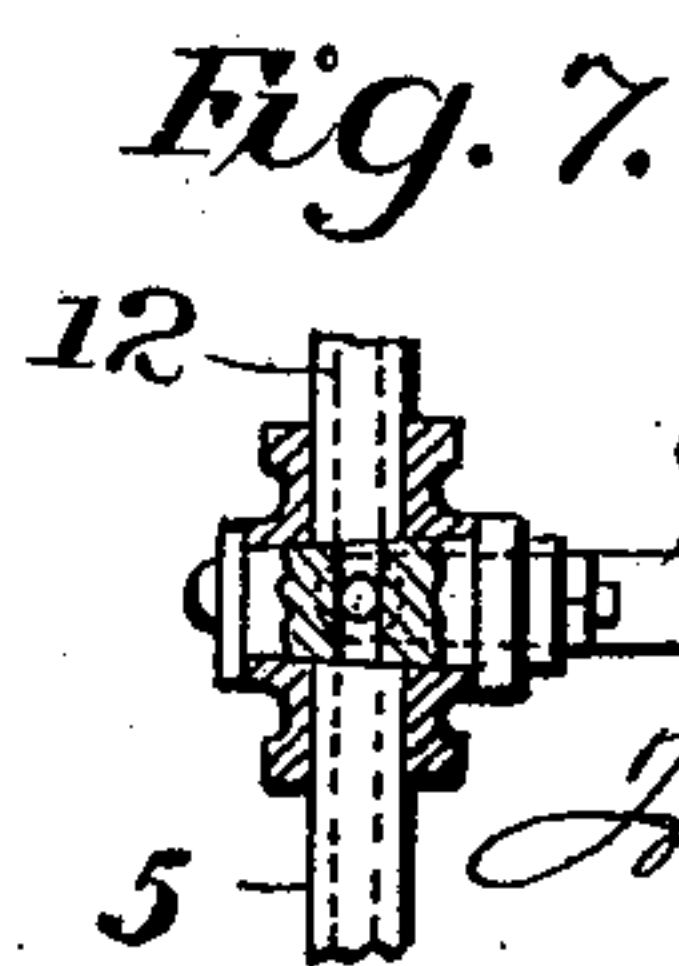
