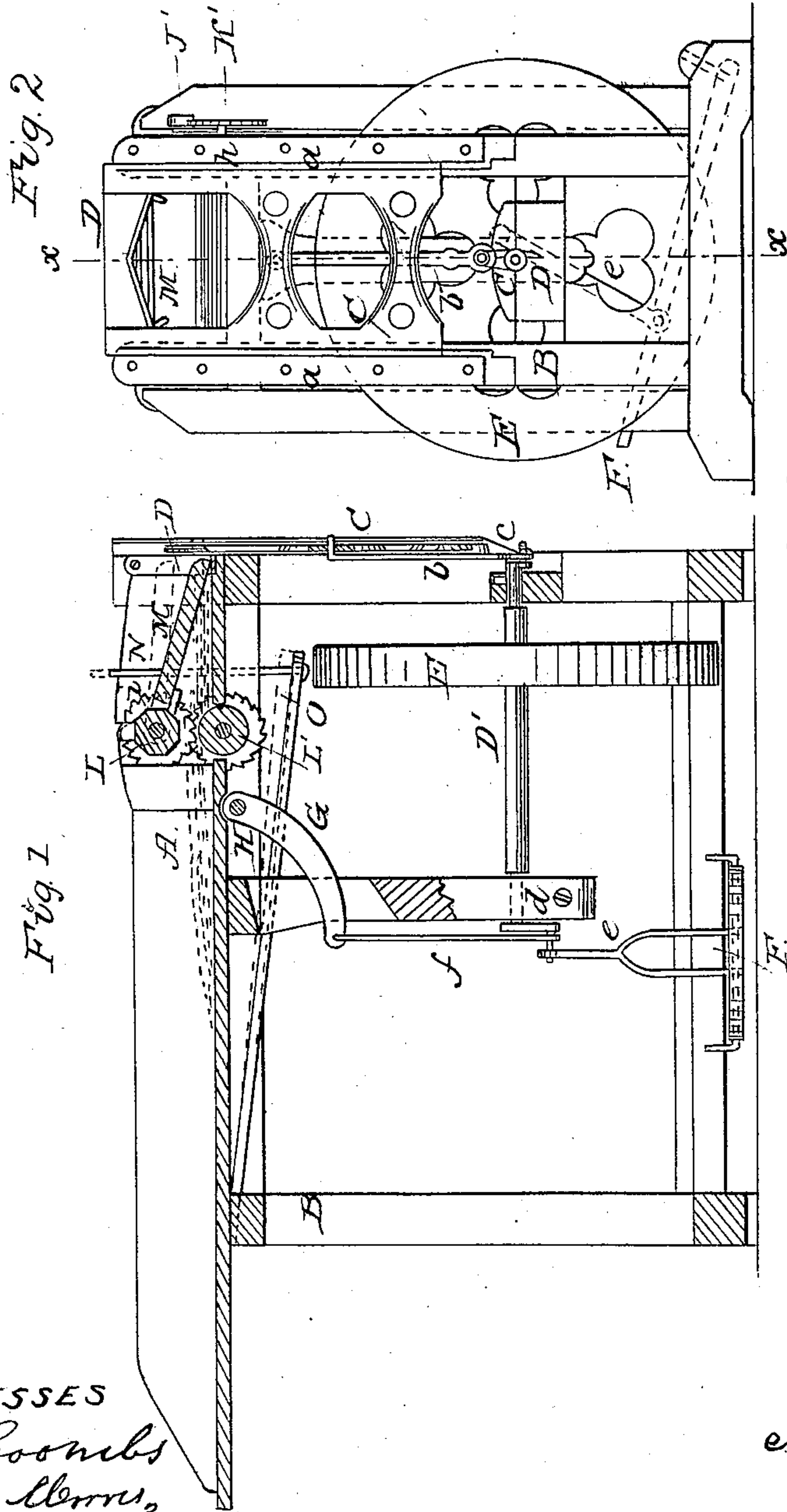


A. J. ADAMS.
Straw Cutter.

No. 44,148.

Patented Sept. 13, 1864.



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ANDREW J. ADAMS, OF CLIMAX PRAIRIE, MICHIGAN.

