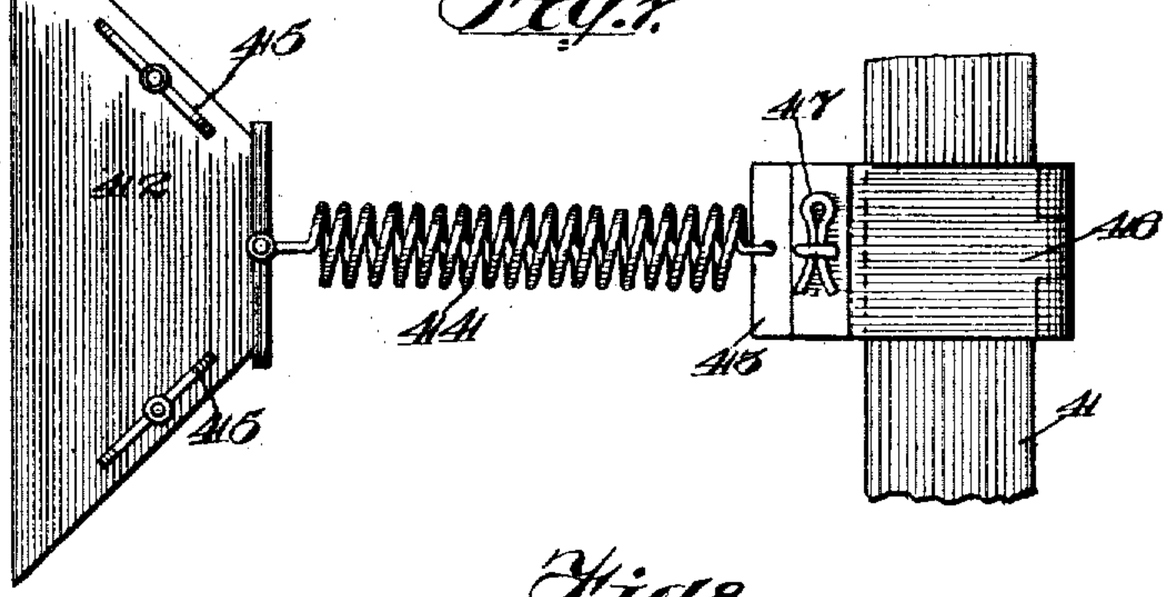


Fig. 11.

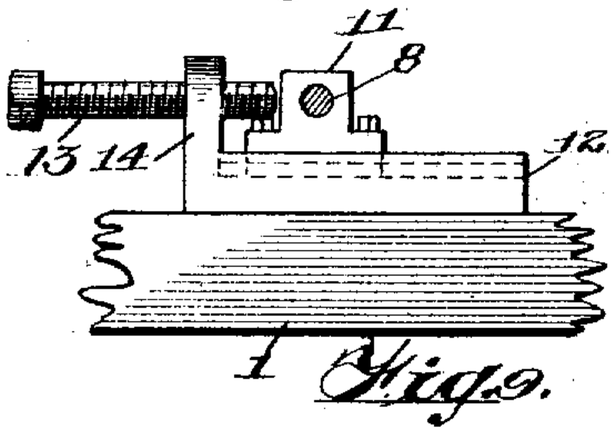


Fig. 8.

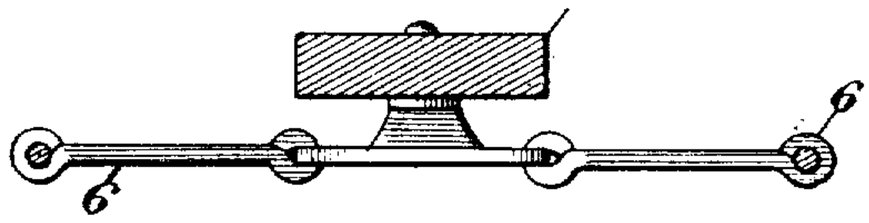


Fig. 9.

