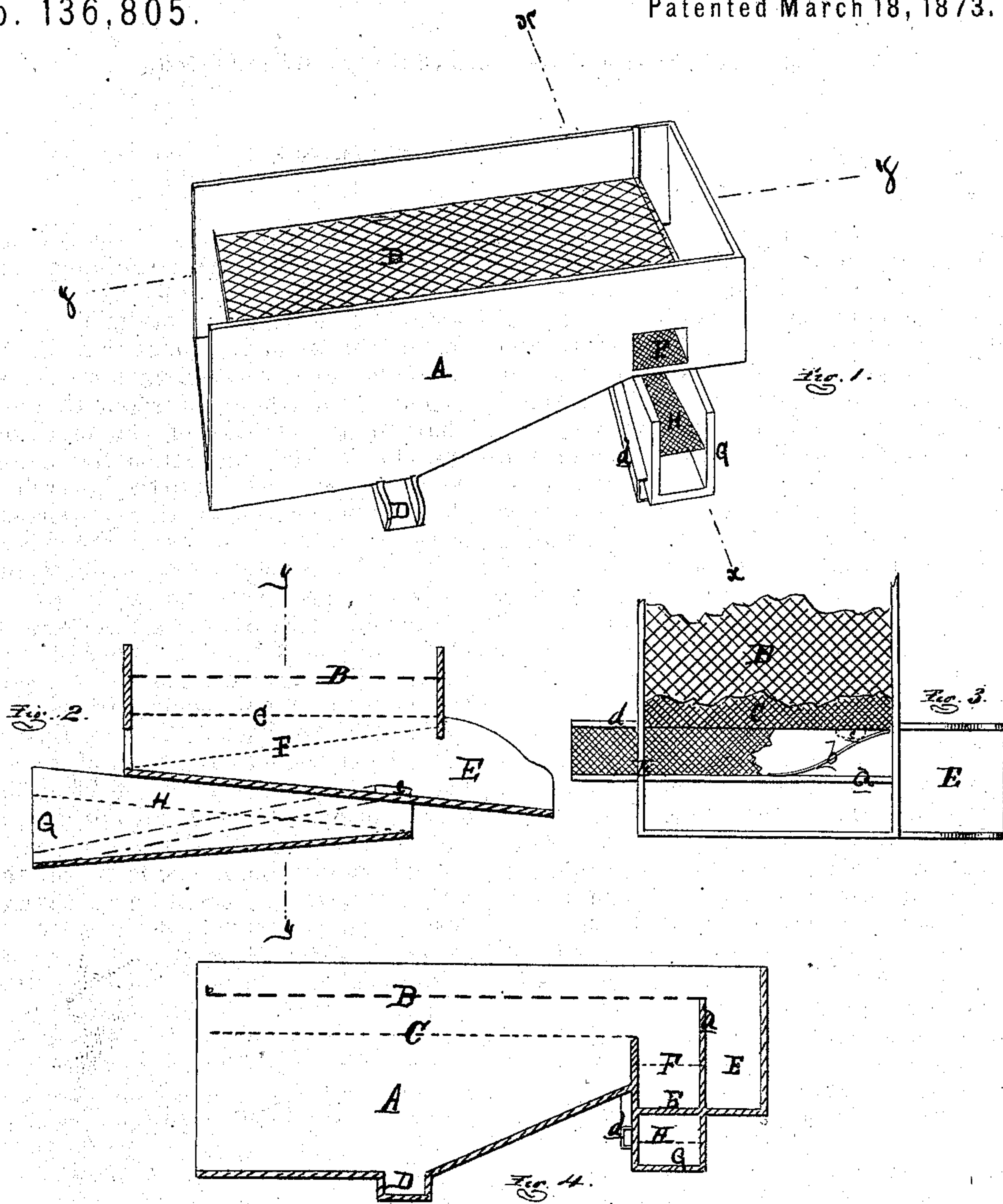


C. L. ALLEN.
Clover-Separators.

No. 136,805.

Patented March 18, 1873.



