

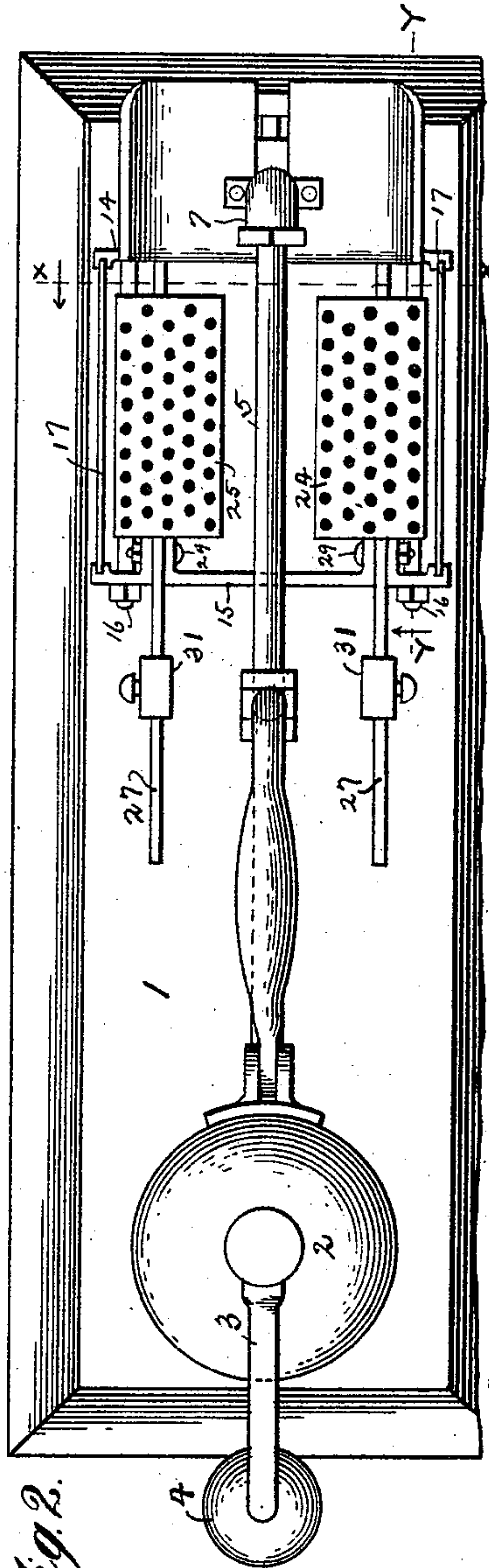
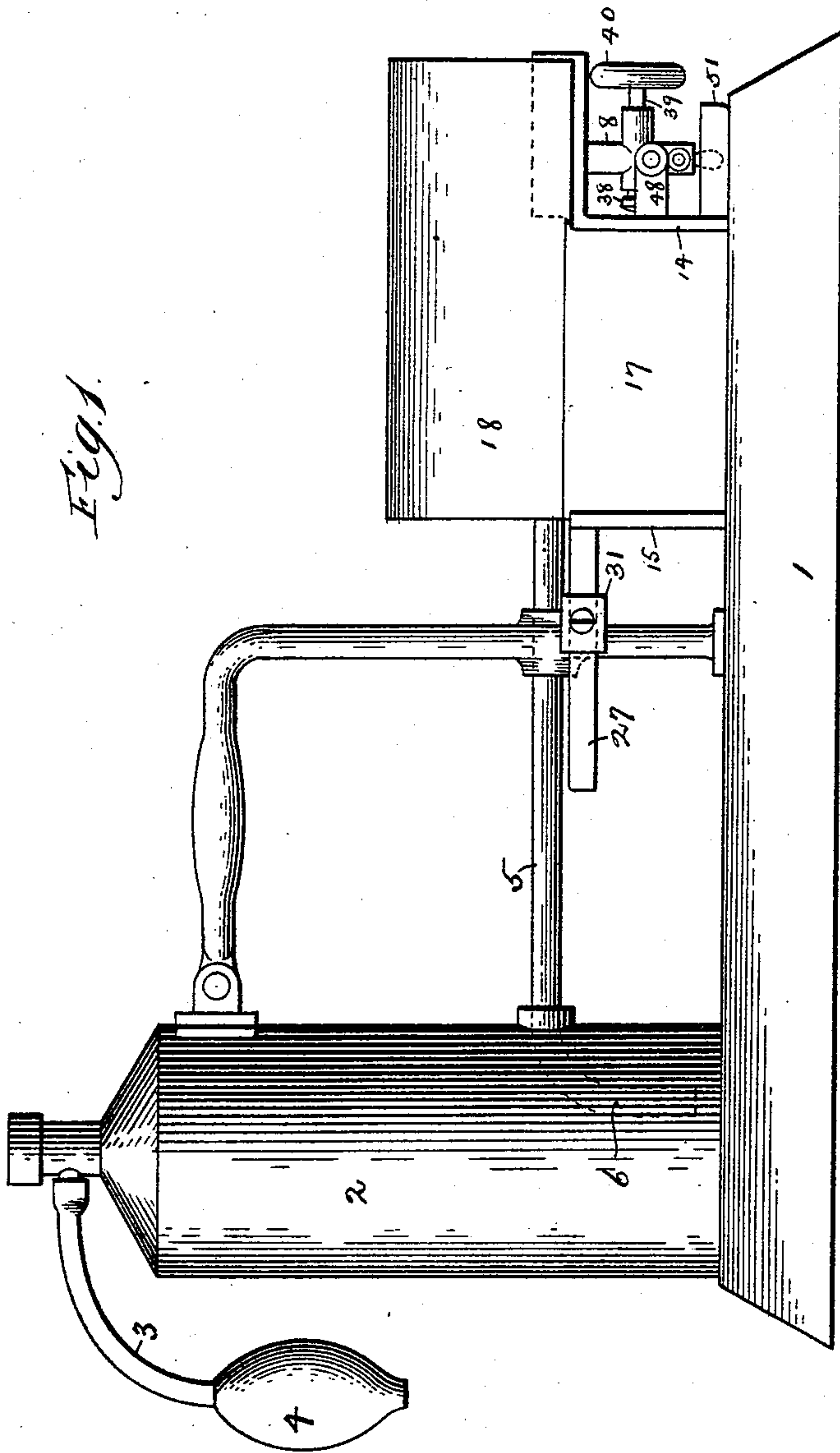
(No Model.)