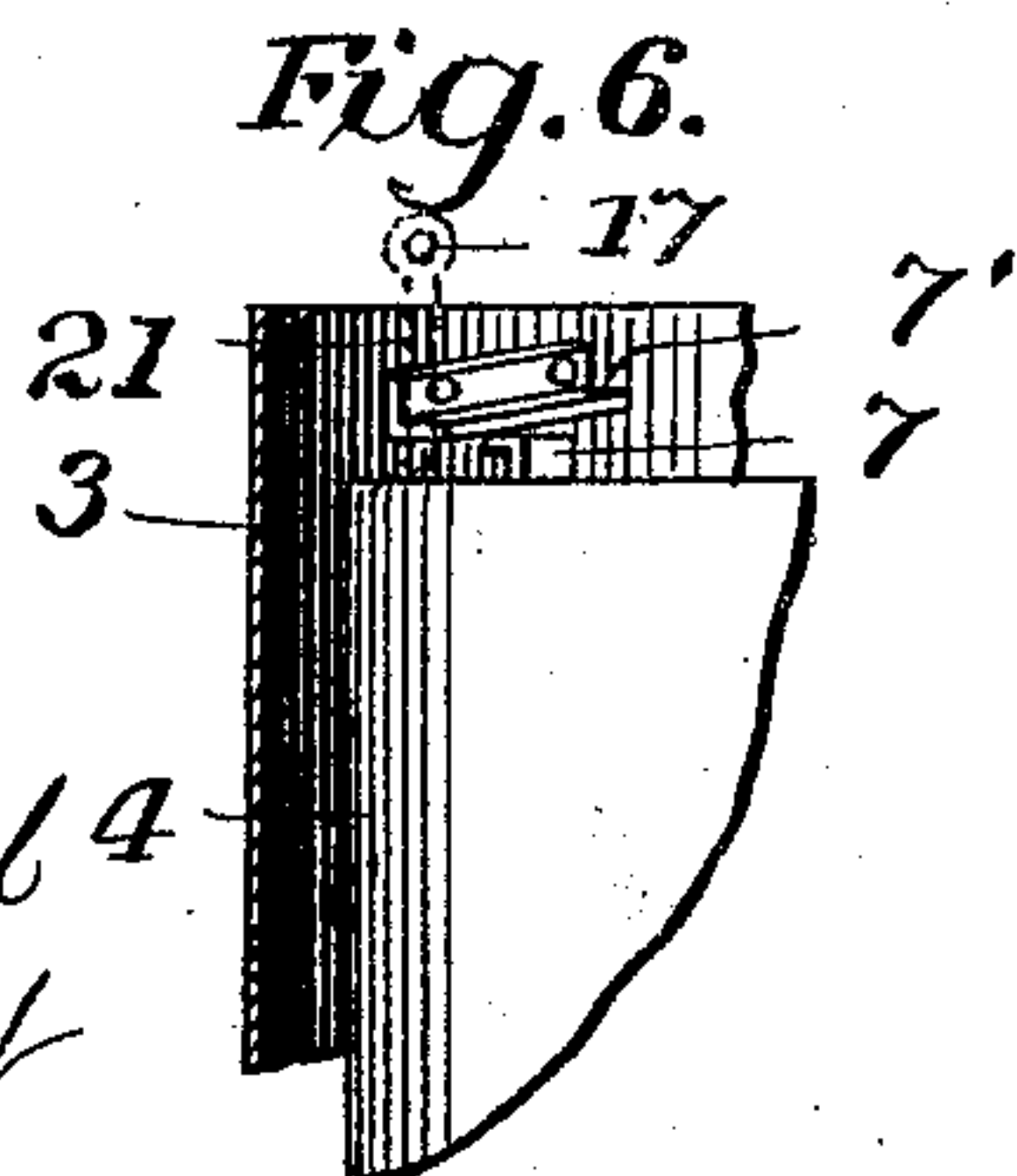
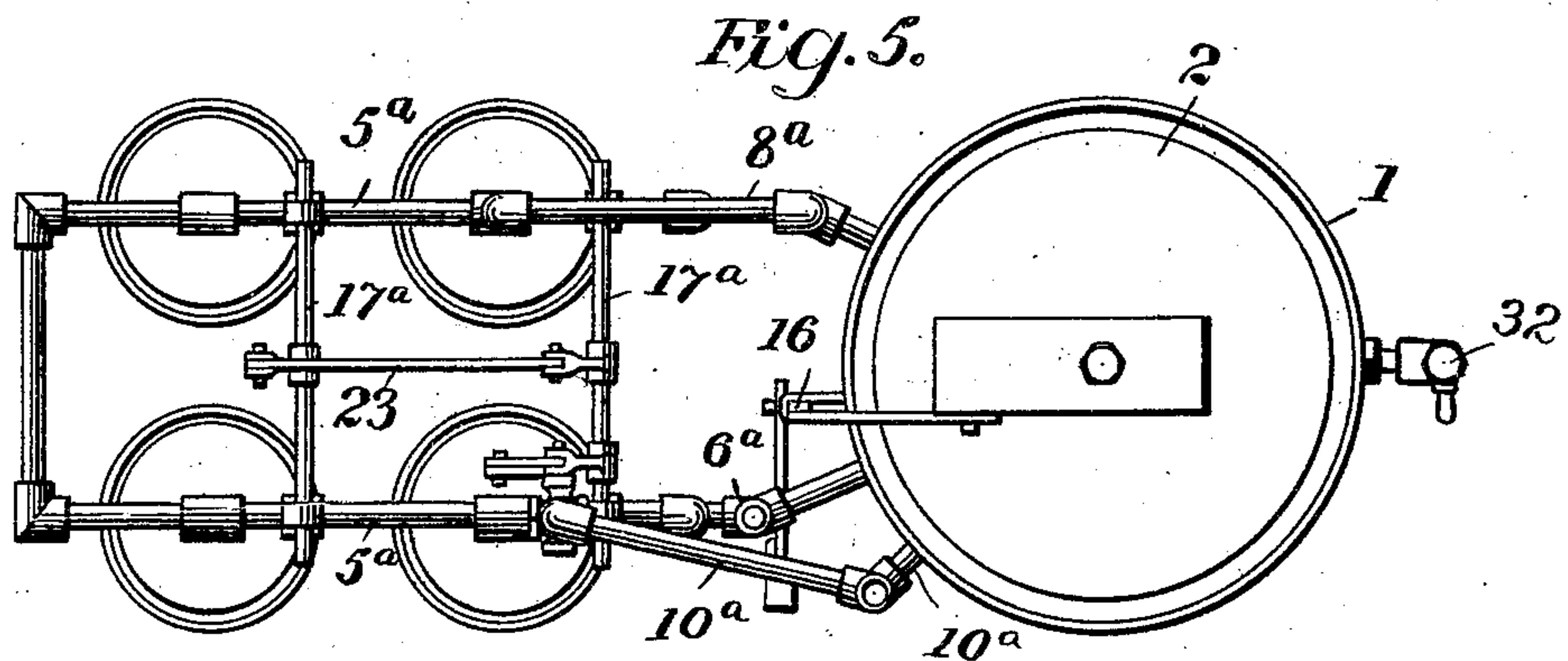
