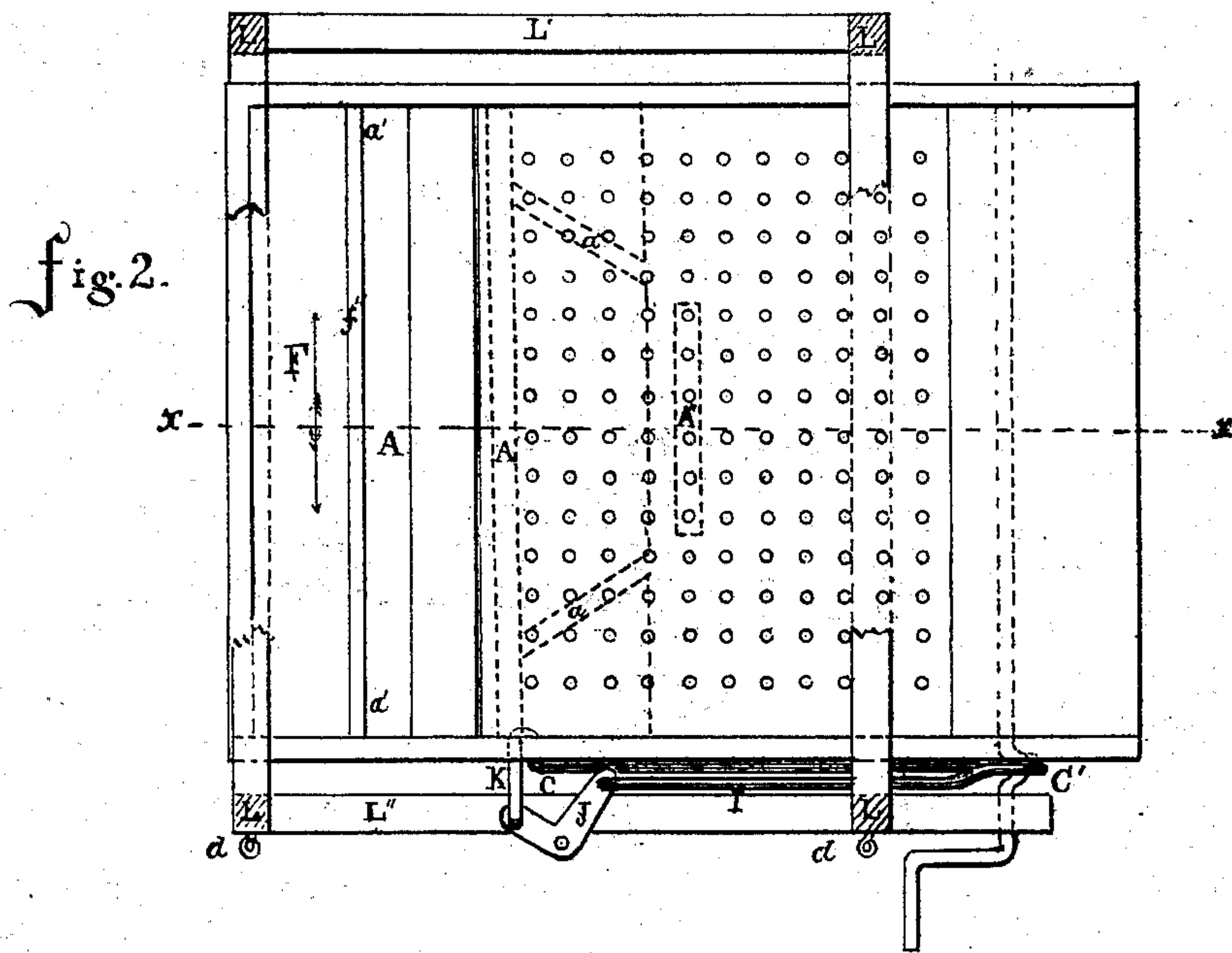
