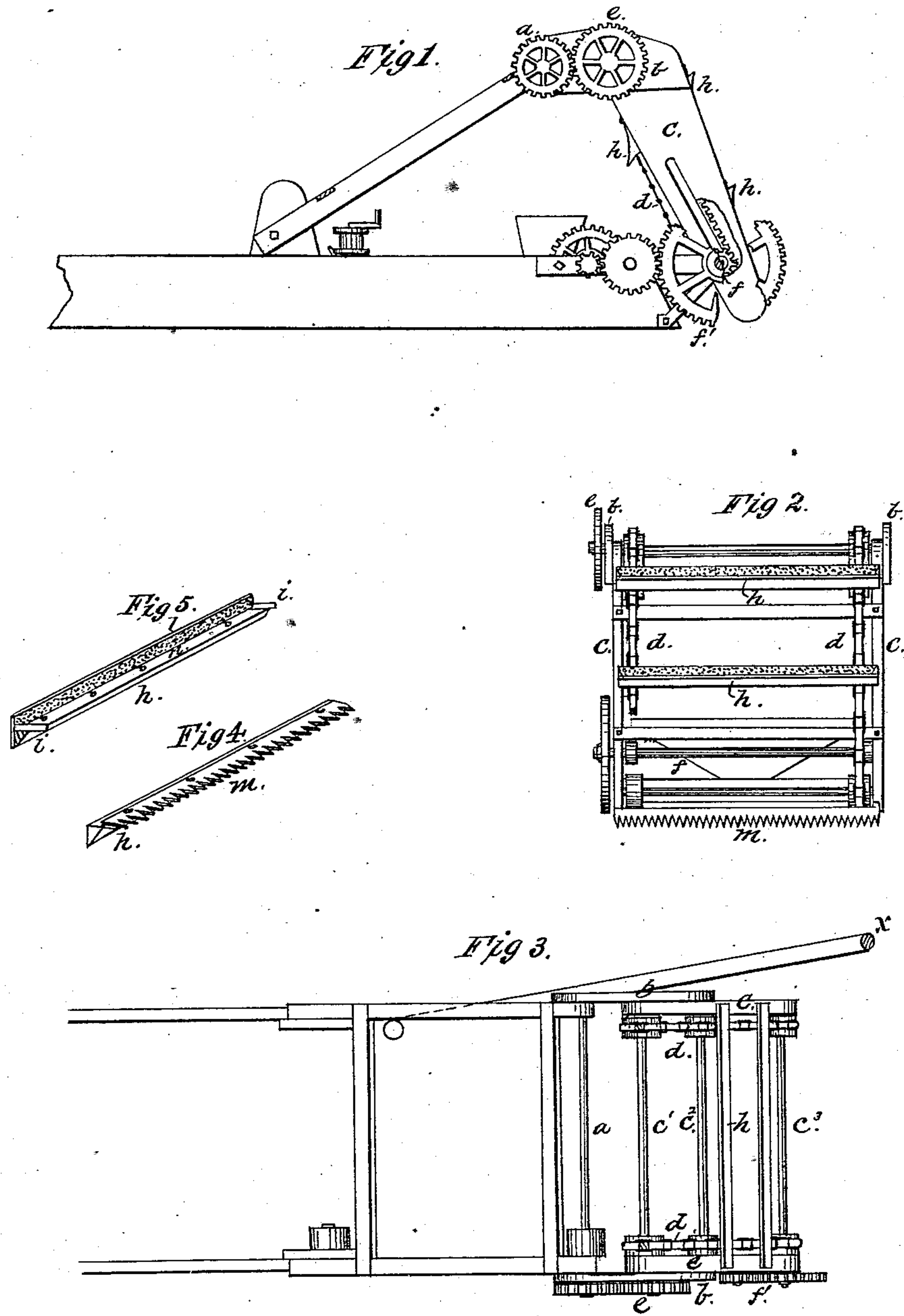


B. J. DENTON.
Peat-Cutter.

No. 161,215.

Patented March 23, 1875.



Witnesses:
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UNITED STATES PATENT OFFICE.

BENJAMIN J. DENTON, OF OSWEGO, NEW YORK.

IMPROVEMENT IN PEAT-CUTTERS.

Specification forming part of Letters Patent No. **161,215**, dated March 23, 1875; application filed January 21, 1875.

To all whom it may concern:

Be it known that I, BENJAMIN J. DENTON, of Oswego, New York, have invented a new and useful Improvement in Excavating and Elevating Peat and other substances, of which the following is a specification:

My invention was originally devised to facilitate the excavation of peat from the bog and its elevation to the machinery for grinding it, a part of which devices are also applicable to elevate other materials, and for other purposes.

