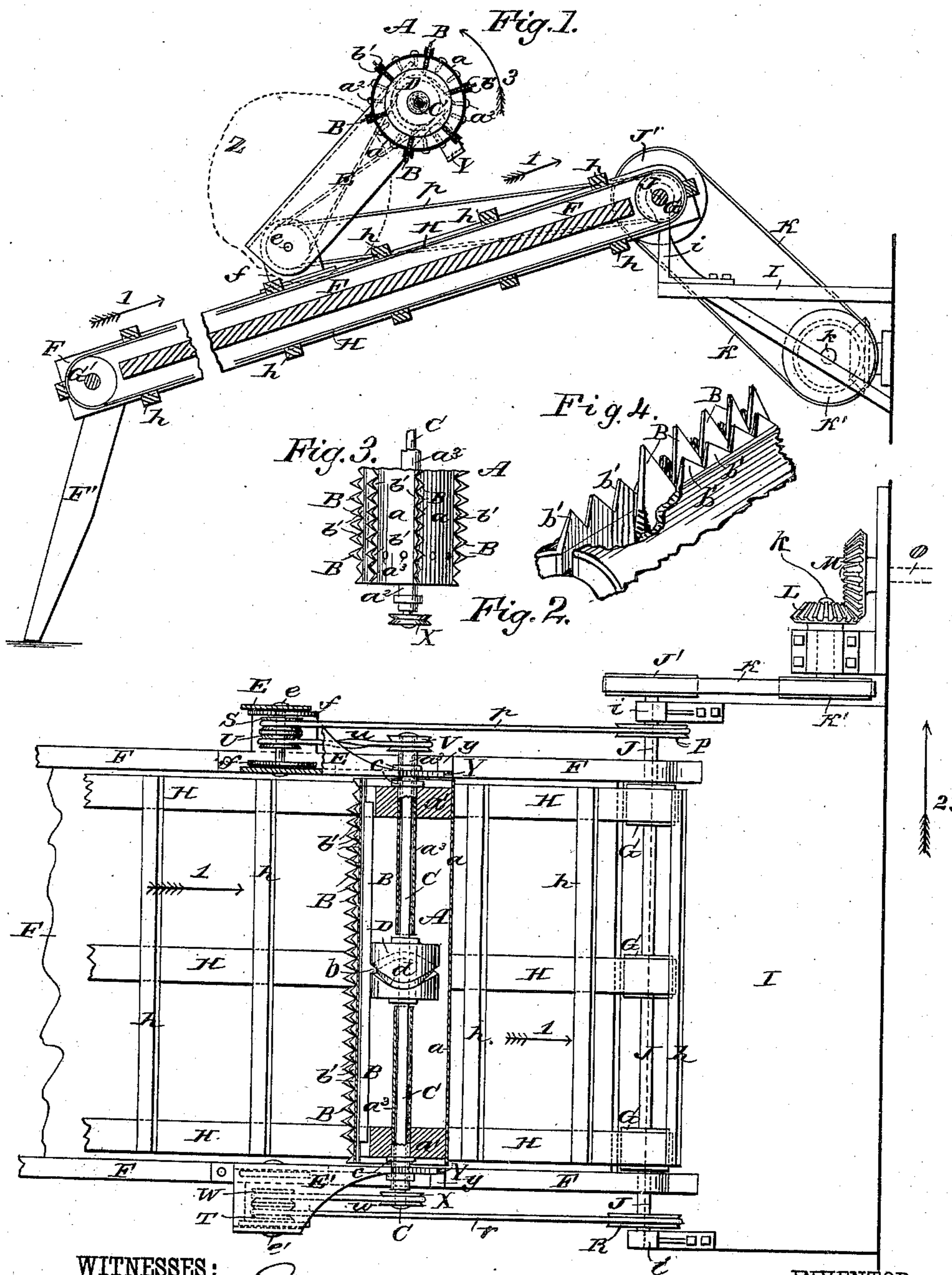


(No Model.)

J. HENRY.
BAND CUTTER.

No. 335,813.

Patented Feb. 9, 1886.



