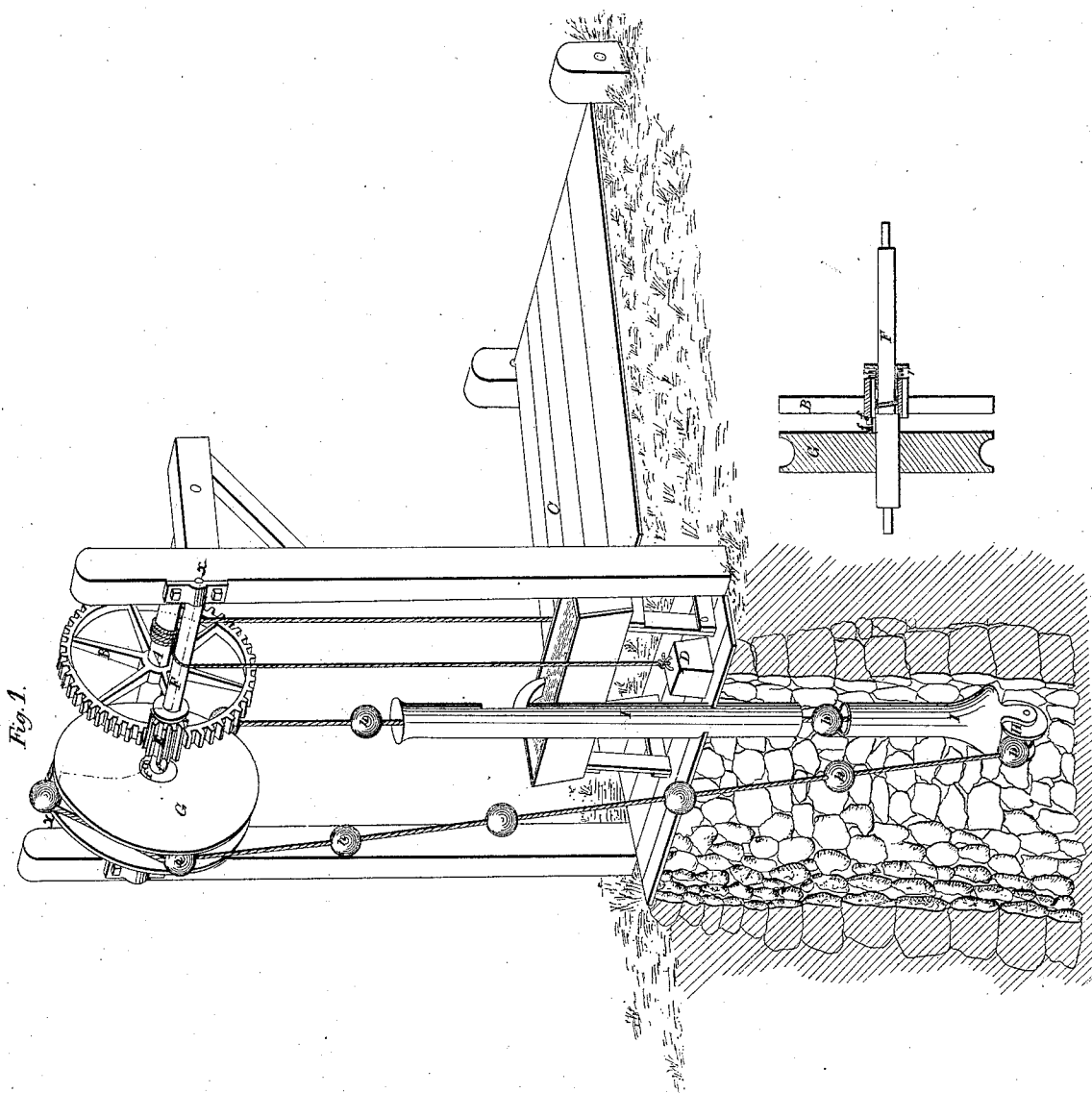


S. W. Wood,

Cattle Pump,

N^o 8,479.

Patented Oct. 28, 1851.



UNITED STATES PATENT OFFICE.

S. W. WOOD, OF ROCHESTER, NEW YORK.

APPARATUS FOR WATERING CATTLE.

Specification of Letters Patent No. 8,479, dated October 28, 1851.