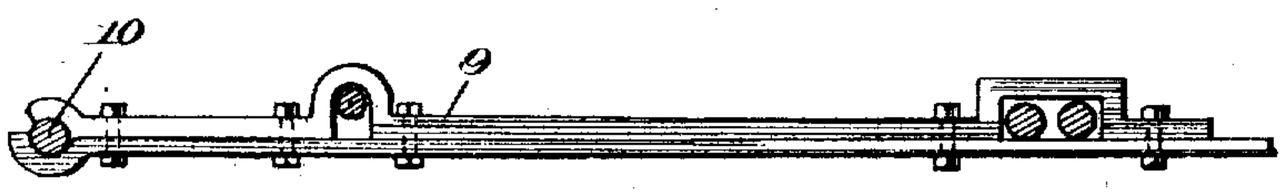
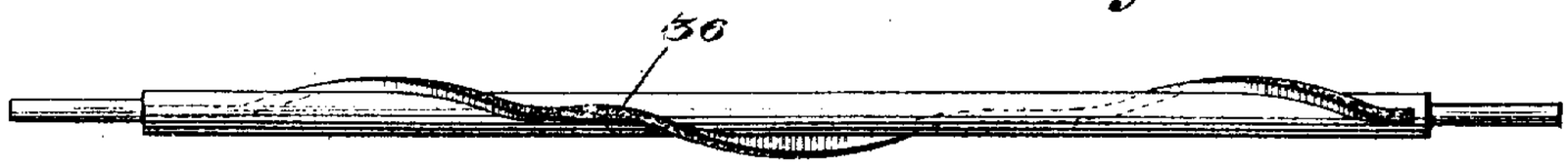


Fig. 10.



Witnesses:
G. C. Dorsey
Robert H. Fee

Inventor:
Eugene A. Thomas,
by Myron H. Peach
Atty

UNITED STATES PATENT OFFICE.

EUGENE A. THOMAS, OF CHICAGO ILLINOIS.

CARPET CLEANING AND DISINFECTING MACHINE.

No. 815,987. Specification of Letters Patent. Patented March 27, 1906.

Application filed November 2, 1903. Serial No. 179,456.

To all whom it may concern:

Be it known that I, EUGENE A. THOMAS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Carpet Cleaning and Disinfecting Machines, of which the following is a specification.

This invention relates to improvements in machines for cleaning and disinfecting textile fabrics, carpets, rugs, and the like by compressed air or steam impregnated with a disinfectant.

Among the objects of the invention are to provide a simple, strong, and durable apparatus of this character which will be efficient in its operation and by the use of which a single attendant will be able to readily handle, clean, disinfect, and renovate carpets, rugs, and other textile fabrics of almost any length. The width of the apparatus will of course act as a limitation upon the width of the carpets and rugs which may be cleaned therein; but it is entirely practicable to construct a machine which will take any width of carpet.

The invention consists in the matters hereinafter set forth and particularly pointed out in the claims.

In general terms a carpet-cleaning apparatus embodying my invention in its preferred form comprises in its construction a carrier consisting, preferably, of link belts adjusted to sprocket-wheels secured to shafts revolubly mounted in suitable bearings in the machine-frame and provided at intervals with suitable transverse slats upon which the carpet or other article is supported. This carrier is supported in a substantially horizontal position and is of considerable length—say, for example, twenty-five feet. The cleaning instrumentalities comprise, primarily, one or more air-jets supported above the carrier, adapted to project a jet or jets of air downwardly upon the carpet on the carrier at any inclination desired, air being supplied to said jets through connection with a source of supply of air under pressure. Preferably, also, the cleaning instrumentalities comprise, in addition to the above jet or jets, a jet or jets which extend transversely thereof directly beneath the upper lap of the carrier and adapted to project a jet or jets of air upwardly against the under surface of a carpet or other article supported on said carrier. To render the operation of the air-jets more efficient, a suitable brush is provided, placed in advance of said jets, adapted to run in contact with the upper surface of a carpet or other article and in opposite direction to the movement of the carpet, which brush operates to loosen and raise the pile or nap of the article, so as to allow the air-jet to penetrate the same more easily and thoroughly. The carrier and cleaning instrumentalities are inclosed within a suitable casing, preferably made of sheet metal, which is designed to confine the dust and dirt expelled from the carpet or other article being cleaned. The bottom of the casing is trough-shaped and declines toward an outlet-opening, and the interior of the casing beneath the carrier is designed to be sprayed with water from a suitable system of pipes provided for the purpose, whereby the dust and dirt expelled from the carpet by the jets of compressed air will be caught or precipitated by the spray and carried off by the current of water through the outlet-opening, which may be connected with the sewer or other drainage system. This may be effected by a pipe of diameter sufficient for the purpose, with perforations of a size and at distances as may be desired or required, extended across the upper end or head and along the sides of the casing, slightly raised above the bottom thereof and connected at the front or upper end with some water-supply with sufficient pressure so that the water discharged through the perforations in form of jets or spray will thoroughly wash out all dust and dirt that may or shall fall to the trough-shaped bottom of the casing and carry the same out through a pipe at the lower end of the casing and into the pipe leading from the fan through which the dust is expelled, precipitating the dust and carrying it in a muddy stream, so long as there is any dust, into the sewer or other drainage system.