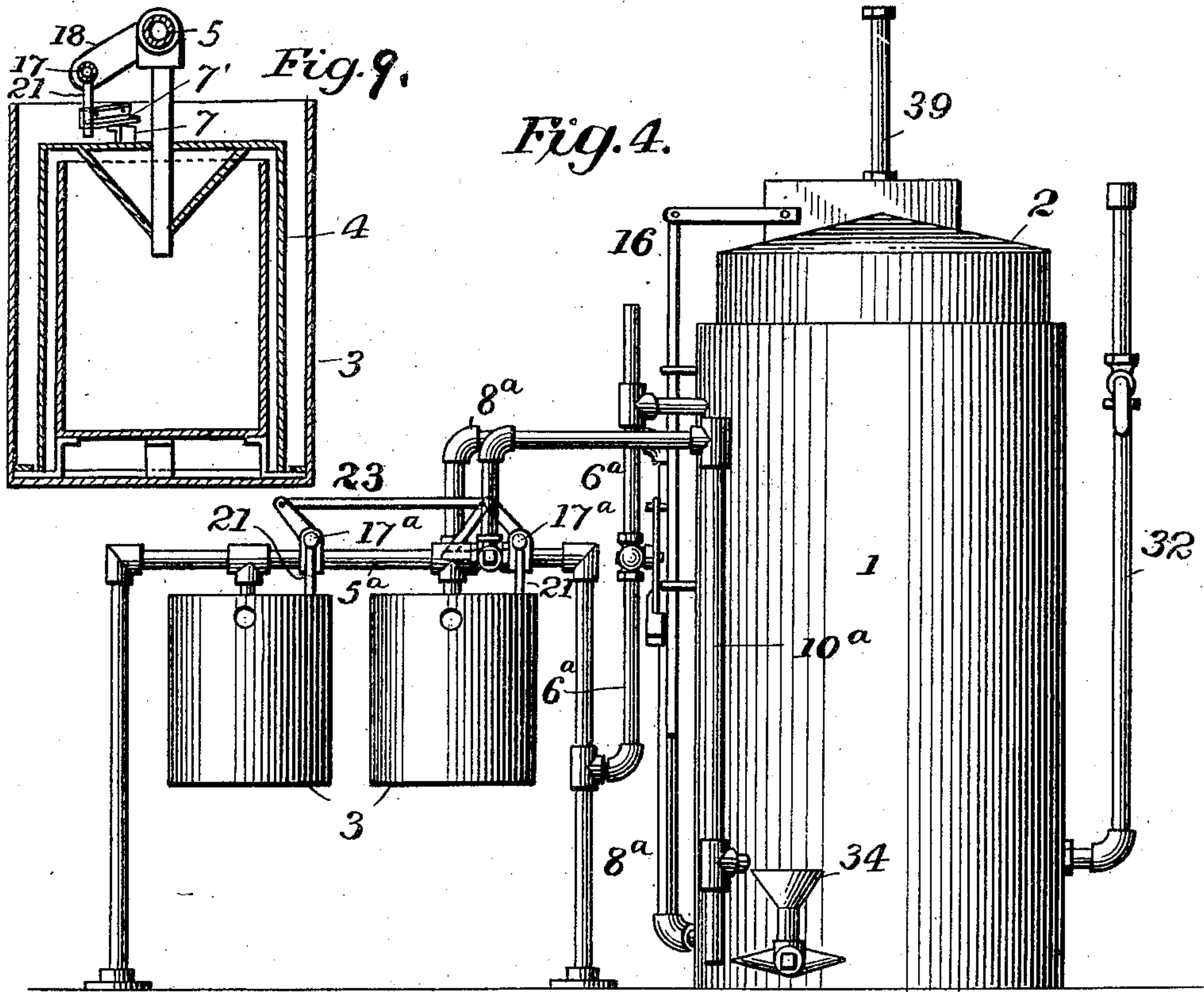




