2 Sheets—Sheet 1.

A. JOHNSON & D. DEWEY,

Hay Rake and Loader.

No. 224,782. Patented Feb. 24, 1880.

Fig. 2.

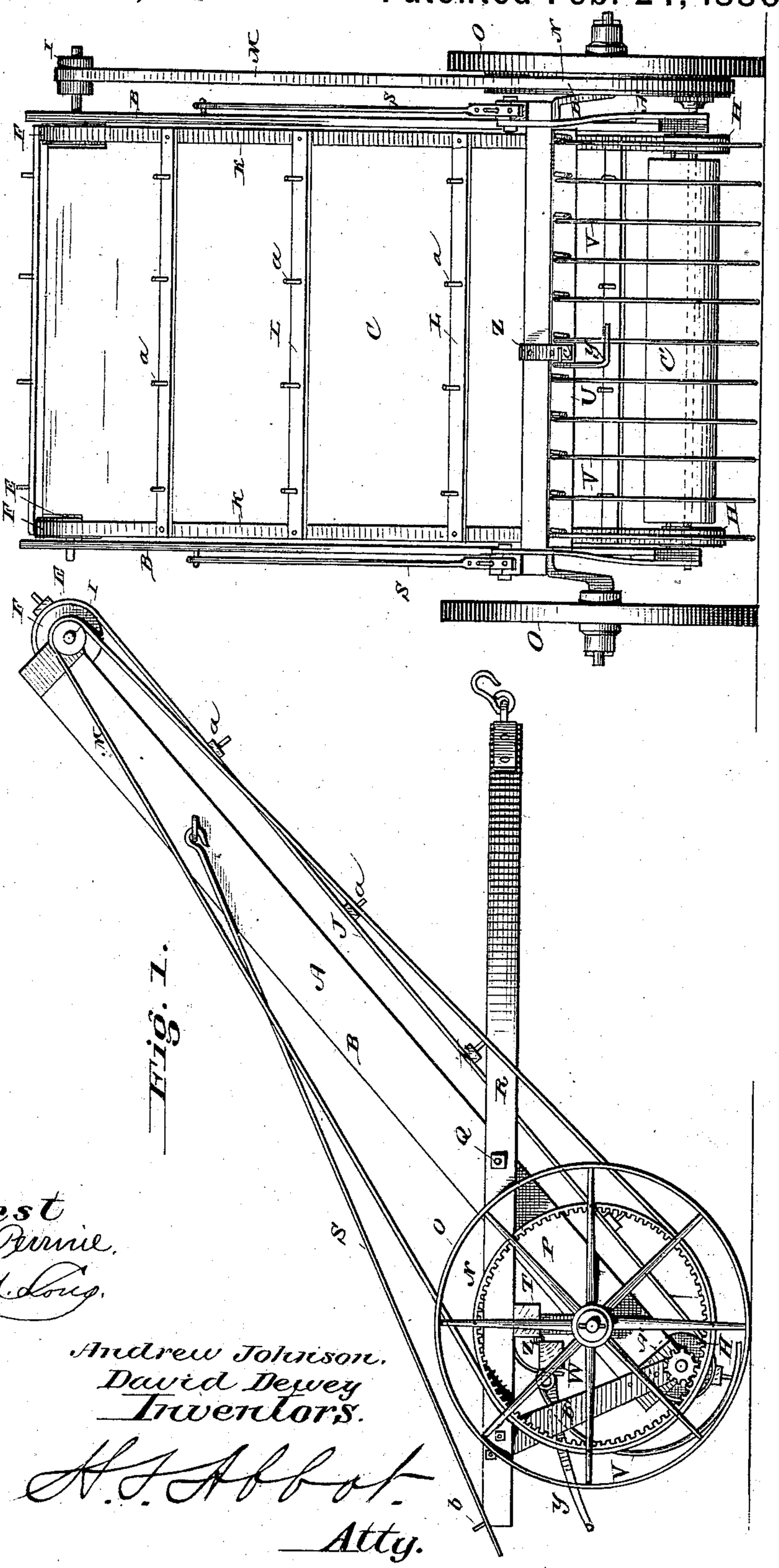

Fig. 1.

Attest
H. L. Bennie.
A. M. Long.

Andrew Johnson.
David Dewey
Inventors.

By. H. J. Abbott
Atty.

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Fig. 3.

