(No Model.) 2 Sheets—Sheet 1.

F. FUNK.

DEVICE FOR WATERING STOCK.

No. 259,843. Patented June 20, 1882.

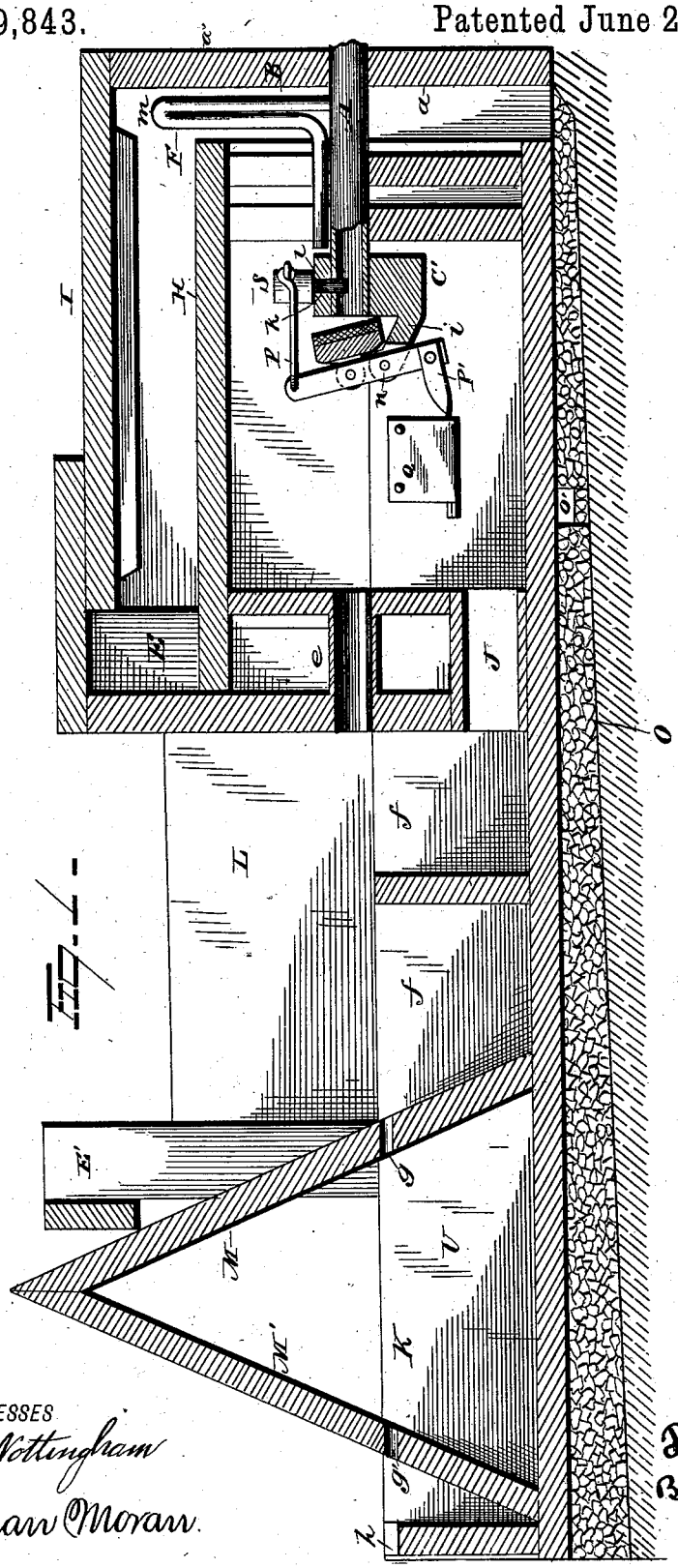

Fig. 1.

WITNESSES

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Herman Moran.

INVENTOR

Frank Funk.