3 Sheets—Sheet 1.

G. A. TRIGGS.  
TINNER'S FIRE POT.

No. 539,456.

Patented May 21, 1895.



WITNESSES:

*Clifford N. White,*  
*Herman E. Schnabel*

INVENTOR

*George A. Triggs*

BY

*Casper L. Redfield*

ATTORNEY.

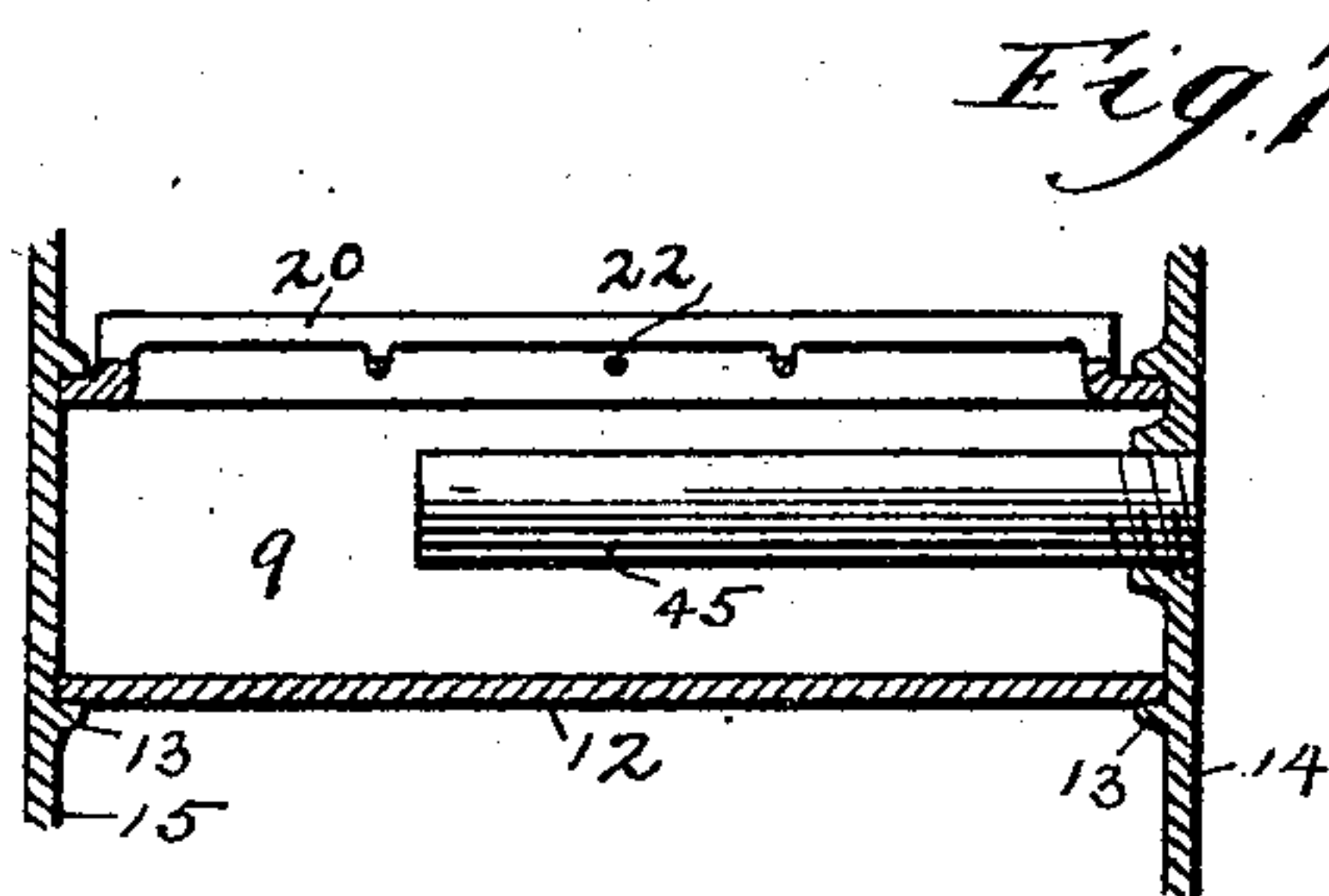
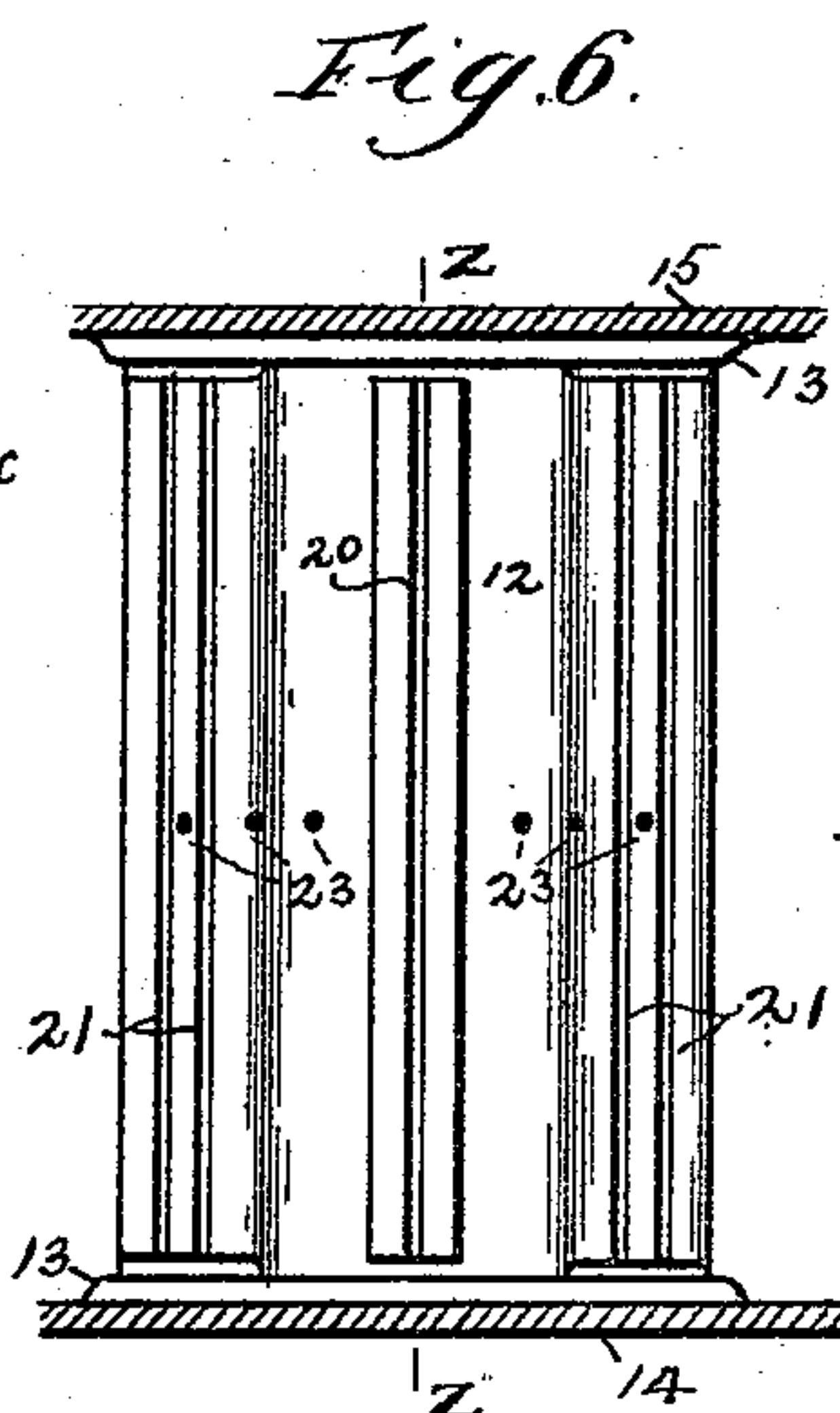
