

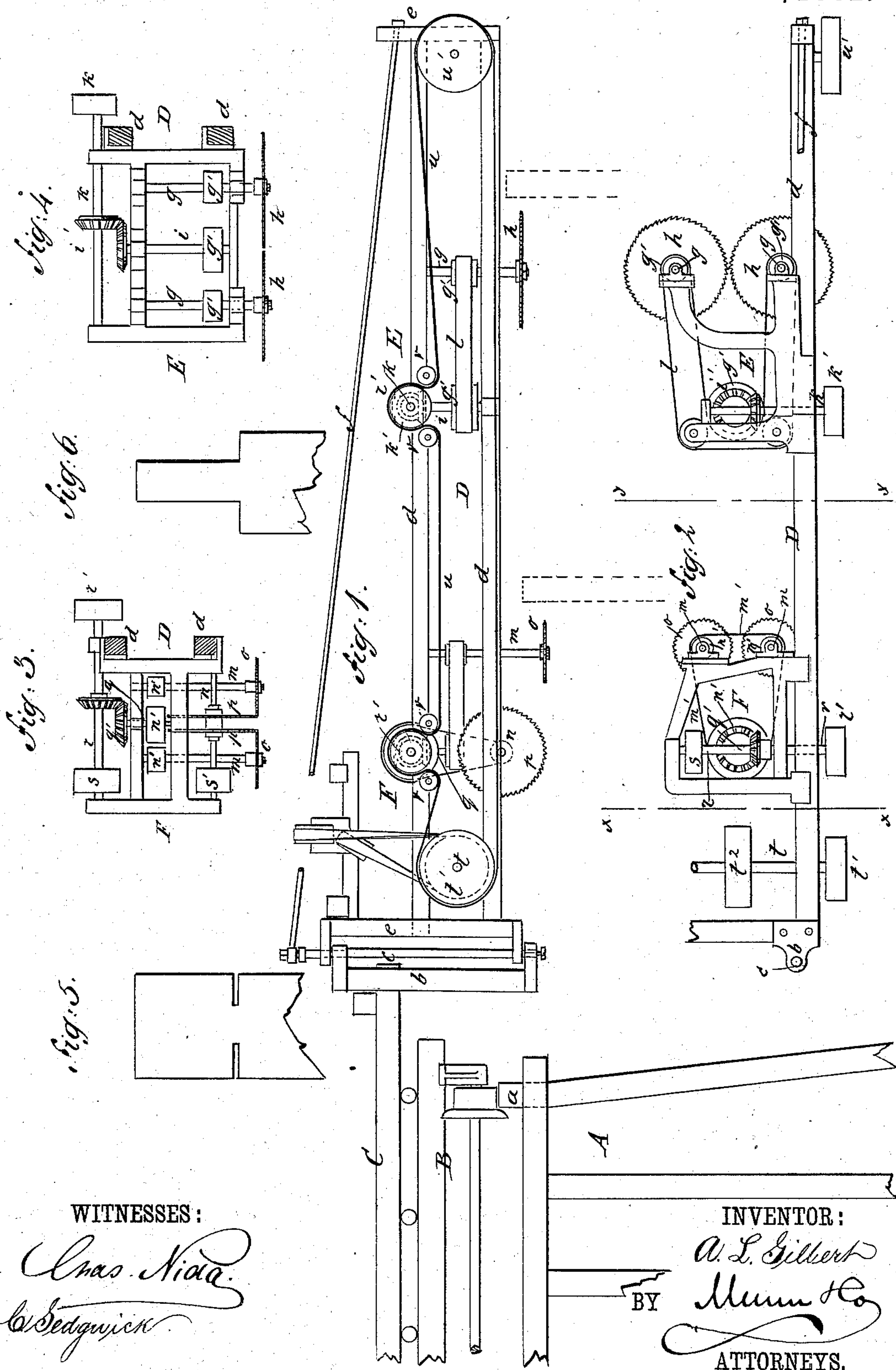
(No Model.)

A. L. GILBERT.

MACHINE FOR SAWING OFF AND TENONING PILES.

No. 254,954.

Patented Mar. 14, 1882.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ANDRUS L. GILBERT, OF ALBANY, NEW YORK.

## MACHINE FOR SAWING OFF AND TENONING PILES.

SPECIFICATION forming part of Letters Patent No. 254,954, dated March 14, 1882.

Application filed December 29, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ANDRUS L. GILBERT, of Albany, Albany county, New York, have invented a new and useful Improvement in Machinery for Dressing Piles, of which the following is a full, clear, and exact description.