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Attorney

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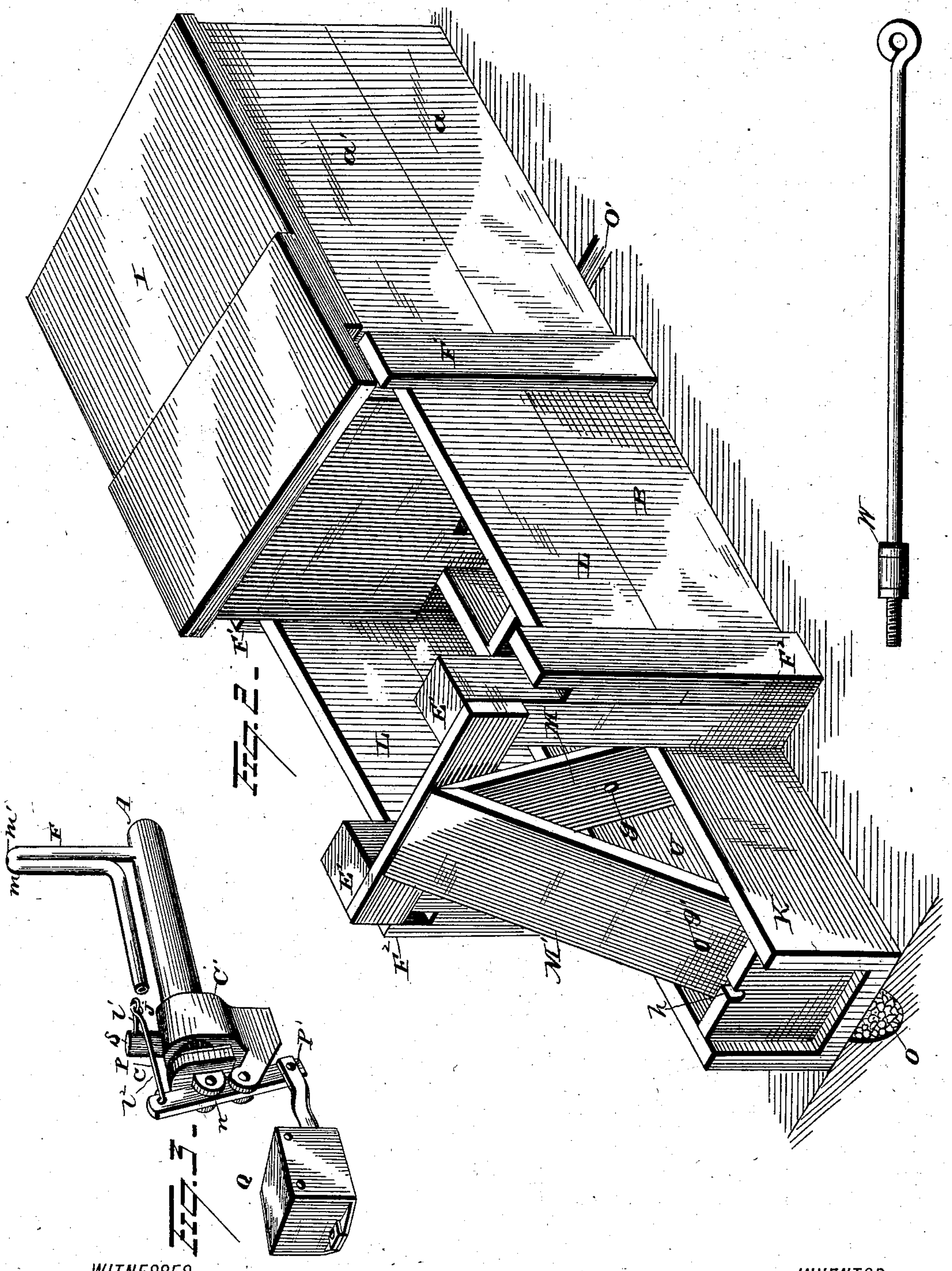

Fig. 2.

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

FRANK FUNK, OF BEVERLY, ILLINOIS.

DEVICE FOR WATERING STOCK.

SPECIFICATION forming part of Letters Patent No. 259,843, dated June 20, 1882.

Application filed March 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANK FUNK, of Beverly, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Devices for Watering Stock; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to an improvement in devices for watering stock, and is intended to combine simplicity and economy of construction with durability and efficiency in use; and with these ends in view my invention consists in certain details in construction and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal vertical sectional view of my improved device. Fig. 2 is a perspective view of the same, and Fig. 3 is a detached view of the automatic valve mechanism.