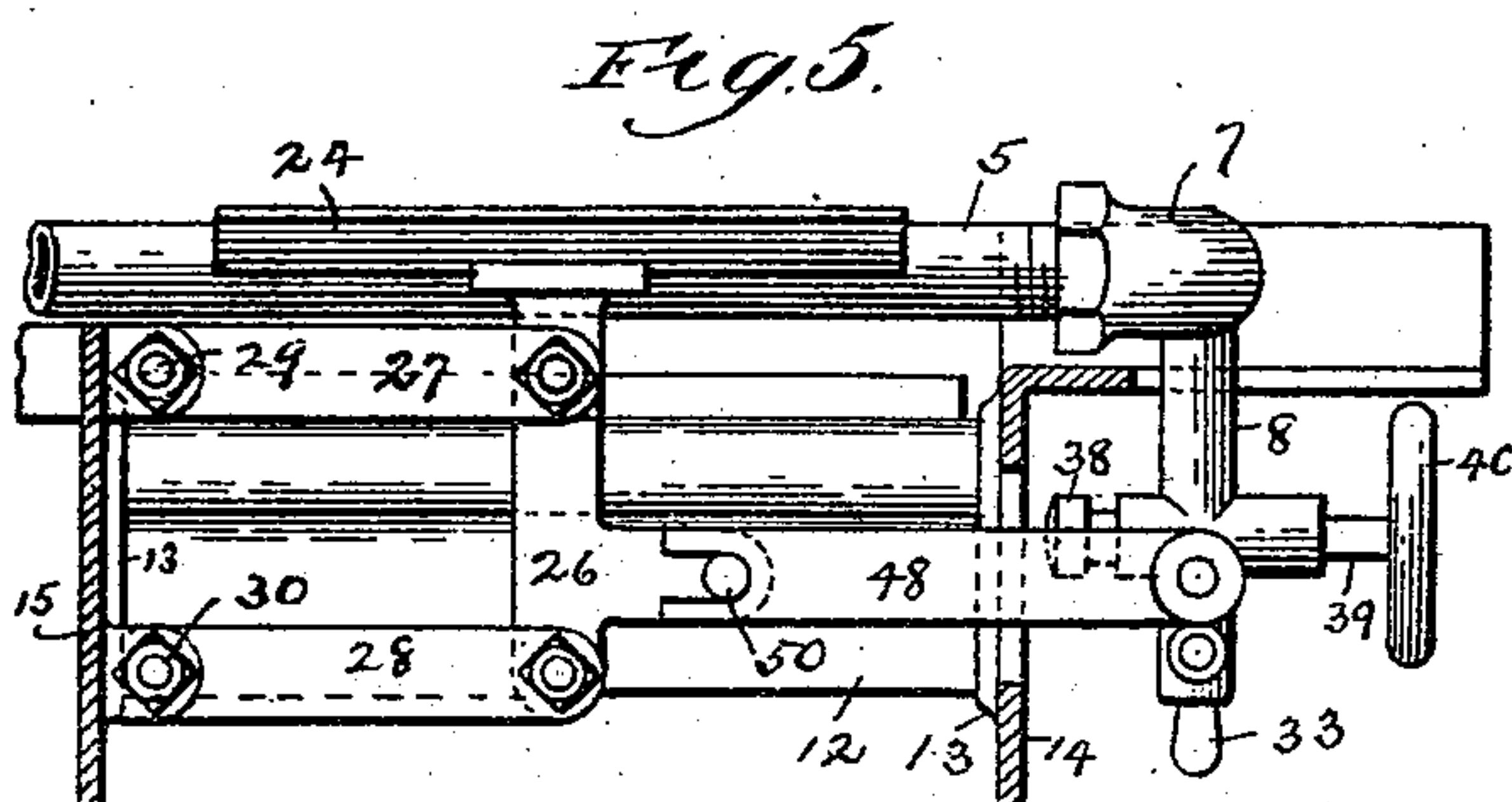
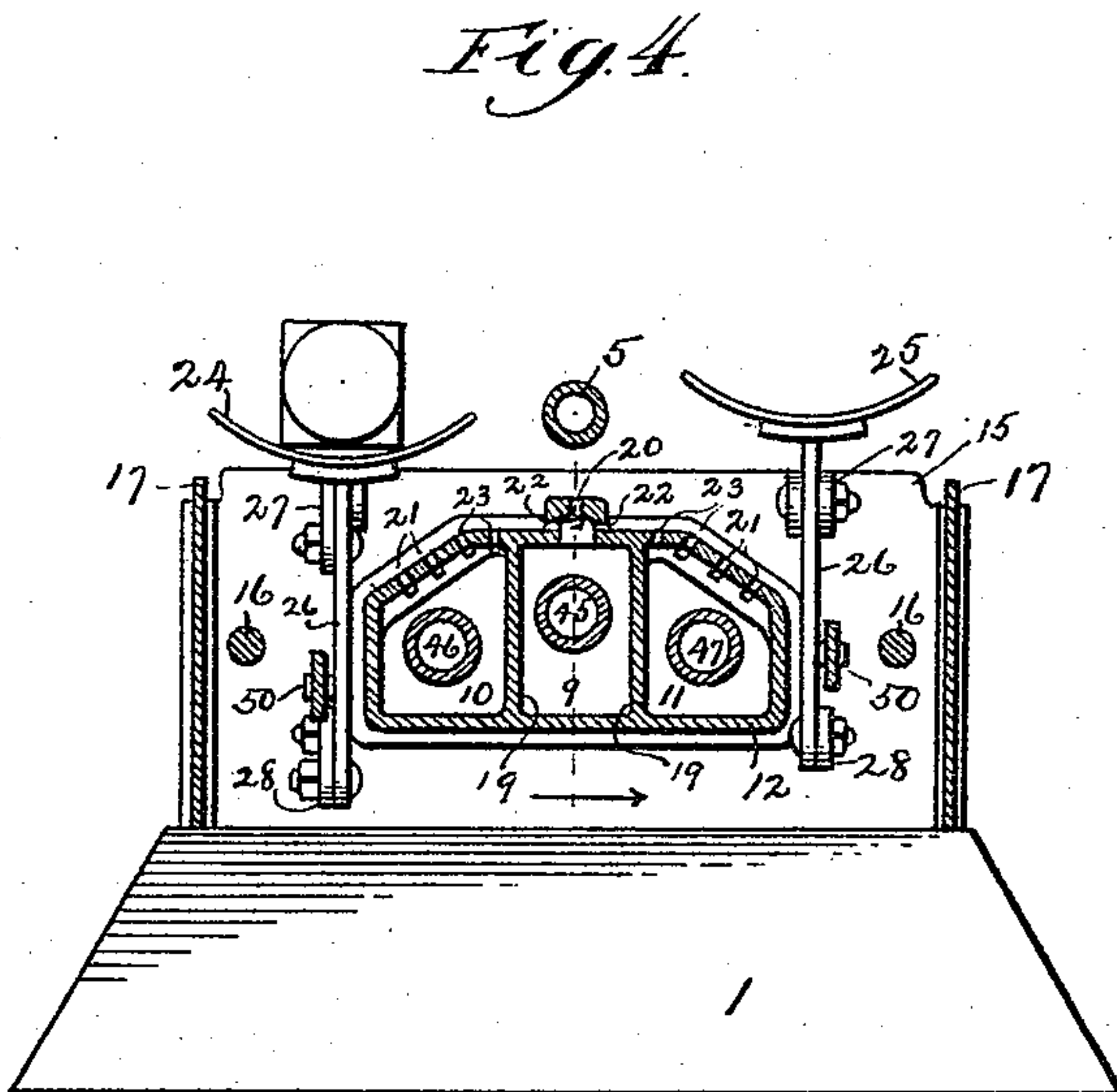
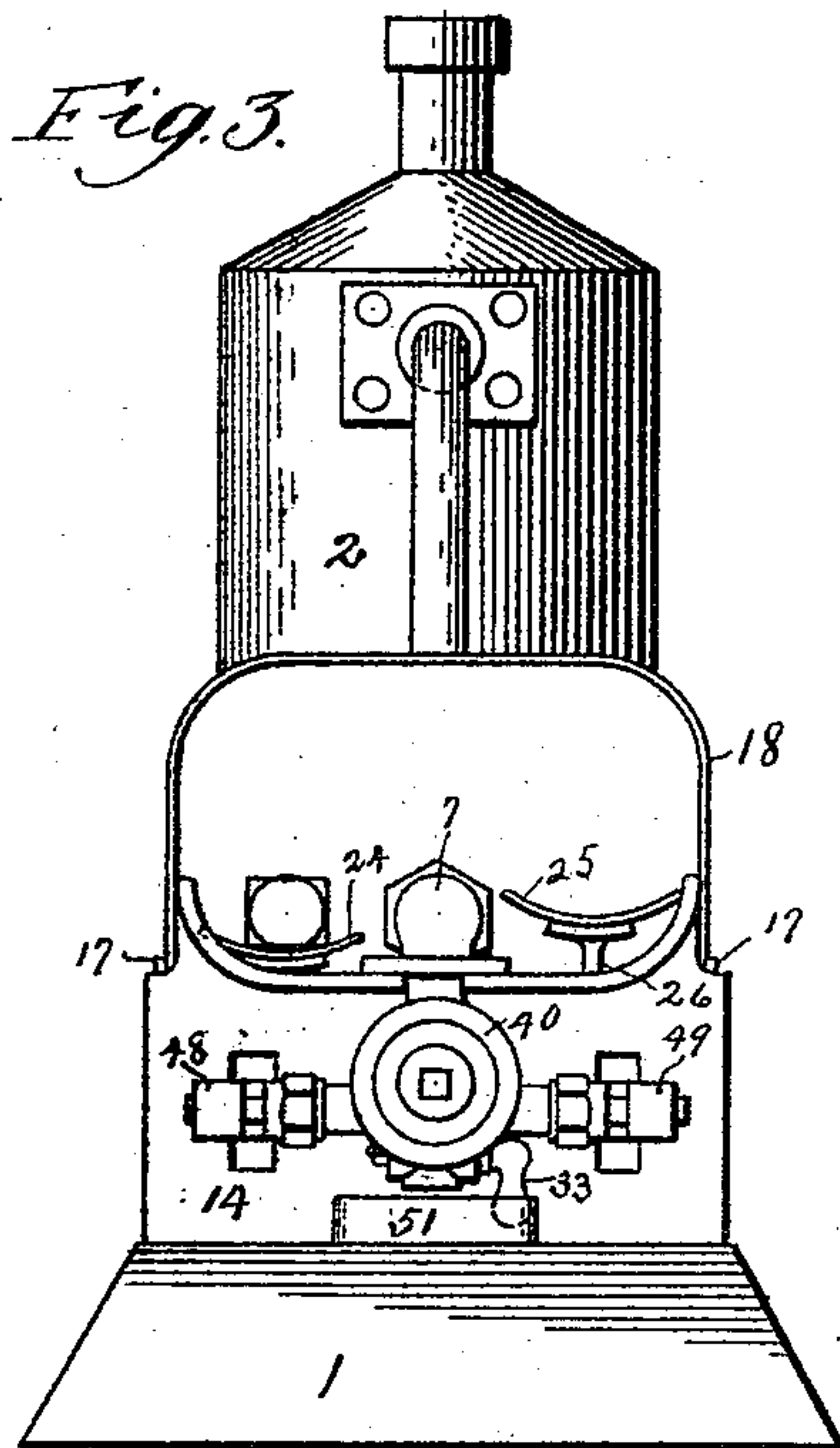
(No Model.)

