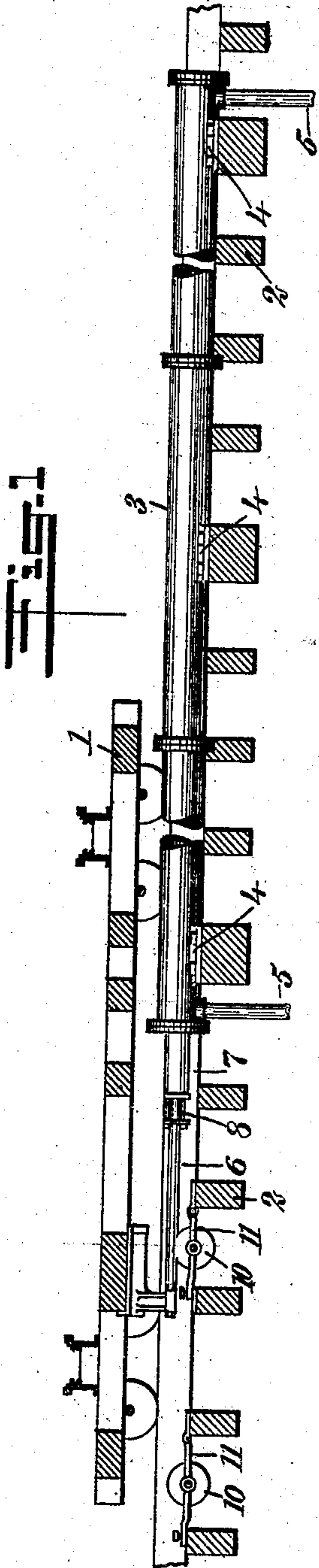


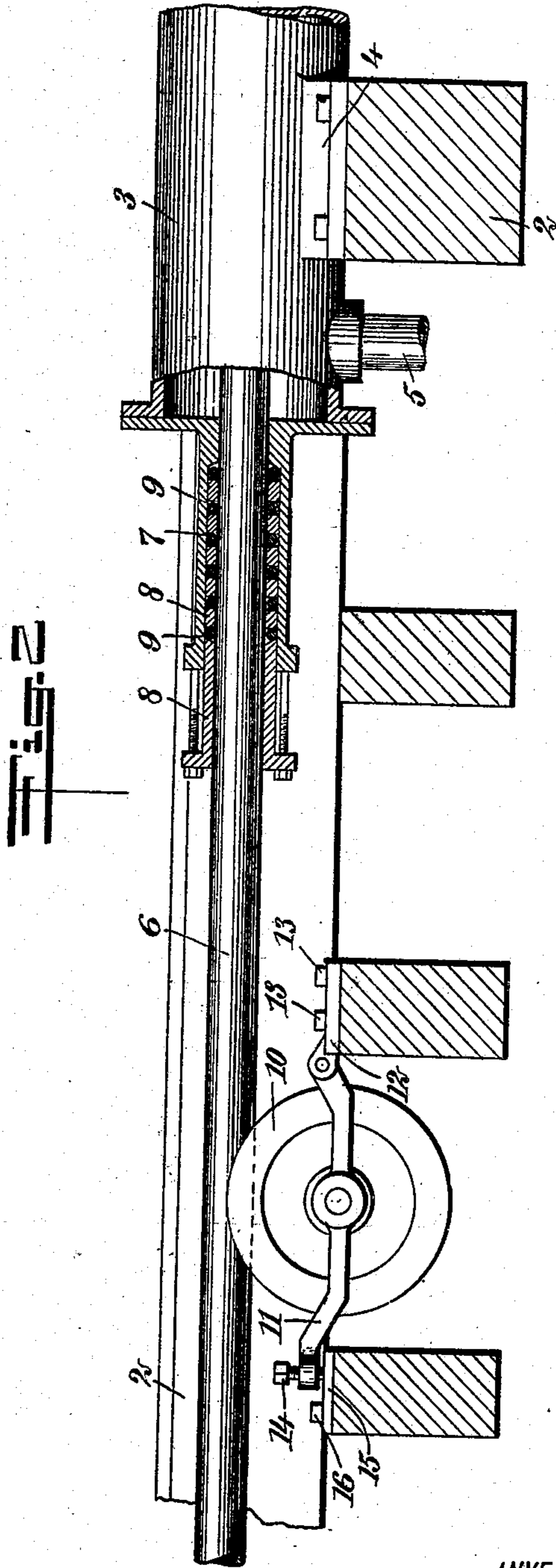
J. J. SULLIVAN.
CARRIAGE DRIVE.
APPLICATION FILED NOV. 9, 1907.

919,793.

Patented Apr. 27, 1909.



