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# A. Miner.

## Pump Brake.

Patented July 7, 1835.

NO PRINTED COPY OF SPECIFICATION IN OFFICE.

Fig: 1.

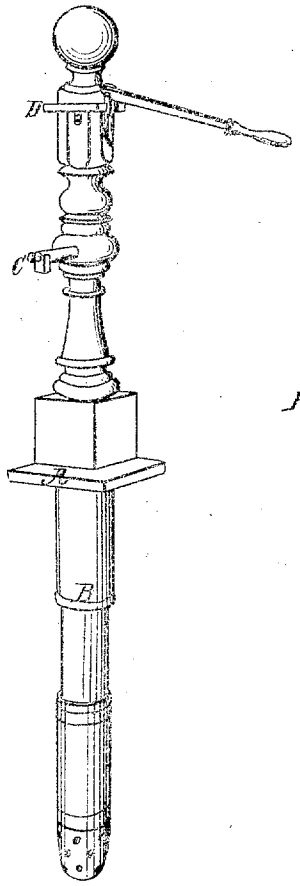
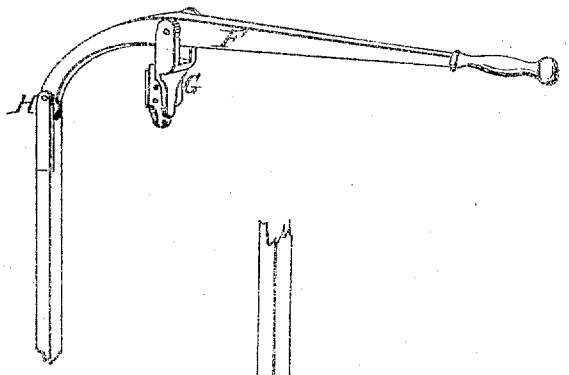



Fig: 2



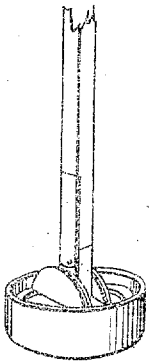
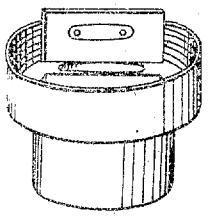



Fig: 3.



($5 for drawing)

July 7. 1835

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Amos Miner. Eldridge. New York.

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# Letters Patent

The Schedule referred to in the Letters Patent and making part of the same containing a description in the words of the said Amos Miner himself of the improvement in Water Pumps

To all whom these Presents shall come: Be it Known that I Amos Miner of the Town of Eldridge County of Onondaga and State of New York have invented a new and useful improvement in Water Pumps and that the following is a full and exact description thereof. The working cylinder in which the plunger or piston operates is made of cast iron except in cases where the the fountain from which the pump draws is liable to become frozen readily dry in which case a composition formed of zinc and Block Tin is preferable on account of its being less liable to rust. The size of the cylinder for ordinary purposes is nine inches long and four inches in diameter bored out and polished on the inside. The piston is of the same metal as the cylinder it is five inches long 7/8 inch thick turned and polished so as to fit the inside of the cylinder. A little below the middle and around the inside of the piston is a lip or shoulder projecting one inch 1/4 inch across the centre is a bar 3/8 inch thick and 7/8 inch wide faced off on the upper side even with the lip for the valves to rest upon. The piston valves are made of leather which is saturated with Fawells chemical water proof paste and covered on the metallic plates in the usual form excepting that instead of screws. The plates are secured to the leather by brass or iron pins which are made to fit the holes through the plates so closely as not to require riveting. The valves are hung and fastened to the bar of the Piston by one iron brace in the form of an inverted T which is laid on the valves along the centre of the bar so that the stem or upright part of the T rises perpendicularly 1 1/2 inches from the face side and centre of the of the bar and is hung by a pin to the lower end of the piston Rod which is made forked for the purpose of receiving it. Two screws passing up through the bar and leather into the brace secure the whole together and the valves are thus

