

(No Model.)

E. I. GILLILAND & J. H. HUNTER.

## STRAW CUTTER.

No. 368,941.

Patented Aug. 30, 1887.

*Fig. 1*

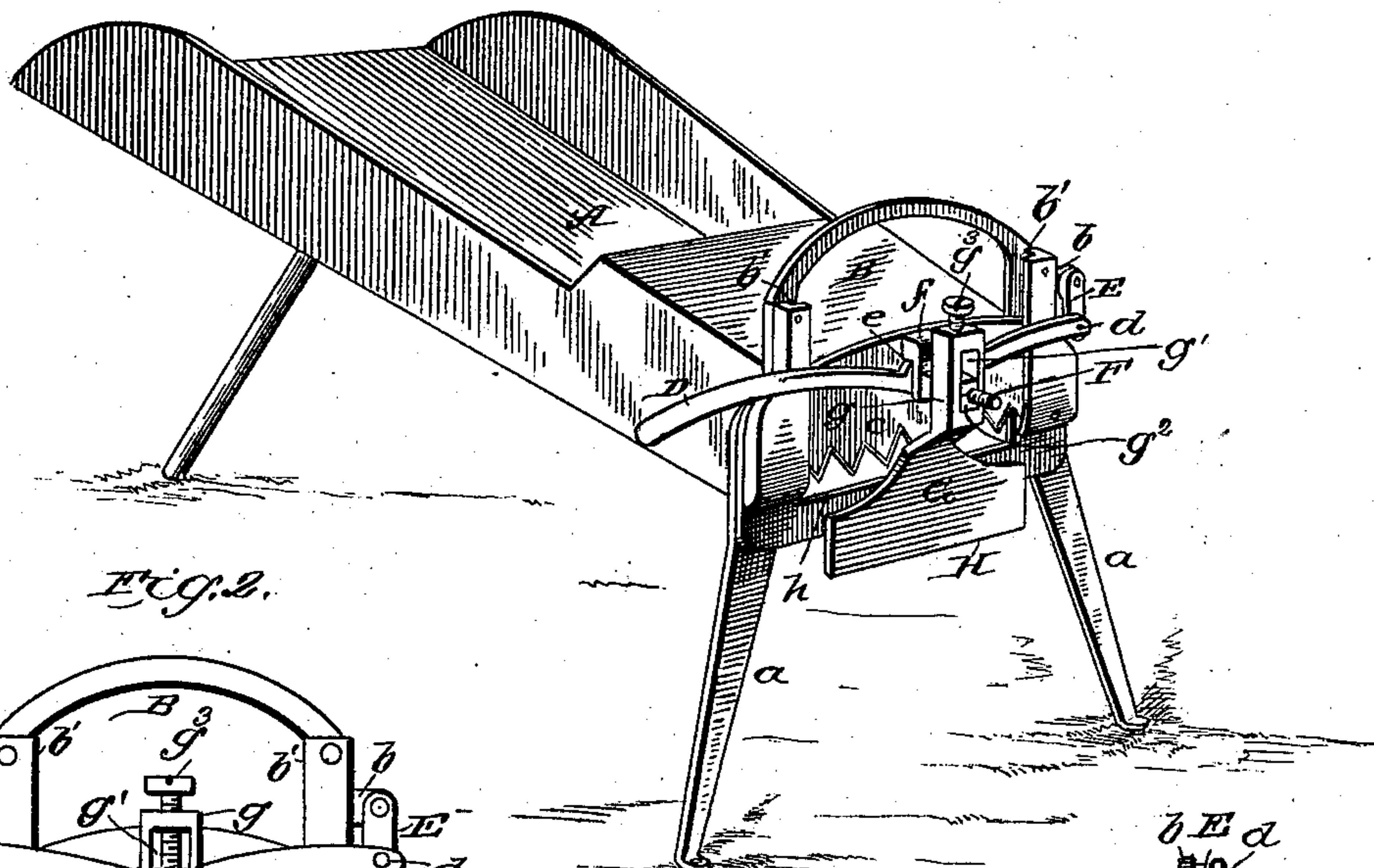
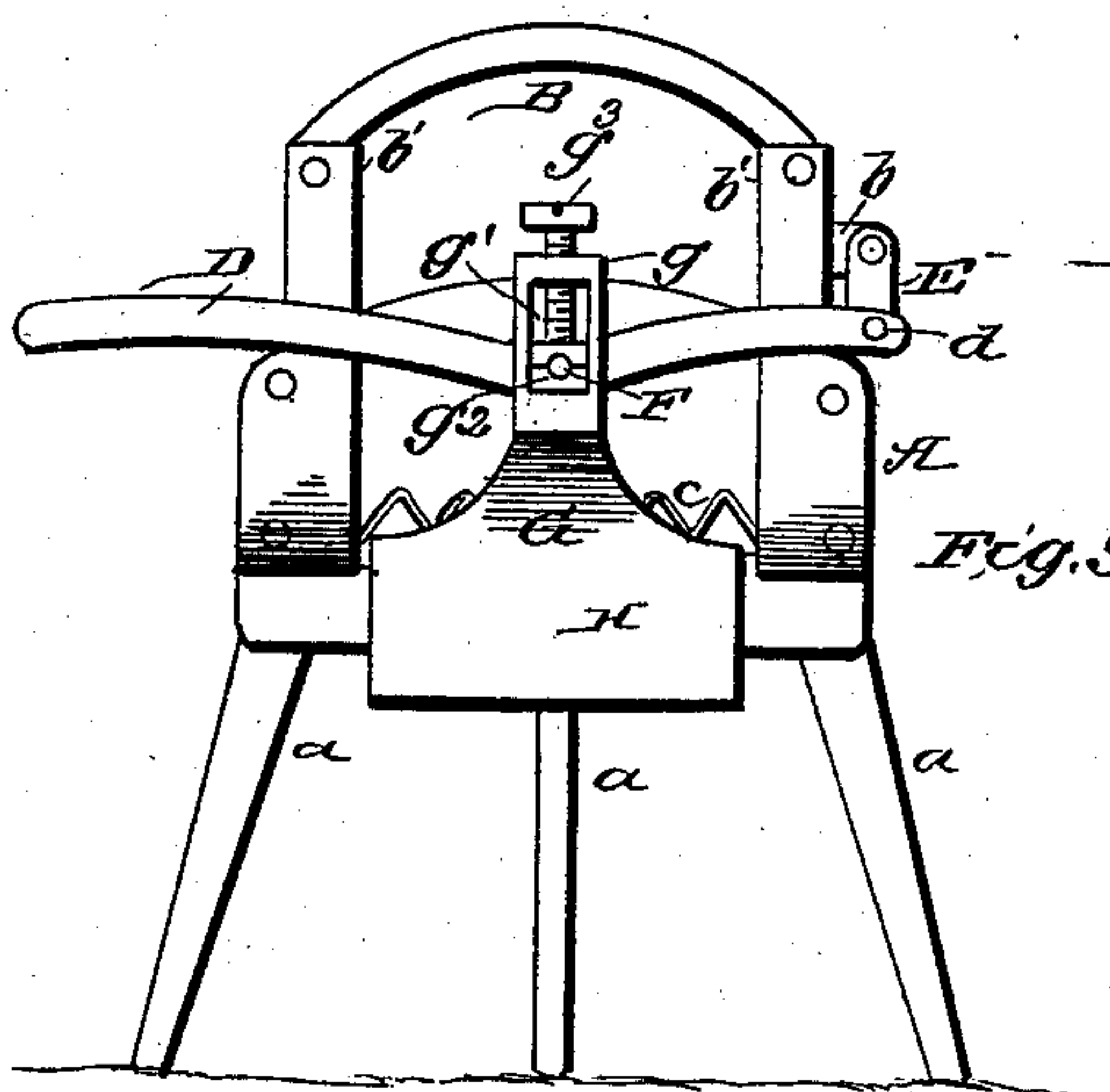