In driving piling for railroads by a driver moved forward on the piles as the work proceeds it is essential that the piles be dressed and tenoned as rapidly as possible, in order that there be no delay in moving and working the driver.

The object of my invention is to dress the piles by machinery carried on the car of the pile-driver and driven by the same engine, so that the work can be done as fast as the piles are driven, the caps then put on, and the track for the car laid without delay.

My invention consists in a pile-dressing machine having its parts constructed and arranged as hereinafter described and claimed.

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

Figure 1 is a side elevation of my improved pile-dressing machine. Fig. 2 is a plan view. Figs. 3 and 4 are cross-sections on the lines  $x$  and  $y$  respectively of Fig. 2. Fig. 5 shows a pile as first cut, and Fig. 6 shows the same completed.

At A is represented completed piling provided with stringers  $a$ , on which the pile-driver car B moves. On the car is the adjustable platform C, that will carry the pile driver, of suitable construction. The engine will be upon the car B.

The dressing machinery is carried by a derrick, D, which is hung on a support,  $b$ , at one side of platform C by a pintle-rod,  $c$ , which permits the derrick to be swung in front of the car when the piles are to be dressed. The derrick is composed of longitudinal timbers  $d$ , substantially framed in end posts,  $e$ , and a brace-rod,  $f$ , extending from the pintle  $c$  to the outer post  $e$ , is provided to prevent the derrick from sagging.

Near the outer end of the derrick D is attached a saw-frame, E, which carries two vertical saw-arbors,  $g$ , provided with circular

saws  $h$  at their lower ends and below the derrick. There is also on the saw-frame an arbor,  $i$ , which connects by bevel-gearing  $i'$  to a cross-shaft,  $k$ , on the upper side of the frame. The arbors  $g$  are provided with pulleys  $g'$ , around which is a belt,  $l$ , and the shaft  $k$  has a pulley,  $k'$ , on its outer end, for the main driving-belt, hereinafter described.

Near the inner end of the derrick is a second saw-frame, F, on which vertical saw-arbors  $m$ , and also a horizontal arbor,  $n$ , are fitted. On the lower ends of arbors  $m$  are saws  $o$ , and on arbor  $n$  there are two saws,  $p$ , placed to work in planes at right angles to saws  $o$ , and coincident with the inner edges of such saws, as seen in Fig. 3.

On the frame F is a third vertical arbor,  $q$ , engaging by bevel-gearing  $q'$  with a cross shaft,  $r$ , and a belt,  $m'$ , passes around pulleys  $n'$  in the arbors  $m$ .

$r'$  is the driving-pulley of shaft  $r$ , and  $s$  is a pulley on the shaft, for a belt to a pulley,  $s'$  on arbor  $n$ , by which the saws  $p$  are revolved.

The derrick D also carries near its inner end a cross-shaft,  $t$ , provided with two pulleys—one,  $t'$ , at its outer end, for the belt  $u$ , that passes around the pulleys  $r'$   $k'$  at the saw-frames, and a second pulley,  $t^2$ , that receives the power. The belt  $u$  passes around a pulley,  $u'$ , at the outer end of the derrick, and I provide tightener-pulleys  $v$ , as shown, for holding the belt to the surface of pulleys  $r'$   $k'$ . The outer saws,  $h$ , revolving in a horizontal plane, act to cut the piles off squarely and leave them of proper length, for which purpose these saws cut as close to a center line as may be without contact. A transverse row of piles being first cut off by saws  $h$ , the saw-frame is then moved forward on the derrick to bring the saws  $o$  to the piles, and they, being in a lower plane than the saws  $h$ , cut into the piles from opposite sides to the depth required for the tenon, as shown in Fig. 5. These cuts are followed by vertical cuts made by saws  $p$ , and the tongue is complete, as shown in Fig. 6. The cutting is performed by moving the saw-frame forward after adjustment of the platform and derrick, and the saws  $h$  act to cut off an outer pile, while the saws  $o$  are acting on the pile behind. In this manner the work of preparing the piles

for the plates can be rapidly performed, and the pile-driver will need to lie idle only at short intervals.

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

The combination, with the adjustable platform C and swinging derrick D, of the saw-frames E F, carrying arbors, saws, and opera-

tive mechanism, whereby horizontally and vertically cutting saws may be successively brought to cut the piles, as described.

ANDRUS LEWELLING GILBERT.

Witnesses:

CHAS. HILTON,  
H. J. RICHARDS.