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hung in the centre. The plate fig. 1. represents the form of the pump. The height from the base A to the cap under the arm is 3 feet. it is 7 inches square at the base and tapered to 6 inches diameter at the top. To the lower end of this stock is a female screw 2 inches in diameter, cut up longitudinally 3¼ inches in order to receive the male screw formed on the upper end of the lower or first pipe. to screw one inch deep and 4 inches diameter is cut around the female screw in order to receive the iron band to secure the joint. The base A is 1¼ inch thick 10 inches wide and 14 inches long chamfered down about half its thickness at the end edges. On the centre is a hole formed of the same diameter with the female screw in the lower end of the stock. The male screw of the first pipe passes through the base and is screwed into the stock which secures the base at the point. The cylinder is connected with the pipe below the base at B. a cavity is formed in the end of the pipe of a size suitable to receive the cylinder one inch longitudinally. it is situated with the composition hereafter described for the inner coating to the pipe and the cylinder is placed within it. and confined by banding around the pipe. The spout C is of cast iron 5 inches long 2 inch bore inside. having a male screw cut at the end by which it is secured to the stock. a lip in the under side extending downward at the out end of the spout forms an aperture through which the water is discharged. The cap D. which is one and a fourth inches thick. having a mortise through the centre of a size suitable for the brake and piston rod to pass through and being secured to the bottom of the arm is fastened down upon the top of the stock by screws. passing through the ears which are fastened opposite each other to the top of the stock. The upper part of the arm has a horizontal projection of 3/4 inch through which the screw passes perpendicularly by which the cap and arm are readily secured to or detached from the stock Fig 2. Letter E represents the brake of the pump which is made of iron excepting a short wooden handle which is banded and driven on at the end. The fulcrum or beam C is constructed with two ears at the top 1½ inches apart and the brake is hung between them by the fulcrum pin which passes through them all. The dots on each side of the fulcrum are the holes for securing it to the stock. The distance from the fulcrum pin to the pin which secures the upper end of the piston rod at the end of the brake at E. is 5¾ inches. The brake in that space being curved downward 20 degrees. The object of the fulcrum

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to answer in a more simple manner the same purpose of the wheel. The pistons may be made either of iron or hard wood. Wooden rods when saturated with the composition above mentioned for the inner coating of the pipes and covered at the ends with iron attachments are preferable to iron. The pipe below the cylinder which conveys the water from the well or fountain is attached to the lower end of the cylinder by a connecting tube of cast iron represented at fig 3. The body of it is 3 inches long it is three inches diameter and one fourth inch thick it is secured to the wooden pipe in the same manner as the upper end of the cylinder. The upper end of this tube is made sufficiently large by an offset to receive the cylinder by a screw. Within this tube are two apertures for the water to pass through, formed by a bar one half inch wide across the centre. The leather for the valves within it is cut the same diameter with the cylinder. So that the cylinder when screwed down closely confines it which forms the hinges, and the valves open in the middle. The pipe for ordinary purposes is 4 inches diameter made of light and porous wood of which white wood is very suitable. It is connected together by means of a male and female screw made to fit each other of 1/2 inch thread. cut longitudinally on the ends of the pipe to the distance of 3 inches. A small quantity of thick tar is spread on them and both are screwed together to a joint. The end of the pipe however containing the female screw should first be banded with common inch hoop iron. Elbows in the pipe may be formed whenever necessary. by cutting the ends on such a bevel as when put together will form the angle required. around the bore and on the joint of the elbow thus formed is a ring of gum elastic or common india rubber. The elbow is secured by two screw bolts which pass through both parts on each side of the hole, at right angles with the joint. A strainer at the bottom of the pipe is made of wood the same size with the pipe. It is 3 inches long having a cavity of 3 inches diameter made within it. leaving a head at the lower end which together with the sides is perforated with small holes. an inch band on the lower end of the pipe is left extending half its width below to secure the strainer and connect it to the pipe. In deep wells the cylinder should be placed down to within about 20 feet from the bottom. and in all cases where it is necessary to guard against frost the cylinder should be placed below the platform so that a metallic strainer can be inserted in the pipe above the cyl-

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under and sufficiently below the base to receive no injury from frost. The inside of the pipe is saturated with a composition of two thirds pitch of a similar resinous substance and one third beeswax. These are melted together and poured through the pipe while hot as may be without injury to the materials. The pipe being elevated at one end for that purpose and kept gradually rolling while the composition passes through it until the whole inner surface of the pipe is saturated and coated over. A cheaper composition for the outside of the pipe is made of pitch and a small proportion of fat. The pipe is placed over a fire prepared for that purpose and kept gradually rolling while the composition is spread on with a hot stale with a brush. The moment it is spread equally over a given distance it is laid down and rolled in a bed of sand standing near for that purpose. These operations are repeated until the whole outside is coated over. The main object of the sand is to prevent its sticking to the pipe while handling it. Another method of saturating the pipe is having a boiler constructed for that purpose to immerse it in the composition in a hot state and let it remain until it is thoroughly saturated outside and inside. What I claim as my own invention and not previously known in the above described machine is 1st The general construction of the pump. 2nd The application of the fit of the metallic piston to the cylinder of said pump. 3d The application of the screw for connecting the wooden pipe or tube 4th The manner of constructing the elbows of the pipe 5th the application of the aforesaid composition to the pipe or tube

Witnesses
William Porter Jr.
Lyman H. Mason

Jno Mince

(1856 wood)

(Drawing)