3 Sheets—Sheet 2.

G. A. TRIGGS.  
TINNER'S FIRE POT.

No. 539,456.

Patented May 21, 1895.



WITNESSES:

*Clifford V. White,*  
*Herman E. Schmabel*

INVENTOR

*George A. Triggs*

BY

*Casper L. Redfield*

ATTORNEY.

(No Model.)

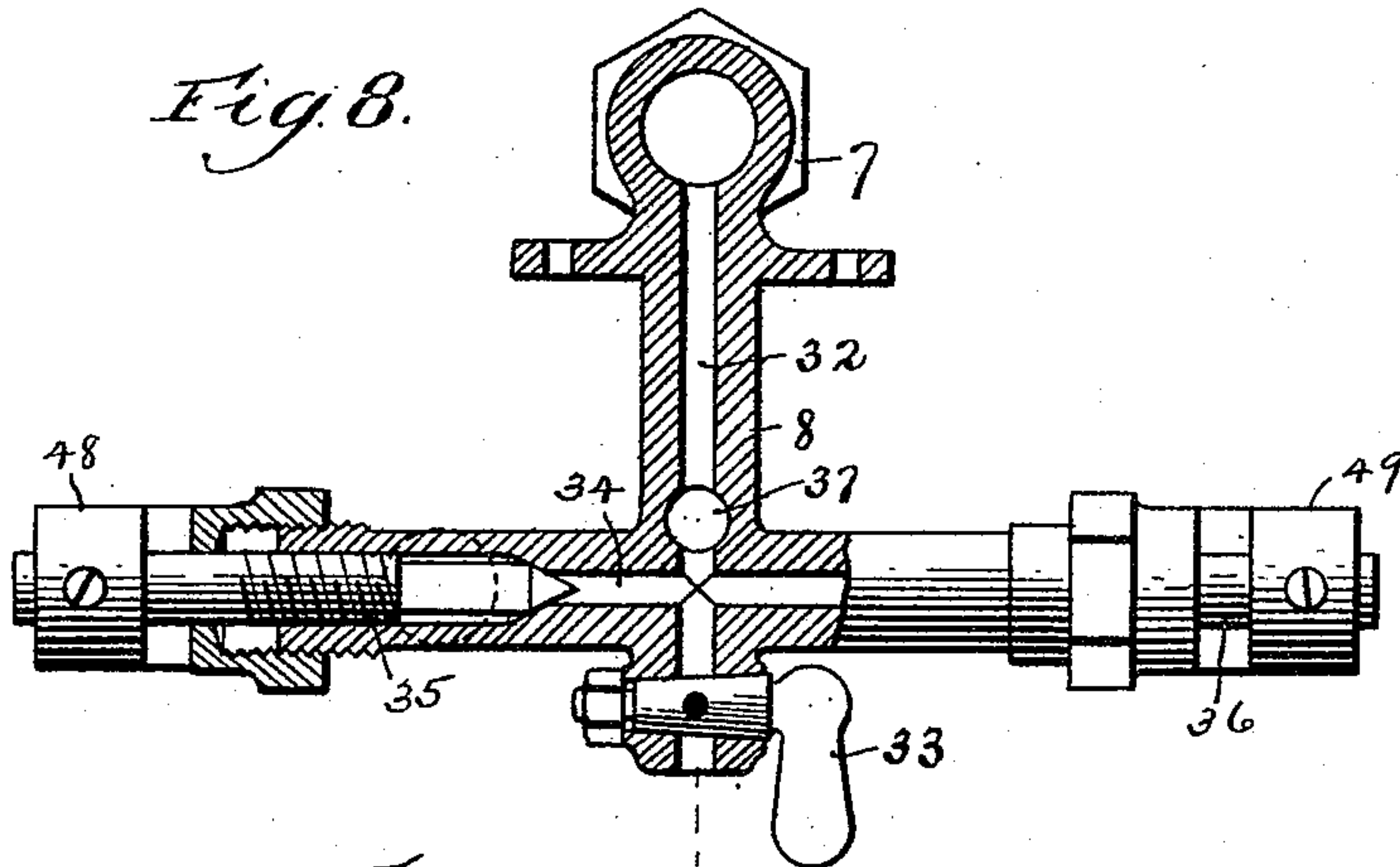
3 Sheets—Sheet 3.