The water-supply pipe A communicates with a pond or other body of water, and its opposite or free end projects inside the curb B, and is provided with the automatic regulator C. This curb B is composed of the stationary lower section, *a*, and the removable upper section, *a'*, the latter being retained in position on the lower section by any suitable means, and at its inner end between the upright posts E' and F', which prevent the sides of the said upper section from spreading apart and thereby allowing the packing material interposed between the curb B and the valve-compartment to become displaced and fall out. This valve-compartment G is situated within the curb B, and is provided with an opening for the entrance of the supply-pipe A and a removable cover or lid, H, on which the packing material can be placed when the parts are in position.

As the valve-compartment G is considerably smaller than the curbing, an annular space is formed on the sides, ends, and top thereof, into which is introduced any suitable packing material, as previously indicated, for the purpose of preventing the supply-pipe from being clogged with ice during cold weather, and also to prevent the water from freezing in the valve-compartment before it passes into the drinking-troughs.

I is the movable inclined top or cover adapted to cover the curb and valve-chamber, and protect those parts and direct rain, &c., from off the device.

The water as it issues from the mouth of the supply-pipe A falls into the valve-compartment, and from thence through the conducting-pipe J at the bottom of the said compartment, into the trough K, or through the overflow-pipe *e* into the said trough. This trough can be composed of any suitable number of drinking-compartments, and is also situated inside the stationary curb B, between which latter and the said trough packing material is also interposed during cold weather to aid in preventing the water from freezing therein.

The stationary portion *a* of the curb B is of the same height as the trough K, and is to be situated near enough to the said trough to enable large and small stock to drink therefrom without inconvenience. In warm weather, when it becomes necessary to provide separate drinking-places for different animals—such, for instance, as horses and hogs—I increase the height of the curbing B by placing between the posts E^2 F^2 and E' F' the removable sides L, which, when placed in position, render it impossible for the smaller stock to get at the compartments *f*, and they are obliged to seek that portion of the trough lower down between the inclined uprights M M'. By this means the water is kept clean for the larger stock, and also for the smaller stock, as the inclined pieces M M' are only separated enough to allow of the free entrance of the animal's head. In cold weather, when hogs have no desire to get into the trough, the side pieces, L, can be removed, thereby enabling all the animals to drink from the trough inside the curbing, which is better protected from the weather than that portion lower down, and is not so liable to become frozen in extreme cold weather as the lower portion, which is not protected by packing.

By constructing the parts as above described the water is kept clean and pure throughout the entire length of the trough. After the water reaches the hole *g* in the inclined piece M it flows into the hog-trough U, and when the

latter fills up to opening g' in the opposite inclined piece M′ it passes from the trough to the extreme end of the trough and from thence into the drain O by a pipe situated near the bottom of the trough or from the overflow opening or notch h. By this means the water is kept at the same level in all the troughs, and as fast as it is taken therefrom it is replaced by the opening of the automatic regulator, which admits as much water as has been taken from the trough. The water as it flows from the trough K falls into the drain, which is composed of pebbles or stone, and is carried to a suitable hog-wallow or duck-pond. I have also provided a cross-drain, O′, composed of the same material, and adapted to prevent any water occasioned by leakage or otherwise from running down the sides of the trough and consequently keeping the ground around the same moist or soft. These drains can also empty in the wallow or pond before referred to.

If my improved regulator were adapted to only replace the exact amount of water taken from the trough, there would be no necessity for an overflow; but I have provided means for producing a constant leakage from the said regulator, which keeps the water constantly in motion, and thereby aids in preventing it from freezing, and also keeps up the constant overflow, which is the source of supply of the pond referred to. This regulator C is composed of the mouth-piece C′, provided on one end with female screw-threads, by which it is secured to the free end of the supply-pipe A, and provided on its opposite end with the inclined brackets i, to which the valve P is hinged by the L-shaped lever P′ and removable pin w. This valve is provided with a leather or other suitable face adapted to completely cover the opening in the mouth-piece C′ and prevent the escape of any water therefrom when forced up against the same by the float Q. The valve is pivotally secured to the long arm of the lever P′, near the upper end thereof, while the float Q is secured on the short or horizontal portion of the lever P′, near the outer end thereof.