C. K. SOBER.  
ACETYLENE GAS APPARATUS.  
APPLICATION FILED AUG. 24, 1908.

933,793.

Patented Sept. 14, 1909.  
2 SHEETS—SHEET 2.



Witnesses  
J. Hinkel  
B. C. Rust

Inventor  
C. K. Sober  
Foster, Freeman, Watson & Co.  
Attorneys.



# UNITED STATES PATENT OFFICE.

COLEMAN K. SOBER, OF LEWISBURG, PENNSYLVANIA.

## ACETYLENE-GAS APPARATUS.

933,793.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed August 24, 1908. Serial No. 450,002.

*To all whom it may concern:*

Be it known that I, COLEMAN K. SOBER, a citizen of the United States, and resident of Lewisburg, county of Union, State of Pennsylvania, have invented certain new and useful Improvements in Acetylene-Gas Apparatus, of which the following is a specification.

The present invention relates to improvements in acetylene gas apparatus and will be described in connection with the accompanying drawings, in which,

Figure 1 is a side elevation of an apparatus embodying the present invention; Fig. 2 is a plan; Fig. 3 is a sectional view on the line 3—3 of Fig. 1; Fig. 4 is a side elevation showing a slightly different arrangement of generators; Fig. 5 is a plan of the parts shown in Fig. 4; Figs. 6 to 9 are detail views.

The apparatus described in the accompanying drawings is generally similar to that shown in a prior patent No. 667,801 including a gasometer comprising a tank 1 and bell 2, and a plurality of generators each including a bucket-like receptacle 3 for containing water and a holder for carbid, and a bell 4 which is inverted in the receptacle 3 over the carbid holder therein. The generators are suspended from a frame including a conduit or pipe 5 which in the present instance is connected with the tank of the gasometer by a water supply pipe 6. The members 3, 4, of the generators are detachably connected, the member 4 being preferably permanently connected with the supporting frame and the outer bucket-like vessel 3 being connected with the member 4 by suitable lugs 7, 7', the parts being engaged or disengaged by a relative turning or rotary movement of the receptacle 3 about a vertical axis. The lugs 7' are arranged at such distance from the bottom of the receptacle 3 that the feet of the carbid holder therein will contact with the lower end of the member 4 before said lugs can be moved out of contact with the lugs 7 by turning the receptacle in one direction. When turned in the opposite direction, however, the lugs 7' will pass off of the lugs 7 and permit the receptacle 3 to be lowered and removed. As in the apparatus of the patent referred to, the generators are supplied with water from the pipe 6 through the pipe 5 which also is connected

with a pipe 8 for conducting the gas to the gasometer.

In the form of the apparatus shown in Figs. 1 to 3, the generators are arranged in two groups or series, each comprising three generators and the pipe 5 has therein two valves 9 by manipulating which the supply of water from the pipe 6 can be directed to either of said groups or series of generators.

A pipe 10 leading from a safety or "blow-off" pipe connected with the gasometer is connected with the pipe 5 through branch ducts 12, 13, and in the couplings between said branches 12, 13, of the escape pipe and the pipe 5 are arranged suitable 3-way valves 14 each of which is provided with an actuating arm 15.

By adjusting the proper valves 9, 14, water from the tank of the gasometer will be conducted through the pipe 5 to the members of one of the groups of generators in succession and the gas generated by the action of such water on the carbid in the generators will pass through the pipes, 5, 8, to the gasometer. The flow of water through either section of the pipe 5 will be automatically controlled by a suitable valve mechanism connected by a rod 16 with the bell of the gasometer so that the generation of gas will be regulated as is customary in apparatus of this character.

When it is desired to recharge the generators it is necessary that the communication between the pipes 5, 8, be cut off and the section of the pipe 5 to which the generators to be recharged are connected must be brought into communication with the escape pipe 10; and it is important that the parts be so constructed as to make it impossible to detach the members 3 of the generators until the proper valve 14 has been so adjusted as to obtain this result. Therefore means are provided whereby the members 3 of each group of generators are positively held in engagement with the members 4 thereof and cannot be disconnected until the valve 14 controlling the connection of the pipe 5 with the pipes 8 and 10 has been adjusted to close the connection between such group of generators and the gasometer and to open the connection between said generators and the escape pipe. As shown, this means includes a rock shaft 17 mounted in bearings 18 im-



movably supported from the pipe 5 and said shaft is connected by links 19, 20, with the arm 15 of the valve 14. The rod 17 extends over each member of a group or series of generators and is provided with a plurality of radially projecting pins or stops 21 which when the valve 14 is in position to permit gas to pass from the pipe 5 to the pipe 8 will extend into the upper open ends of the respective members 3 of the generators and across the ends of lugs 7' so as to prevent the turning movement thereof necessary to disconnect said members 3 from the lugs 7 of the members 4. When the valve 14 is adjusted (by depressing the arm 15) to cut off the connection between the pipes 5 and 8 and bring the pipe 5 into communication with the escape pipe 10, the shaft 17 will be rocked so as to bring the pins 21 thereon into a position above the lugs 7 and then the members 3 can be readily disconnected from the members 4 of the generators by a slight turning movement.

