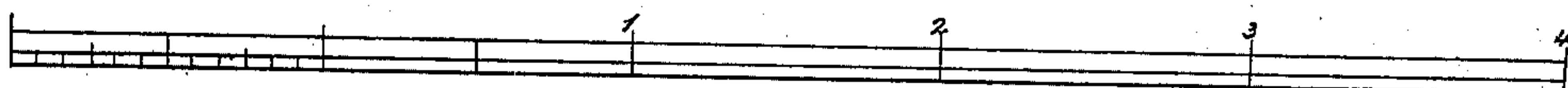
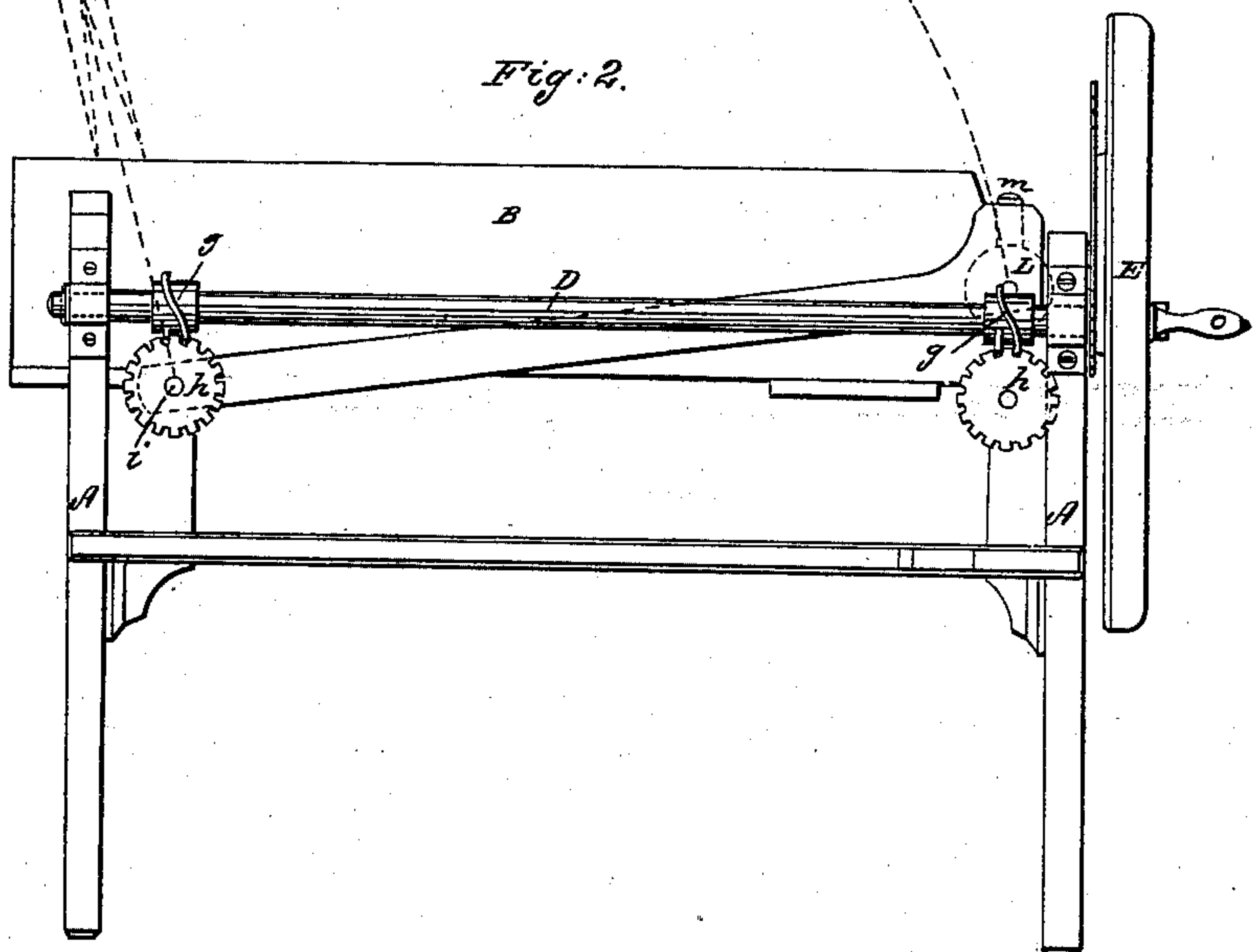