Fig. 2.



*Fig. 3.*

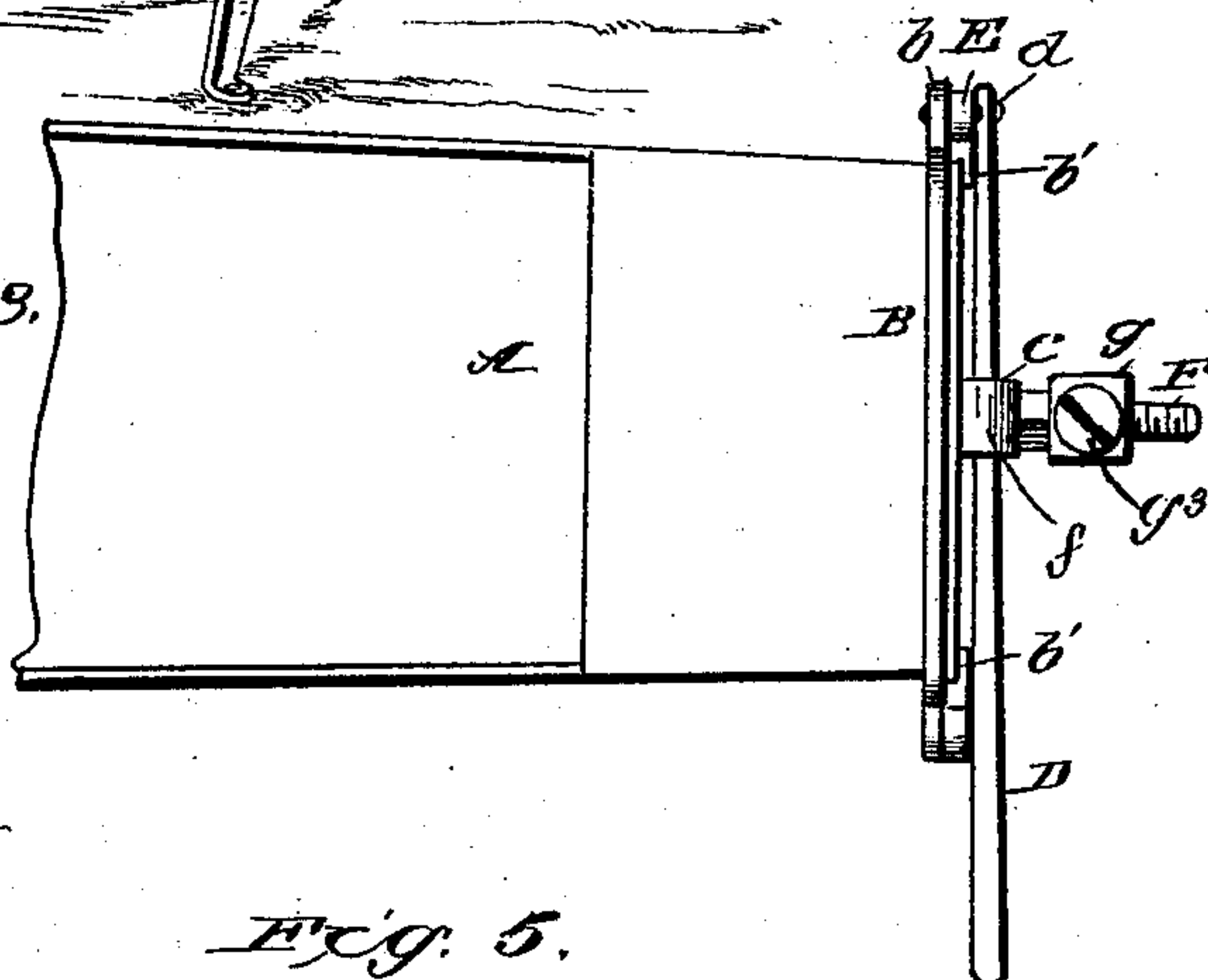
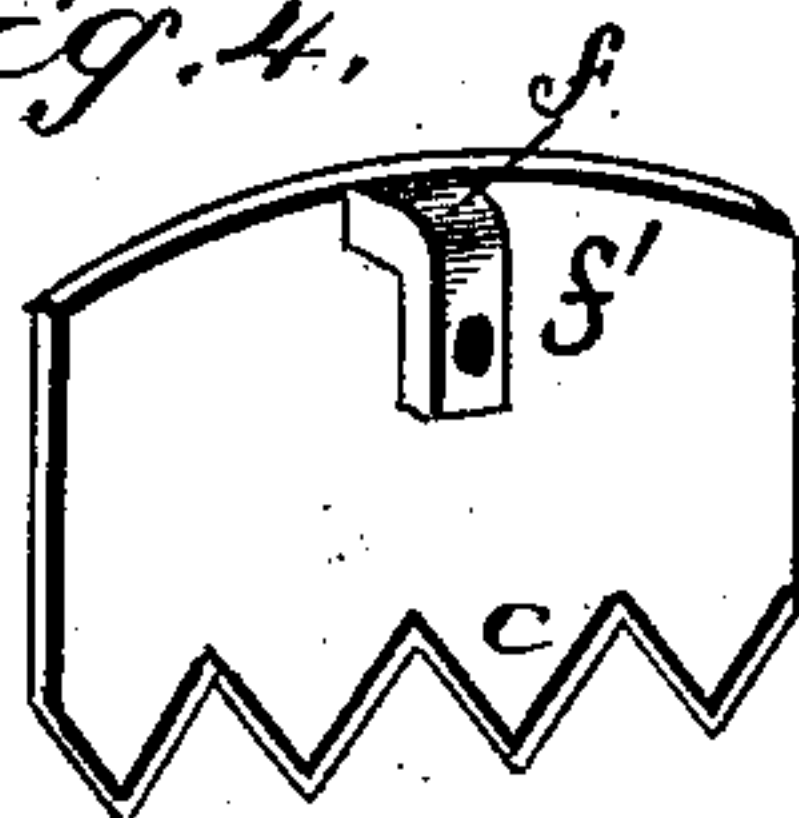
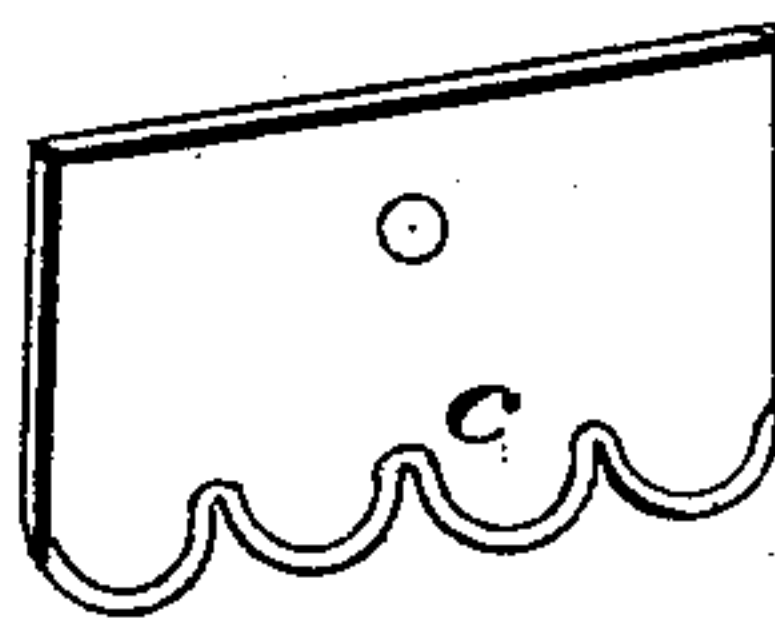