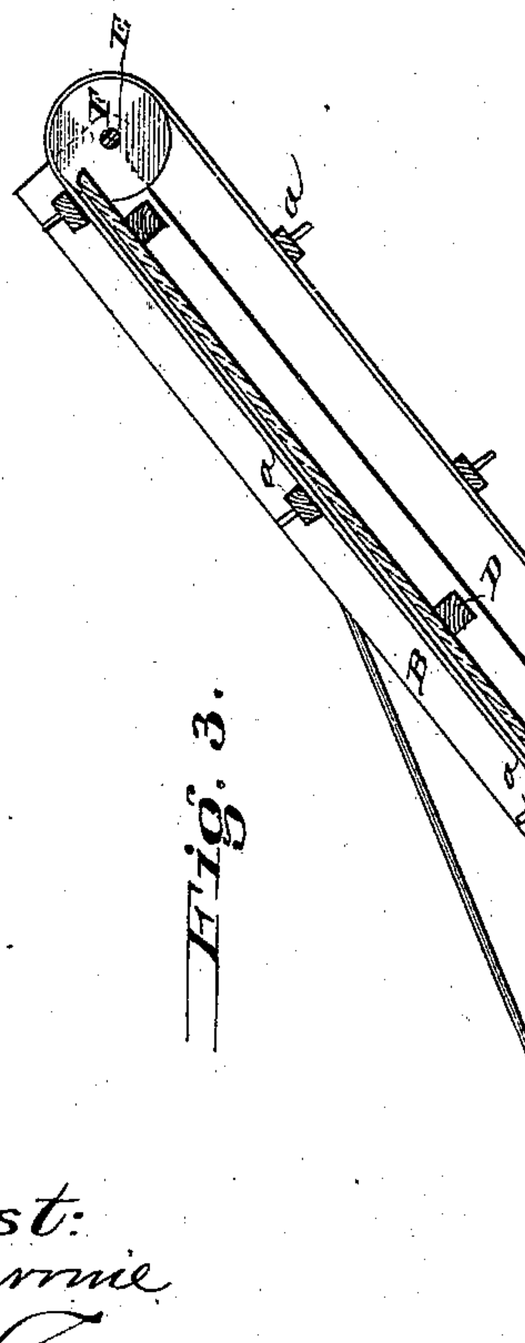
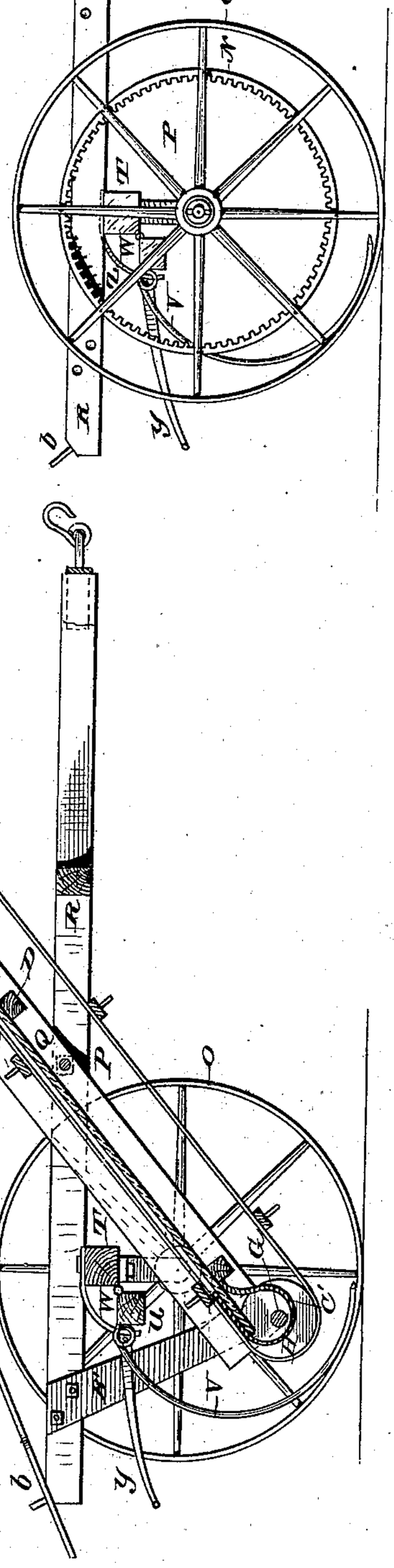


Fig. 4.



Attest:
H. L. Pennie
A. M. Long.

Andrew Johnson.
David Dewey.
Inventors.

By. N. C. Abbott
Atty.

UNITED STATES PATENT OFFICE.

ANDREW JOHNSON AND DAVID DEWEY, OF PORT ANDREW, WISCONSIN.

HAY RAKE AND LOADER.

SPECIFICATION forming part of Letters Patent No. 224,782, dated February 24, 1880.

Application filed December 12, 1879.