In the operation of the machine it is designed that one or more of the carrier-supporting shafts will be positively driven through connection with any suitable source of power and in such manner that the direction of rotation of said shaft can be reversed as desired. A section of the casing-wall inclosing the front end of the carrier is made removable, comprising, preferably, a hinged section or door which may be opened to permit access to the carrier for the purpose of attaching the carpet or other article thereto and through which said carpet or rug is drawn into the casing and removed there-

from. Power being applied to the carrier-shaft to impart movement thereto in the proper direction, the carpet or other article will be drawn into the machine upon the upper lap of the carrier and will be exposed to the action of the brush and blast from the air-jets. The air-jets supported above the carrier are preferably directed rearwardly at an acute angle, so that the blast will naturally rebound from the surface of the carpet, thus tending to blow the dust and dirt upwardly out of the carpet rather than to force it down into and through the carpet, as would be the case were the jets directed at right angles to the surface of said carpet. The carrier movement is continued until the entire length of the carpet has been subjected to the action of the brush and air-jets, the forward end of the carpet when of considerable length passing around the end of said carrier and moving rearwardly with its lower lap until the entire length thereof has been presented to the action of the brushes and jets. The direction of movement is then reversed and the carpet drawn back past the air-jets and removed. A single complete exposure of the carpet to the action of the air-jets while moving both forward and backward past them should suffice to thoroughly cleanse and renovate the same. All of which will be more fully understood from the following detailed description, illustrated in the accompanying drawings, in which—

Figures 1, 1^a, and 1^b together form a general view, partly in side elevation and partly in section, of a carpet-cleaning machine of my invention. Figs. 2, 2^a, and 2^b together form a top plan view of a machine of my invention, the casing being removed from one side thereof to show the operative parts of the machine. Fig. 3 is a transverse vertical sectional view on the line 3 3 of Fig. 2. Fig. 4 is a side elevation of a part of one of the air-jets. Fig. 5 is a transverse section taken on the line 5 5 of Fig. 4. Fig. 6 is a detail view of part of the front edge of the clamp for grasping the article to be cleaned. Fig. 7 is a plan view of said clamp complete attached to one of the slats of the conveyer; Fig. 8, a detail cross-section through one of the slats of the conveyer, showing part of the chain carrying the same; Fig. 9, a detail vertical section showing the manner in which the shaft at the rear end of the carrier is braced at its middle; Fig. 10, a detail view of one of the rubber brushes; Fig. 11, a detail view of one of the journal-boxes supporting the ends of the end shaft of the carrier. Fig. 12 is a detail sectional view of the pivotal connection between the supplemental blast-pipes 28 and 29.

The frame of the machine consists of longitudinal frame members 1, which extend continuously the entire length of the machine at each side thereof, transverse frame members 2, which connect the longitudinal frame members 1, and legs 3, upon which the longitudinal frame members 1 are supported.