Fig. 4.



*Fig. 5.*



Witnesses

Jos. a. Ryan  
E. L. Siggers

## Inventors

E. J. Gilliland  
Jas H. Hacker

By their Attorneys,

Chowder



# UNITED STATES PATENT OFFICE.

EDWARD I. GILLILAND AND JAMES H. HUNTER, OF THREE RUNS,  
PENNSYLVANIA.

## STRAW-CUTTER.

SPECIFICATION forming part of Letters Patent No. 368,941, dated August 30, 1887.

Application filed May 6, 1887. Serial No. 237,352. (No model.)

*To all whom it may concern:*

Be it known that we, EDWARD I. GILLILAND and JAMES H. HUNTER, citizens of the United States, residing at Three Runs, in the county of Clearfield and State of Pennsylvania, have invented a new and useful Improvement in Straw-Cutters, of which the following is a specification.

The invention relates to improvements in straw-cutters, the object being to provide a machine in which the straw, hay, or vegetables will be cut with much greater shear than a straight cutting-edge will give, and in which the amount of material which is cut off at each movement of the machine will be regulated by a guide-plate which is adjustable to give the desired length of cut.

The invention consists, essentially, in the shape and construction of the blade used, and in the combination thereof with the operating mechanism and other parts, as hereinafter described, illustrated in the drawings, and pointed out in the claims hereto annexed.

In the accompanying drawings, Figure 1 is a perspective of the improved cutter. Fig. 2 is a front view of same. Fig. 3 is a plan view of the device. Fig. 4 is a perspective view of the knife detached. Fig. 5 is a similar view of a modification of same.

Referring to the drawings by letter, A designates the box of the machine, of the usual style and construction, and supported upon the legs *a a* in the usual manner.