WITNESSES:

Wm. Beyer
C. Sedgwick

INVENTOR:

J. Henry
BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN HENRY, OF ARDOCH, DAKOTA TERRITORY, ASSIGNOR TO HIMSELF,
WILLIAM T. SHEPPARD, AND JAMES E. BELLAMY, ALL OF SAME PLACE.

BAND-CUTTER.

SPECIFICATION forming part of Letters Patent No. 335,813, dated February 9, 1886.

Application filed September 30, 1885. Serial No. 178,629. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY, of Ardoch, in the county of Walsh and Territory of Dakota, have invented a new and Improved
5 Band Cutter, of which the following is a full, clear, and exact description.

The invention consists in certain novel features of construction and combinations of parts of the band-cutter, all as hereinafter
10 fully set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

15 Figure 1 is a longitudinal sectional elevation of my improved band cutter and carrier. Fig. 2 is a plan view thereof with the cutter-cylinder in horizontal section, and with the grain-receiving table shown in dotted lines, and with parts broken away; and Fig. 3 is a
20 plan view of one end of the cutter-cylinder. Fig. 4 is a detail perspective view showing the staves having the serrated flanges and the reciprocating knife.

25 The letter A indicates the band-cutter cylinder, which is made of staves *a*, fixed to ends or heads *a'* *a'*, and spaced apart at the edges to form slots or guideways, in which and in slots of the heads *a'* *a'* work the band-cutting knives
30 B, of which there may be any desired number, six being shown in the drawings. The staves *a* shown are made of metal plates curved transversely, and provided at the edges next the knife-slots with turned flanges, which are serrated or notched, forming fingers, as at *b'*,
35 which catch the bands of the grain-bundles and prevent the bands from slipping while they are being cut by the adjacent knife B, it being understood that but one knife acts on
40 each band to cut it. Screws or nails *a''* hold the staves *a* to the heads *a'* of the cylinder. The knives B have a toothed or serrated edge adapted to cut either wire or twine bands by
45 which the grain-bundles may be tied.

The cylinder A is mounted loosely on a shaft, C, on which is fixed a head, D, which has a peripheral cam-groove, *d*, into which
50 studs *b*, formed on or fixed to knives B, enter for causing reciprocation of the knives as the shaft C is rotated, said shaft passing through

elongated sleeves *a'' a''*, fixed to cylinder-heads *a'* *a'*, and these sleeves have bearings in the forward ends of arms E E', which are pivoted on short shafts *e e'*, held in pairs of lugs *f f* on the side bars of the carrier-frame F. At the
55 opposite ends of frame F are journaled pulleys or rollers G G', around which travel the grain-bundle carrier, which consists of belts H with attached cross-slats *h*, which catch the bundles and carry them in direction of ar-
60 rows 1 toward a table, I, which is fixed in any approved way to the side of the thrashing-machine, so that when the bands of the bundles are cut the loose grain will be deposited on table I within easy reach of the feeder, who
65 passes the grain to the thrashing-cylinder in the direction of arrow 2 in Fig. 2.

The upper end of the carrier is supported by the shaft J, on which the upper carrier-pulleys, G, are fixed, and said shaft is jour-
70 naled in standards *i i*, which are fixed at the opposite ends and back edge of the table I, and the outer or receiving end of the carrier may be supported on legs F' or otherwise, so as to hold the carrier either level or at any neces-
75 sary inclination, to allow the grain bundles to be placed on the carrier easily, and to be carried along by it and dropped onto the table I to the feeder.

The shaft J has fixed to one end a pulley, J',
80 over which passes a belt, K, which also passes over a pulley, K', on a short shaft, *k'*, which is journaled in bearings held to the side of the thrashing-machine, and carries a bevel-gear wheel, L, which meshes with a bevel-gear
85 wheel, M, fast on one of the shafts of the thrasher at O, and on the shaft J are fixed the power-transmitting pulleys P R, over which belts *p r*, respectively, pass to belt-pulleys S T, on the short shafts *e e'* of the opposite arms,
90 E E'. By supporting the inner end of the carrier by the shaft J in the bearings *i*, the belt K will not be slackened when the back end of the carrier is adjusted higher or lower.