During the operation of the machine the carpet or other article to be cleaned, disinfected, and renovated is supported upon a carrier (indicated as a whole by A) mounted upon the machine-frame in such manner as to be freely movable in both directions longitudinal of said machine. As shown, said carrier consists of transverse slats 4, secured at intervals to link belts 6, adjusted to sprocket-wheels 7, secured to shafts 8, revolubly mounted in suitable bearings on the longitudinal frame members 1, said shafts 8 being provided at such intervals that the upper lap of the carrier will be supported substantially level. To prevent the end shafts 8 from springing under the strain to which they are subjected, which would allow the carrier to sag, said shafts are provided with one or more bearings in suitable rigid supports intermediate the end bearings thereof. As shown, the intermediate bearings for said end shafts are formed in bars 9, which are supported in fixed longitudinal adjustment by means of braces or truss-rods 10, the ends of which are secured to the longitudinal frame members 1 and against which the inner ends of said bars 9 bear.

To provide for tightening the carrier A, either in adjusting the same in the first instance or to take up wear or stretch thereof, the bearings of one or both of the end shafts 8 are adjustable in the direction of the length of said carrier. As shown, the rear shaft only is thus adjustable, the outside or end bearings and the intermediate bearings being adjustable independently of each other. To effect desired adjustment of the outside or end bearings of said shaft, said bearings are, as shown in Figs. 2^b and 11, formed in blocks 11, slidably mounted on base-plates 12, secured to the longitudinal frame members 1, and are adapted to be forced outwardly by thrust-screws 13, threaded through lugs 14 on said base-plates. To provide for desired adjustment of the intermediate bearing or bearings of said shaft, the ends of the truss rod or brace 10 instead of being secured directly to the longitudinal frame members 1 are secured to blocks 15, slidably mounted on base-plates 16, secured to said longitudinal frame members 1, and adjustment of said blocks 15 is effected by means of thrust-screws 17 in substantially the same manner as adjustment of the blocks 11 is effected. The blocks 11 and 15 are secured in desired longitudinal adjustment by means of suitable clamping bolts or screws.

The lower lap of the carrier A is supported upon drums or rollers 18, revolubly mounted in suitable bearings in the machine-frame. Said rollers 18 operate to relieve said carrier from the strain due to its own weight and

also prevent sagging of the carpet or other article when it passes onto the lower lap of said carrier.

Supported above the upper lap of the carrier and extending transversely over the same are one or more air-jets 19, adapted to project air downwardly upon the carpet or other article supported upon said carrier, as shown in Figs. 1[b], 2, 2[b], 4, and 5.

My invention contemplates the use of any desired or approved form of air-jet. I prefer, however, to use the form of jet shown in detail in Figs. 4 and 5 of the drawings, comprising a tubular chamber 20 and a lateral chamber 21 in open communication therewith, said lateral chamber being provided with a discharge-opening 22, preferably extending continuously the entire length thereof. As preferably constructed said air-jet is made of malleable iron or other suitable material in two similar sections secured together by suitable rivets or bolts, the joints between said sections being rendered tight by means of any suitable packing. The width of the discharge-opening 22 is adapted to be regulated by means of adjusting-screws 23, and any desired width of discharge-opening may conveniently be provided by inserting washers 24 of desired thickness—say one sixty-fourth of an inch—between the sides of said discharge-opening. It is obvious that the width of the discharge-opening may be varied as desired by using washers of different thicknesses.

The air-jets 19 are preferably supported in such manner that the discharge-openings 22 will be directed downwardly upon the carrier at an acute angle, rearwardly, and in such manner also that said air-jets will be adjustable toward and from said carrier. In the preferable construction shown said air-jets 19 are provided with rectangular slides 25, preferably formed integral with extensions thereof, which are fitted to and are freely movable in upright guides or ways formed in standards or brackets 26, supported upon the longitudinal frame members. 1. Vertical adjustment of the air-jets 19 is effected by means of screws 27, threaded through the ends of the brackets or standards 26 the lower ends of which are revolubly secured against longitudinal movement in the slides 25, the relation being such that said air-jets will be properly directed.