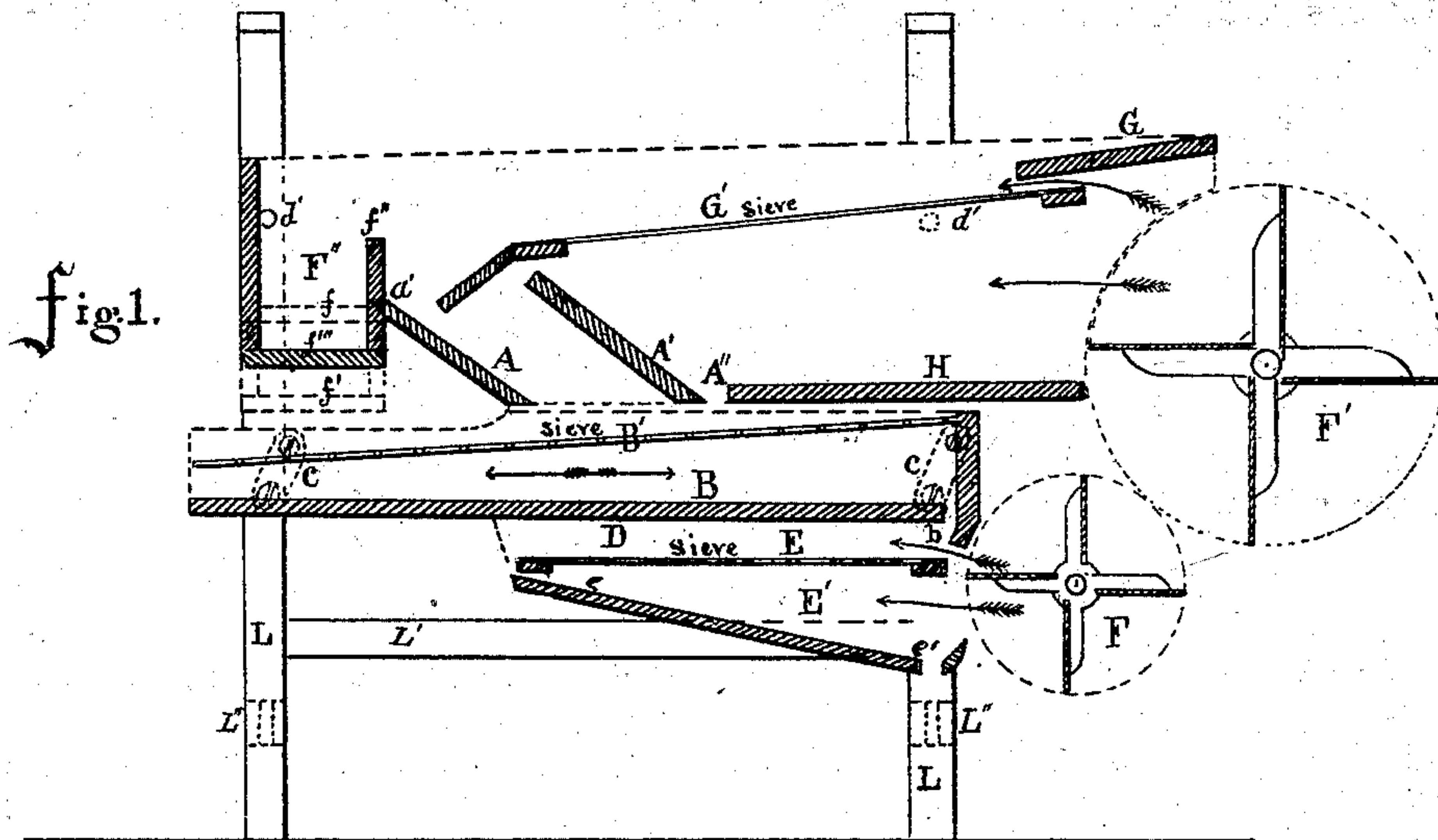


