

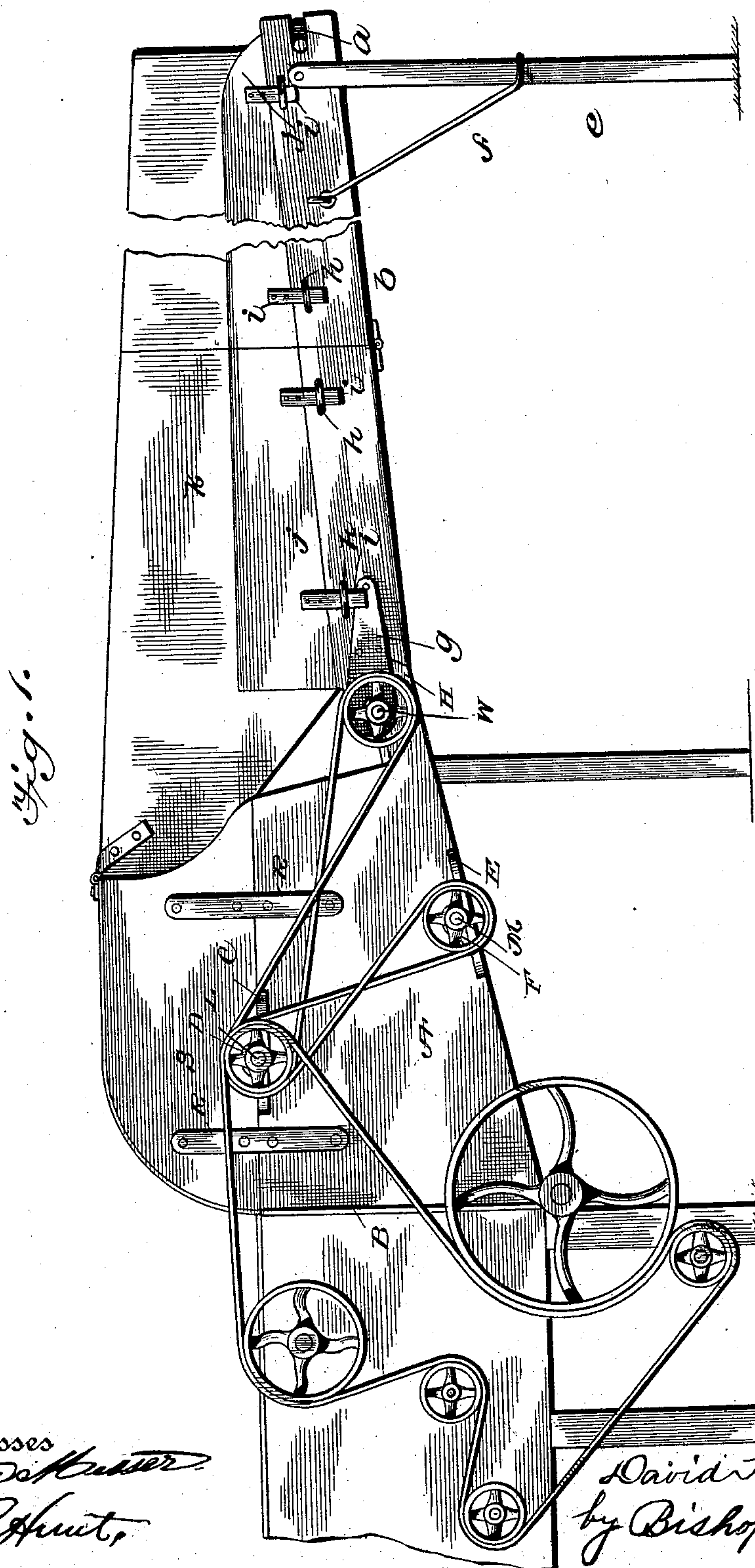
(No Model.)

3 Sheets—Sheet 1.

D. HARPER.
BAND CUTTER AND FEEDER.

No. 571,161.