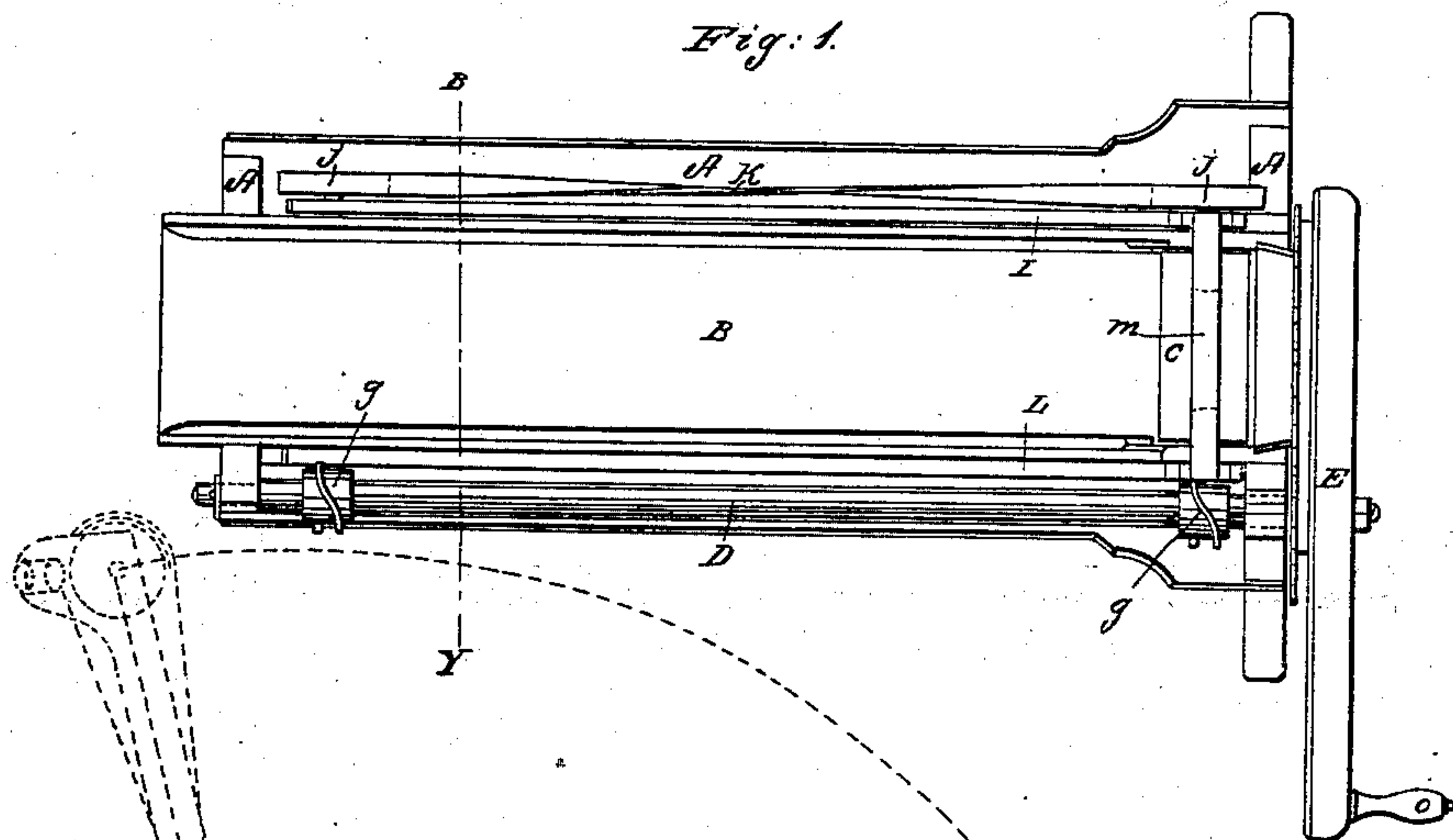


