(No Model.)

J. S. LIVINGSTON & A. McBRIDE.

COTTON GIN.

No. 334,875. Patented Jan. 26, 1886.

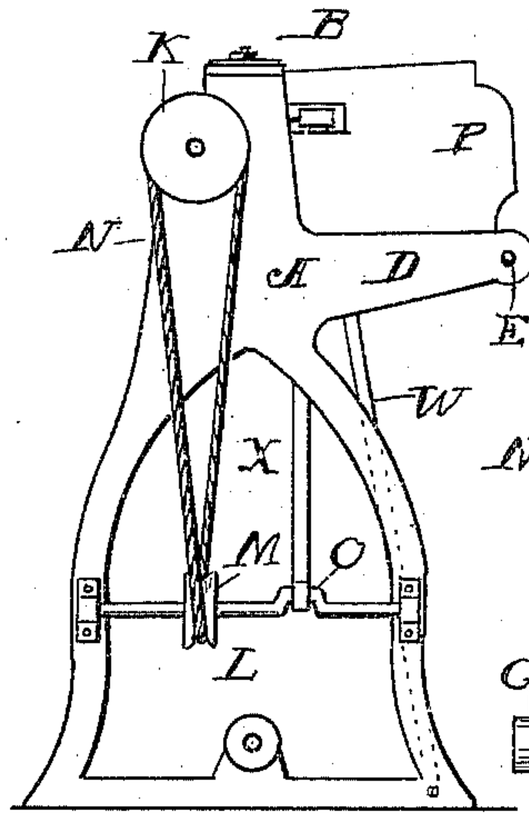

Fig. 2.

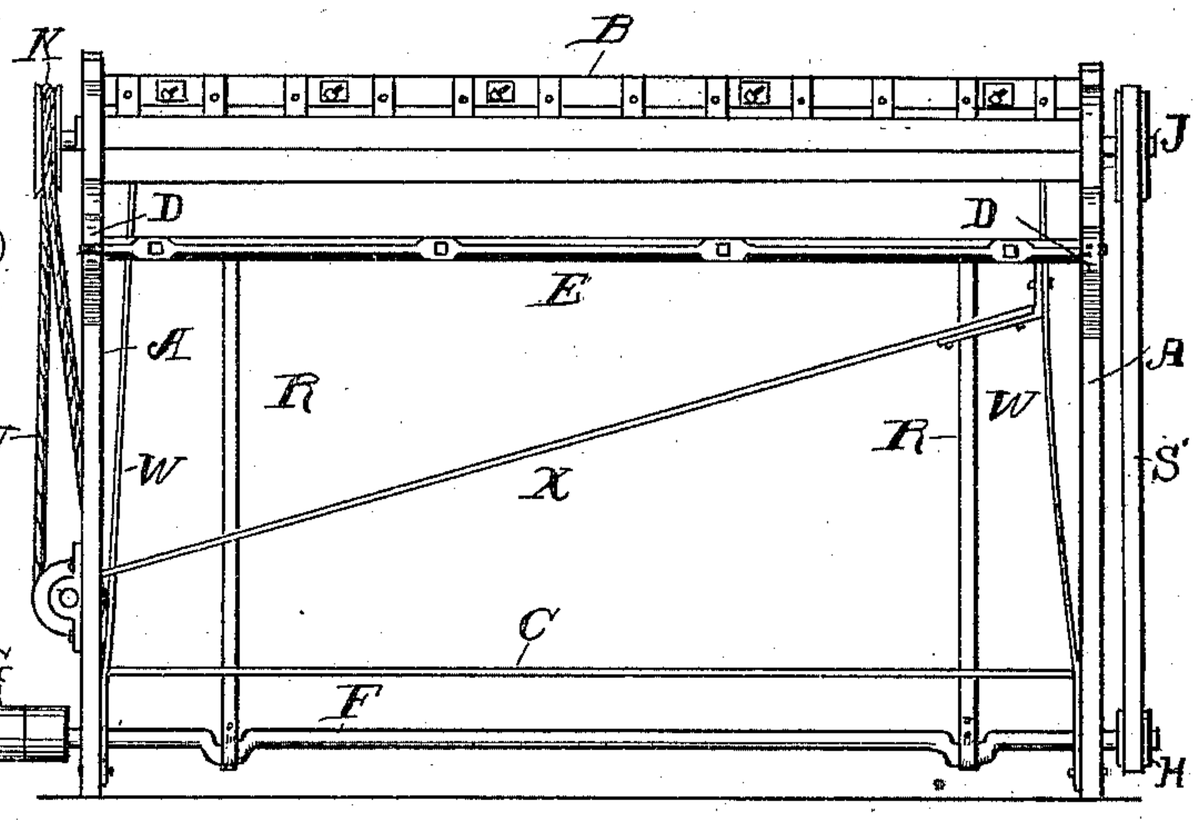

Fig. 1.