Patented Nov. 10, 1896.



Witnesses

Witnesses
 Simon Hunter

C. E. Hunt,

Inventor

David Harper
by Bishop & Shire
Attorneys.

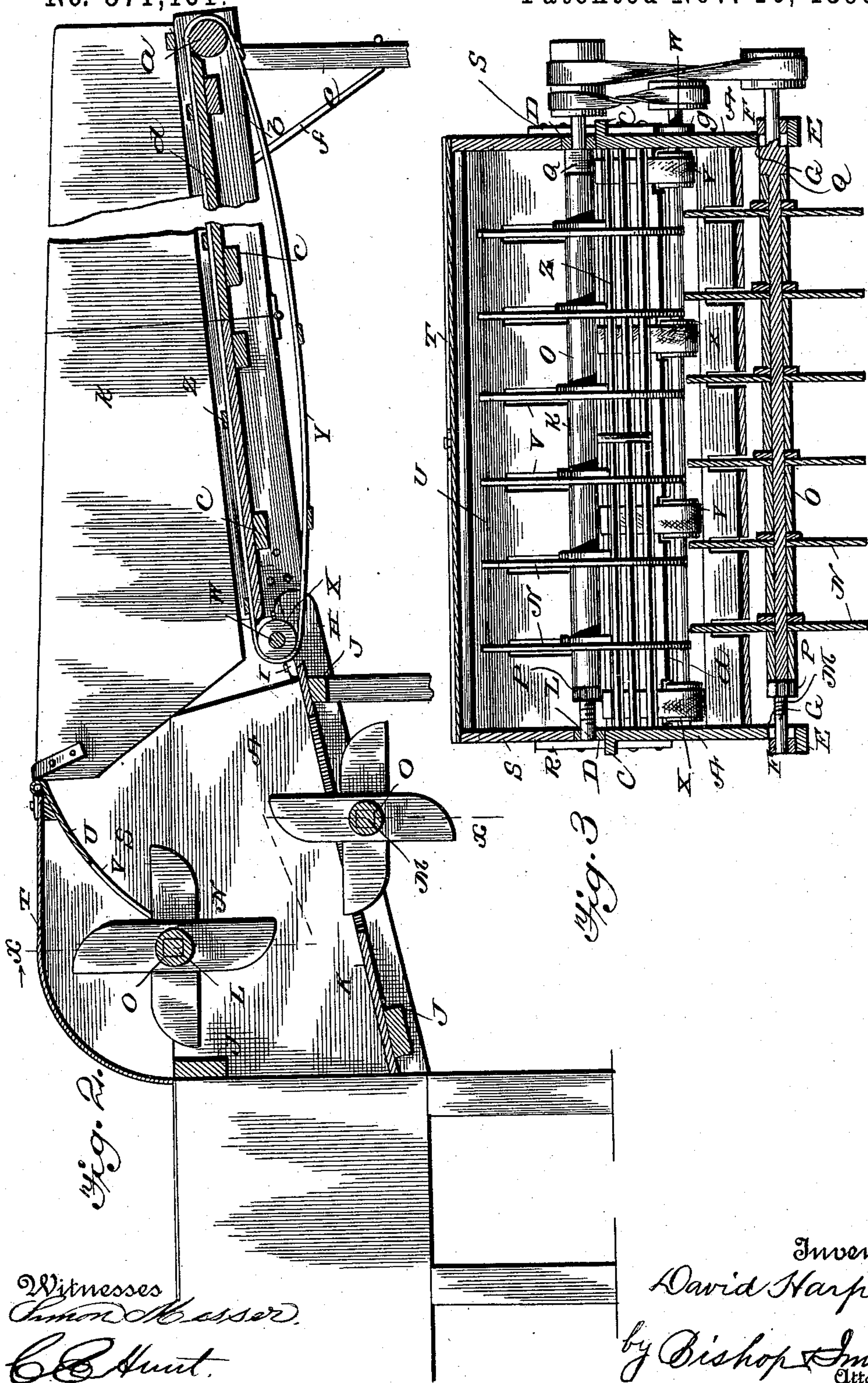
(No Model.)