M. FLETCHER.
Straw Cutter.

2 Sheets—Sheet 1.

No. 33,137.

Patented Aug. 27, 1861.



Witnesses:

J. Jack-Comm
Jno. B. Sargent.

Inventor:

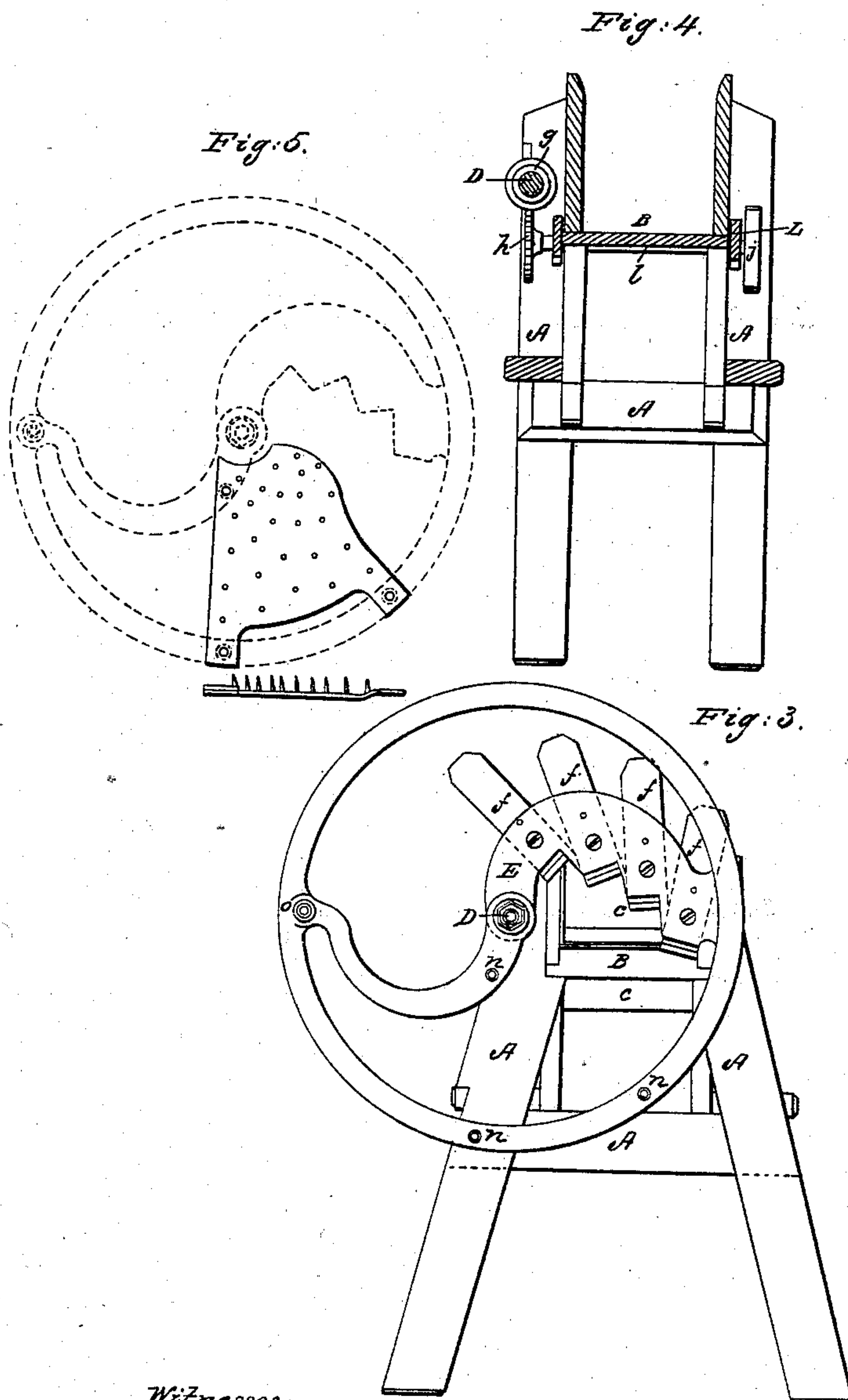
Matthw Fletcher

M. FLETCHER.

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Witnesses.

James C. Brown
Geo. B. Sargent.

