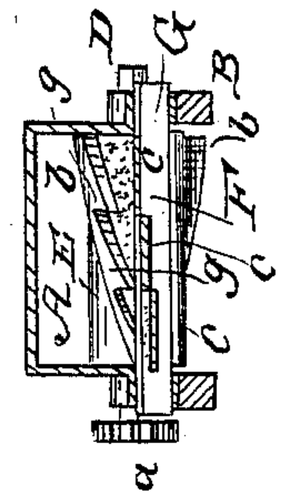
J. S. LASH.

Straw Cutter.

No. 25,789. Patented Oct. 11, 1859.

Fig. 3



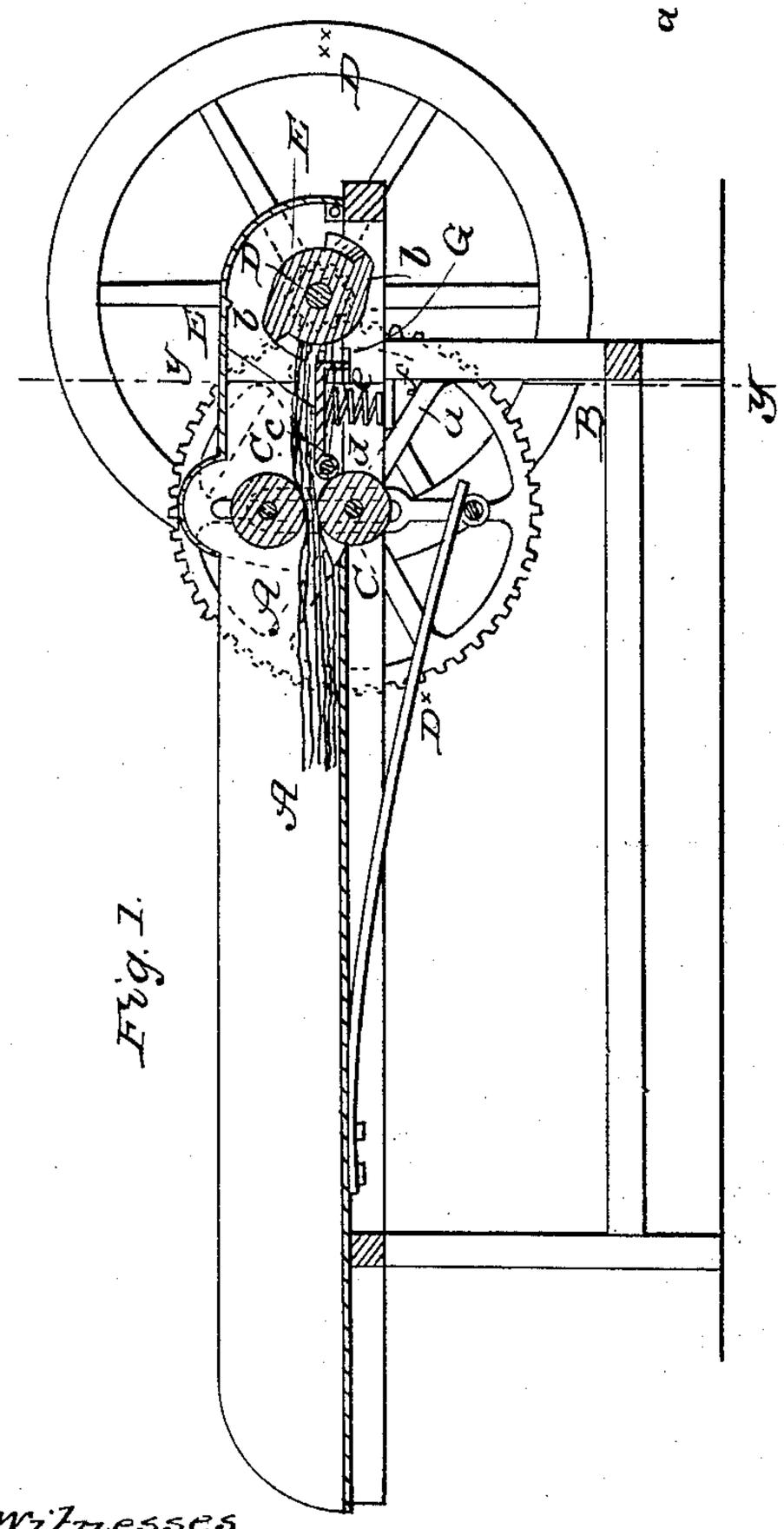


Fig. 1

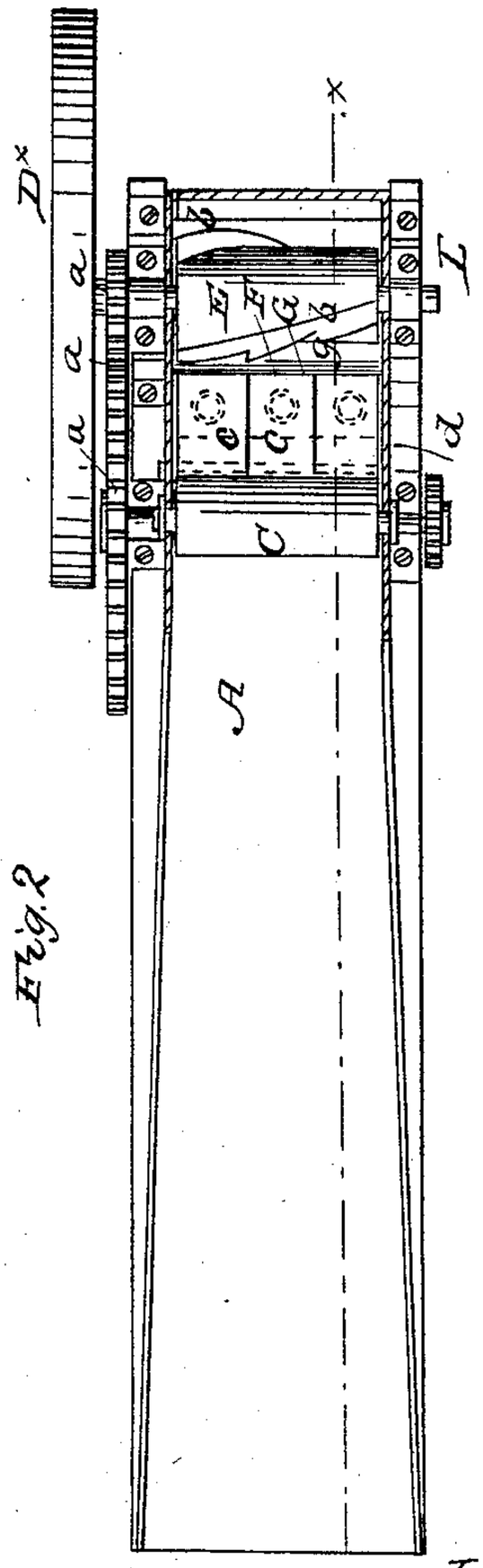


Fig. 2

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UNITED STATES PATENT OFFICE.

JOHN S. LASH, OF CARLISLE, PENNSYLVANIA, ASSIGNOR TO HIMSELF, AND FRANKLIN KNAUSS, OF ALLENTOWN, PENNSYLVANIA.

STRAW-CUTTER.

Specification of Letters Patent No. 25,789, dated October 11, 1859.

To all whom it may concern:

Be it known that I, JOHN S. LASH, of Carlisle, in the county of Cumberland and State of Pennsylvania, have invented a new and Improved Straw and Stalk Cutter; 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 sectional view of my invention taken in the line *x*, *x*, Fig. 2. Fig. 2, is a plan or top view of ditto. Fig. 3, is a transverse vertical section of ditto, taken in the line *y*, *y*, Fig. 1.

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

The invention consists in forming the bed adjoining the stationary knife in sections, each of which is allowed to yield or give to a certain extent and having the spiral beaters or followers formed with shoulders substantially as hereinafter described, whereby the cutting device is rendered much more efficient than it otherwise would be.

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

A, represents a feed box which is supported by a proper framing B. This feed box is of the usual form and two feed rollers C, C, are placed near its mouth or discharge end, said rollers being one over the other in the same plane and operated by gearing *a*, from the driving shaft D, the uppermost roller C, being pressed down on the lowermost one by a spring D^x.

On the driving shaft D, a cylinder E, is placed, said cylinder being directly in front of the mouth of the feed box A, and having two spiral beaters or followers *b*, *b*, on its shown clearly in Figs. 2 and 3. The spiral beaters or followers extend the whole length of the cylinder E. A fly wheel D^{xx}, is also placed on shaft D, at one end.

Directly in front of the rollers C, C, a bed F, is placed. The bed is formed in sections,—three sections *c*, are shown in Fig. 2, but more may be used if necessary,—three however would probably be sufficient. The sections *c*, are connected by a joint *d*, to the sides of the feed box. This joint is formed of a rod which passes loosely through eyes at the back part of the sections, one eye extending the whole width of each section. Each section *c*, rests on a spiral spring *e*, said springs being supported by a traverse plate *f*, see Fig. 1.