3 Sheets—Sheet 2.

D. HARPER.
BAND CUTTER AND FEEDER.

No. 571,161.

Patented Nov. 10, 1896.



Witnesses
Samuel Messer
C. C. Hunt

Inventor
David Harper
by *Bishop & Smirle*
Attorneys.

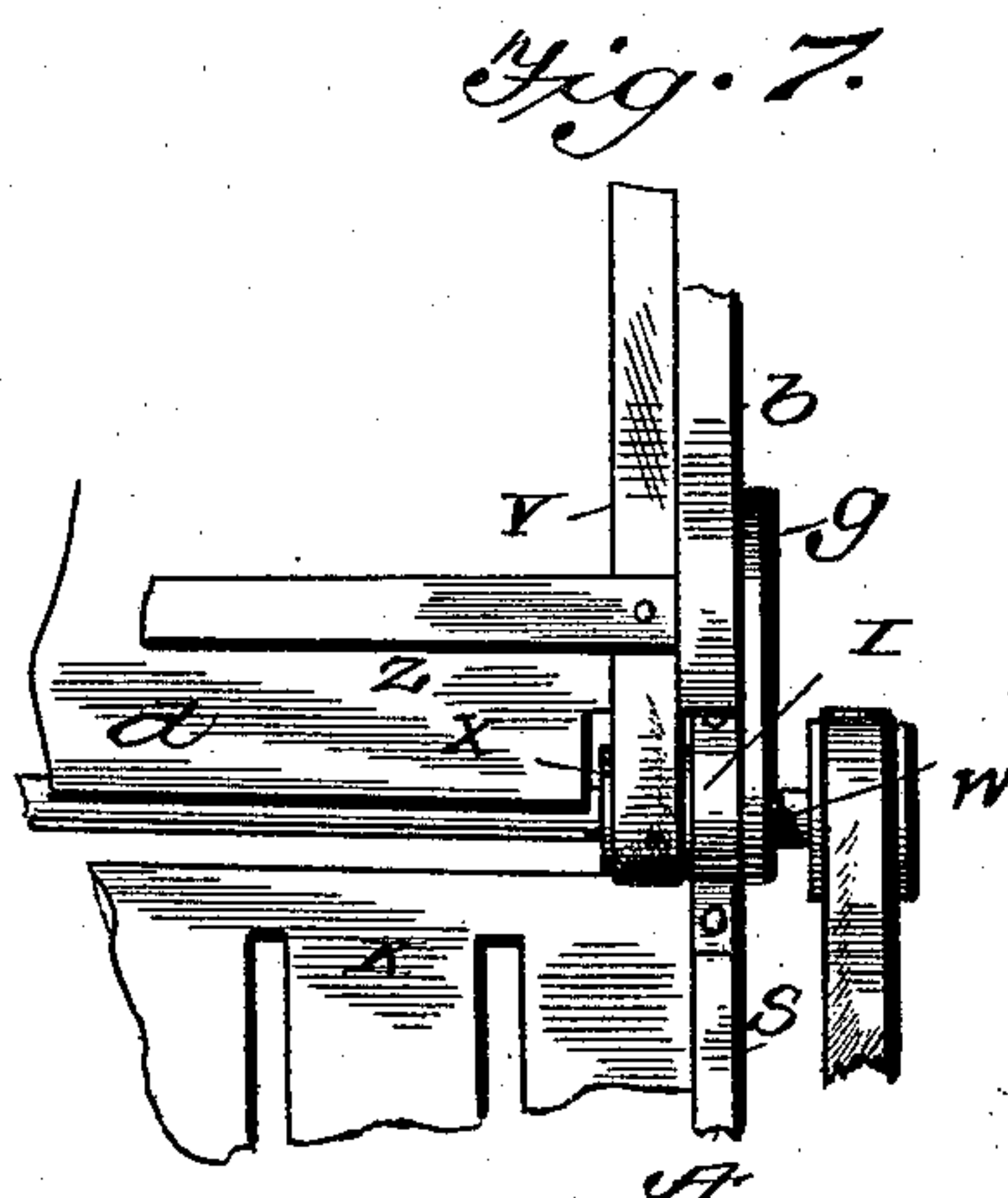
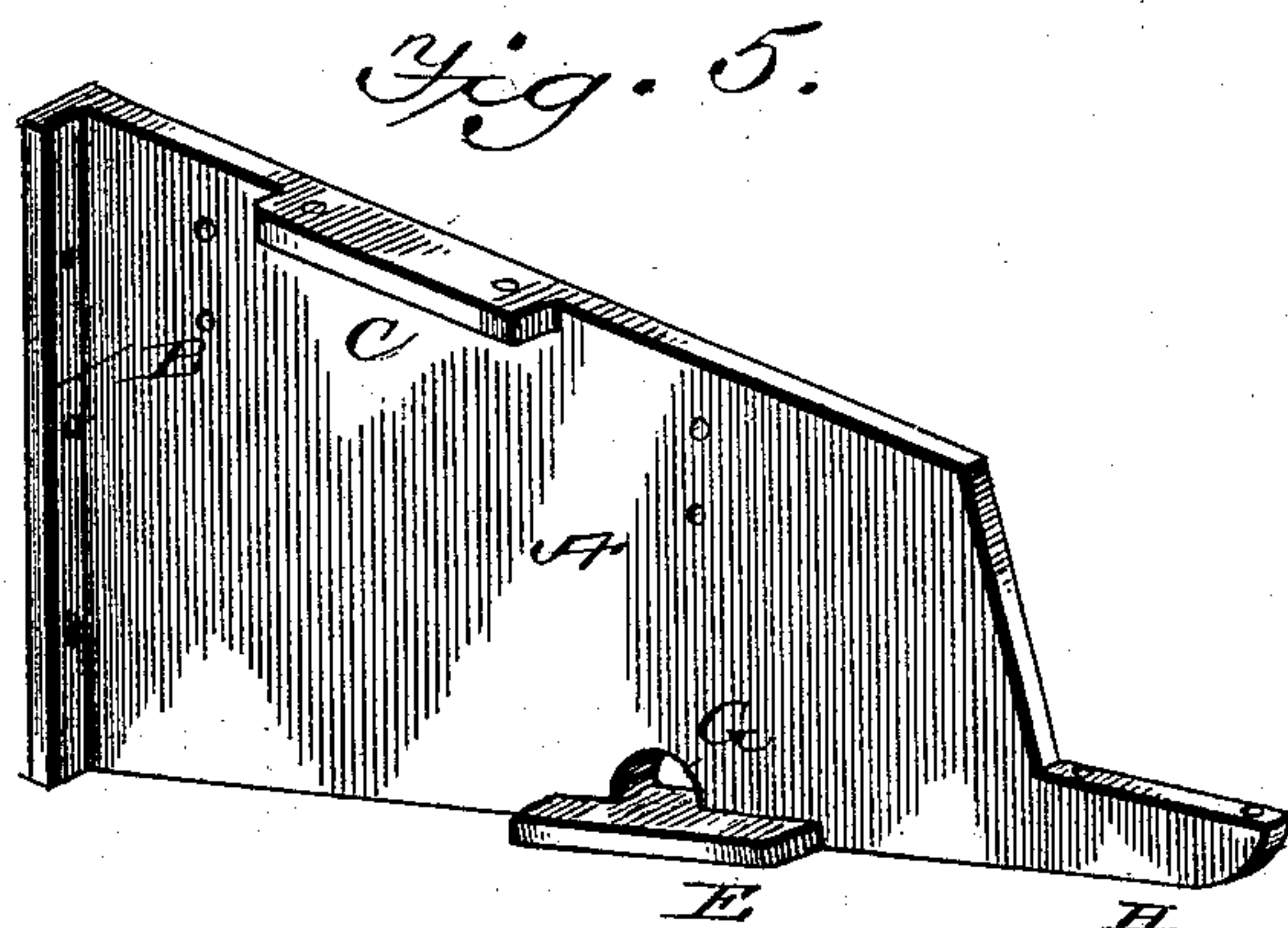