ATTEST:
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INVENTOR:
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UNITED STATES PATENT OFFICE.

CHARLES L. ALLEN, OF FLAT ROCK, ASSIGNOR TO JOHN L. HOOD, OF GRAFTON, AND EUGENE ARMSTRONG AND HENRY C. HOOD, OF ASH, MICH.

IMPROVEMENT IN CLOVER-SEPARATORS.

Specification forming part of Letters Patent No. 136,805, dated March 18, 1873.

To all whom it may concern:

Be it known that I, CHARLES L. ALLEN, of Flat Rock, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Clover-Separators; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective view of the shoe of a clover hulling and separating machine with my improvement attached. Fig. 2 is a cross-section on the line *x x* in Fig. 1. Fig. 3 is a plan of the outer end of the shoe; and Fig. 4 is a longitudinal vertical section taken on the line *y y* in Figs. 1 and 2.

Like letters refer to like parts in each figure.

This invention relates to a separating attachment to the shoe of a clover hulling, thrashing, and separating machine; and has for its object to eliminate all the seed from the impurities, which will be discharged in their first passage through the machine, instead of being returned through the machine several times to be reground and cut up, as heretofore. The invention consists in a double inclined spout provided with separating-screens attached to the outer end of the shoe, and so arranged as to effectually eliminate the seed from the impurities not extracted by the principal seed-screen of the shoe.

In the drawing, A represents the shoe of a clover hulling and separating machine, provided with the coarse screen B and fine screen C and seed-spout D, as heretofore, and to the invention of which I make no claim. This shoe is hung in the casing of a clover-machine, and is vibrated in the usual manner, the blast from the fan entering the shoe at the left of Figs. 1 and 4. Across the discharge end of the shoe at the bottom, and inclined to the right when looking at it from the rear, is a refuse-spout, E. The fine screen C terminates at the nearest wall of this spout, while a vertical longitudinal partition, *a*, divides it into two compartments running under and across the shoe. This

partition is carried up to the plane of the coarse screen B, which terminates at its edge, as seen in Figs. 1 and 4, the end of the said screen being broken away in Fig. 3. The effect of this arrangement is that the chaff and heads fall over the screen into the outer division of the trough or spout E, and are discharged at the side of the machine, while the clover seed and stubs fall through the coarse upper screen onto the lower fine screen, through which the greater proportion of the seed sifts into the bottom of the shoe, whence it is discharged by the spout D, while the remainder passes with the stubs over the end of the fine screen onto a finer screen, F, inclined to the left in the nearest division of the spout E, through which the seed sifts to the bottom of said spout-division; but, instead of passing out at the right-hand end with the refuse passing through the other division, it is arrested by a deflecting partition, *b*, and, passing through an opening, *c*, in the wall of the spout at the lower edge, is conducted back to the left side of the shoe by a conductor, *d*, and discharged. Directly under the inner division of the spout E is attached a spout, G, projecting from the shoe at the left side thereof. The bottom of this spout is inclined to the left, and in it is a screen, H, inclined to the right. The refuse matter and some little remaining seed which is discharged from the screen F above fall onto this screen H, which discharges the impurities passing over its surface at the right, while the seed sifts through and is discharged at the left.

In clover hulling and thrashing machines as heretofore constructed the heads, stubs, and everything, except the chaff blown away, passing over the first pair of screens, are taken by a short elevator at the side of the machine and carried back to the cylinder to be ground up so that it will pass through the first screen, and thus eliminate the seed in its second screening. A large proportion of the matter goes through this process the second time, and often the third. In this machine the available seed is separated at the first passage through the shoe and screen spouts, saving the expense of the elevator—

about ten dollars—and the time and power of running the elevator and regrinding the material.

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction and arrangement, with relation to the shoe A, screens B C, spout E, and screen F, of the partitions *a b*, conduct-

or *d*, spout G, and its screen H, substantially as shown and set forth, and for the purpose specified.

CHAS. L. ALLEN.

Witnesses:

JOSEPH A. PIERSON,

CHARLES H. BALL.