To all whom it may concern:

Be it known that I, S. W. Wood, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Cattle-Pumps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1 represents a perspective view and Fig. 2 represents a section through the line *x—x* of Fig. 1.

Similar letters in the several figures represent the same parts.

The nature of my invention consists in the arrangement of a cogged sleeve on the shaft of the main or upper carrying pulley, between which and a stationary collar secured to the shaft, on which the sleeve moves, is arranged a spiral spring which gradually stops the running back of the buckets, without any sudden jar, and when the cattle step upon the platform, the spiral spring forces the sleeve up to the thread upon the shaft, which insures their instantaneous action; and so that by its own action the endless chain of buckets will run back sufficiently far in the pump cylinder to prevent its freezing, and then ungear itself, thus saving the necessity of running the endless chain backward during the raising of the platform which by the weight of the cattle upon it puts the pump in motion.

To make others skilled in the art to make and use my invention I will proceed to describe the same with reference to the drawings.

On a shaft (A) which has its journals resting in a frame suitably prepared for that purpose, is secured the cog wheel (B) and on a drum pulley or other enlarged part of said shaft is wound a band, or cord, one end of which is fastened to the front of the vibrating platform (C) and to the other end is secured a weight (D) which will be sufficient to raise said platform. The cog wheel meshes into a cogged sleeve (E) arranged on the stationary shaft (F) and on said shaft is also placed the main carrying pulley (G) over which the endless chain of buckets passes. At the bottom of the well spring or other place from which the water is to be drawn, is also arranged a carrying pulley (H) over which the endless chain of

buckets passes and thence into the pump cylinder (I).

On the inner side of the cogged sleeve (E) is cut a female screw which when the motion of the buckets is reversed by the raising of the platform, catches into a thread cut upon the shaft and runs said sleeve far enough back on said shaft, to throw out of gear the stops (*f, f*) one of which is on the end of said sleeve—the other on the hub of the main carrying pulley (G). And when any weight comes upon the platform sufficient to set the pump in motion the sleeve is immediately run forward again by the before described thread and screw until the stops or cams catch in each other, and sets the carrying pulley and endless chain of buckets in motion. A spiral spring (*r*) is placed between the end of the sleeve (E) and a collar on the shaft for the purpose of starting up said sleeve so that the screw may carry it into gear without any slipping when the cattle step upon the platform, and which as the sleeve runs back, is compressed gradually by it, and as gradually checks the running back of the buckets which carry back the excess of water out of the stock or pipe. By increasing or diminishing the length of the cams and the thread of the screws, the buckets may be run back more or less into the pump cylinder as may be desired.

The buckets (*h*) are made of gum-elastic gutta-percha, or other elastic material formed into a sphere, and may be cast upon links, having eyes therein for connecting them into an endless chain, or may be cast upon the chain already formed, by first putting it into a fluid state by dissolving it. The spherical shape of the buckets allow them to pass over any inequalities in the pump cylinder, and the elasticity of the material of which they are formed, allows them to work so closely against the inner periphery of the cylinder as to form a vacuum behind them into which the water will rise, thus making them act as suction and lifting buckets.

The operation is as follows: When the platform is raised by means of the weight winding up the cord which is attached to it, any weight coming upon said platform, will cause it to sink which by the unwinding of the cord will put the cog-wheel in motion, and this in turn will start the cogged sleeve and which in turning is run forward

by the thread on said sleeve and the screw on the stationary shaft until the stop or cams come in contact and rotates the main carrying pulley which turns also on said stationary shaft and sets the endless chain of buckets in motion. When the cattle leave the platform, it is raised immediately by the weight attached to the end of the cord which passes around the shaft as before described.

10 Having thus fully described my invention what I claim therein as new and desire to secure by Letters Patent is,

15 In combination with a pump worked by an endless chain of elastic balls and operated

upon by the weight of cattle, the spiral spring (*r*) operating between a stationary collar, and the movable cogged and threaded sleeve (*E*) for the purpose of more certainly running the sleeve into gear when the cattle 20 step upon the platform, and for gradually stopping the platform as it rises, and the buckets as they run back into the stock or pipes for the purpose of carrying back the water as herein fully described and repre- 25 sented.

S. W. WOOD.

Witnesses:

A. B. STOUGHTON,
P. H. WATSON.