To all whom it may concern:

Be it known that we, ANDREW JOHNSON and DAVID DEWEY, of Port Andrew, in the county of Richland and State of Wisconsin, have invented certain new and useful Improvements in Hay Rakes and Loaders; and we do hereby declare that the following is a full, clear, and exact description of the invention, which 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, in which—

Figure 1 is a side elevation of the rake and loader; Fig. 2, an end elevation thereof; Fig. 3, a vertical section through Fig. 1, and Fig. 4 a side elevation of the band and gear wheel with a portion of the frame-work attached thereto.

Our invention relates to hay rakes and loaders; and it consists in the construction and combination of parts hereinafter particularly specified.

In the accompanying drawings, the letter A indicates the elevator-frame, which consists of side pieces, B, and intermediate board, C, resting upon and secured to cross-bars D, which extend from one side to the other of the frame. Across the upper end of this frame, and journaled in the sides thereof, there extends a roller or a shaft, E, with band-pulleys F near both ends, inside of the side pieces, B, and to the lower end of the same frame there is likewise secured a similar roller or shaft, G, with pulleys H thereon. One end of the shaft of the upper roller, E, projects beyond one side of the frame, and has secured thereto a pulley, I. An endless apron, J, composed of belts K and slats or cross-bars L, secured to and extending from one belt to the other, and provided with teeth *a*, is fitted to frame A, so that it will be on both sides of the board C, the belts fitting over pulleys F and H, so that when they are turned the apron will be carried around the frame, and thereby raise the hay from the lower end of the frame to the top thereof.

The upper shaft or roller, E, through which motion is imparted to the endless apron, is revolved by means of a belt, M, fitted over the pulley I, and a band-wheel, N, formed on the inside of the drive-wheel O, as illustrated in Figs. 1 and 2. The frame A is supported on the carriage P by means of a rod, Q, passed through the sides of the frame and the horizontal bars R of the carriage. The elevator-frame is braced and raised and lowered by means of rods S, which are secured at one end to the frame and at the other to the rear ends of bars R. These rods, near their lower ends, are provided with a number of holes, so that as the elevator-frame is raised or lowered the rods can be shortened or lengthened by fitting one or the other hole over the pins *b*, fastened to rear ends of bars R. These bars rest upon the axle-tree T, to the ends of which are journaled the drive-wheels O.

The rake U, composed of curved teeth V, secured to bar W, which is hinged to axle-tree T, is raised and lowered by means of a lever, *y*, secured to bar W, and which is provided with a cross-pin, *c*, that is designed to engage with a pin shifted from one hole to another, made in an overhanging plate or arm, Z, secured to axle T, so that the rake can be held at the height desired.

Instead of the belt M, for driving the shafts that communicate motion to the endless apron *a*, a pinion, A′, may be secured to the lower shaft, G, and be made to gear with cogs formed on the inner face of the band-wheel N, as shown in Fig. 1. When such is used the driving-belt is dispensed with, and motion is communicated to the endless apron through the lower shaft or roll, G, and the elevator-frame is supported by pendants B′, which are bolted or otherwise secured at the top ends to the rear of bars R, while to the other ends the lower ends of the sides of frame A are bolted or otherwise fastened, as shown in Fig. 1, and the frame is braced and held at the desired elevation by the rods S, as hereinbefore stated. When the frame is so supported and braced the rod Q is dispensed with.

In order to prevent the hay from winding around and preventing the free turning of the shaft G, to which is connected the pinion A′, a shield, C′, made of sheet-iron or other suitable metal, is placed around said shaft, being nailed or otherwise secured to the frame, as represented in Figs. 2 and 3 of the drawings.

When desired, the elevator-frame A may be detached from the carriage P, and the rake then be used as a sulky-rake.

The operation of the rake and elevator in raking and loading hay is as in most other hay rakers and elevators, and as the same, as well as the function of particular parts described, is manifest from the foregoing description of the construction and arrangement, a further description or repetition will not be given.

Having described our invention, what we claim is—

1. The elevator-frame A, rollers E and G, and endless apron J, in combination with carriage P, rake U, and rods S, formed at one end with a series of holes, and a pin on the carriage to engage therewith, all substantially as and for the purpose set forth.

2. The carriage P, provided with pendants B′, in combination with the elevator A, pivoted thereto, rods S, formed with series of holes at one end, rake U, pinion A′ and its shaft, drive-wheel O, cogged band-wheel N, and endless apron J, all constructed and arranged to operate as described.

3. The carriage P, elevator A, apron J, and rods S, in combination with rake U, pinion A′ and its shaft, wheels O and N, and shield C′, all substantially as set forth.

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

ANDREW JOHNSON.
DAVID DEWEY.

Witnesses:
R. L. CARVER,
J. R. CARVER.