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CLOVER SEPARATOR.

No. 171,237.

Patented Dec. 21, 1875.



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UNITED STATES PATENT OFFICE.

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NEW YORK.

IMPROVEMENT IN CLOVER-SEPARATORS.

Specification forming part of Letters Patent No. **171,237**, dated December 21, 1875; application filed August 21, 1875.

To all whom it may concern:

Be it known that we, GEORGE F. METZGER and JACOB P. KOHLER, of West Fayette, in the county of Seneca and State of New York, have invented a new and useful Separator for Clover-Mills, of which the following is a full description, reference being had to the accompanying sheet of drawings, which forms part of this specification.

Our invention relates to that class of separators used for separating the stems of clover from the chaff, and removing and cleansing the clover-seed, as will be more fully hereinafter described.

In the accompanying drawings, Figure 1 is a longitudinal vertical section on lines *x x* of Fig. 2. Fig. 2 is a plan view.

A is an extra spout. A' is a sloping board, called a chute, and is connected by side boards, which incline toward each other, and are represented by *a a* in dotted lines in Fig. 2. The bottom edge of A is seen in Fig. 2, in dotted lines, the top edge of *a'*. A'' is an opening to permit the clover-seed and retained chaff to pass into the sieve B'. B represents the upper chamber of the stem-separator, having a sieve, B', over the chamber, and the bottom of solid board, with a slit or opening, *b*, at the front end, for the passage of the seed into a second chamber below, marked D, where the bottom is a sieve, E, which permits the clover-seed to fall through the sieve into the lowest chamber, marked E', which has a sloping bottom, *e*, to an outlet, *e'*. The parts B D E E' are all framed and attached, as shown in Fig. 1, and suspended by links to four posts on the supporting-frame, which sustains the whole apparatus. These links are seen in Fig. 1 in the dotted lines *c c*. These links permit the stem-separator to vibrate in the direction of the arrows in Fig. 1, and this motion is given by a connecting-rod, C, in Fig. 2, which is moved by the crank of the fan-shaft O'; or the same may be moved by any proper gearing to any desirable part of the separator, the power of which will work the stem-separator. F and F' are fans. F'' is a trough, which is separated from the spout A by a partition, *f'''*. The bottom of this trough is sloping across the separator. The top line

is seen in dotted lines at *f*, and the lowest at *f'* in dotted lines, while the solid lines at *f'''* show the section on *x x* of Fig. 2, which is the middle of the frame. G is the upper side of an ordinary clover-separator. G' is the sieve of the same. H is the bottom board of the same, all forming an ordinary clover-separator, improved by the arrangement of the spout A, as described, and is suspended from the four posts L of the supporting-frame on rods *d d*, as seen in Fig. 2, which pass through the posts and sides of the clover-separator, as seen at *d'' d''* in Fig. 1. On these rods *d d* the clover-separator can slide transversely in the direction of the arrows in Fig. 2, and this motion is communicated by a connecting-rod, I, which is operated from the crank of fan-shaft O' through a bell-crank lever, J, and a rod, K, which is fastened to the side of the separator, by means of which the separator slides back and forth, as indicated by the arrows in Fig. 1. The clover-separator and stem-separator attached are supported on a frame consisting of four posts, L L L L, which are held together by rails L' on the sides and ends.

The operation of the stemmer, attached to a clover-mill improved, as above mentioned, by the feature of the spout A, is as follows: The seed intended to be cleaned is thrown upon the sieve G', and the machine is put in motion. It partially separates the seed, and the same falls through to the bottom board H, the ground chaff being blown away by the action of the fan F'. The unground chaff is thrown over into the trough F''. The remaining seed and stems pass through the spout A, and fall upon the sieve B' of the stemmer, while the seed, which falls through the sieve G'' upon the bottom board H, is conducted through the opening A'', and falls also upon the sieve B of the stemmer. The seed then sifts through the sieve B', separated from the stems, and falls upon the bottom board B, and is conducted through the opening *b* upon the sieve E, through which it falls upon the bottom board E', and on the same to the opening *e'*, where it falls into a box or other convenient receptacle for the same. The fan F cleans the seed upon the sieve E, and it falls

upon the bottom board E' perfectly cleaned. By the operation of the stemmer attached to an ordinary clover-mill, with the improvement of the spout A, it will secure all the seed and separate the stems from the same as fast as hulled. The spout A is intended to be attached, substantially as described, and shown in Fig. 1, to any ordinary clover-mill, for the purpose of conducting the seed and stems to the stem-separator. The clover-mill, with the stem-separator attached, does not require as much power to work it as an ordinary clover-mill, for the reason that the stems are disposed of without being ground over and over until it becomes light enough to be blown away by the action of the fans.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The spout A, in combination with the

sieve G', chute A', opening A'', bottom board H, and fan F', substantially as and for the purpose described.

2. In combination with the fan F' and upper separator-shoe, consisting of sieve G', spout A, chute A', and bottom board H, arranged substantially as described, the sieve B' arranged to receive the separated material from the upper shoe, substantially as set forth.

3. The combination, in a clover-separator, of the sieve B', shaking-board B', arranged to leave the discharge-aperture *b* at the end nearest the blast, the sieve E, chute E', and fan F, substantially as and for the purpose set forth.

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Witnesses:

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