(No Model.)

W. S. DODGE.

SAWMILL CARRIAGE.

No. 493,546. Patented Mar. 14, 1893.

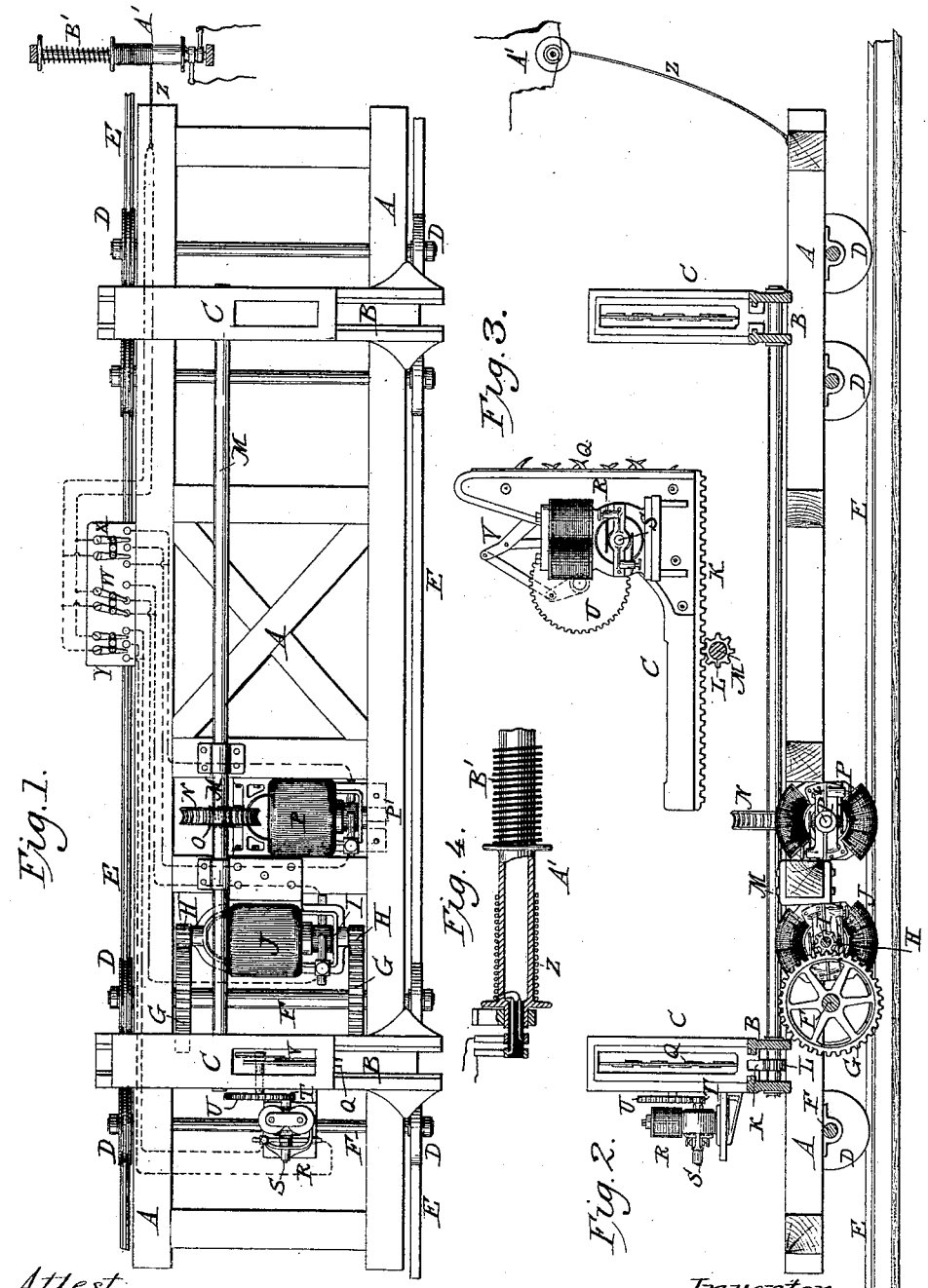

Fig. 1.

Fig. 3.

Fig. 4.

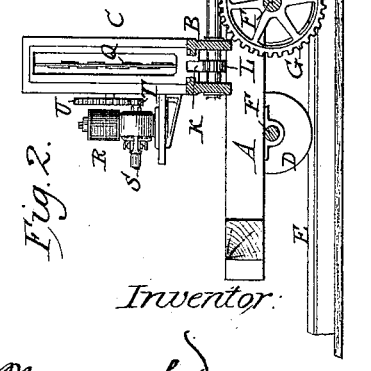

Fig. 2.

Attest.

Sidney P. Hollingsworth

Horace A. Dodge.

Inventor.

Walter S. Dodge.

UNITED STATES PATENT OFFICE.

WALTER S. DODGE, OF WASHINGTON, DISTRICT OF COLUMBIA.

