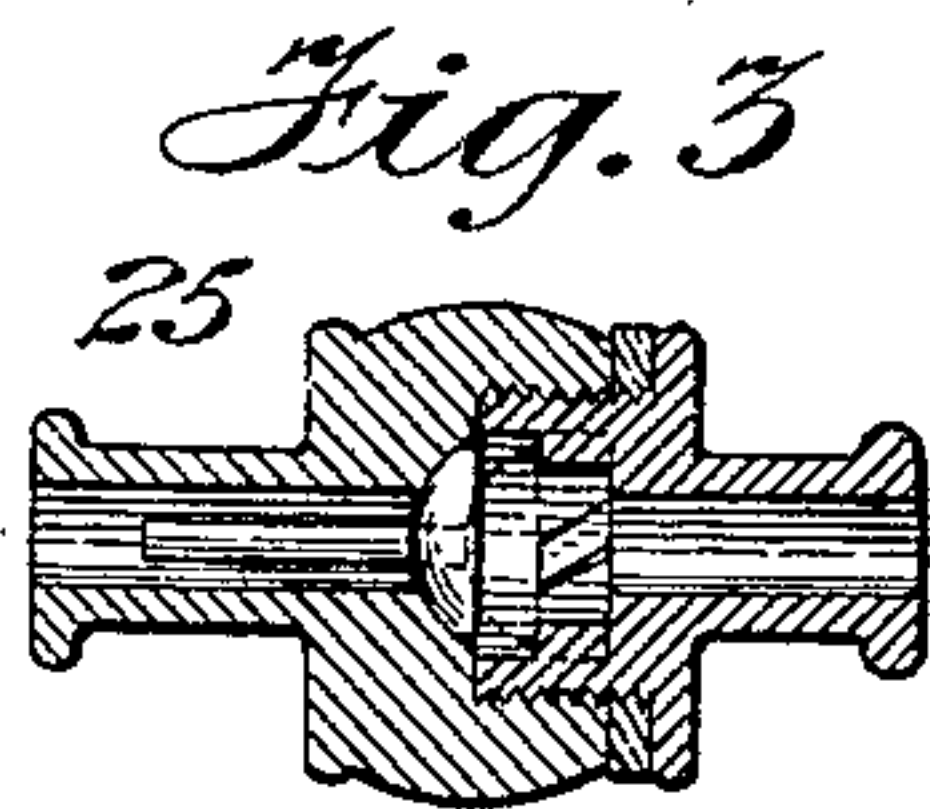
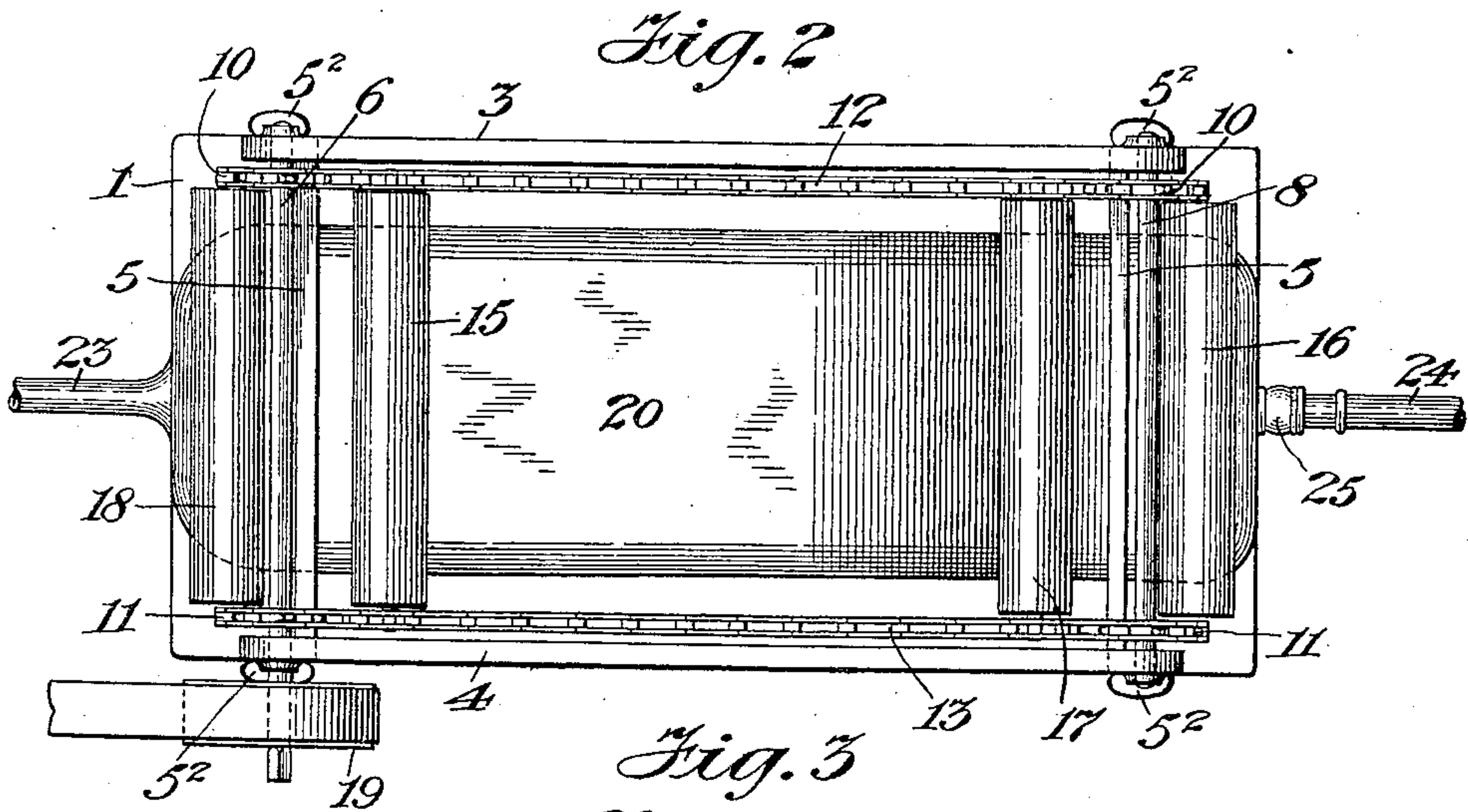