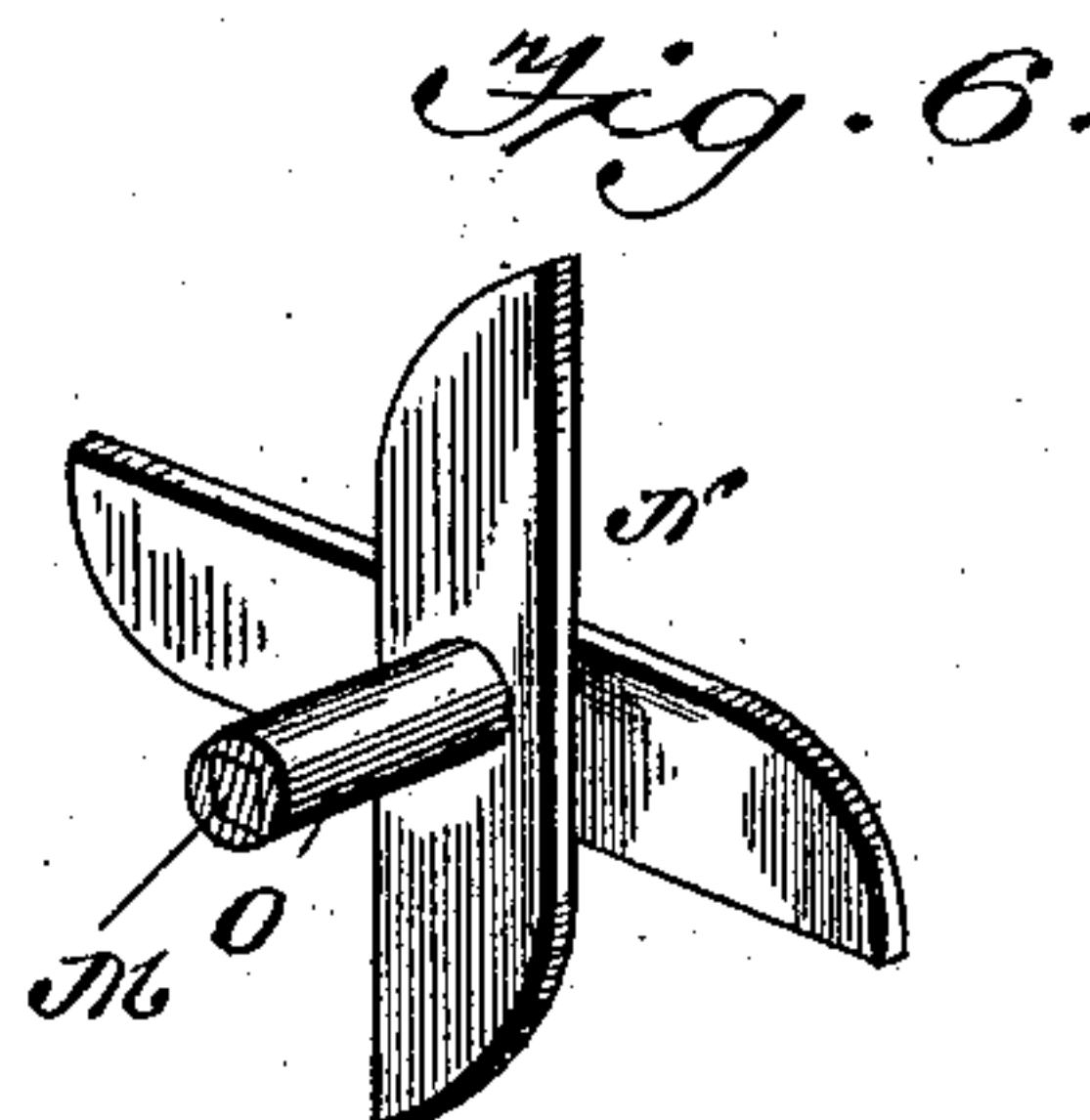
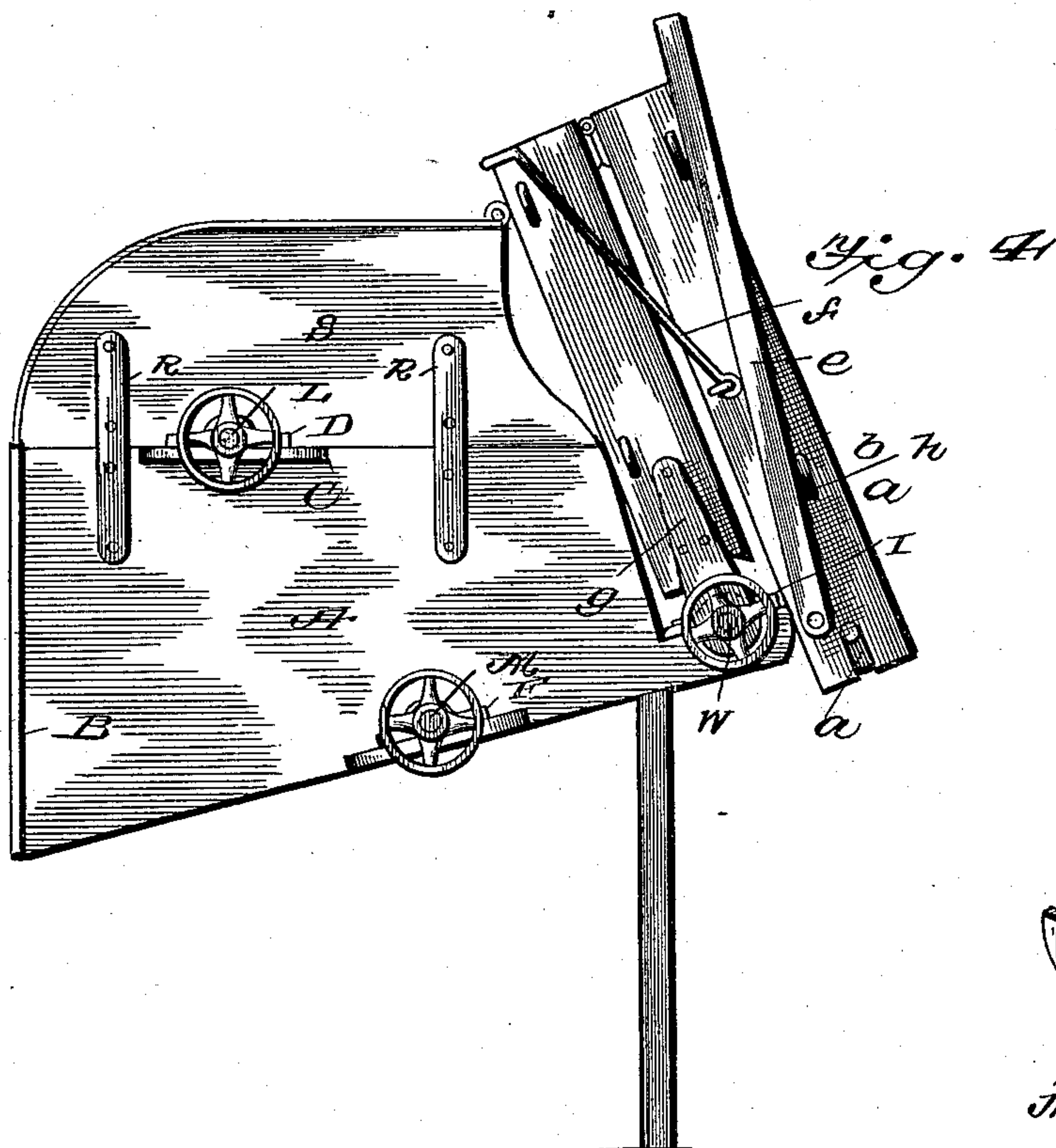
(No Model.)