Supported in fixed adjustment beneath the upper lap of the carrier and extending transversely of said carrier is an air-jet 28, consisting, preferably, of a suitable pipe provided on its upper side with discharge holes or openings through which air from said pipe will be projected upwardly against the under side of a carpet or other article supported upon the upper lap of said carrier, as shown more particularly at *a* in Fig. 3. In addition to the jet or pipe 28 I prefer also to provide, as shown more particularly in Fig. 3, a supplemental jet or pipe 29, which is preferably connected to the pipe or jet 28 at one side of the carrier by a union 30, and which is pivotally connected thereto, so that when desired for use it may be moved pivotally so as to extend transversely of the carrier directly above the upper lap thereof and beneath a carpet supported thereon, so that as the carrier moves the carpet will be drawn over said pipe or jet 29. Said pipe or jet 29 is provided with discharge holes or openings on its upper side. Thus in passing over the same the carpet will receive the full force of the blast therefrom, thereby securing the greatest efficiency of operation. The pipe or jet 29 is designed for use primarily in cleaning very dirty carpets, and when not desired for use may be turned pivotally so as to extend longitudinally of the machine at one side of the carrier, as shown in Fig. 2, in which position it will not obstruct said carrier. Communication between the pipes or jets 28 and 29 is controlled by means of a valve 31 in the union 30.

As shown, air is supplied to the jets 19 and 28 through pipes 32, 33, and 34, which communicate with a header 35, which is connected with a suitable source of supply of air under pressure. The pipes 32, 33, and 34 are controlled by means of suitable valves, and the pipes communicating with the jets 19 are connected thereto by means of flexible sections, thus providing for desired vertical adjustment of said jets.

In order to render the operation of the blast from the air-jets more efficient, means are provided for raising or loosening the pile or nap of the carpet before it reaches said jet. As shown, said means comprise brushes 36, revolubly mounted in suitable bearings in front of the air-jets 19. The brushes 36 are preferably adjustable toward and from the carrier A. To provide for such adjustment, the bearings for said brush are formed in boxes 37, fitted to and freely movable in guides 38, formed in brackets or standards 39, supported upon the longitudinal frame members 1. Adjustment of said brushes toward and from the carrier is effected by means of screws 40, threaded through the ends of the brackets or standards 39, the lower ends of which are revolubly secured against longitudinal movement in the bearing-boxes 37. Rotation is imparted to the brushes 36 by means of driving connection with a suitable source of power. When the brushes 36 are depressed so as to run in contact with the surface of a carpet or other article supported on the carrier, they will obviously operate to loosen and raise the pile or nap of said carpet, thus allowing the blast from the air-jets to penetrate said carpet more easily and thoroughly, rendering the operation of said jets much more efficient.

The carpet or other article to be cleaned may be attached to the carrier in any desired

manner. Preferably, however, the connection between said carpet and carrier will be elastic, thereby permitting the carpet to adjust itself to variations in the travel of the carrier, as in turning around the end of the carrier from one lap to the other thereof, without subjecting said carpet or other article to any undue strain or tension. A desirable form of attaching device is that shown in Figs. 6 and 7 of the drawings, comprising a clamp 42, adapted for attachment to the edge of the carpet, and a clip 43, adapted for attachment to one of the slats 4 of the carrier A, connected by means of a spring-link 44. As shown, the jaws of the clamp 42 are adapted to be firmly set upon the carpet by means of clamping-screws 45, and the clip 43 comprises a hinged member 46, adapted to be secured in closed position around one of the carrier-slats 4 by means of a cotter 47. Any desired number of fastening devices may be used necessary to properly connect said carpet to said carrier.

Preferably, also, my machine comprises means for holding the carpet or other article flat upon the carrier A while being cleaned and for preventing sagging of the carpet when it passes onto the lower lap of said carrier. As shown, said means comprise cords 48, one end of each of which is attached to the carrier A and the opposite end thereof to a positively-driven drum 49, the connection being such that the surface of the drum 49 will move at the same rate as the carrier A, and the driving connection being such that as the points of attachment of said cords to said carrier move away from said drum the cords 48 will be unwound therefrom, and vice versa. As shown in Fig. 1, the drum 49 is driven from the front carrier-shaft by means of spur-gears *b b'*. Preferably, also, the cords 48 are attached to the carrier A by means of spring-links 50, which afford elastic connection between said cords and carrier, thereby permitting said cords to adjust themselves to slight variations in the travel of said carrier, as when passing around the end thereof. With the described construction it is obvious that as the cords 48 are drawn off from the drum 49 they will lie flat upon the carrier A or upon the carpet or other article supported thereon and being at all times under considerable tension will operate to hold the carpet flat and will also prevent sagging of the carpet on the under lap of said carrier. As they prevent sagging of the carpet or other article away from the lower lap of the carrier when the carpet is carried around the far end of the carrier, it is obvious that the drums or rollers 18 and the cords 48 will supplement each other.