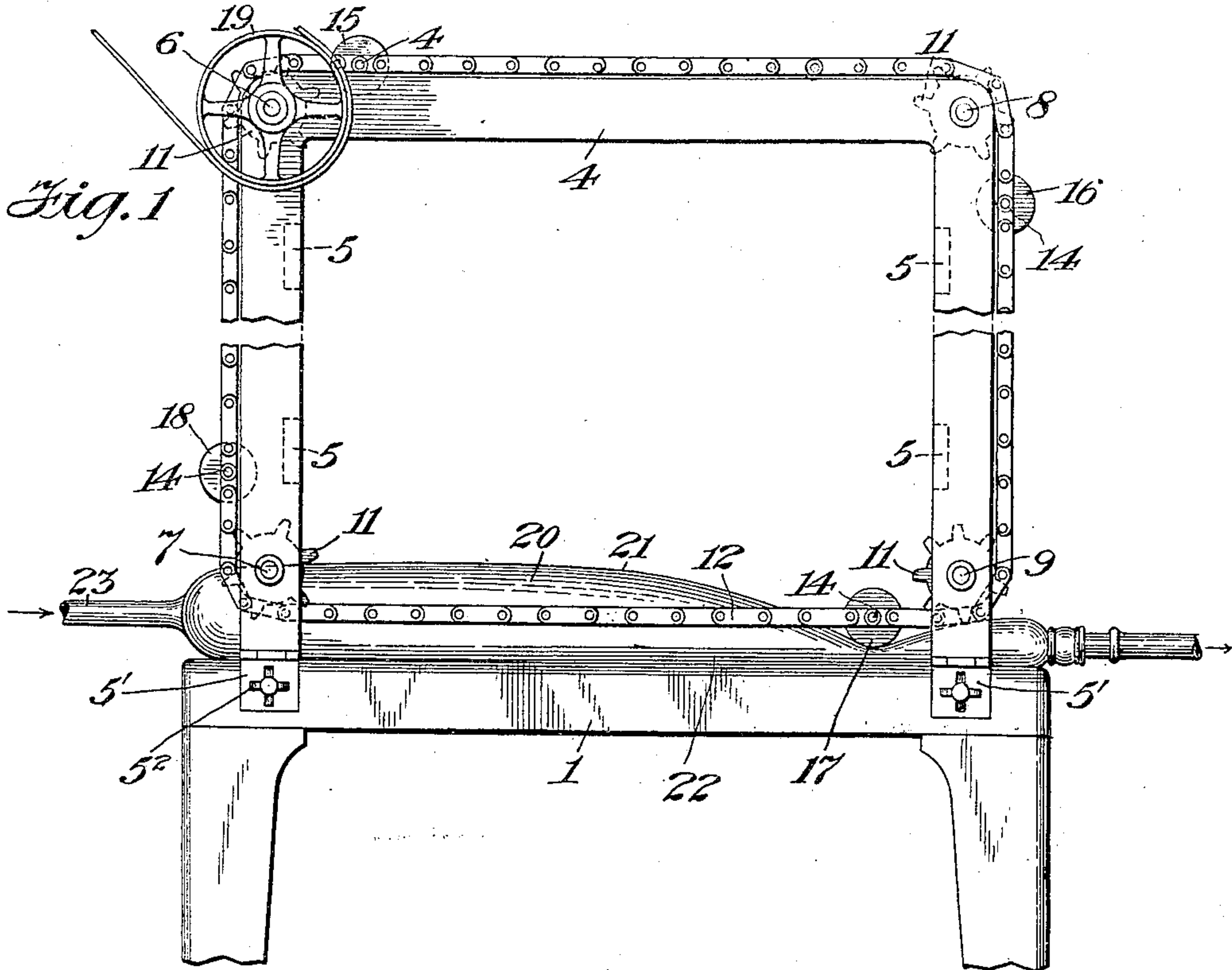


