

UNITED STATES PATENT OFFICE.

J. A. AYRES, OF HARTFORD, CONNECTICUT.

MECHANISM BY WHICH CATTLE RAISE WATER FOR THEMSELVES.

Specification of Letters Patent No. 14,646, dated April 15, 1856.

To all whom it may concern:

Be it known that I, J. A. AYRES, of Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful
5 Device for Raising Water from Wells for Stock, said device being operated by the cattle while approaching the water-trough; and I do hereby declare that the following is a full, clear, and exact description of the
10 same, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1, is a side view of my improvement, the well and bucket being bisected vertically. Fig. 2, is a front view of ditto, the well only being bisected vertically.

Similar letters of reference indicate corresponding parts in the two figures.

My invention consists in the employment
20 or use of a bucket, wheel and axle, and movable platform constructed and arranged as will be hereinafter fully shown and described whereby cattle may raise water for their own use from the well to which the device
25 is applied.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a well, B B, are two uprights
30 placed at the edge of the orifice or mouth of the well the upper ends of the uprights being connected by a cross piece (a). Between the two uprights B, B, a wheel C, and axle (a') is placed.

D, represents a trough which is placed between the lower ends of the two uprights B, B, and at the edge of the well A.

F, is a platform the back end of which extends to the side of the trough D, the front
40 end of the platform being hinged or jointed to a proper beam or sill so that the back end of the platform may rise and fall a certain distance, the back end of the platform resting upon an air spring F, constructed similar to a bellows, see Fig. 1. The back end
45 of the platform has chains or ropes (b), (b), attached to it which chains or ropes are connected to the axle (a'). The wheel C, has a chain or rope (c), attached to its periphery
50 the lower end of said chain or rope being attached to the bucket G. The bucket G, has loops or eyes (d), attached to it at opposite sides, through which loops or eyes vertical guide rods (e), (e), pass. The bucket G,

has an aperture on its upper end if a cover is
55 used, or the top of the bucket may be open.

H, is a faucet at the lower end of the bucket. This faucet is formed of a short
60 tube (f), which projects from the bucket and a lever (g), which is attached by a pivot (h), to the bucket. One end of the lever (g), fits over the orifice of the tube (f), when the faucet is above the surface of the water and the other has a cork (i), or other
65 buoyant substance attached to it.

The operation will be readily understood. When there is no weight upon the platform, the bucket G, will descend into the water in the well A, by its own gravity, and the end
70 of the lever (g), to which the cork is attached will be kept elevated by the water and the opposite end will be depressed below the orifice of the tube (f), the faucet H, consequently will be open while below the surface of the water, and the bucket will become
75 filled. When an animal passes upon the platform E, toward the trough D, the weight of the animal will depress the back end of the platform E, and the filled bucket will be raised up above the trough D, the cork (i),
80 on the end of the lever (g), falling by its own gravity when free from or above the water and causing the opposite end of the lever (g), to cover the orifice of the tube (f). When the lower end of the bucket just passes
85 above the trough D, a pin (j), on the trough strikes against the lever (g), near the tube (f), and throws the end of the lever below the tube (f), and the water will pass from the bucket into the trough.
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The diameter of the wheel C, of course must be in proportion to the depth of the well and the length of vibration of the platform E; for instance, if the back end of the platform is allowed to work one foot, and
95 the distance from the top of the trough to the water in the well is twelve feet, the diameter of the wheel C, must of course be such that the bucket will move twelve times as fast as the back end of the platform, so that
100 the bucket will reach the desired height when the back end of the platform is fully depressed. Any sized animal is enabled to raise water sufficient for its own use. If an animal weighs 1200 lbs. it will be able to
105 raise 100 lbs. of water, deducting the weight of the bucket and allowing for friction. This amount of water will be sufficient for

its use. If an animal weighing only 200 lbs. walks upon the platform it will be depressed slightly at first because a very small amount of power is required to elevate the
5 bucket while it is in the water owing to the buoyancy of the water and when the upper end of the bucket rises above the water level the water in the bucket of course gradually diminishes, as it will run through the faucet
10 H, which as before stated is open when immersed consequently the water will run out of the bucket till it becomes sufficiently light to enable the smaller animal on the platform to elevate it.

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

The combination of the bucket G, with faucet H, attached, platform F, and wheel and axle C (*a'*) the above parts being connected by the ropes or chains (*b*), (*c*), and arranged substantially as described for the purpose specified. 20

J. A. AYRES.

Witnesses:

JOHN HOOKER,
JOS. R. HAWLEY.