The number of generators in each group or series may be varied according to the capacity of the apparatus. In Figs. 4 and 5 is illustrated an apparatus including but four generators and in this form the rock shafts 17<sup>a</sup> extend transversely across the frame formed by the members of the water and gas conduit 5<sup>a</sup>, said shafts being connected by a link 23 and one of them being connected with a three-way valve arranged to connect the pipe 5<sup>a</sup> with either the escape pipe 10<sup>a</sup> or to open the connection between the water supply pipe 6<sup>a</sup> and the gas pipe 8<sup>a</sup> through said pipe 5<sup>a</sup>.

The gasometer employed in the present apparatus is specifically different in structure from that shown in said prior patent.

In the present construction the outer tank of the gasometer is divided into two compartments or chambers by a horizontal partition 30 which supports the pipe 31 that is connected with the service pipe 32 and the pipe 33 that is connected with the escape pipe of the apparatus.

The "condensation" chamber formed at the bottom of the gasometer tank by the partition 30 is supplied with water through a funnel or filling tube 34 and the water therein is maintained at a level above the discharge cap or perforated member 35 at the lower end of the gas pipe 8, 8<sup>a</sup>. Preferably the condensation chamber is divided into two compartments by a depending partition or plate 36 which however does not extend entirely to the bottom of the gasometer tank. The gas pipe 8, 8<sup>a</sup> discharges the gas into the smaller of the compartments formed by the plate 36 and from said compartment the gas is conducted to the interior of the bell 2 by a pipe 37 that is supported by the diaphragm or horizontal partition 30.

In order that the several pipes may be

firmly supported and the weight of the horizontal partition maintained at a minimum said partition is formed of relatively thin metal and a heavier cross bar 38 is provided to which the pipes are attached.

The vertical movements of the bell 2 are guided by a rod 39 attached to the bottom of the tank 1 and the cross bar 38 and extending through a tube or sleeve that opens through the top of the bell.

No claim is herein made to the particular construction of the gasometer illustrated and described, as the same will form the subject-matter of a divisional application.

Having described the invention what is claimed is,

1. In an acetylene gas apparatus, the combination of a gasometer, a generator comprising a receptacle for water and carbide and a bell, said receptacle and bell being detachably connected, pipes connecting the gasometer and generator for conducting water to the generator and gas therefrom to the gasometer, an escape pipe connected with said pipes, a valve adapted to normally permit gas to pass from the generator to the gasometer and to be adjusted to close the passage between the generator and gasometer and bring the generator into communication with the escape pipe, a rock shaft connected with said valve, and means connected with said shaft and adapted to prevent disengagement of the bell and water receptacle of the generator when the latter is in communication with the gasometer and to be adjusted to inoperative position when the valve is moved to place the gasometer in communication with the escape pipe.

2. In an acetylene gas apparatus, the combination of a gasometer, a plurality of generators each comprising a detachable receptacle for water and carbide and a bell, a pipe connecting the gasometer with each of the generators and adapted to supply water to the generators successively and to conduct gas from the generators to the gasometer, an escape pipe communicating with said pipe between the generators and the gasometer, a valve adapted in one position to establish communication between the generators and gasometer and in another position to connect the generators and escape pipe, a rock shaft extending over the several generators and having above each generator a radially projecting stop, and connections between said valve and rock shaft, whereby when the valve is adjusted to place the generators in communication with the gasometer the shaft will be rocked to bring the stops thereon in position to prevent disengagement of the water receptacles and the bells of the generators.

3. In an acetylene gas apparatus, the combination of a gasometer, generators each comprising a receptacle for carbide and



water and a bell, which parts are detachably  
connected, the generators being arranged in  
a plurality of groups or series, a pipe con-  
necting each group or series of generators  
5 with the gasometer tank for supplying water  
to the generators, a gas pipe connecting the  
several groups of generators with the gasom-  
eter, an escape pipe connected with the gas  
pipe, a valve adapted to place each group of  
10 generators in communication with either the  
gas pipe or escape pipe, and a rock shaft ex-  
tending across the members of each group of  
generators and connected with the valve for

said group, each rock shaft having a plu-  
rality of radially projecting pins adapted to 15  
engage the water receptacles of the genera-  
tors and prevent disengagement thereof  
when the generators are in communication  
with the gas pipe.

In testimony whereof I affix my signature 20  
in presence of two witnesses.

COLEMAN K. SOBER.

Witnesses:

EDITH M. CUMMINGS,  
WILLIAM R. FOLLMER.