The carrier A, the cleaning instrumentalities, and other operative parts of the machine are inclosed in a casing 51, which is preferably made of sheet metal secured to a framework consisting of T-bars 52, supported upon the longitudinal frame members 1. The casing 51 is provided at its forward end with a hinged section or door 53, as shown in Figs. 1 and 2, through which carpets and the like may be drawn into and removed from said casing in the operation of the machine. At its rear end it is contracted, so as to make a communication, preferably by a hollow cylinder 57^a, with an exhaust-fan 57, and beyond the fan and connected with the chamber in which it revolves a connection 57^b, preferably tubular, is extended to a union with the discharge-pipe 54^a from the bottom of the casing, whereby by the revolution of the fan a draft is created, drawing the dust blown from the carpet or other article and expelling the same through the extension-pipe leading from the fan into the discharge-pipe from the outlet-opening of the casing, wherein it is precipitated by the water flowing through said discharge-pipe and washed into the sewer or other drainage system. The bottom of said casing is trough-shaped and declines from the front end toward a discharge-opening 54 at the rear end thereof, so that water admitted to said casing will drain off through said opening.

Supported within the casing 51 below the carrier A is a pipe 55, which communicates with a suitable source of water-supply. The supply of water to said pipe 55 is controlled by means of a valve 56. The pipe 55 is provided at short intervals with small holes or openings designed to discharge a fine spray into the casing 51, which will operate to precipitate or wash down the dust and dirt expelled from the carpet and other articles by the air-blast in cleaning the same into the trough, whence it will escape through the discharge-opening 54.

An exhaust-fan 57, which communicates with the rear end of the casing 51, operates to create a draft and expel dust and dirt from said casing not removed by means of the spray.

To provide for disinfecting the carpet after cleaning the same, a tank 58, designed to contain a suitable disinfecting solution, is connected with the header 35 by means of a pipe 59, controlled by a valve 60. The contents of said tank may be heated to any desired degree by a steam-coil 61 at the bottom thereof, which coil is perforated and connected with a source of steam-supply by a pipe 62, controlled by a valve 63. To disinfect the carpet, the supply of air is shut off from the header 35 and the valve 60 opened, thus admitting steam impregnated with the disinfectant from the tank 58 into the header 35, whence it is discharged into the casing 51 through one or more of the air-jets. In practice I prefer to admit the disinfectant through the rearmost jet 19 in order that the least possible amount of disinfectant may escape

through the door 53 in the front end of the casing. After the carpet has been exposed to the action of the disinfectant a desired length of time the valve 60 is closed, shutting off the supply from the tank 58; or, if preferred, steam impregnated with the disinfectant may be, by the means shown, injected into the header 35 while the air-blast is on, thus heating the air to any desired degree, and then the same discharged so impregnated with the disinfectant upon the article to be cleaned and disinfected, as above described, thus cleaning and disinfecting the carpet or other material simultaneously with the same blast. To avoid the condensation of the steam impregnated with the disinfectant when discharged into the header, the air may of course be heated by any suitable additional means, thereby increasing the efficiency and force of the compressed air; or instead of using an air-blast to carry the disinfectant in steam may be employed, as stated, into which may be introduced directly the requisite amount of the disinfectant by the means shown or any other suitable means, and whereby the carpet or other material may be cleaned and disinfected at the same time and by the same blast of steam impregnated with the disinfectant.

The carrier A is driven from any reversible source of power (not shown) by a belt applied to a pulley 64, secured to an extension of the front carrier-shaft.