STRAW-CUTTER.

Specification forming part of Letters Patent No. 44,148, dated September 13, 1864.

To all whom it may concern:

Be it known that I, ANDREW J. ADAMS, of Climax Prairie, in the county of Kalamazoo and State of Michigan, have invented a new and Improved Machine for Cutting Fodder; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying 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, a front view of the same; Fig. 3, a side view of a portion of the same.

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

This invention relates to a new and improved machine for cutting straw, hay, stalks, &c., for fodder; and it consists in the means employed for operating the knife and feeding device, and also in an improved means for clamping the substance to be cut or compressing it so that the knife or cutter may act in the most favorable and efficient manner.

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

A represents the feed-box of the machine, which is supported on a suitable framing, B, arranged in the usual or in any proper way. At the front end of the feed-box A there is a vertical sliding frame, C, which is fitted between guides *a a*, and is provided with a cutter, D, of inverted-V form, as shown in Fig. 2. The cutter-frame C is connected by a pitman, *b*, with a crank, *c*, on a shaft, D', which is placed longitudinally in the lower part of the framing B, and has a fly-wheel, E, upon it and a crank, *d*, on its back end, to which the pitman *e* of a treadle, F, is attached. To this crank *d* there is also attached another pitman, *f*, the upper end of which is connected to the lower end of a curved arm, G, which is attached to a shaft, H, underneath the feed-box A.

To one end of the shaft M there is attached a bar, I, having two pawls, J J', connected by a pivot, *g*, to its upper end, and these pawls engage with two ratchets, K K', which are on one end of the shafts *h h* of two feed-rollers, L L', placed one over the other in the feed-box A. The shaft of the lower feed-roller, L, works in fixed bearings; but the shaft of the upper feed-roller has its bearings in bars

i, which are attached to the sides of a plate M, which is fitted in the front part of the feed-box and extends to the front edge of the bottom of the same, as shown in Fig. 1. This plate M has an inclined position in the feed-box, and it has a rod, N, bearing upon each side of it, said rods being curved so as to extend over the sides of the feed-box and project down vertically, that they may be connected to springs O underneath the feed-box. These springs O have a tendency to press the plate M downward in the feed-box, as will be understood by referring to Fig. 1. The pawl J, which engages with the ratchet K of the upper feed-roller, L, is at the end of an arm, *j*, which, by its gravity, keeps the pawl J engaged with the ratchet K, and admits of the latter rising and falling with the feed-roller L without affecting the proper action of said pawl upon or against said ratchet.

From the above description it will be seen that when the substance to be cut is placed within the feed-box A and its front end fitted in the bite of the rollers L L', and the treadle F operated by the foot, the cutter-frame C will be moved up and down, the cutter D working over the front end or mouth of the feed-box; and it will further be seen that a rocking motion will be given the shaft H, and the pawl-bar I and the two pawls J J' will actuate the ratchets K K' so as to move or rotate intermittently the rollers L L' in the direction indicated by the arrows. The substance to be cut, therefore, will be fed by the rollers underneath the plate M to the cutter D, the plate M, in consequence of the action of the springs O upon it, having a tendency to keep the upper feed-roller, L, pressed down upon the substance to be cut, and also having a tendency to keep the front end of plate M, at the front end of the feed-box, pressed down upon the substance to be cut, so that the cutter may act upon it in the most efficient manner, for the more compactly the substance is pressed where the cut is made the more readily can the cutter perform its work. This arrangement of the pressure-plate M is extremely simple and efficient. The same springs O are made to perform the double function of compacting the substance to be cut near the cutter, or where the cut is made, and also to press down the upper feed-roller

on said substance, while at the same time the pressure increases on one in the same degree or ratio as it does upon the other. The feed movement is given the substance while the cutter D is rising.

The whole arrangement is simple and efficient. The length of the feed movement is varied, so as to regulate the degree of fineness in which the substance is to be cut, by attaching the pawl-bar I higher or lower on the shaft H.

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

The pressure-plate M, arranged with the upper feed-roller, L, and springs O, to operate in the manner as and for the purpose set forth.

ANDREW J. ADAMS.

Witnesses:

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