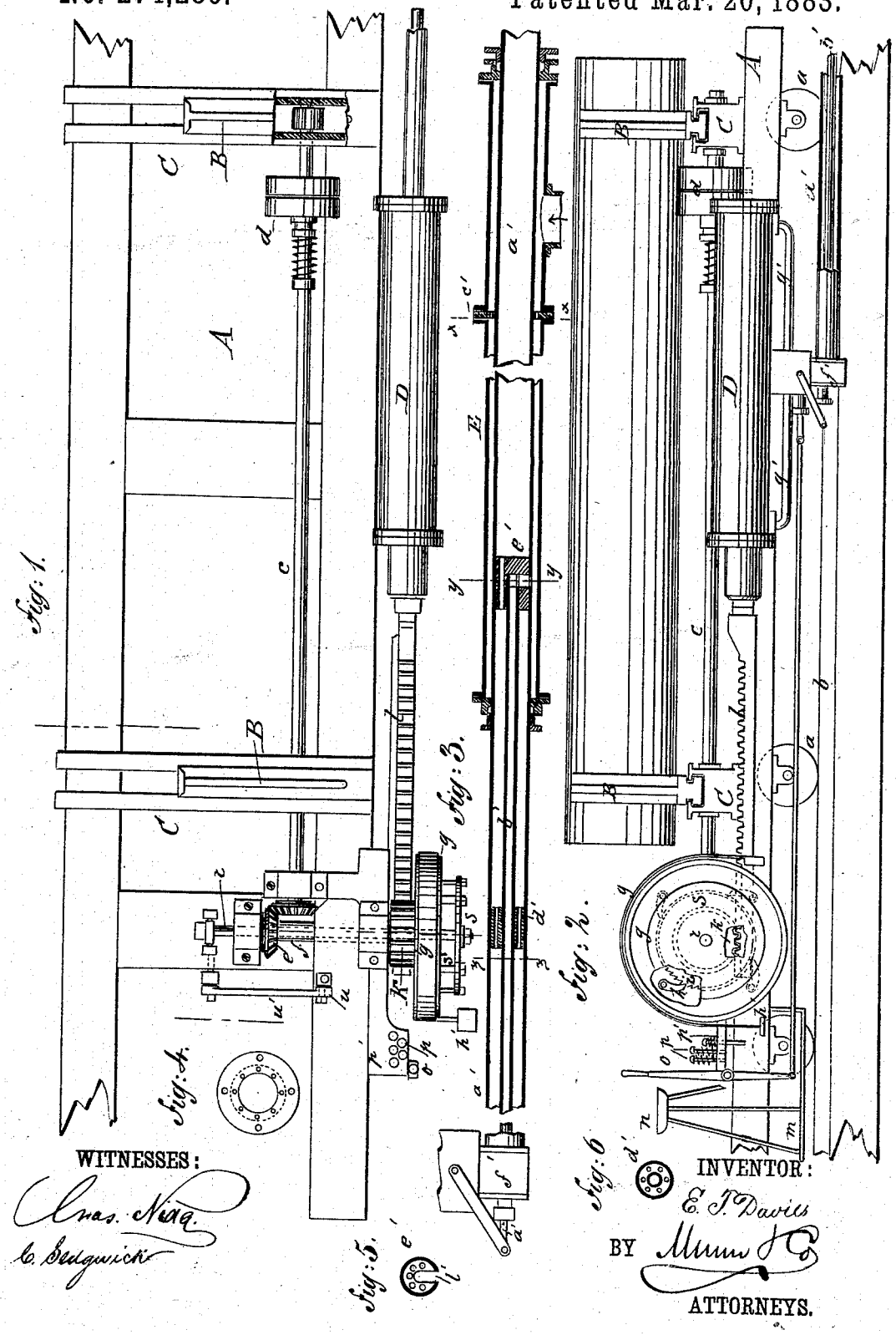
(No Model.)

E. T. DAVIES.

DEVICE FOR SUPPLYING STEAM TO THE CYLINDERS OF STEAM ENGINES.

No. 274,286. Patented Mar. 20, 1883.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EVAN T. DAVIES, OF MANISTEE, MICHIGAN.

DEVICE FOR SUPPLYING STEAM TO THE CYLINDERS OF STEAM-ENGINES.

SPECIFICATION forming part of Letters Patent No. 274,286, dated March 20, 1883.