Inventor.

Matthew Fletcher

UNITED STATES PATENT OFFICE.

MATTHEW FLETCHER, OF LOUISVILLE, KENTUCKY.

FEED-CUTTER.

Specification of Letters Patent No. 33,137, dated August 27, 1861.

To all whom it may concern:

Be it known that I, MATTHEW FLETCHER, of the city of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Chaff or Feed Cutter; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the drawings accompanying and making a part of this specification and to the letters of reference marked thereon.

Of these drawings, Figure 1 is a top view; Fig. 2 is a side elevation; Fig. 3 is a front elevation; Fig. 4 is a vertical transverse section.

A A A, in these several views represent the "supporting frame", which supports the "cutter box" B.

c c are "feeding rollers" by which the straw or feed to be cut is fed up to the cutters.

D is the main shaft on the end of which the fly-wheel, E, is mounted. Attached to this fly-wheel are four "plane irons" f, f, f, f, affixed in such a manner as to supply the place and perform the duties of a cutting knife.

g, g, are "screw worms" or threads formed on the main-shaft D.

h h are two wheels, one on the axle of the bottom roller c, the other on the "hinge shaft" i, and both gear into the worms, g, g, so as to receive a slow motion from the main shaft D; j, j, are two "strap pulleys", the one being on and moving with the hinge shaft, i, the other being on the axle of the top "feeding roller", c, and receiving its motion from the wheel, h, on the shaft, i, through the shaft, i, pulley, j, and strap, k.

L, L, is a frame within which the top feeding roller c, is mounted and which is pivoted or hinged upon the "hinge shaft", i, in such a manner that the roller c may be raised for the purpose of introducing straw or feed under it.

m, is a cross-bar with a handle by means of which the frame L, L, is put and held together.

o is the crank handle attached to the fly and cutter wheel, E, by which the machine is operated.

The operation of this feed cutter is as follows: The fly-wheel E being set in motion by the handle o, communicates motion to the shaft, D, and worms, g, g, and through them to the wheels, h, h, the shaft, i, pulleys,

j j, strap, k, and in this way to the feeding rollers, c c. These catching the straw or feed between them, move it forward to the cutter with a speed regulated by the pitch of the worms, g g, so as to give a uniform length to be cut off by the cutters at each revolution of the fly-wheel, E. The operation of the plane irons, f, f, f, f, is similar to that of a radial knife divided into segments, each segment coming into operation in its turn, thus lessens the force required at any instant during the cutting, and the outer knife coming into operation first, allows the accumulated momentum of the fly-wheel to operate where the resistance has the greatest leverage to act with; on the other hand, when the accumulated momentum of the fly-wheel E, is nearly expended, the power operating at the handle o, has the maximum leverage with which to act against the resistance offered by the edge of the innermost plane iron f. The operation of the frame L, L, in allowing the upper feeding roller c, to be raised while straw or feed is put into the box or between the rollers, is obvious, similar devices being in common use in many arts.

Having thus described the construction and operation of my invention, I now make the following disclaimers of devices which resemble my invention.

1. I disclaim the invention of "feed-rollers" fluted or otherwise formed, and all methods of mounting and operating them when the identical combination of devices which I employ is not used to produce the same result. Because two fluted feed rollers were described by Israel J. Richardson in his rejected application for a patent, dated January 30th 1846. But his rollers were not mounted and operated in the same manner as mine.

2. I disclaim also the employment of a cutter knife with several cutting edges which come into operation one after another, such a knife having been used in Grey Utley's feed cutter patented September 27th 1845. This knife was, however, formed of one piece, and was designed to give uniformly equal resistance to the power at all points of its stroke.

What I do claim as my invention and desire to secure by Letters Patent is as follows:

1. I claim forming the knife of a straw cutter of a series of cutting edges set at

different angles and coming into operation successively; the whole arranged to operate substantially as described for the purpose set forth.

- 5 2. I claim a series of cutting edges, or knives so arranged as to come successively into operation, as described; in combination

with a rotating carrying, fly-wheel; the whole constructed and operating as specified for the purpose set forth.

MATTHEW FLETCHER.

Witnesses:

PATK. MULCAHY,
JNO. M. FARRAR.