(No Model.)

P. OKELL.

BELT AND BUCKET ELEVATOR.

No. 277,774. Patented May 15, 1883.

Fig. 1.

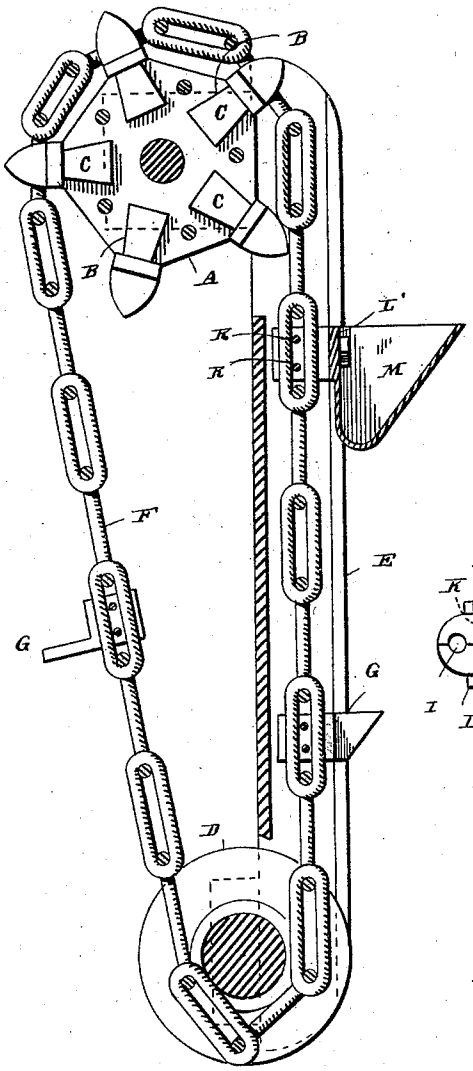
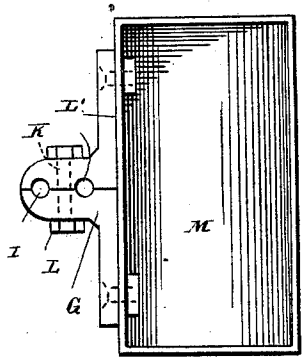


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

PETER OKELL, OF FORT MADISON, IOWA.

BELT AND BUCKET ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 277,774, dated May 15, 1883.

Application filed March 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, PETER OKELL, of Fort Madison, in the county of Lee, and in the State of Iowa, have invented certain new and useful Improvements in Belt and Bucket Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to certain improvements in chain-elevators; and it has for its objects to provide for an improved sprocket-wheel to be employed in connection therewith, and also to provide an improved means for securing the elevating plates or buckets, and an improved pulley over which the chain may pass, as more fully hereinafter specified. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a view, partially in elevation and partially in section, of my improved invention; and Fig. 2, a top view of an elevator-bucket detached.

The letter A indicates the sprocket-wheel, which is constructed in two parts, one part of which is provided with a series of dovetailed sockets, B, for the reception of the dovetailed shanks of the sprocket-teeth C. The two parts of the wheel are provided with apertures, through which may be passed suitable bolts to clamp the parts together and hold the sprocket-teeth in place. The periphery of the wheel is polygonal in shape, the faces being of a length equal to the length of the links of the chain, so as to properly carry the chain when rotated. The lower part of the chain passes around a pulley, D, grooved on its periphery in such manner as to allow the links of the chain and the elevator plates and buckets to pass freely around it. The sprocket-wheel and pulley are mounted on shafts journaled in a suitable elevator-frame, E, as usual.

The letter F indicates the elevator-chain, which passes over the sprocket-wheel and the pulley in the usual manner; and the letter G indicates the elevating plates or sections. These are constructed in two parts, which are capable of being joined, as indicated. These parts are provided with lateral lugs or ears, which are grooved vertically, as indicated by the letter I, at such distances apart as to clasp the sides of the link to which they are to be attached. These lugs are provided with transverse apertures, through which pass the bolts K, which are provided with screw-nuts L, by means of which the parts may be clamped together and secured to the link. The said parts or sections may be of any desired shape, according to the purpose for which they are intended, and when it is required to use an elevator-bucket the parts may be formed with flat surfaces or lateral extensions, L′, to which the elevator-buckets M may be bolted, as shown in Fig. 2, or otherwise attached.

It will be seen that as thus constructed the sprocket-teeth may be removed and replaced when worn or otherwise injured; also, that the parts of the sprocket-wheel may be constructed of soft or malleable iron, which will successfully resist the strain, while the teeth may be constructed of steel, which will resist wear to the utmost extent, thus forming a durable wheel, which may be readily repaired if broken or injured.

It will also be evident that the elevator plates or buckets can be readily attached and detached, thus providing for conveniently and expeditiously repairing the elevator in case it should get out of order.

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

1. In a chain-elevator, the sprocket-wheel constructed in two parts, one of which is provided with dovetailed recesses to receive the dovetailed shanks of the sprocket-teeth, and means for clamping the parts together, substantially as specified.

2. The combination, with the sprocket-wheel, constructed in two parts and having dovetailed recesses and clamping-bolts, the de-

tachable sprocket-teeth provided with dovetailed shanks adapted to set in the recesses, substantially as specified.

3. The combination, with the chain, of the elevator plates or buckets, supports provided with lateral lugs grooved vertically, the said plates being made in two parts and bolted upon the link, substantially as specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 15th day of January, 1883.

PETER OKELL.

Witnesses:
E. STEWART,
EDWIN D. SMITH.