The process of cleaning a carpet or other article by means of a machine of my invention is as follows: The operator opens the door 53 at the front end of the casing 51 and attaches an edge of the carpet or other article to the carrier A, preferably by means of the clips described. The door 53 is closed and movement is then imparted to the carrier in a direction to draw the carpet or other article attached thereto into the casing and beneath the brushes 36 and past the air-jets 19 and 28, movement being simultaneously imparted to all other requisite and connected cleaning instrumentalities. When the entire length of the carpet or other article has passed the cleaning instrumentalities in the forward movement of the carrier, the movement of the carrier is reversed, thus returning said carpet or other article to the door 53, through which it will be removed. It is obvious that the rearward movement of the carrier will expose the carpet or other article to the action of the cleaning instrumentalities a second time. Ordinarily the two exposures of the carpet or the like to the action of the cleaning instrumentalities will thoroughly cleanse it, but if it is very dirty the process may be repeated as often as may be deemed necessary. During the operation of the cleaning instrumentalities the dust and dirt expelled from the carpet or the like thereby is either washed down by the spray from the pipe 55 or is drawn out of the casing by the exhaust-fan 57, thus preventing an accumulation of dust and dirt within the casing 51. After the carpet has been thoroughly cleaned the air is shut off from the jets, the exhaust-fan 57 is stopped, and steam impregnated with disinfectant is admitted to the casing 51 from the tank 58 in the manner heretofore described. This finishes the cleaning and disinfecting and renovating operation, and the carpet or other article may be removed from the machine.

With the apparatus described not only carpets and rugs, but mattresses, blankets, and other similar articles or textile fabrics, may be readily and thoroughly cleansed, disinfected, and renovated with a minimum of labor and in an exceedingly short time.

It will of course be understood that various changes may be made in the details of the construction shown without departure from the spirit of the invention.

I claim as my invention—

1. In a carpet-cleaning machine, the combination with cleaning instrumentalities, of a carrier on which the article to be cleaned is supported, means to impart movement to said carrier, and means for detachably and yieldingly connecting said article to be cleaned to said carrier, substantially as described.

2. In a carpet-cleaning machine, the combination with cleaning instrumentalities, of a carrrier on which the article to be cleaned is supported, means to impart movement to said carrier, and means for removably securing the article to be cleaned to said carrier, said means comprising a spring-link, means for detachably securing one end of said link to the article to be cleaned and the opposite end to said carrier, substantially as described.

3. In a carpet-cleaning machine, the combination with cleaning instrumentalities, of a traveling carrier having an upper and lower lap on which the article to be cleaned is supported, means to impart movement to said carrier and means to maintain the article to be cleaned flat upon said carrier and to prevent sagging thereof away from the lower lap of said carrier, said means consisting of flexible cords extending longitudinally of the carrier substantially as described.

4. In a carpet-cleaning machine, the combination with cleaning instrumentalities, of a carrier on which the article to be cleaned is supported, and means to impart movement to said carrier, a revolubly-mounted drum, cords attached to said drum at one end and to said carrier at the other ends, and means controlled by the movement of said carrier for rotating said drum, substantially as described.

5. In a carpet-cleaning machine, the combination with cleaning instrumentalities, of a carrier on which the article to be cleaned is supported, and means to impart movement

to said carrier, of a revoluble drum, cords secured thereto at one end and yieldingly connected to said carrier at their opposite ends, and means controlled by the movement of the carrier for rotating said drum, substantially as described.

6. In a carpet-cleaning machine, the combination with cleaning instrumentalities, of a carrier on which the article to be cleaned is supported, and means to impart movement to said carrier, said cleaning instrumentalities comprising a jet pivotally mounted at the side of the carrier at an elevation to just clear the upper article-holding surface of said carrier and adapted to be swung to a position transversely of the carrier and also to one side substantially parallel to the same so that it will be out of the way, substantially as described.

7. In a carpet-cleaning machine, the combination with cleaning instrumentalities, of a carrier on which the article to be cleaned is supported and means to impart movement to said carrier, said cleaning instrumentalities comprising jets above and below said carrier, a brush revolubly mounted above said carrier at the front side of said jets, said brush and the jet above said carrier being adjustable toward and from said carrier, and means for so adjusting said brush and jet, substantially as described.