The mouth-piece C′ is provided on top with a ridge, j, and to one side of this ridge with an opening communicating with the central opening of the mouth-piece back of the valve P. This opening k is adapted to receive the wire l, of slightly smaller size than the said opening, and secured to the cam S. This cam is provided with an inclined seat or face which, as the said cam is turned sidewise, engages the ridge on the top of the mouth-piece and causes the said cam and connected wire to rise and fall. When the valve P is open for the free passage of water the cam is adapted, by its curvature, to rest on the top of the mouth-piece C′ and close the opening k; and, as the valve is automatically closed by the rising water acting on the float Q, this cam b is gradually turned sidewise by the arm l' and connecting-link l^2, which elevates the cam S and allows the water to constantly pass up through the opening and fall into the valve-compartment, and from thence into the trough. The depending wire l, besides acting as a support for the cam, also serves, by its up-and-down movement, to remove or loosen all sediment congregated in the opening, and consequently keep it free at all times.

F is an overflow-pipe, adapted more particularly for use where my device is connected with a spring and the supply-pipe A the only outlet thereof. This overflow-pipe is curved, substantially as shown in the drawings, and is provided at its extreme upper portion, m, with the air-opening m' for the passage of air, which is intended to prevent this overflow from acting as a siphon. The extreme upper portion of this overflow is supposed to be on a level with the greatest height of water allowed in the spring. When the water reaches this height in the spring it also reaches the same height in the overflow-pipe F and flows through the same and falls from its open end into the valve-compartment and from thence into the trough.

When my improved device is not desired for use in winter weather, the entire valve or regulating mechanism can be removed from the supply-pipe and a stop or plug, W, inserted in the said pipe a suitable distance, so as to be beyond the reach of frost.

My improved device is strong and durable in structure, of comparatively few parts, of small initial cost, and is automatic and regular in action, and needs no attention whatever to keep in operation.

Instead of using the leaking mechanism before described, a small opening can be formed through the valve P to allow of a continuous flowing stream, whether the valve be closed or not.

It is evident that slight changes in the construction and arrangement of the different parts might be resorted to without departing from the spirit of my invention, and hence I would have it understood that I do not limit myself to the exact construction of parts shown and described, but consider myself at liberty to make such changes as come within the spirit and scope of my invention.

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

1. In a device for watering stock, the combination, with a combined stationary and removable curbing, of a valve-chamber arranged within said curbing so as to leave a space between said chamber and curbing, as and for the purpose set forth.

2. In a device for watering stock, the combination, with a combined stationary and removable curbing and a valve-chamber within said curbing, the said curbing and valve-chamber being provided with removable covers, of a supply-pipe and automatic regulator for controlling the flow of water into the said valve-chamber, substantially as set forth.

3. In a device for watering stock, the combination, with the stationary and removable

curbing, a valve-chamber within said curbing, and removable covers for the said curbing and valve-compartment, of a trough communicating with said valve-compartment and provided with curbing and removable side pieces, substantially as and for the purpose described.

4. In a device for watering stock, the combination, with a stationary and removable curbing and a valve-chamber situated inside said curbing, of a trough communicating with said valve-compartment and provided throughout part its length with curbing and removable side pieces and the inclined pieces for forming a separate drinking-compartment, substantially as set forth.

5. In a device for watering stock, the combination, with the supply-pipe, of an automatic regulator secured thereto and adapted to allow a limited constant flow of water from the said pipe, whether the valve be closed or not.

6. In a device for watering stock, the combination, with the supply-pipe screw-threaded on its outer end, of the mouth-piece of the regulator secured thereon, a valve automatically closed and opened by the rise and fall of the water in the valve-chamber, and a cam-valve for allowing the passage of a continuous stream of water from the said regulator when the valve is closed, substantially as set forth.

7. In a device for watering stock, the combination, with the supply-pipe A, mouth-piece C′, provided with depending brackets for the support of the valve, valve P, lever P′, float Q, cam S, arm E, and link e', compartment or chamber, and trough, all of the above parts adapted to operate substantially as set forth.

8. In a device for watering stock, the combination, with the supply-pipe A, of the overflow-pipe F, the latter constructed and adapted to operate as described.

9. In a device for watering stock, the combination, with suitable curbing and trough, of a supply-pipe and an overflow-pipe connected thereto, and adapted to operate as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRANK FUNK.

Witnesses:
WILLIAM SYKES,
JOHN G. SYKES.