S. A. SKINNER.

Lifting Gate.

No. 13,658. Patented Oct. 9, 1855.

Fig. 1.

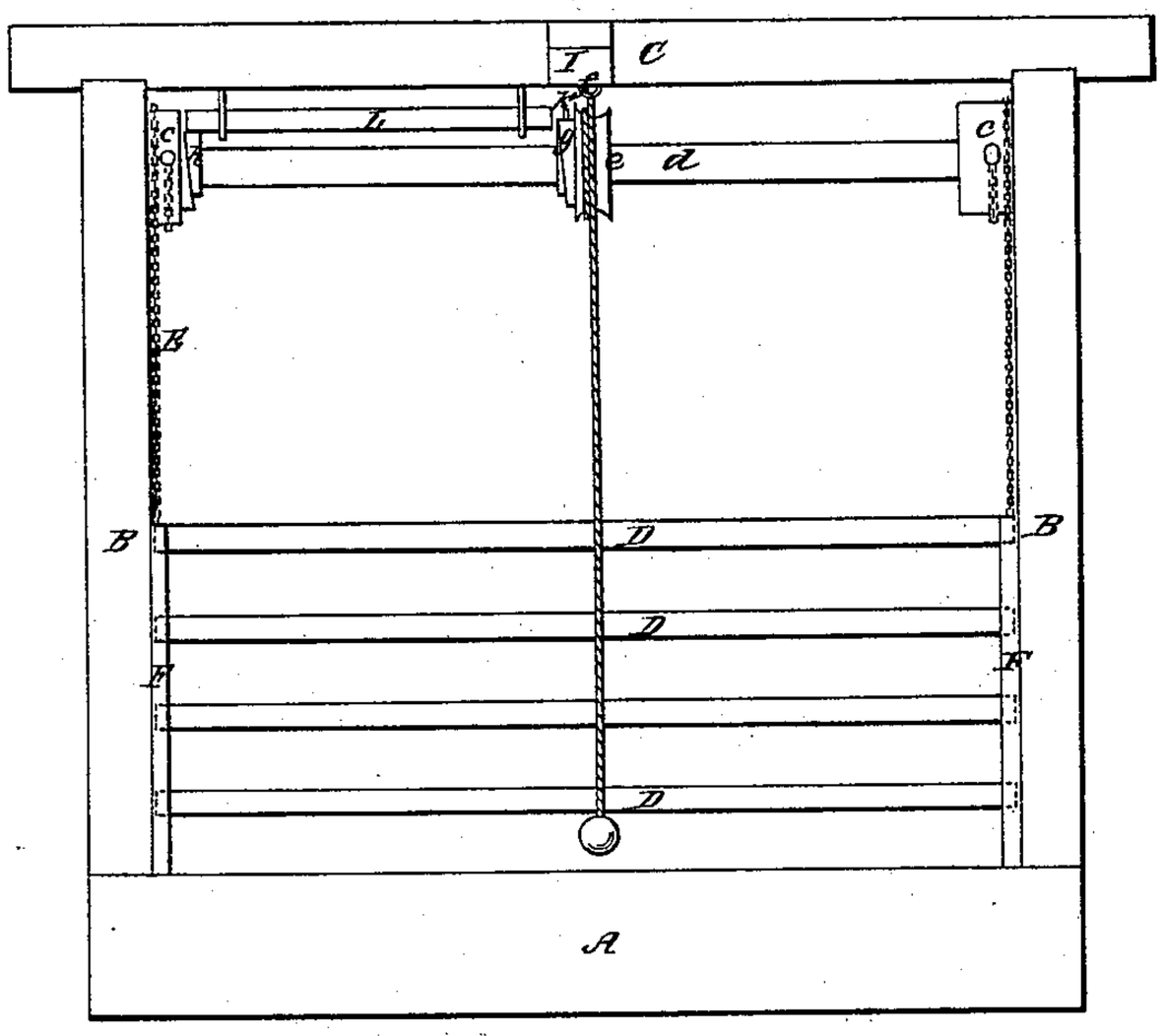


Fig. 6.

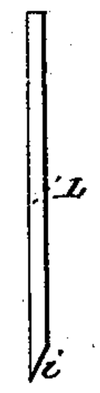


Fig. 2.