SAWMILL-CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 493,546, dated March 14, 1893.

Application filed June 25, 1892. Serial No. 437,964. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. DODGE, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Sawmill-Carriages, of which the following is a specification.

My invention relates to saw mill machinery, and consists in a novel construction and arrangement of the same as hereinafter set forth and claimed.

The objects of the present invention are to dispense, as far as practicable, with manual labor; to economize in power, and to drive the carriage without the use or aid of the propelling ropes now commonly used. Electricity is the motive power which I employ,—and I so arrange the circuits that the various mechanisms common to saw-mill carriages, may be actuated or controlled from one point by one person.

In the drawings,—Figure 1 is a top plan view of a saw-mill carriage showing one plan for carrying out my invention; Fig. 2, a longitudinal vertical sectional view of the same; Fig. 3, a side view of one of the knees; and Fig. 4, a sectional view of a spool upon which the cable winds and unwinds.

A indicates the carriage frame, B B the head blocks and C C the knees, all of which parts may be of the usual construction. The carriage will also be provided with wheels D D to run upon rails E E so as to maintain the carriage in proper relative position to the saw, the wheels being in the present instance fast upon their axles F F. Mounted upon one axle of one or both sets of wheels or trucks, are the gear wheels G which mesh with the pinions H carried by the armature shaft I of the electric motor J, the arrangement being such that when the motor is set to work, the carriage will be fed forward to make the cut, and when the motor is reversed, the carriage will be gigged back. The knees are each provided with a rack-bar K, Fig. 3, which projects down through the open top of the head-blocks B, to mesh with a pinion L carried by the set shaft M. At any suitable point throughout its length, the set shaft will be provided with a worm-wheel N with which is designed to mesh a worm O carried by the armature-shaft P′ of a second electric motor P, as shown in Fig. 1. Now when the motor is set to work, the worm revolving rapidly will cause the set-shaft to turn or rotate slowly and advance the knees the required distance. After the log or cut has been completely sawed, the knees may be retracted by reversing the direction of rotation of the armature.

In order to actuate the dogs Q, it is necessary to employ a third motor R and to provide its armature shaft S with a small pinion T to engage a larger gear U on the knee, and to connect this gear or its shaft with the dogs by levers V. It will readily be seen that when the motor is set to work, it will, acting through the gearing T U and levers V, project or retract the dogs according to the direction in which the armature rotates.

In order that the "feed" of the carriage, the setting of the knees, and the actuation of the dogs, may be controlled by one person, I provide a series of switches W, X and Y, by means of which, respectively, the currents to the motors J, P and R may be controlled.

Motor R does not have to be actuated very often, and motor P only during the time that the carriage is gigging back, hence, one person can attend to all these various operations without difficulty or confusion, and from a single point, thus effecting a material saving in time and labor.

The form of the motors and the mechanism may be varied considerably without in any wise departing from the spirit of my invention. So, too, the current may be taken from an overhead wire by means of a trolley or from a wire close to the track by suitable brushes, but as these features are common and well known, I have not deemed it necessary to illustrate or describe them in detail.

I prefer to conduct the current through a flexible cable Z and to cause it to wind upon and unwind from a spool A′ secured to the frame of the mill above the carriage. This spool as shown in Fig. 4, will be provided with a spring B′ in such manner that as the cable is unwound by the carriage moving forward to make a cut, the spring will be put under tension. When the carriage gigs back, the spring will wind up the cable on the spool.

The present invention will be particularly useful as part of a portable saw mill outfit,—it being only necessary to run the electric

wires from a village or town having a generator, to the point at which the timber is to be cut. This can not be done with those carriages using fluid pressure or rope mechanism in which the power is fixedly located in close proximity to the point where the sawing is done. My carriage, with its attendant mechanism, may be transported from place to place, and its position changed relatively to the power station and the timber tract. It will also be seen that I am enabled to do away with the use of portable steam engines which have hitherto been carried from place to place with the carriage to actuate the same.

Having thus described my invention, what I claim is—

1. In combination with a saw mill carriage; the knees mounted thereon; an electric motor for actuating the knees; a dogging mechanism; an independent electric motor for actuating the dogging mechanism,—both of said motors being in communication with a source of electricity,—and means for controlling said motors from a single point.

2. In combination with a saw mill carriage; the knees mounted thereon; independent electric motors for actuating the knees and for propelling the carriage; and means for controlling said motors from a single point.

3. In combination with a saw mill carriage; dogging mechanism mounted thereon; independent electric motors for actuating the dogging mechanism and for propelling the carriage; and means for controlling said motors from a single point.

4. In combination with a saw mill carriage provided with dogging and setting mechanism, three independent electric motors, adapted, respectively, to propel the carriage, and to actuate the dogging and setting mechanisms; and means for controlling said motors from a single point.

In witness whereof I hereunto set my hand in the presence of two witnesses.

WALTER S. DODGE.

Witnesses:

HORACE A. DODGE,

JAMES F. DUHAMEL.