3 Sheets—Sheet 3.

D. HARPER.
BAND CUTTER AND FEEDER.

No. 571,161.

Patented Nov. 10, 1896.



Witnesses
Simon M. Carter
C. E. Hunt

Inventor
David Harper
by Bishop & Imirie.
Attorneys.

UNITED STATES PATENT OFFICE.

DAVID HARPER, OF NEELYVILLE, ILLINOIS.

BAND-CUTTER AND FEEDER.

SPECIFICATION forming part of Letters Patent No. 571,161, dated November 10, 1896.

Application filed April 21, 1896. Serial No. 588,496. (No model.)

To all whom it may concern:

Be it known that I, DAVID HARPER, a citizen of the United States, residing at Neelyville, in the county of Morgan and State of Illinois, have invented certain new and useful Improvements in Band-Cutters and Feeders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention is a band-cutter and bundle-feeder attachment for threshing-machines; and it consists in certain novel features hereinafter described and claimed.

In the annexed drawings, which fully illustrate the invention, Figure 1 is a side elevation of the device in its operative position. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a transverse section taken on the line $x x$ of Fig. 2, looking in the direction of the arrow. Fig. 4 is a side elevation of the device folded for transportation or storage. Fig. 5 is a detail perspective view of one of the main brackets. Fig. 6 is a detail view of the cutter, and Fig. 7 is a detail view of the shaft for driving the carrier and the brackets for supporting the said shaft.

Referring to the drawings more particularly by letter, A designates the main brackets or sides of the band-cutting portion of the attachment. These main brackets consist of metallic plates having a less height at their front ends than at their rear ends and having lateral vertical flanges B at their rear ends, which are adapted to rest against the front end of the threshing-machine frame and are provided with bolt-holes, so that the attachment can be securely fastened to the threshing-machine. On the upper edge of bracket A I form the lateral flange or offset C, upon which I secure the journal-box D, in which the shaft of the upper band-cutter is mounted. At the lower edges of the brackets near the front ends of the same I form the lateral offsets E, upon which I secure the journal-boxes F, in which the lower band-cutter shaft is mounted, said shaft passing through openings G in the bracket just above the off-

sets E. At their lower front ends or corners the brackets are constructed with the forwardly-projecting lips H, on which are secured boxes I, in which the carrier-driving shaft is mounted.

The brackets are connected and held at the proper distance apart by the beams or cross-bars J, one at the upper rear corners of the same and the others at the lower edges thereof. Resting upon and secured to the lower beams or cross-bars are a series of light planks K, constituting a downwardly and rearwardly inclined floor leading to the concave of the threshing-machine.

Shafts L M are journaled in the boxes D F and extend across the device, the shaft M being below the floor and slightly in advance of the shaft L. These shafts carry the band-cutting and bundle-spreading knives N, said knives consisting of thin steel plates having tapered ends and having the inclined or curved edge of the taper ground to a fine sharp cutting edge.

The knives are secured on the shafts in pairs, the knives of each pair being in juxtaposition, so as to form practically a single knife with four cutting-points. The knives have angular openings at their centers which engage angular portions of the shafts, so as to insure the rotation of the knives when the shafts are operated, and they are maintained at a fixed distance apart by distance-sleeves O, as will be readily understood. One end of each shaft carries a nut P, adapted to be turned up against the adjacent sleeve and thereby bind the entire series of knives and sleeves up against a shoulder Q on the opposite end of the shaft, and consequently prevent lateral shifting of the same. The upper and lower knives and shafts are of the same construction, but the upper knives are somewhat larger than the lower knives.