B is a frame secured to the front or discharge end of the machine, provided on one side with the lateral lug *b*, and in its vertical legs with the grooves or ways *b' b'*, for the side edges of the knife to operate in. The said knife is of general rectangular shape, the side edges of which are adapted to move in the ways *b'*, as described, and having its cutting or lower edge provided with the teeth *c*, of triangular shape, sharp pointed, and having their edges beveled from without inwardly, and provided with a perforation near its upper edge, midway of its length, and with a bracket, *f*, having a perforation, *f'*, in its depending arm registering with the perforation in the knife.

Fig. 5 shows a modification in which the teeth are rounded; but though the teeth may

be of many shapes the triangular teeth are preferred, as the shear is then even from below upward.

D is the actuating-lever of the device, having the end of one arm pivoted at *d* upon one end of the link E, the other end of the said link being pivoted on the projecting lug *b*. The said lever D is pivoted at *e* to the knife, the said pivot being in the central vertical line of the said knife, and the outer end or arm of the lever serves as a handle to actuate the latter.

F is the bolt upon which the lever is pivoted, and is secured in the perforation in the knife, and passes through the perforation in the depending arm of the bracket, the pivotal point of the lever being situated between the said arm and the adjacent surface of the knife.

G designates the guide-plate, adjustable toward or from the knife, and is provided with an upwardly-extending arm, *g*, having a longitudinal slot, *g'*, therein. The outer end of the bolt F passes through the said slot *g'* and through a divided square nut, *g''*, in the same, which nut is impinged upon by the lower end of the set-screw *g'''*, that passes through a threaded opening in the upper end of the arm *g*.

The blade H of the guide-plate stands down outward from the knife and slightly below the same, so that the material can be pushed out against it before the knife descends. It will be seen that when the knife is raised after having made a cut, the hay or straw is pushed out against the guide-plate, which depends far enough below the lower edge of the knife when the same is raised to prevent the said hay from being pushed entirely out. The guide-plate is adjustable toward and from the knife to regulate the length of the cut of the hay or straw. The set-screw *g'''* is loosened, and the said guide-plate and split nut *g''* are moved out or into the desired point on the bolt F, and the said set-screw again screwed down. The teeth of the knife shear against the edge *h* of the floor of the box A at its outlet or discharge end.

It is evident that from the inclination of the teeth the knife will have a great amount of shear, and will consequently cut with much less force through the material. It can there-



fore be worked more rapidly and with less effort than a machine of the ordinary construction.

The link E allows the lever D enough freedom of motion to move the knife straight down in its guideways  $b'$ .

It is customary to work this class of machines by hand; still the lever in the present case can be worked by treadle or other power as desired.

Having thus described our invention, we claim—

1. In a machine to cut hay, the combination, with the box A, the frame provided with the lug  $b$  and the guideways  $b'$ , the knife C, having the teeth  $c$ , the lever D, the link E, and the bolt F, of the guide-plate G, having the slotted arm  $g$  and the blade H, the set-screw  $g^3$ , and the nut  $g^2$ , all constructed and arranged substantially as and for the purpose set forth.

2. In a straw or hay cutter, the box A, the frame B provided with ways, the knife moving vertically in the said ways and having a perforation therein, the bracket  $f$  on the said knife, having a perforation in its depending arm registering with the perforation in the knife, the pivoted handle or lever D, passing between the knife and the bracket, the bolt F, passing through the said registering perfora-

tions, the guide-plate G, comprising the blade H and the vertical arm  $g$ , having a longitudinal groove or slot,  $g'$ , therein, the divided nut  $g^2$  in the said groove, having a threaded opening therein to receive the outer end of the bolt F, and the set-screw  $g^3$  in the upper end of the arm  $g$ , adapted to bear at the lower end on the said divided nut, substantially as specified.

3. In a straw or hay cutter, the combination of the box, the frame B, provided with ways, the knife moving vertically in said ways, the pivoted handle D, the bolt F, projecting outwardly from the knife and through the said handle, the guide-plate G, having the slotted arm  $g$  and the blade H, arranged in front of the cutting-edge of the knife, and the block or nut  $g^2$ , provided with the threaded opening to receive the end of the bolt F and be adjusted toward or from the knife thereon, said block being in the slot in the arm  $g$  and held therein by a set-screw, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

EDWARD I. GILLILAND.

JAMES H. HUNTER.

Witnesses:

DEMSTER NOLEN,  
A. W. RISHEL.