In the manufacture of peat, as in the machine of Dodge, the apparatus is placed in a boat or floating scow in a canal or water-way cut in the bog to be operated on. My machinery is so combined with this boat as to cut and raise by machinery the peat from any varying depth, and with the boat floating at any elevation, according to the height of water in the canal or ditch, by mechanical means, without manual labor.

The construction is as follows, referring to the accompanying drawing, in which Figure 1 is a side elevation of the apparatus. Fig. 2 is a front elevation of the same. Fig. 3 is a top plan, showing the boat in a canal; Fig. 4, a detached elevator and pioneer cutter; Fig. 5, an elevator-bucket and adjustable cutter.

At a sufficient distance from the front of the boat I affix proper supports for the bearings of a horizontal shaft, *a*, which is revolved by any convenient motor, such as steam or animal power. Two arms, *b*, properly braced, are centered at the driving-shaft *a* at one end, the other end extending forward to the front end of the boat, where they are jointed to a frame-work, *c*, which hangs pendent over the end of the boat. In this frame are three horizontal shafts, two of which, *c*¹ *c*², are at the top nearly level with each other. The third *c*³ is at the bottom. They all bear pulleys near each end, over which endless chains *d* pass, and, if need be, there are intermediate ones placed between them to sustain the strain upon the knives and elevators affixed thereto. These endless chains *d* are revolved by means of gearing *e*, that connects *c*¹ with a pulley that is driven by the band *e*¹, extending from it to a pulley on shaft *a*. From this arrangement it will be seen that frame *c* can be raised or low-

ered while the endless chains are in motion, and this elevation or depression is effected by means of a shaft, *f*, on the front of the boat, with pinions on it gearing into racks on frame *c*, as clearly shown in Fig. 1. The shaft *f* bears on its end a spur-wheel, *f*¹, into which a pinion works, turned by a winch, by hand, or otherwise, to raise or lower the frame *c*. Upon the endless chains *d* are affixed horizontal elevators *h*, that extend across the whole length of the boat, and six or eight inches, more or less, beyond it on each side. The ends slide on and bear against the side pieces of frame *c*, by which they are held up to their work, as will hereafter be seen. The elevator-buckets *h* are properly braced, as shown in the drawing, or in any convenient way. On a sufficient number of the elevator-buckets *h*—say, every fourth one, more or less—are affixed what I call pioneer cutters, *m*. They consist of steel fingers formed as cutters, as shown in Fig. 4. They project out beyond the line of the cutters *n* affixed to all the other elevators, as seen at Fig. 5. The pioneer cutters loosen the roots, &c., in the peat in advance of cutters *n*, which slice from the breast of the excavation a due portion of the material and deposit it on the elevator-bucket *h* to be elevated. At the ends of the knives and elevators are scoring-knives *i* that score and separate that portion of the bog to be removed from the stationary side walls. They cut a little beyond the other cutters for that purpose. All the cutters are made to be removed or adjusted, as clearly seen in the drawing. The elevator-buckets have each a back piece, *l*, affixed to them or to the endless chains, to hold the material cut away by the knives. They are perforated to allow the water to drain off from the peat as it is elevated to the top of the frame *c*, where it is dumped into a hopper or other receptacle from which it can be delivered to the grinding-machine.

The apparatus thus constructed and arranged as described cuts and elevates peat from the bog to a sufficient width for the free passage of the boat, and the elevator-frame *c* can be elevated or depressed so as to enable it to excavate the whole thickness of the peat-bog and to vary its elevation while the elevator-buckets are in motion, as the thickness of peat

varies or the boat rises or falls. To hold the apparatus up to the work I employ two or more anchors, *x*, that are firmly planted in advance of the boat, (see Fig. 3,) and the boat is thereby drawn up to the work by hawsers *y* affixed thereto and passing around a capstan or windlass in the boat, turned by any convenient power, and so regulated as to advance the boat and cutters as the turf is removed.

Having thus fully described my improvements for cutting and elevating peat, &c., I claim—

1. The elevating apparatus, consisting of a

frame, *c*, suspended to arms *b* centered at the driving-shaft *a*, together with the driving-gear for moving the elevator-buckets *h* while elevating or depressing the frame *c*, substantially as and for the purposes set forth.

2. The combination of the adjustable cutters *n* and scoring-cutters *i* with the elevator-buckets *h* for cutting peat, in the manner and for the purposes specified.

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Witnesses:

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