

S. Colahan,
Straw Cutter.
No. 106,329. Patented Aug. 16. 1870.

Fig. 1.

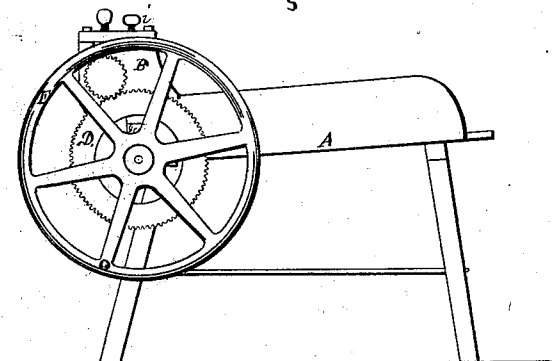


Fig. 4.



Fig. 2.

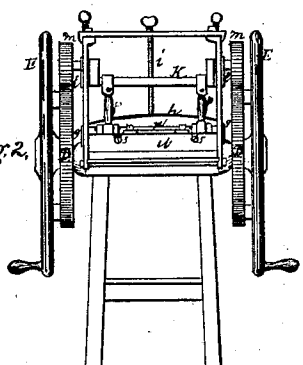
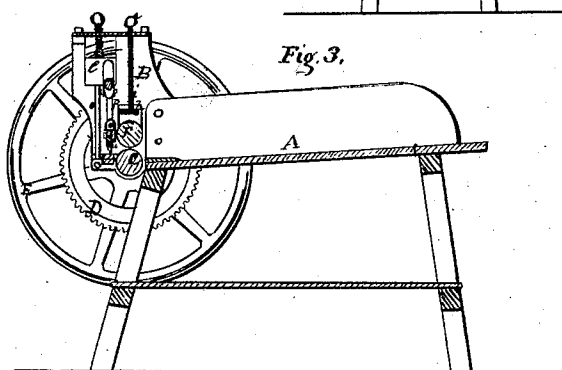


Fig. 3.



Witnesses:

Geo. W. Tibbitts
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Shul. Colahan
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United States Patent Office.

SAMUEL COLAHAN, OF CLEVELAND, OHIO.

Letters Patent No. 106,329, dated August 16, 1870.

IMPROVEMENT IN STRAW-CUTTERS.

The Schedule referred to in these Letters Patent and making part of the same

I, SAMUEL COLAHAN, of Cleveland, county of Cuyahoga and State of Ohio, have invented certain Improvements in Straw or Feed-Cutters, of which the following is a specification.

The nature of this invention relates to the construction of a straw or feed-cutter, and is so arranged that the knife can be made to cut square against a surface of wood or metal, or the knife may be shifted so as to cut by the edge of the bottom plate of the cutter-box, in the manner of a shear.

The motion is given to the knife by means of a crank-shaft arranged above the knife, the knife sliding in grooves or V-shaped slides in the sides of the frame, the crank-shaft being driven by gear-wheels on each end.

In the drawing—

Figure 1 is a side elevation.

Figure 2 is an end elevation.

Figure 3 is a longitudinal section.

Figure 4 is a detached view of section.

A is a cutter-box made in the usual form, and supported upon a frame and legs in the usual manner.

At the front end of the cutter-box A is attached an iron frame, B, the bottom of which is on a line with the bottom of the cutter-box.

Near the bottom of the frame B is arranged a feed-roller, C, the shaft of which turns in suitable boxes in the frame, and on the ends of the roller-shaft are the driving-wheels D and balance-wheels E.

Above the roller C is a second roller, F, which turns in adjustable boxes *g* in the frame B.

Over the roller F is placed a spring, *h*, whose ends bear upon the boxes *g*, and which may be made to bear more or less by means of the set-screw *i*.

In the upper part of the frame B is arranged a crank-shaft, K, which turns in boxes, *l*, placed in the upper part of the sides of the frame, the ends of the crank-shaft passing through them, and having the small gear-wheels *m* on either end, which mesh with and are driven by the gear-wheels D.

A knife-bar, *n*, which plays in the grooves or on the

V-slides *o* on the sides of the frame B, is connected to the crank-shaft K by the pitman *p*, the knife *w* being secured to the bar *n* by the screws *s*.

The bearings in the boxes *l* are made in one end of them, so that the ends of the boxes may be reversed by turning them over, bringing the crank-shaft near the front, the knife-bar then playing nearer the front, so that the knife shall cut past the front edge of the frame B, in the manner of shears, a knife like that seen in fig. 4 being used for that purpose.

This knife, thus arranged, is intended to be used when cutting large material, as stalks, &c., when the other would not be as efficient.

When the knife *w* is arranged to work in the rear grooves or slides, it cuts against a groove in the bottom of the frame B, which groove is to be provided with a plate of copper, wood, or other suitable material.

It will be seen by the arrangement of the crank-shaft above the knife that, as it descends, its cutting-power is increased as the cranks and pitmen come into line.

It is also intended to use but one or both of the balance-wheels, as may be desired, but there are to be two sets of gear-wheels, as represented.

I claim—

1. The combination of the reversible boxes *l*, crank-shaft K, pitman-rods *p p*, and knife *w*, said parts being so arranged that the position of the knife may be changed to effect either a pressure cut or a shear cut, as and for the purpose specified.

2. The combination and arrangement of the shaft K, rods *p*, knife *n w*, reversible boxes *l*, rollers F C, boxes *g*, spring *h*, set-screw *i*, the drive-wheels D, fly-wheel or wheels E, pinions *m*, the frame B with guide *o*, and the box A, all constructed and operating substantially as described.

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Witnesses:

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