No. 829,723.

PATENTED AUG. 28, 1906.

H. A. METZ.
PUMP.

APPLICATION FILED APR. 12, 1905.



Witnesses
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UNITED STATES PATENT OFFICE.

HERMAN A. METZ, OF NEW YORK, N. Y.

PUMP.

No. 829,723.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed April 12, 1905. Serial No. 255,116.

To all whom it may concern:

Be it known that I, HERMAN A. METZ, a citizen of the United States, and a resident of Greater New York, in the county of Kings
5 and State of New York, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

My invention relates to pumps.

It has for its object to provide a pump
10 adapted to transfer liquids from one place to another without churning and without contact with air, whereby chemicals in liquid forms can be transferred without oxidation.

It has for a further object to provide a
15 pump of the character set forth embodying advantages in point of perfect operation, simplicity, and inexpensiveness of construction, and durability.

In the drawings, Figure 1 is a side view of
20 my pump. Fig. 2 is a plan view thereof, and Fig. 3 is a sectional view of the valve at the discharge end of the bag.

In all the figures of the drawings illustrating my invention like reference characters
25 designate corresponding parts.

Referring to the drawings, 1 designates the table, upon which are mounted two open vertical frames 3 and 4, connected together by cross-bars 5, said frames being removably se-
30 cured to the table by means of hinged slotted ears 5', secured thereto and adapted to engage rotatable buttons 5² on the table.

Shafts 6, 7, 8, and 9 are rotatably jour-
naled in the corners of the frames and have
35 sprocket-wheels 10 and 11 secured thereon, the sprocket-wheels 10 being connected by a sprocket-chain 12 and the sprocket-wheels 11 by a sprocket-chain 13, these chains being connected together by rods 14, on which are
40 journaled rollers 15, 16, 17, and 18. To provide means for operating the chains by power, a pulley 19 is secured on the projecting end of the shaft 6, and to provide means for oper-
ating them by hand the extreme end of the
45 shaft 6 is squared to receive a crank.

On the top of the table is placed the flexi-
ble bag 20, the walls 21 and 22 of which are adapted to be brought together when the rollers pass over them and when released
50 from pressure to automatically spring apart. A tube 23 leads into the suction end of the

bag 20, and a tube 24 leads from the discharge end of the bag, and to prevent the liquid which has been discharged from re-
turning into the bag a valve 25 is provided at
55 the discharge end thereof.

The operation is as follows: To transfer liquid from one receptacle to another, the pipe at the discharge end of the bag is con-
nected to the receptacle to receive the liquid
60 and the pipe at the suction end connected to the receptacle containing the liquid to be transferred. The chains are then revolved by power applied to the shaft 6, and each
roller carried thereby successively engages
65 and compresses the bag from end to end, continuously drawing the liquid into said bag at the suction end and forcing liquid out of it at the discharge end.

I do not wish to be understood as limiting
70 myself to the precise detail and arrangement of parts shown and described, but reserve the right to all modifications within the scope of my invention.

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

In a pump, the combination of a wide substantially flat flexible bag having a narrow inlet-hole at one end and a narrow outlet-
80 hole at the other end, a narrow outlet-pipe leading from the outlet-hole, a narrow inlet-pipe leading from the inlet-hole, an automatically-operable valve controlling the outlet adapted to permit outflow but prevent
85 backflow, a table adapted to support said bag, frames on said table, means connecting said frames together, ears hinged to each frame and having slots, rotatable buttons on said table adapted to engage the slots in said
90 frames, whereby the frame may be turned to either side on said hinges and removed by disengaging said ears from the buttons, substantially as described.

Signed at New York, in the county of New
York and State of New York, this 28th day
95 of March, A. D. 1905.

HERMAN A. METZ.

Witnesses:

CHAS. FUCHSTEIN,
H. J. NEUMAN.