G. A. TRIGGS.  
TINNER'S FIRE POT.

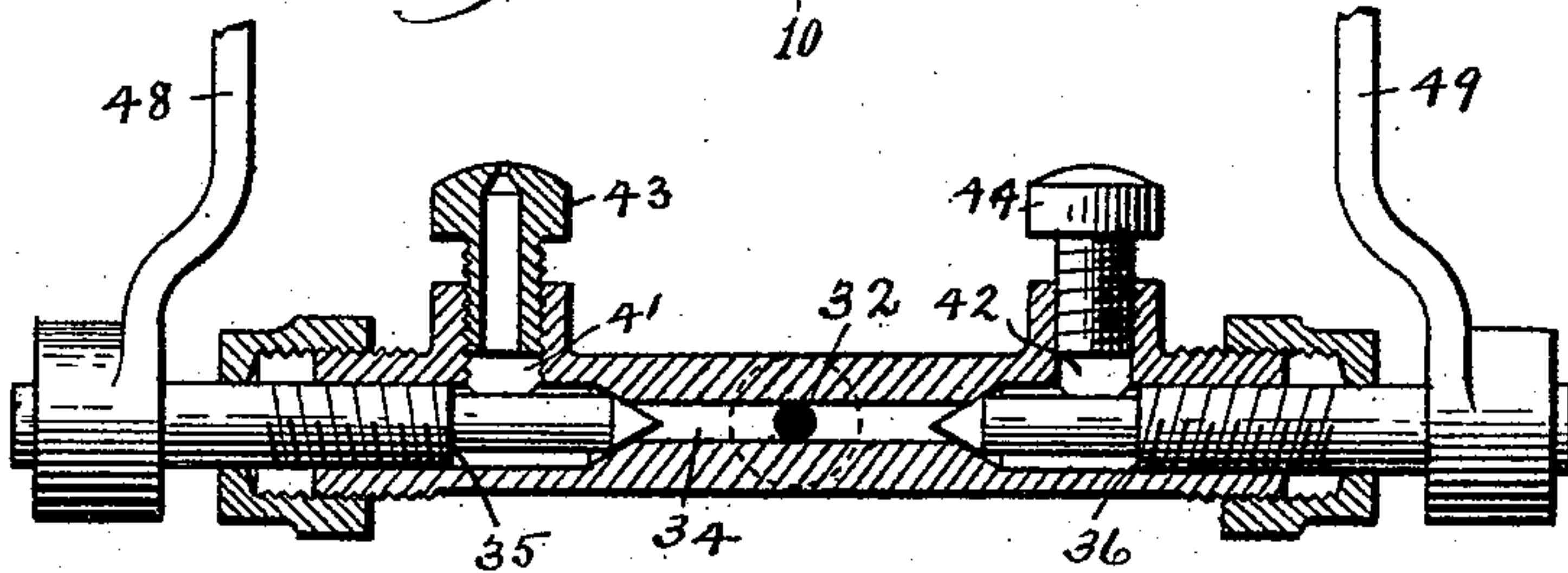
No. 539,456.

Patented May 21, 1895.