WITNESSES
F. D. Sweet.
John K. Brachvogel



INVENTOR
John J. Sullivan
BY *Munroe*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN JOSEPH SULLIVAN, OF EAGLE MILLS, ARKANSAS.

CARRIAGE-DRIVE.

No. 919,793.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed November 9, 1907. Serial No. 401,427.

To all whom it may concern:

Be it known that I, JOHN J. SULLIVAN, a citizen of the United States, and a resident of Eagle Mills, in the county of Ouachita and State of Arkansas, have invented a new and Improved Carriage-Drive, of which the following is a full, clear, and exact description.

This invention relates to improvements in carriage drives, and is particularly useful in connection with saw-mill carriages and the like.

An object of the invention is to provide a simple, efficient and inexpensive support for the piston rod of a carriage drive, so that the piston rod is prevented from sagging and thereby wearing the stuffing-box and other parts with which it comes in engagement, in an irregular manner.

A further object of the invention is to provide a roller support for the piston rod of a saw-mill carriage drive, which can be adjusted, and which prevents the piston rod from sagging under the influence of its own weight when the piston rod is projected from the cylinder.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views, and in which—

Figure 1 is a longitudinal section of a saw-mill carriage and frame, showing the carriage drive and my invention applied thereto; and Fig. 2 is an enlarged longitudinal section showing part of the cylinder and the stuffing-box, together with the piston rod and the support of my invention therefor.

Before proceeding to a more detailed explanation of my invention, it should be understood that in certain types of carriage drives largely used in saw-mills and the like, cylinders, pistons and piston rods are employed, which are driven by steam or compressed air, and serve to move the saw-mill carriages back and forth to bring the stock into engagement with the saws. In saw-mills where large lumber is worked upon, it is of course necessary to move the carriages through considerable distances, and for this purpose cylinders are employed which are from thirty to seventy feet in length and have piston rods of corresponding dimensions.

Naturally, a piston rod of this extreme length, when moving in a horizontal or nearly horizontal plane is apt to sag considerably under the influence of its own weight. This sagging of the rod causes an unequal wearing of the glands and other parts of the stuffing box and cylinder, and thus considerable expense is involved, and frequently danger to the operatives of the saw-mill, owing to failure of the mechanism. It is customary to employ stationary supports for long piston rods, which permit the rods to slide over them, merely. These supports serve to prevent the sagging of the rods but as their engagement with the rod is a sliding one, they entail unnecessary wear upon the same. To avoid these disadvantages I provide supports which are revolubly mounted and constitute rollers; consequently, the engagement of the rod with the supports is nearly frictionless. Thus the rod is suitably supported, without rendering it liable to excessive wear with the disadvantages consequent thereupon.

Referring more particularly to the drawings, 1 represents a feed carriage, such as is often employed in saw-mills for moving lumber stock and the like back and forth with respect to the saws. The carriage is mounted to travel upon a suitable frame-work 2, at the side of which is arranged a cylinder 3, carried upon suitable cylinder chairs 4. Steam or other pipes 5, permit the entrance of the actuating fluid into the cylinder. A piston of any preferred or common form is slidably arranged within the cylinder, and has a piston rod 6 passing through a stuffing-box 7 at the end of the cylinder. The stuffing-box 7 has adjustable glands 8 and packing material 9, and may be of any type suitable for the purpose.

It will be understood that as many of my supports can be employed as the length of the piston rod warrants. A support of the type which I prefer is shown most clearly in Fig. 2. It comprises a grooved wheel or roller 10, which peripherally engages the piston rod 6 to support the same and maintain it properly alined. The roller 10 is journaled upon a suitable carrier 11, one end of which is pivoted upon a bracket 12, adapted to be mounted at a suitable point on the frame 2 by means of screws or bolts 13. The opposite end of the carrier 11 has an adjusting screw 14, the end of which rests upon a plate 15 secured upon the frame 2 by means of a

screw or bolt 16. By means of the adjusting screws 14 the roller carriers can be raised or lowered to permit the exact alinement of the piston rod and with respect to each other.

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

1. An improvement in carriage drives, comprising a carrier pivoted at one end to
10 swing in a vertical plane, means at the opposite end of the carrier for vertically adjusting said end, and a roller revolubly mounted upon said carrier, said roller being adapted to engage a piston rod to support
15 the rod.

2. The combination with a frame, a feed carriage mounted to travel upon said frame,

and a cylinder having a piston and a piston rod, said piston rod controlling said carriage, of a carrier having one end pivoted upon said frame to swing in a vertical plane, an adjusting screw in the other end of the carrier and engaging said frame, and a roller revolubly mounted upon said carrier and having a peripheral groove, said roller being adapted
25 to engage said piston rod at said groove to support said rod.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN JOSEPH SULLIVAN.

Witnesses:

EDWARD W. BOCAGE,
JNO. C. HURST.