Standards or posts R are bolted to the main brackets and project above the same, their upper ends being bolted to side plates S, which rest on the upper edges of the brackets. The rear edges of these side plates are curved concentrically with the shaft L, and a hood or cover T is secured upon the same and incloses the upper knives. Depending downward and rearward from the front edge of the hood or cover is a guard-plate U, extending to the

shaft and provided with notches V, through which the knives work.

The shaft W, which drives the bundle-carrier, is journaled in the boxes I on the lips H 5 and is provided at intervals with pulleys X, around which the belts Y of the carrier run. The carrier consists of the endless belts Y and the slats Z, secured to and extending across the belts. It is mounted upon the 10 shaft W and a roller a at the outer end of the carrier-frame, as shown. The carrier-frame consists of the side bars b, composed of two sections hinged together, and a series of cross-bars or beams c, connecting the side bars. 15 Upon the beams c I secure the flooring d, made in two sections, so as not to interfere with the folding of the carrier when it is not in use. The front end of the carrier-frame is supported by the legs or props e, which are piv- 20 oted at their upper ends to the side bars of the carrier-frame and are prevented from spreading by the latches f, hung on the frame. The rear end of the carrier-frame is connected to the frame of the band-cutting portion by 25 arms g, secured to the side bars of the carrier-frame and pivotally hung on the shaft W. On the outer sides of the carrier-frame are staples or eyes h, which are engaged by the posts i, depending from the guards j. These guards 30 are thus held removably on the carrier-frame and prevent the bundles passing over the sides of the same, and to prevent the bundles being twisted on the carrier I provide the central longitudinal rail k, which is secured to 35 the carrier-frame, as clearly shown.

The several shafts are rotated from the threshing-machine through the medium of belts and pulleys on the ends of the shafts, as shown and as will be readily understood.

40 The operation of the machine is thought to be obvious. The bundles are placed longitudinally on the carrier and thereby and by means of the center board, as shown, are caused to travel endwise to the threshing- 45 machine. The bundles drop from the carrier onto the inclined floor of the cutting mechanism and travel over the lower rotating knives or cutters. The bands will thus be severed and the grain spread, and this 50 spreading will be accelerated and increased by the upper rotating knives. The grain will then pass into the threshing-machine. When

the device is not in use, the bundle-carrier is folded, as shown in Fig. 4, by removing the guards and then folding the side bars of the 55 carrier, as shown.

It will be observed that my device has its component parts compactly arranged, so that it occupies but little space and when folded can be stored in a small compass. It is of 60 light weight and can be readily transported from one point to another. The hood or cover over the upper knives and the rearwardly-inclined deflecting-plate depending therefrom prevent the grain clogging the knives, and 65 also prevent the grain accumulating in the cutter, so as to clog the action of the same.

Having thus described my invention, what I claim, and desire to secure by Letters Pat- 70 ent, is—

The combination, in a band-cutter and feeder, of brackets or side plates provided with lateral vertical flanges at their rear edges adapted to be attached to the front of a threshing-machine, the said side plates be- 75 ing of a less height at their front ends than at their rear ends, forwardly-projecting lips formed integral with the front ends of the side plates at the lower corners of the same, journal-boxes secured on said lips, a shaft 80 journaled in said boxes and carrying a series of pulleys, a carrier running over said pulleys, lateral offsets formed on said plates at their lower edges near their front ends, the plates being provided with openings just 85 above said offsets, a shaft extending through said openings and journaled on said offsets and carrying a series of knives between the side plates, lateral offsets formed on the up- 90 per edge of the side plates near the rear ends of the same, a shaft journaled on said offsets and carrying a series of knives between the side plates, vertical plates secured upon the upper edges of the side plates or brackets, a 95 hood secured upon the upper edges of said vertical plates, and means for rotating the several shafts.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID HARPER.

Witnesses:

CHARLES A. BARNES,
M. FOX.