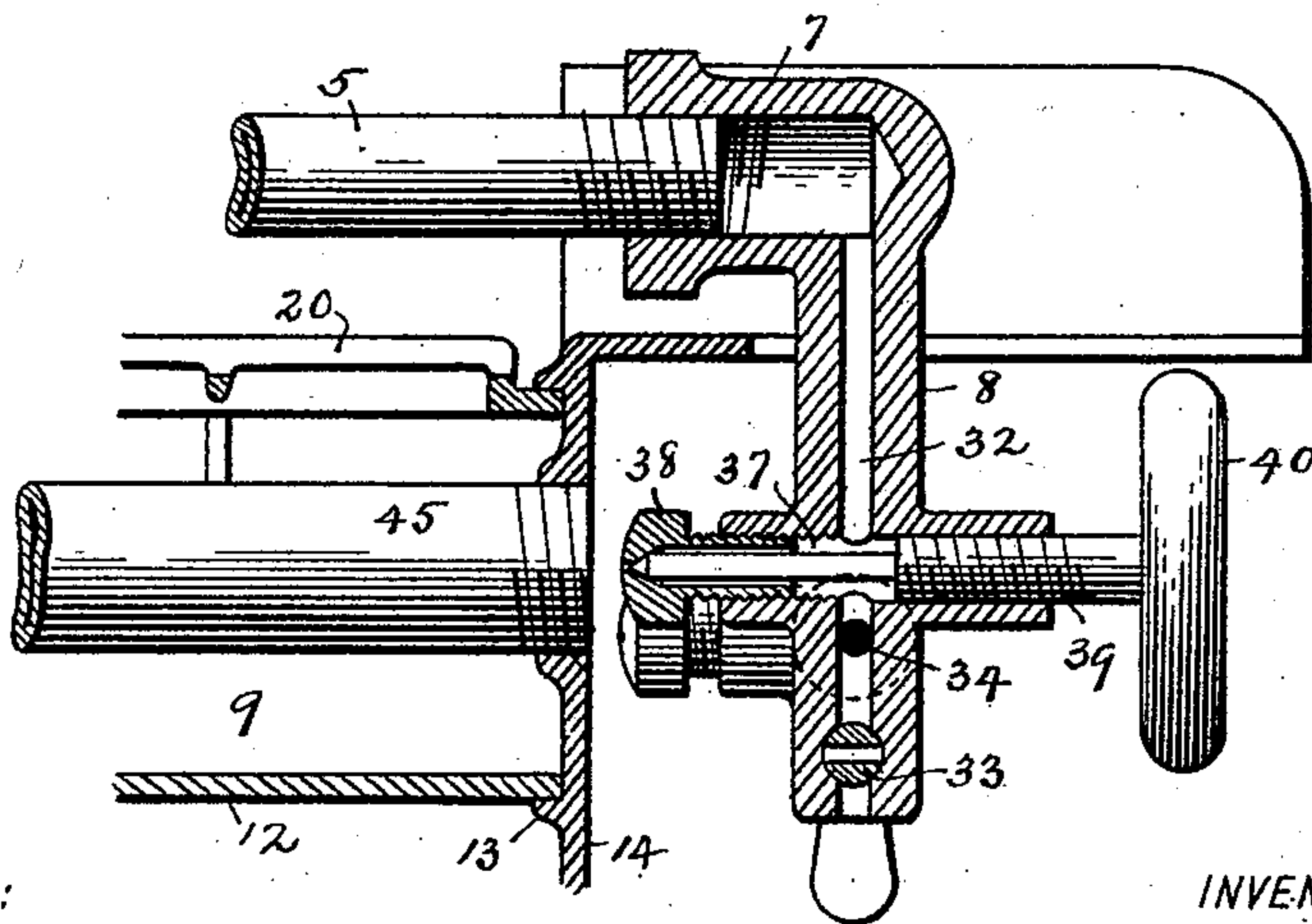
*Fig. 8.*



*Fig. 9.*



*Fig. 10.*



WITNESSES:

*Clifford N. White.*  
*Herman E. Schnabel*

INVENTOR

*George A. Triggs*  
BY  
*Casper L. Redfield*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

GEORGE ALBERT TRIGGS, OF LAKE PARK, IOWA.

## TINNER'S FIRE-POT.

SPECIFICATION forming part of Letters Patent No. 539,456, dated May 21, 1895.

Application filed August 31, 1894. Serial No. 521,827. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE ALBERT TRIGGS, a citizen of the United States, residing at Lake Park, county of Dickinson, and State of Iowa, have invented certain new and useful Improvements in Fire-Pots for Tinner's Use, of which the following is a specification.

My invention relates to the class of fire pots in which gas is used as a fuel, and more particularly to those in which the gas is generated from a volatile oil.

It has for its object, convenience of use and economy in the use of fuel.

In the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is a plan with the hood removed. Fig. 3 is a front elevation. Fig. 4 is an enlarged transverse section on line X X of Fig. 2. Fig. 5 is a partial longitudinal section on line Y Y of Fig. 2. Fig. 6 is a plan of the gas chambers and burners. Fig. 7 is a section on line Z Z of Fig. 6, and Figs. 8, 9, and 10 are enlarged details of the gas passages and valves.

Mounted on the base 1, is a closed oil or gasoline tank 2, provided with a flexible connection 3, and rubber air pump 4, for producing a pressure of air on the top of the gasoline within the tank 2. A pipe 5, which connects to the tank 2 and has an end 6, that bends downward in the interior thereof, extends to the front of the machine and is screwed into the elbow 7, that forms part of the T shaped piece 8, which contains the gas passages and the valves for admitting and shutting off the gas from the chambers 9, 10 and 11 in the casing 12. The gas case 12 is supported in the flanges 13 on the plates 14 and 15, which constitute the ends of the said case, and which are secured thereto by the bolts 16. Two side plates 17, also held between the plates 14 and 15, complete the four sides of a rectangular box within which the soldering irons are heated. The base 1 serves as the bottom of the said box, and a hood 18 serves as a cover. This hood is closed at the rear but open in front for the insertion and withdrawal of the irons. The casing 12, which is divided by the partitions 19 into the chambers 9, 10, and 11, has a series of longitudinal slots 20 and 21 and small holes 22 and 23. It is at these slots and holes that the gas issues and burns. The slot 20, which connects

to the central chamber 9, is directly under the pipe 5, and the flame from this slot serves to keep the said pipe hot and thus produce gas from the gasoline as it passes from the tank 2 to the chambers 9, 10, and 11. The slots 21, which connect to the chambers 10, and 11, are set at an inclination, and the flame from them is projected in the direction of the holders 24 and 25 on which the soldering irons are held and heated. The holes 22 are horizontal and the flame from them is projected in the direction of slots 21. The holes 23 connect with the chambers 10 and 11, and are intermediate between the holes 22 and the slots 21. They serve as a means of communicating flame from the former to the latter.

The holders 24 and 25 are made of perforated sheet metal and are supported on the stems 26, that in turn are supported on the parallel levers 27 and 28 that are pivoted at 29 and 30 on the rear plate 15. The upper levers 27 extend to the rear and are provided with adjustable weights 31. The action of the parts 24 to 31 inclusive is such that when a soldering iron is placed upon one of the holders 24, it is depressed and the corresponding weight 31 is raised, while the removal of the iron permits the falling of the weight 31 and the raising of the holder 24. This action is utilized for admitting and shutting off the gas as hereinafter described.

The T shaped piece 8 has a vertical opening 32, that communicates to the pipe 5 and which is closed below by means of the cock 33, and a connecting horizontal opening 34, the branches of which are closed by means of the screws 35 and 36. From the vertical passage 33 is a transverse passage 37 that terminates in a small tapering hole in the cap 38 that may be closed by the tapered end on the screw 39 on which is a hand wheel 40. Beyond the points where the screws 35 and 36 close the horizontal passageway 34 are two similar transverse openings 41 and 42 that terminate in small holes in the caps 43 and 44. Directly opposite these transverse passages 37, 41, and 42 are holes in the front of plate 14, and in these holes are the pipes 45, 46 and 47, that project into the chambers 9, 10 and 11. On the outer ends of the screws 35 and 36 are the arms 48 and 49 that project toward the rear and embrace pins 50 on



the stems 26. The screw 35 has a right hand thread and the screw 36 a left hand thread. The result of this construction is that when a soldering iron is placed on one of the holders 5 24 or 25, it is depressed, thus opening the valve on that side of the horizontal passageway 34, and permitting the gas to flow through the pipe 46 or 47 into the chamber 10 or 11, and issue through the slots 21 as flame to heat the iron placed upon the holder. It will be evident that removing one of the irons will cause the closing of the valve on that side, thus shutting off the supply of fuel when there is no occasion for using it.

15 Directly below the opening closed by the cock 33 is a small pan 51, which when filled with gasoline from the tank 2 through the pipe 5 and the passage 32, serves as a means for generating the first supply of gasoline that 20 enters the chambers 9, 10 and 11.