8. In a carpet-cleaning apparatus the combination with the cleaning instrumentalities, of a carrier on which the article to be cleaned is supported, and means to impart movement to said carrier, of a casing which incloses said carrier and cleaning instrumentalities, confining the dust and preventing its being diffused through the air, and means for projecting a spray of water into the casing to precipitate and wash down the dust and dirt expelled by the cleaning instrumentalities, substantially as described.

9. In a carpet-cleaning machine, the combination with the cleaning instrumentalities, of a carrier on which the article to be cleaned is supported, and means to impart movement to said carrier, of a casing which incloses said carrier and cleaning instrumentalities provided with a discharge-opening, the bottom of said casing declining toward said discharge-opening, and a spray-pipe for discharging sprays of water into said casing, substantially as described.

10. In a carpet-cleaning machine, the combination with the cleaning instrumentalities, of a traveling carrier on which the article to be cleaned is supported, having an upper lap and a lower lap, and means for imparting movement to said carrier, of a casing which incloses said carrier and cleaning instrumentalities provided with an outlet-opening, the bottom of said casing declining toward said outlet-opening, a spray-pipe for discharging sprays of water into said casing beneath said carrier, and means to prevent the article to be cleaned from sagging away from said lower lap into the sprays, substantially as described.

11. In a carpet-cleaning machine, the combination with a carrier and means for actuating the same, of an air-jet, comprising a tubular chamber and a lateral extension therefrom, provided with a discharge-opening at its edge, washers inserted between the sides of said discharge-opening and means to contract said discharge-opening, slides at the ends of said jets, guides or ways in which said slides are movably secured, and means to adjust said jet toward and from said carrier, substantially as described.

12. In a carpet-cleaning machine the combination with a carrier, cleaning instrumentalities and means for actuating the same, of a casing with trough-shaped bottom, inclined from front to rear end thereof and provided with an outlet-opening at this bottom end, a system of water-pipes with perforations adapted to spray water under the carrier, said outlet-opening at the rear or lower end of said casing being connected by a pipe with sewer or other drainage pipe, substantially as, and for the purpose described.

13. In a carpet-cleaning machine, the combination with cleaning instrumentalities embodying air-jet devices and the means for actuating the same, of a tank containing a disinfectant in solution, a perforated steam-pipe in the bottom of the tank adapted to be connected with a source of steam-supply, and means connected to vapor-space of the tank for discharging the steam impregnated with the disinfectant upon the carpet or other article through the air-jets, substantially as, and for the purpose described.

14. In a carpet-cleaning machine, the combination of a casing having a trough-shaped bottom inclining rearwardly, a carrier in the casing and means for operating the carrier, liquid-spraying means in the casing, an outlet-pipe connected to the lower rear end of the trough, an exhaust device having its intake connected to the rear end of the casing and its exhaust end connected to said outlet-pipe, for the purposes set forth.

15. In a carpet-cleaning machine, the combination with a casing, a traveling carrier therein and means for attaching the carpet to the carrier, means to impart movement to the carrier, an air-jet pipe pivotally supported at one side of the casing and adapted to swing in to just clear the upper carpet-holding surface of the carrier, said pipe being provided with numerous outlet-holes along its upper side, and means for supplying fluid under pressure to said pipe.

16. In a carpet-cleaning machine, the combination with spraying devices, cleaning instrumentalities, and means for actuating the same, of a casing contracted at its rear end and having a rearwardly-inclined trough

formed in its bottom, an exhaust-fan having its inlet connected with said contracted rear end and provided with an exhaust extension, a water-discharge pipe extended from the lower rear end of the trough part of said casing and connected to said exhaust extension beyond the fan, substantially as and for the purpose described.

In testimony that I claim the foregoing as my invention I affix my signature, in the presence of two subscribing witnesses, this 30th of October, A. D. 1903.

EUGENE A. THOMAS.

Witnesses:

KATHERINE H. ELLIOTT,

GEORGE R. BROWN.