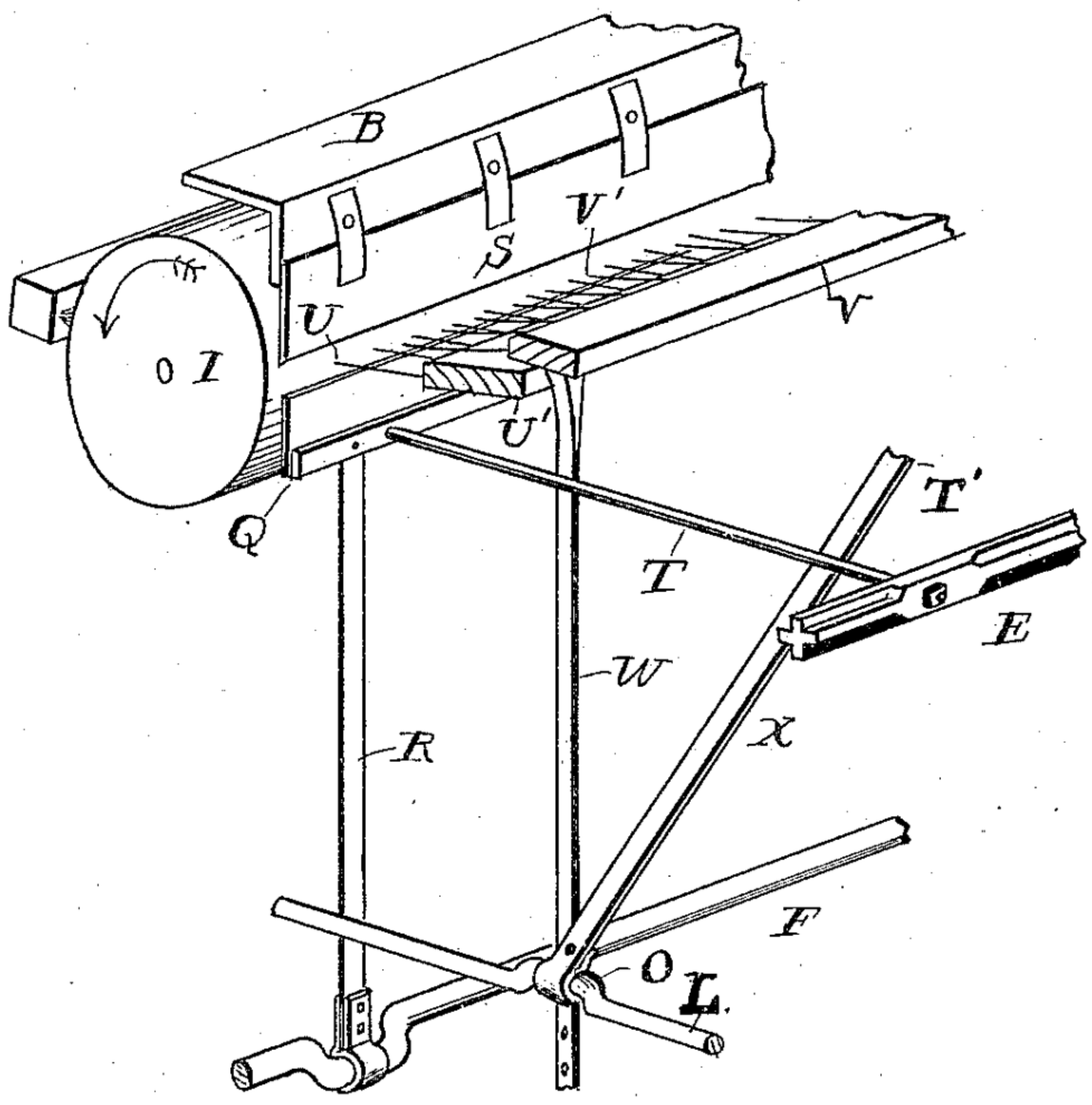

Fig. 3.

WITNESSES:

Robert Kirk.

C. D. Zerbe

By

INVENTOR:

John Livingston

Andrew McBride

J. S. Zerbe

Attorney.

UNITED STATES PATENT OFFICE.

JOHN S. LIVINGSTON AND ANDREW McBRIDE, OF ORANGE SPRINGS, FLA.

COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 334,875, dated January 26, 1886.

