D. M. COCHRAN.

GRAIN MEASURING, SACKING, AND STACKING DEVICE.

No. 33,186. Patented Sept. 3, 1861.

Fig. 2.

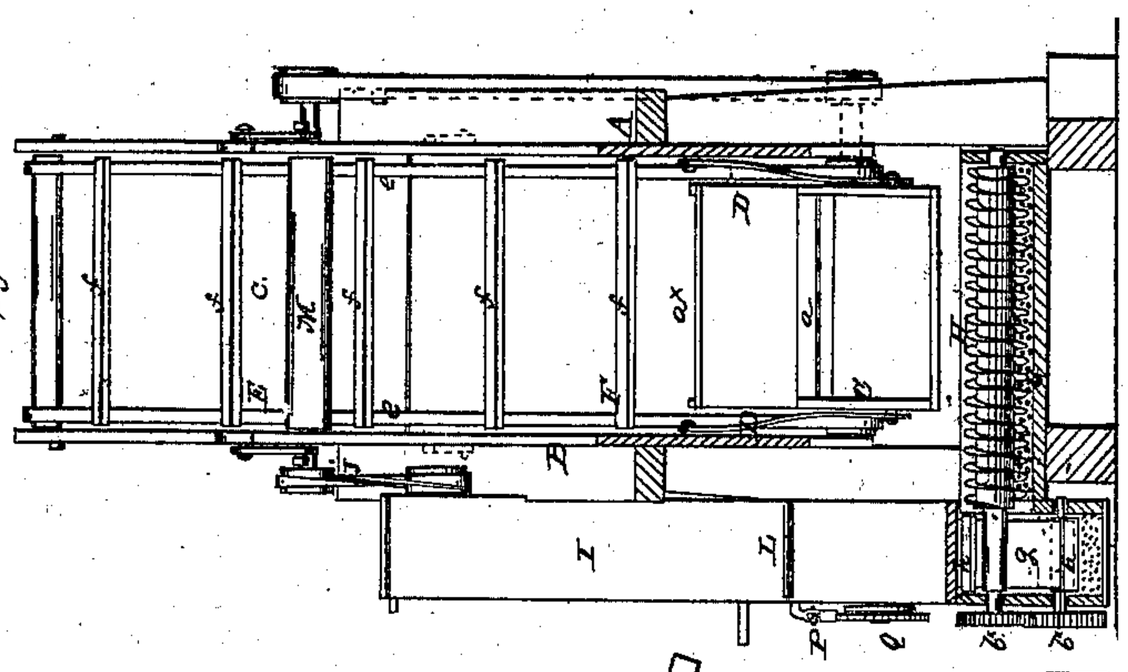

Fig. 1.