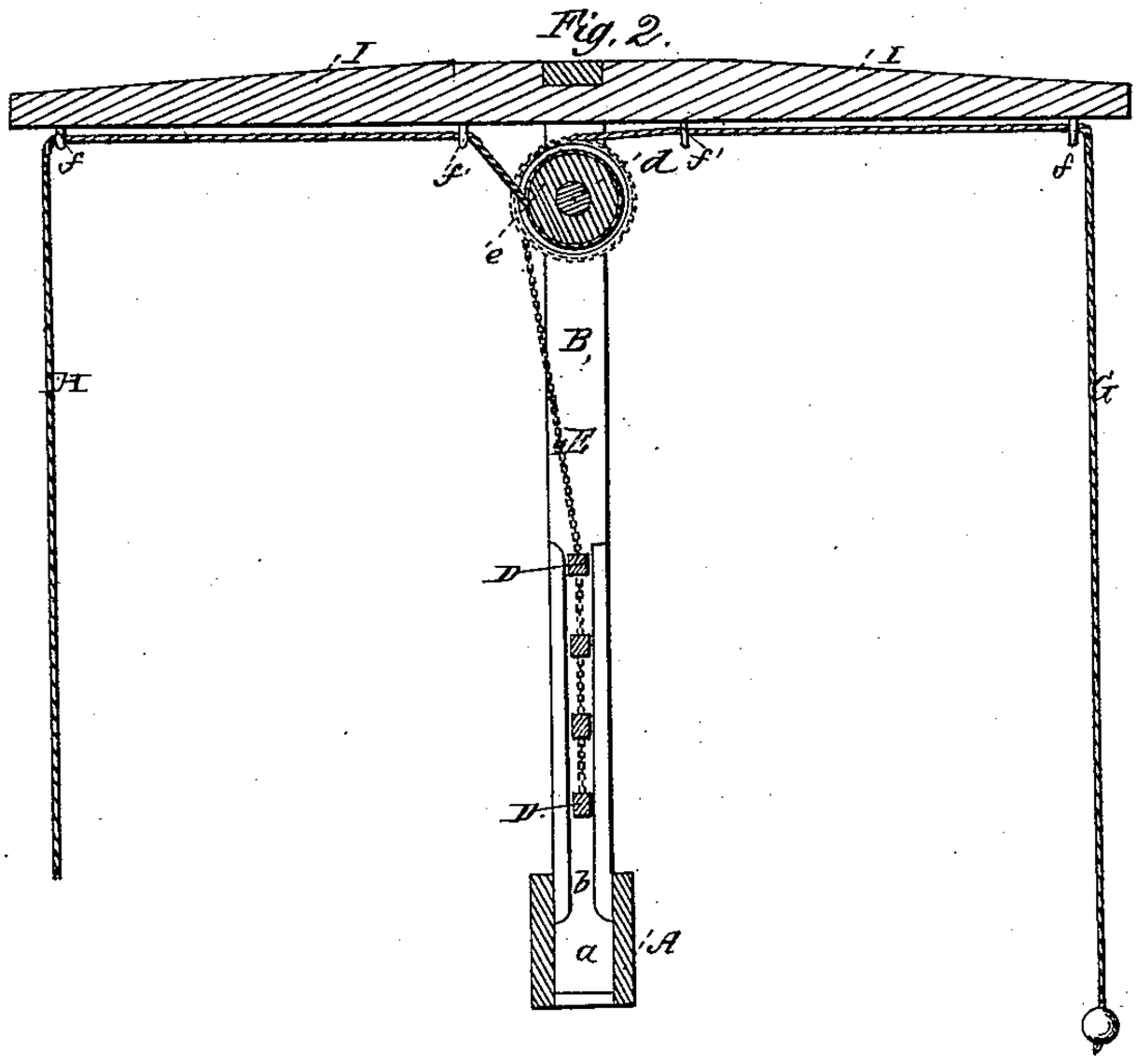
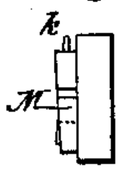


Fig. 4.

Fig. 3.

Fig. 5.



UNITED STATES PATENT OFFICE.

S. A. SKINNER, OF DERBY, VERMONT.

FARM-GATE.

Specification of Letters Patent No. 13,658, dated October 9, 1855.

To all whom it may concern:

Be it known that I, SMITH A. SKINNER, of Derby, in the county of Orleans and State of Vermont, have invented an Improved Farm or Park Gate; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1 denotes a front elevation of said gate, while Fig. 2, is a central, vertical and transverse section of it. Fig. 3, is an inner side view of the longitudinal scroll. Fig. 4, is a similar view of the lifter scroll. Fig. 5, is a top view of the said lifter scroll and the cam notch thereof. Fig. 6, is a top view of the sliding latch bolt to be hereinafter described.

