L. J. WICKS.

Straw Cutter.

No. 13,807. Patented Nov. 13, 1855.

Fig. 1

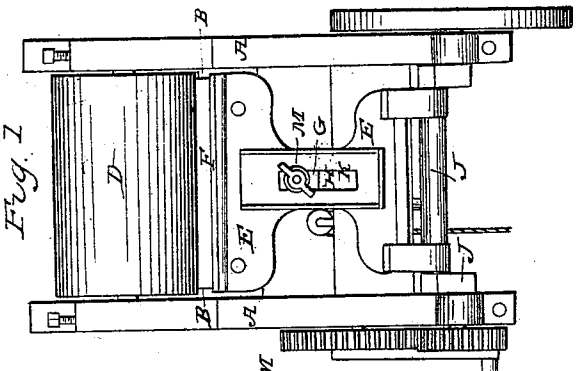


Fig. 3

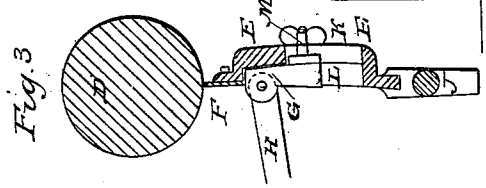
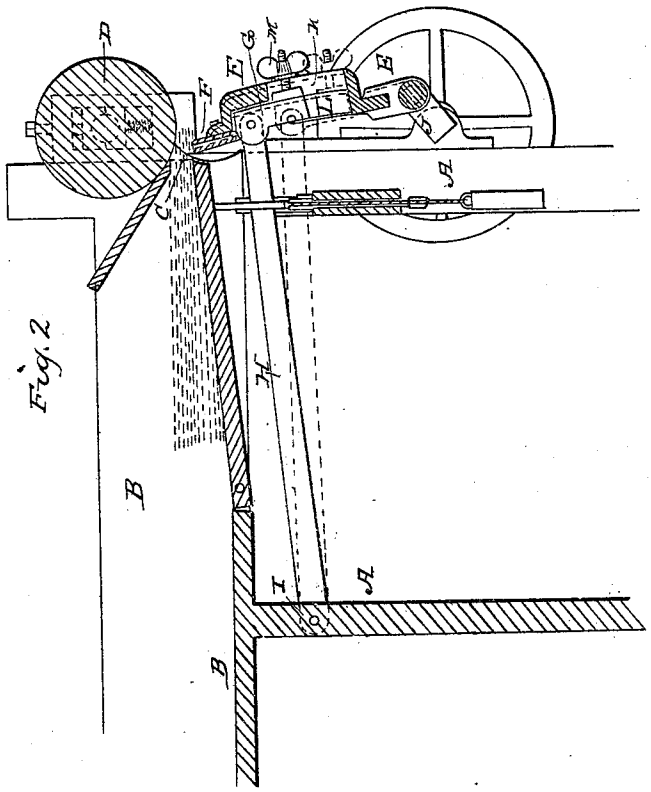


Fig. 2



N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

L. J. WICKS, OF PATERSON, NEW JERSEY.

STRAW-CUTTER.

Specification of Letters Patent No. 13,807, dated November 13, 1855.

To all whom it may concern:

Be it known that I, LOREN. J. WICKS, of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Straw-Cutters; 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, forming part of this specification, in which—

Figure 1, is an end back view of a straw cutter constructed with my improvements. Fig. 2, is a vertical longitudinal section of the same. Fig. 3, a vertical section of knife, its frame and the roller against which the knife operates, detached.

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

The nature of my invention consists in hanging the knife to a crank shaft and to an invariable or variable pivoted pitman, so as to give it a reciprocating curvilinear motion as and for the purposes hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents the frame which supports the trough B, and the operating mechanism.

C, is the ordinary elastic throat, which holds the straw while the cutting is effected.

D, is the yielding raw hide roller against which the knife acts; it is arranged to revolve with the motion of the knife so that its whole surface may be operated upon, in time.

E, is the knife stock or frame and F, the knife set in the upper part of the same. This stock is hung at its center or some point between its lower and its upper ends on a fulcrum G, which is attached to a swinging arm H, which has its fulcrum at I. It is also attached by its lower end to a crank shaft J, and owing to being hung on a swinging fulcrum, when said shaft J, is revolved it has a circular reciprocating motion imparted to it, said motion being made positive and effective in cutting the straw by the aid of the swinging arm H.

The crank shaft, knife stock and arm are all arranged in such relation to the elastic throat C, and roller D, that the cutting edge of the knife in the first part of its movement comes very near the elastic throat C, takes hold of the straw draws it out and carries it up to the center of the bottom of the roller D, and there cuts it, owing to the distance between the roller and the crank shaft being too short for the knife to escape by the roller D, without having its cutting edge take into it. As the straw is thus cut the roller is also turned by the action of the knife, and thus a new portion presented for the knife to act against in its next operation.

By examining the drawing it will be seen that a slot K, is cut in the knife stock, also that curved guides or ways L, are formed at right angles to said slot for the fulcrum G, to play in, and likewise that a set screw M, is passed through the slot and secured in the fulcrum in order to confine it at the point desired. It is by having the fulcrum G, play up and down in guides or ways that any desired adjustment can be made, as illustrated in red and black in Fig. 2, and by having the ways or guides form part of a circle, that said adjustment does not alter the cutting angle of the knife, it always striking under the center of the roller, as illustrated in Fig. 3. The red lines in Fig. 2, show the cutter adjusted for cutting fine, and the black lines for cutting coarse.

It may be obvious that these results are effected on account of the distance from the cutting edge to the fulcrum being decreased in the one instance, and increased in the other and the cutter consequently caused to pass nearer to or farther from, as the case may be, the elastic throat in its upward movement.

This straw cutter is very simple and cheap and in no way liable to become deranged, and in its operation both as regards feeding and cutting is very perfect.

I do not claim the elastic or self adjusting throat, as that has been heretofore used, neither do I claim the adjustable throat to govern the length of the cut.

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

Hanging the knife to a crank shaft J, and to a pivoted pitman H, for the purpose of giving it the curvilinear motion herein described.

LOREN J. WICKS.

Witnesses:
J. G. MERAN,
WM. TUSCH.