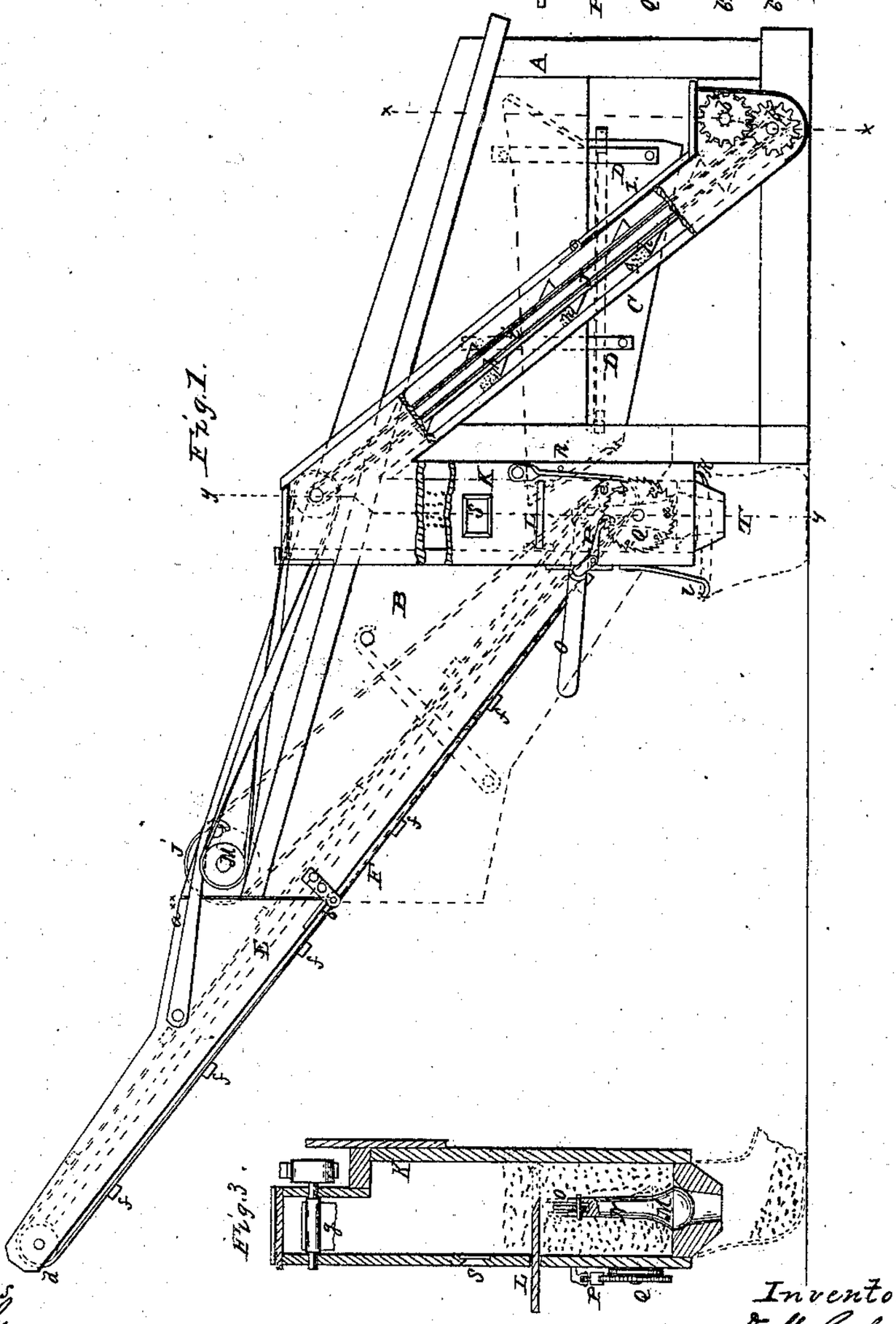

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

D. M. COCHRAN, OF RICHMOND, INDIANA.

IMPROVEMENT IN MODE OF MEASURING AND SACKING GRAIN.

Specification forming part of Letters Patent No. **33,186,** dated September 3, 1861.

To all whom it may concern:

Be it known that I, D. M. COCHRAN, of Richmond, in the county of Wayne and State of Indiana, have invented a new and Improved Machine for Measuring and Sacking Grain, and also for Stacking Straw and Chaff, the whole being used in connection with a grain-separator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation of my invention; Fig. 2, a transverse vertical section of the same, taken in the line *x x*, Fig. 1; and Fig. 3, a detached section of the grain-receiver, taken in line *y y*, Fig. 1.

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

This invention is designed, first, to save labor so far as regards the measuring and sacking of grain, and, second, to render the device more portable than those hitherto used, the box which contains the conveyer being capable of being folded when not in use.

The invention is used in connection with a grain-separater, and is so arranged that the cleaned grain is conveyed to a separate receiver, measured, and deposited in sacks, while the straw and chaff are carried up by an inclined conveyer and stacked at one end of the machine.

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

A represents a framing, in which a box B is placed, and a shoe C, the shoe being provided with one or more screens *a*, and being suspended within the box B by metal straps or springs D, and having a shaking motion communicated to it by any proper means. The back part of the box B has an inclined bottom $a^{\times}$, and to the outer end of box B a shallow box E is connected by hinges or joints *b*. The box E when not required for use may be folded down underneath the box B, and when in use it is raised and secured in line with the box B, the bottom *c* of E being in line with the bottom *a* of box B, as shown in Fig. 1. At the outer end of box E there is a roller *d*, and a similar roller *e* is placed at the lower end of box B. Around these rollers an endless conveyer F is placed, said conveyer being formed of two endless straps *e e*, connected by traverse-bars *f*, of square form. This endless conveyer receives the straw and chaff from the screen or screens of the shoe C, and when the machine is in operation conducts the straw and chaff up the inclined bottoms $a^{\times}$ *c*, and discharges them from the upper end of box E. The box E is secured in either of its two positions by hooks $a^{\times\times}$.

At the lower end of the shoe C there is placed a box G, which receives the grain from the shoe C. In this box G there is placed a horizontal screw H, which serves to convey the grain from box G to the lower end of an elevator-box I. The elevator J in said box I is formed of an endless strap *g*, having wooden scrapers *h* attached to it at suitable and equal distances apart. The scrapers *h* extend the whole width of the strap, and their face sides are at right angles with the strap, while their outer surfaces are beveled, as shown clearly in Fig. 1. The scrapers *h* work in contact with the bottom of the elevator-box I, and carry up the grain from the box G and deposit it in the top of a receiver K, which is provided with a horizontal slide L. The elevator-box I is provided with a central partition *i*, which serves to support the strap *g*. The elevator J and conveyer F are both driven by straps *j j* from a driving-shaft M on the outer part of box B.

In the lower end of the receiver K there is placed a valve M′, which is formed of a semisphere at the lower end of a vertical rod N, as shown clearly in Fig. 3. The rod N is connected at its upper end to a lever O, which passes through the side of the receiver K, said lever having a pawl P attached, which pawl engages with a ratchet Q at the outer side of the receiver K. The ratchet Q has its teeth numbered, as shown clearly in Fig. 1. R is a holding-pawl, which engages with the ratchet. In the side of the receiver K there is placed a glass S.

To the lower end of the receiver K there are attached at one side hooks *k*, and a spring *l* is attached to the opposite side. By means of these hooks and spring a sack T is secured to the lower end of the receiver, the spring *l* keeping the sack distended, as shown clearly in Fig. 1. When the grain is discharged into the receiver K, the slide L is opened or withdrawn, and when the grain

reaches a point above the slide L, which may be seen by looking through the glass S, the operator "shoves in" the slide L and then depresses the outer end of lever O, thereby raising the valve M′ and allowing the grain in K below the slide L to drop into the sack T. Each time the grain is discharged from the receiver K the pawl P of lever O moves the ratchet Q one tooth, and hence the ratchet serves as an indicator or register, denoting the number of discharges from K. It is designed to have the space in the grain-receiver below the slide L of sufficient capacity to contain one bushel, and hence the number of bushels of grain may be denoted. The screw H may be driven by gears $b^{\times}$ from the lower roller of the elevator J, as shown in Fig. 1.

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

1. The combination of the elevator J, screw conveyer H, and grain-receiver K, the latter being provided with the slide L and valve M′, which valve is connected through the medium of a lever O and pawl P with a ratchet or register Q, all arranged for joint operation as and for the purpose set forth.

2. The supplemental box E, connected to the box B by joints or hinges *b*, and arranged, as shown, to admit, when not required for use, of being folded down underneath the box B, as set forth.

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Witnesses:
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