Application filed September 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, EVAN T. DAVIES, of Manistee, in the county of Manistee and State of Michigan, have invented a new and useful Improvement in Devices for Supplying Steam to the Cylinders of Steam-Engines, of which the following is a full, clear, and exact description.

My invention relates to devices to supply steam to the cylinders of steam-engines, intended mainly to be applied to operating the log-standards of a saw-mill carriage in adjusting or setting the log, although the devices may be used for other purposes; and my invention consists in the peculiar construction and arrangement of the parts, as hereinafter more fully set forth, and pointed out in the claims.

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, and in which figures the devices to supply steam to the cylinder are shown in connection with a saw-mill carriage to better elucidate the invention.

Figure 1 is a plan view, partly sectional, of a saw-mill carriage provided with my improved set-works. Fig. 2 is a side elevation of the same, partially sectional. Fig. 3 is a longitudinal section of the steam-drum and the steam supply and discharge pipes. Fig. 4 is a cross-section on line *x x*, Fig. 3. Fig. 5 is a cross-section on line *y y*, Fig. 3. Fig. 6 is a cross-section on line *z z*, Fig. 3.

A is the carriage, provided with flanged wheels *a*, fitted to run on a track, *b*.

B B are sliding blocks or standards, fitted on the head-blocks C, transversely of the carriage, and formed at their under sides with racks to engage pinions on a longitudinal shaft, *c*, by which the blocks are moved and the log adjusted. The shaft *c* is made in two parts, connected by a coupling, *d*, so as to allow separate adjustment of the blocks B by hand. Upon the end of the shaft *c* is a beveled pinion engaging a similar pinion, *e*, that is on a shaft, *f*, mounted transversely at one end of the carriage. On the end of the shaft *f*, at one side of the carriage, is fixed a disk, *g*, that carries four pawls, *h*, taking into teeth of the ratchet-wheel *i*, that is fitted loosely on the hub of the pawl-disk *g*. At one side of and attached to the ratchet-wheel *i* is a pinion, *k*.

D is the steam-cylinder, mounted at one side of the carriage A, and provided with a piston-rod the outer end of which is formed as a rack, *l*, that extends beneath and engages the pinion *k*.

E is a steam-drum placed on the floor beneath the carriage, and consisting of a cylinder fitted with heads and stuffing-boxes at each end. Through this cylinder is fitted the exhaust-steam pipe *a'*, and within the exhaust-pipe is the steam-pipe *b'*. The steam-drum is provided at suitable intervals with rings *c'* for support of the exhaust-pipe, these rings being bored to fit the pipe closely, and being preferably sustained in the drums between flanges thereon, as shown in Fig. 3. The rings are also apertured, as shown in Fig. 4, to allow passage of the steam. The sections of the exhaust-pipe are connected by internal couplings, *d'*, Figs. 3 and 6, which are also perforated to allow passage of steam, and within the drum E the steam-pipe *b'* and exhaust-pipe *a'* are connected by an internal coupling, *e'*, Figs. 3 and 5, that is apertured for passage of the exhaust-steam, and also provided with a side aperture, *l'*, to coincide with an opening in the side of the exhaust-pipe, whereby the live steam is allowed to pass from the steam-drum into the pipe *b'* at all times. The length of the drum should be such that this coupling *e'* shall remain therein during the whole movement of the carriage. The exhaust-pipe *a'* connects to a chamber, *f'*, at the under side of the cylinder. The steam-pipe passes through the chamber *f'*, which has a suitable stuffing-box around the pipe, and the steam-pipe then connects by a suitable bend with the valve-chamber, from which pipes *g'* pass to the ends of the cylinder.

In operation, steam being admitted to the cylinder to project the rack piston-rod *l*, the pinion *k* is thereby rotated, and through the pinion *e* and shaft *c*, provided with end pinions, the standard B, provided with a rack on its lower face, is reciprocated.

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

1. The combination, with the steam-cylinder D, of the steam-drum E, the exhaust-pipe a', and steam-pipe b', substantially as described.

2. The perforated coupling e', in combination with the steam-pipe b', the sliding exhaust-pipe a', and the steam-drum E, substantially as described.

3. The ring-supports c', in combination with the steam-drum E and sliding exhaust-pipe a', substantially as and for the purposes set forth.

EVAN T. DAVIES.

Witnesses:
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