

(No Model.)

F. R. LANE.
HORIZONTAL SAWING MACHINE.

No. 420,348.

Patented Jan. 28, 1890.

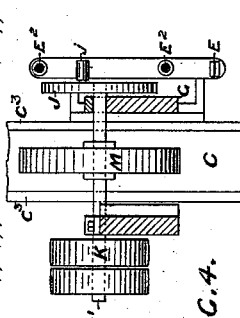
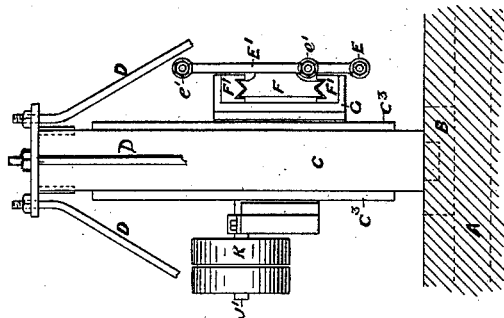
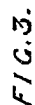


FIG. 4.

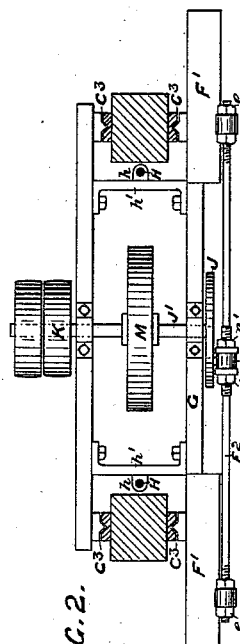
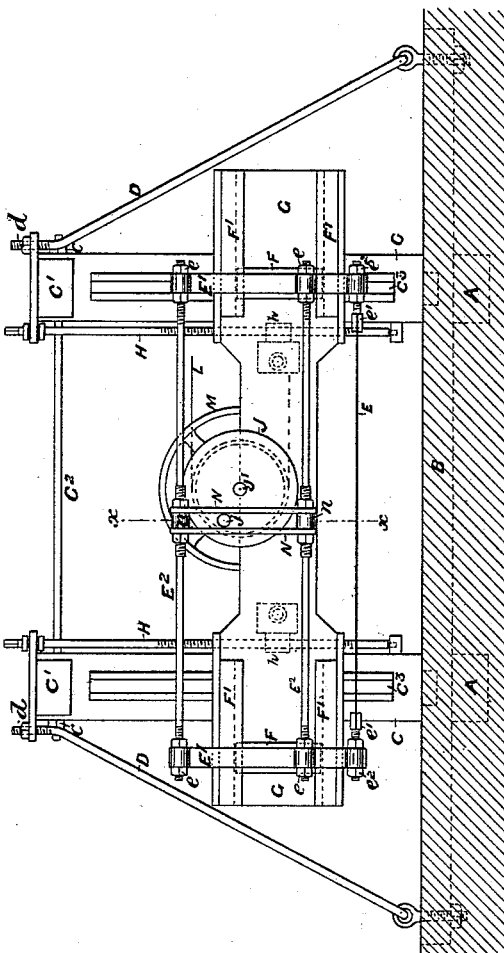


FIG. 2.

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UNITED STATES PATENT OFFICE.

FREDERICK ROBBINS LANE, OF WOODBOROUGH, ENGLAND.

HORIZONTAL SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 420,348, dated January 28, 1890.

Application filed July 11, 1889. Serial No. 317,190. (No model.) Patented in England March 16, 1889, No. 4,638.

To all whom it may concern:

Be it known that I, FREDERICK ROBBINS LANE, engineer, a subject of the Queen of Great Britain, residing at Woodborough, in the county of Wiltshire, England, have invented certain Improvements in Horizontal Sawing-Machines, (for which I have previously obtained Letters Patent in Great Britain, dated March 16, 1889, No. 4,638,) of which the following is a full, clear, and exact description.

This invention relates to steam, gas, or water power horizontal saw-frames, the object of the improvement being to render such frames portable by constructing them in a number of parts, which may be readily detached for transport and re-erected when required; and it also relates to the driving mechanism, with the object of simplifying the mechanical arrangements for reciprocating the saw with comparatively no vibration and less power required, the saw being capable of being reciprocated at a much higher speed, and thereby doing a larger amount of sawing, also enabling it to cut veneers.

In the accompanying drawings, Figure 1 represents a front elevation of a horizontal sawing-machine constructed according to my invention; Fig. 2, a plan view thereof; Fig. 3, an end elevation, and Fig. 4 a partial section taken through line *xx* on Fig. 1.

Referring first to the construction of the structural frame, A represents two rails or sleepers, which may be of either wood or metal, and which are laid on or sunk into the ground at a suitable distance apart in a direction at right angles to the line of the saw. A stout beam of timber B is supported by these sleepers, and is mortised toward each end to receive the tenoned ends of two vertical posts C, the upper ends of the posts being surmounted by metal caps C', which are connected together by tie-rod C² and nuts *c*. From each metal cap radiate three "guy" or tension rods D, provided with tightening-nuts *d* or other suitable stretching device. One of each set of these guy-rods connects the cap C' to which it is attached with the extreme end of the horizon-

tal beam B, and the other two of each set connect the caps C' to which they are attached, respectively, to the ends of the rails A, which support the said beams.

The saw E is mounted in a rectangular metal frame composed of two vertical pieces E', connected by nuts *e* to the two horizontal rods E², the saw being stretched between the lower ends of the pieces E' by means of the usual clamps *e'* and nuts *e*². To the vertical pieces E' are screwed or bolted slide-blocks F, which are free to work in slides F', fixed to the saddle G, which slides upon the posts C on the slides C³, and can be raised or lowered by means of the screws H, which work through nuts *h*, attached by brackets *h'* to the saddle G, and are squared at their upper ends to receive a screw-key or spanner or other suitable gearing.

The driving mechanism consists of a disk J, mounted on a shaft J', which works in bearings formed on or attached to the saddle G. The shaft J also carries fast and loose pulleys K, for the driving-belt L to travel around, and a fly-wheel M. On the face of the disk J is a swivel-stud *j*, which works within a yoke formed by two vertical bars N, which are bored at their ends, so as to slide upon the rods E² of the rectangular metal frame, being kept at a suitable distance apart by collars *n* and clamped by nuts *n'*. The rods E, as will be observed, are thickened in their middle portions, such thickened portions being screw-threaded. By this arrangement the nuts *n'* can slide over the end portions of the rods E, and thus a considerable amount of screw-threading is dispensed with. It will be obvious that as the disk J rotates, the stud *j*, acting alternately on each side of the yoke N, will impart a reciprocatory motion to the rectangular frame, and consequently to the saw E, the extent of such motion depending on the distance of the stud *j* from the center of the disk J.

The material to be fed to the saw is mounted on one or more trolleys running on rails and worked by chain-feed or other suitable form of gearing.

Having thus particularly described my in-

vention, what I claim as new, and desire to secure by Letters Patent, is—

In horizontal sawing machinery, a portable structural frame consisting of sleepers A,
5 ground-rail B, and uprights C, rigidly tied together by rods C² and D, in combination with a saw-frame mounted on the standards for horizontal reciprocation, substantially as

described, and illustrated in the accompanying drawings.

London, May 14, 1889.

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