Directly in front of the bed F, a knife G, is placed. The cutting edge of this knife is uppermost and it is perfectly horizontal and near the outer edges of the sections *c*, of the bed F. The basil by which the cutting edge of the knife is formed is at the back side of the knife as shown clearly in Fig. 1.

The cylinder E, is placed at such a distance from the knife G, that the edges of the beaters or followers *b*, *b*, just pass over its edge, see Figs. 1 and 2. By referring to Figs. 2 and 3, it will be seen that one of the beaters or followers *b*, *b*, is divided into three separate spiral surfaces forming shoulders *g*, each spiral surface being equal in length to the width of the section as shown clearly in Fig. 2.

The operation is as follows:—The straw stalk or other substance A^x, to be cut, shown in red, is placed in the feed box A, and the shaft D, is rotated by any convenient power. The substance A^x, is fed along by the rollers C, C, over the knife G, and the spiral beaters or followers *b*, *b*, force the projecting end of the substance A^x, down on the knife G, and the substance is cut precisely with the same effect as if spiral cutters were on the cylinder E, and the cutters made to pass over the edge of a stationary bar or ledger blade corresponding to the knife G. By having the bed E, made so as to yield or give said bed will be depressed during the action of the beaters or followers and the efficiency of the knife much increased.

It will be seen that the spiral form of the beaters or followers *b*, *b*, will have a tendency when acting on the substance or material A^x, to be cut, to throw said substance to one side of the feed box. This tendency of the spiral beaters I avoid by means of the shoulders *g*, which prevents the lateral movement of the substance A^x, in the feed box. In consequence of having the shoulders *g*, the sections *c*, are necessarily employed. If continuous spiral beaters or followers are used, the bed F, may be in one piece.

Thus it will be seen that a straight knife G, which may be readily sharpened and kept in repair is made in connection with

the spiral rotating beaters or followers *b*, *b*, to act precisely with the same effect as spiral cutters, and all the disadvantages of the latter avoided.

I do not claim broadly the spiral beaters or followers and a straight knife with a yielding bed; but

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

Forming the bed F, in sections *c*, each being provided with a spring *e*, and having the spiral beaters or followers provided with shoulders *g*, substantially as shown to prevent the lateral movement of the straw or stalks in the feed box under the action of the beaters or followers.

JOHN S. LASH.

Witnesses:
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