The operation is as follows: Air is forced into the tank 2 by means of the bulb 4 until the pressure is sufficient to force the gasoline through the pipe 5 and into the T shaped 25 piece 8. The cock 33 is then opened to permit the pan 51 to be filled with gasoline and the cock closed again. This gasoline is ignited, and when burned out the hand wheel 40 is turned to open the passageway through the cap 38. As the cap 38 is located a little distance from the mouth of the tube 45, the gas as it issues from the hole in the said cap under pressure, carries with it into the tube 45 a certain amount of surrounding air, and this mixture of air and gas is discharged into the chamber 9 to issue through the slot 20 and holes 22. This gas is ignited and the hand wheel 40 is adjusted so that the flame from slot 20 is just sufficient to vaporize the gasoline that passes through the pipe 5 to the passage 32. An iron is then placed upon one of the holders 24 or 25, thus opening the valve connected with that holder, and permitting the gas to pass through the corresponding horizontal and transverse openings, tube and chamber 45 to issue through the slots 21 and holes 23, when it is immediately ignited by the flame issuing from the holes 22. The holes 23 simply serve as connecting links to convey the flame from holes 22 to the slots 23. It will be obvious that an iron may be placed on either or both of the holders 24 and 25, that the flame will be immediately ignited upon the placing of an iron on it, and that the said flame 55 will be immediately extinguished by removing the iron. In ordinary practice the flame will be alternately on one side and then on the other—one iron being heated while the other is in use. As all soldering irons are not 60 equally heavy, the adjustable nature of the weights 31 permits them to be moved farther from or nearer to the fulcrum to compensate for this difference. It will be obvious that adjustable springs might be used in place of 65 the weights 31.

Having described my invention, what I claim is—

1. In a multiple valve for tinner's fire-pots, a channel adapted to be connected to a source of fuel, such channel having four branches, 70 one branch provided with a cock adapted to control the passage of fuel to a suitable pan, one branch provided with a valve adapted to control the passage of vapor to a furnace chamber, and two branches provided with 75 valves operated by vibrating arms and so constructed that vibration of said arms in the same direction with respect to each other acts to open or to close said valves, respectively, 80 substantially as described. 80

2. In a multiple valve for tinner's fire-pots, the combination of a channel adapted to be connected to a source of fuel, such channel having four branches, one branch having a cock adapted to control the passage of fuel to 85 a suitable pan, one branch provided with a valve operated by hand and adapted to control the passage of vapor to a furnace chamber, and two branches in line with each other, one provided with a valve operated by a right 90 hand screw, and one with a valve operated by a left hand screw, each valve adapted to control the passage of vapor to a corresponding furnace chamber, and each valve provided with an arm adapted to operate such 95 screw automatically, and both arms adapted to rotate in the same direction with respect to each other to open each valve and in the same direction with respect to each other to close each valve, substantially as described. 100

3. In a tinner's fire-pot, heated by the combustion of the vapor of gasoline, the combination of two independent plates, a pipe for conveying said gasoline to a furnace, such furnace provided with three burners so arranged that one acts to heat said pipe and the 105 other two burners to heat said plates, a multiple valve interposed between said pipe and said furnace and provided with four connections or channels, one leading to said burner 110 for heating said pipe, and provided with a valve adapted to control the admission of vapor to said burner, one branch provided with a cock adapted to control the passage of fuel to a suitable pan, and two branches leading 115 to said burners for heating said plates, such two branches provided with valves operated by vibrating arms actuated independently by said plates and so constructed that said arms vibrate in the same direction with respect to 120 each other to open or close said valves, respectively, substantially as described.

4. In a tinner's fire-pot heated by the combustion of the vapor of gasoline, the combination of two independent plates, a pipe for 125 conveying said gasoline to a furnace, such furnace provided with three burners so arranged that one acts to heat said pipe and the other two burners to heat said plates, a multiple valve interposed between said pipe and 130 said furnace and provided with four connections or channels, one leading to said burner for heating said pipe, and provided with a valve adapted to control the admission of va-



por to said burner, one branch provided with  
a cock adapted to control the passage of fuel  
to a suitable pan and two branches leading  
to said burners for heating said plates, one of  
5 such two branches provided with a valve op-  
erated by a right hand screw, and one with  
a valve operated by a left hand screw, each  
valve adapted to control the admission of va-  
por to its corresponding burner, each of said  
10 screws operated by a vibrating arm connected  
to its corresponding plate, and so arranged  
that vibration of said arms in the same direc-  
tion with respect to each other acts to open or  
close said valves, respectively, substantially  
15 as described.

5. In a tinnerns fire-pot, heated by the com-  
bustion of the vapor of gasoline, the combi-  
nation of two independent plates, a pipe for  
conveying said gasoline to a furnace, such  
20 furnace provided with three burners so ar-  
ranged that one acts to heat said pipe, and  
the other two burners to independently heat  
said plates, means of maintaining a continu-  
ous flame at the burner for heating said pipe,  
25 lateral openings in said burner adapted to  
project a small flame to the other two inde-

pendent burners for the purpose of igniting  
them, a multiple valve interposed between  
said pipe and said furnace and provided with  
four connections or channels, one leading to 30  
said burner for heating said pipe, and pro-  
vided with a valve adapted to control the ad-  
mission of vapor to said burner, one branch  
provided with a cock adapted to control the  
passage of fuel to a suitable pan and two 35  
branches leading to said burners for heating  
said plates, one of such two branches pro-  
vided with a valve operated by a right hand  
screw, and one with a valve operated by a  
left hand screw, each valve adapted to control 40  
the admission of vapor to its corresponding  
burner, each of said screws operated by a vi-  
brating arm connected to its corresponding  
plate, and so arranged that vibration of said  
arms in the same direction with respect to 45  
each other acts to open or close said valves,  
respectively, substantially as described.

GEORGE ALBERT TRIGGS.

Witnesses:

THEO. STRATHMAN,  
ALVIN C. TRIGGS.