Application filed April 14, 1885. Serial No. 162,191. (No model.)

To all whom it may concern:

Be it known that we, JOHN S. LIVINGSTON and ANDREW MCBRIDE, both of Orange Springs, in the county of Marion and State of Florida, have invented a new and useful Improvement in Cotton-Gins, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front view of our improved cotton-gin. Fig. 2 is an end view of the same, and Fig. 3 is a perspective view of the operative parts in detail.

The object of our invention is to construct an improved gin for sea-island cotton, and for all grades of upland cotton, and also to adapt the same for picking cotton.

The present invention is an improvement on that shown and described in Letters Patent No. 67,324, granted to McCarthy, issued July 30, 1867, and Reissued Letters Patent No. 262, dated April 18, 1854, to said McCarthy.

In the machine referred to heretofore used by us for this same purpose there were mechanical means for accomplishing this object; but in experimenting with the machine we found that the mechanism in some particulars, especially that which operated the "cotton-spreader" or the bar containing the teeth, was not positive in action and caused too much friction; also, we will now explain the points of improvement over the machine formerly used.

Referring to the drawings, A represents the frame or ends of the machine, having on the top the longitudinal beam or bar B, and at the bottom the connecting-bar C, to hold the ends in a permanent position in relation to each other. Each frame end A has near the upper end a forwardly-projecting arm, D, to the forward ends of which are pivoted the intervening bar, E, for purposes hereinafter explained. Centrally near the base is a longitudinal shaft, F, journaled in the frame. This shaft is provided with a tight-and-loose pulley, G, at one end, which receives the power from the driving-shaft, and the other end of this shaft has a small pulley, H. The shaft F has also near each end, but inside of the boxing in which the shaft is journaled, two cranks, as shown. At the upper end of the frame is a longitudinal roller, I, having at one end the large pulley J, which receives motion from the small pulley H by means of a belt, S'. The opposite end of the roller has a grooved pulley, K.

Below the roller I, and journaled to the forward end of the frame, is a transverse shaft, L, which carries near one end a grooved pulley, M, by means of which motion is transmitted from roller I through the medium of the round belt N. The shaft L has near one end a crank, O.

Resting upon the arms D are blocks or heads P, which are designed to hold the bars for spreading and feeding the cotton.

In Fig. 3 it will be observed that the feed-bar Q has its upper edge resting against the roll I, and is supported in a vertical position by means of two arms or bars, R, the lower ends of which are journaled on the cranks of the shaft F, so that as the shaft F rotates, the feed-bar is caused to move up and down past the face of the roll I. In so doing it passes up in front of, but close to the blade S, attached to the top bar, B. The feed-bar Q is held close to the roll, or in any desired position, by means of adjusting-nuts T' on the rods T, which project forward and are secured to the longitudinal pivoted bar E, as shown in Fig. 3.

Directly below the lower edge of the blade S is a row of horizontally-disposed fingers, U, projecting from a stationary bar, U', and above this bar is a second bar, V, having teeth V', slightly bent downward so as to rest near the row of teeth U on the stationary bar below. The bar V, however, rests on two flexible arms, W, the lower ends of which are secured firmly to the frame, and this bar, so mounted, is capable of being vibrated endwise.

X represents a rod or bar journaled at one end to the crank O, on the cross-shaft L, while the other end is secured to the upper end of the opposite vertical flexible bar W.

In the machine formerly used by ourselves and above referred to provision was made for the roller I, feeding-bar Q, blade S, stationary fingers U, and also for the reciprocating bar V; but as the means therein provided for reciprocating the bar V were not satisfactory, we have in the present invention remedied these defects by attaching the cross-shaft L and connecting it by means of a belt directly with the roller I, and placing a crank, O, on

said shaft, and reciprocating said bar through the intervention of the connecting-rod X.

What we claim as new is—

1. In a cotton-gin, the stationary bar U′, having fingers U, in combination with the spreader-bar V, having fingers V′, suitable elastic bars, a connecting-rod, X, a cross-shaft, L, provided with a crank, the belt N, and pulleys, and the roller I, substantially as set forth.

2. In a cotton-gin, the roller I, the blade S, the stationary bar U′, having the fingers U, the reciprocating bar V, having fingers V′, the flexible arms W, and the connecting-rod X, in combination with the cross-shaft L, having the crank O, the vertically-movable feeder-bar Q, the standards R, and the shaft F, having the cranks thereon, substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands, this 23d day of March, 1885, in the presence of witnesses.

JOHN S. LIVINGSTON.
ANDREW McBRIDE.

Witnesses:
E. L. WARTMANN,
FRED. McC. CHIPMAN.