In the said drawings A denotes the sill of the gate upon which arises two vertical posts, B, B, connected by a horizontal cross timber C. The sill, A, is provided with a chamber or recess, *a*, formed within it and of suitable size to receive the several slats D, D, which with the pendant chains compose the gate. The upper part of said chamber, *a*, has an opening *b*, of sufficient size for a slat, D, to pass through and either into or out of the chamber. The several slats, D, D, D, are arranged parallel to one another and at equal distances apart, and are connected at their ends to two chains E, E, extending respectively upward against the inner sides of the posts B, B, and between parallel and vertical ledges, F, F, fastened to the posts, serving to guide the slats D, during the vertical movements of said bars.

Each chain is fastened to a windlass barrel *c*, affixed to a horizontal shaft, *d*. In the middle of the said shaft is a windlass pulley, *e*, which has two ropes, G, H, extended from it in opposite directions and through guide pulleys or staples *f f*, *f′ f′*, arranged as seen in Figs. 1 and 2, the guide staples being inserted in the underside of two arms, I, I, projecting in opposite directions and horizontally from the cross timber C. Each rope depends from its outer staple, and so as to be within reach of a party who may be approaching the gate. On one side of the pulley, *e*, is made what is termed a "lifter scroll," *g*, while against the adjacent side of one of the barrels *c*, of the shaft, *d*, there is formed what may be called a longitudinal scroll *h*. A latch bar L is arranged and slides horizontally above the shaft *d*, and between the two scrolls, *g*, and *h*, as seen in the drawings.

The object of the scroll, *h*, is to move the latch bar L, in a direction toward the pulley, *e;* the purpose of the other scroll being to elevate the latch bar during such movement of it, and in order that the latch bar may be brought directly into the path of the cam notch M arranged as seen in Figs. 4 and 5, and made to stand directly above the shaft, *d*, when the gate bars D, D, D, are raised to their highest positions or the gate is closed. The said cam notch is formed triangular, one side of it being in the plane of the axis of the shaft, *d*, while the other side makes an angle with the said plane and is intended to work against the beveled part, *i*, of the sliding latch.

When the latch is within the notch and the gate is raised or closed, the latch serves to hold or maintain the gate in an elevated position. Under such circumstances, if a person on approaching the gate is desirous of opening it he should lay hold of and pull on that rope, G or H, which is nearest to him. By so doing he will rotate the windlass in such direction as will cause the cam notch to act against the bolt so as to force it backward or in a direction away from the lifter scroll. Having forced the latch out of the notch, the person has only to let go the rope in order to set free the gate, so that the bars D, D, D, may all fall down into the chamber, *a*, and its opening, *b*, one of the bars remaining within and closing the opening. The draft on the chains, E, causes the windlass (composed of the shaft, *d*, the barrels *c*, *c*, and pulley *e*) to turn around in the meantime. While the windlass is so turning the latch will be lifted up by its lifter scroll and be moved forward by the other scroll. A small stud, *k*, extended from the lifter scroll, comes into contact with the latch bar as soon as the top surface of the upper bar D, has fallen to a level with the upper surface of the sill or threshold of the gate the object of the stud being to arrest the further back movement of the windlass. In order to close the gate after a person has passed through its opening he has only to pull downward the other rope until he turns the windlass far enough for the latch to fall into the cam notch.

Instead of wooden bars D, D, D, chains or rods may be used, and in case chains are

employed, the chamber, *a*, may often be dispensed with, the chains being suffered to fall directly upon the ground or gate sill and be driven or stepped over by the party while passing through the gate or opening.

Having thus described my improved gate, I would remark that it has advantages over the common balance gate, as from peculiar construction, no counter balance becomes necessary. Besides this, the arrangement and construction of the latch bar and operative scrolls as applied to the windlass renders the operative mechanism of the gate very simple in construction and efficient in use. The manner of making the gate requires a very small or shallow recess under the sill in comparison to what would be the case were the gate formed of posts and rigid bars.

I do not claim elevating a gate by means of a windlass and draft and connecting chains; nor making the gate to close into a recess below its sill; nor balancing a gate by means of counterbalance weights, cords, and pulleys, but

What I do claim is—

1. The manner of making the gate, viz, of a series of bars or chains, D, D, and upright chains connected and arranged as specified and so as to fold into and unfold out of a recess below the sill as hereinbefore explained.

2. I also claim the combination and arrangement of the latch bar, L, and the cords, *g*, *h*, the same being constructed and applied to the windlass and made to operate substantially as specified.

In testimony whereof, I have hereunto set my signature this 6th day of July A. D. 1855.

SMITH A. SKINNER.

Witnesses:

R. H. Eddy,

F. P. Hale, Jr.