On the shaft *e* is placed a pulley, U, over
95 which passes a belt, *u*, which is crossed, and passes to a pulley, V, fast on the projecting end of the adjacent sleeve *a''* of cylinder A, and whereby the cylinder, with its knives B, will be rotated in the direction of arrow 3 in
100

Fig. 1, at about the same speed of surface-travel as the carrier, and on the shaft *e'* is placed the pulley *W*, over which passes an open belt, *w*, which also passes around a pulley, *X*, fast on the end of the shaft *C*, to which the cam *D d* is fixed. By this system of gearing power is taken from the thrashing-machine to drive the grain-carrier, and at the same time to rotate the knife-cylinder *A* in one direction, and rotate the cam *D* in the opposite direction, so as rapidly to reciprocate the knives in the cylinder.

The arms *E E'* are made in box-like form, to cover the gearing and belts on the shafts *e e'*, and avoid entanglement of them by the grain bundles or loose grain on the carrier. The arm *E* is shown broken away in Fig. 2 at the top, the better to show the belt pulleys and belts on its shaft *e*.

Plates or bars *Y*, having out-turned flanges *y*, are fixed to the forward ends of the arms *E E'*, and form feet, which rest on the side bars of the carrier *F* and hold the cylinder *A* clear of the moving carrier when the knives *B* are not cutting the bands of the grain bundles.

The operation is as follows: The bound bundles *Z* of grain are placed onto the carrier *H h*, which conveys them to the rotating cylinder or head *A*, in which the knives *B* are being rapidly reciprocated, and as the bundle strikes the cylinder the fingers *b'* at the knife *B* first striking the band or tie of the bundle, will hold the band while the knife severs it, and as during this time the carrier is moving forward, the arms *E E'* will be swung upward more or less on their pivot-shafts *e e'*, as in Fig. 1, and when the band is cut the grain, now loosened, will fall to the carrier, and will be conveyed thereby to the table *I*, to be fed to the thrasher, as hereinbefore described, and the cylinder will drop to rest by the feet *Y* on the carrier-frame until the next bundle strikes it, and the knives will act as on the band of the preceding bundle, the cutting of the bands being quickly and automatically accomplished, and the knives will act effectively, even if the

bundles be laid close together on the carrier, as will readily be understood.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. The combination, in a band-cutter, of the frame, arms pivoted thereto, a carrier for the grain bundles, a cylinder journaled above and across the carrier in said arms, knives supported in the cylinder and operating transversely of the carrier, and a cam revolving inside the knife-cylinder and engaging the knives to operate them, substantially as herein set forth.

2. The combination, in a band-cutter, of the carrier-frame, a carrier, *H h*, a cylinder, *A*, mounted loosely on a shaft, *C*, the supporting-arms *E E'*, shafts *e e'*, knives *B*, fitted in cylinder *A*, and having studs *b*, a cam, *D d*, fixed to shaft *C* and engaging knife-studs *b*, pulleys and belt *U V u*, driving the cylinder, pulleys and belt *W X x*, driving the cam-shaft, pulleys and belts *S T p r*, the carrier-shaft *J*, and driving-gearing operating said shaft, substantially as herein set forth.

3. The combination, with the carrier-frame, carrier *F H h*, and the cylinder *A*, carrying knives *B*, and arms *E E'*, pivoted to the carrier-frame, substantially as specified, of the feet *Y* on the arms, substantially as herein set forth.

4. In a band-cutter, the knife-cylinder *A*, constructed with heads *a'*, staves *a*, having outwardly turned and notched edge flanges *b'*, and secured to heads *a'*, and the knives *B*, fitted between the staves, substantially as herein set forth.

5. In a band-cutter, the knife-cylinder *A*, constructed with staves *a*, having notched edge flanges *b'*, heads *a'*, sleeves *a''*, shaft *C*, knives *B*, projecting between the edges of the staves, and the cam *D d* on shaft *C*, substantially as herein set forth.

JOHN HENRY.

Witnesses:

C. L. BURKHOLDER,
JAMES EDGE.