

(No Model.)

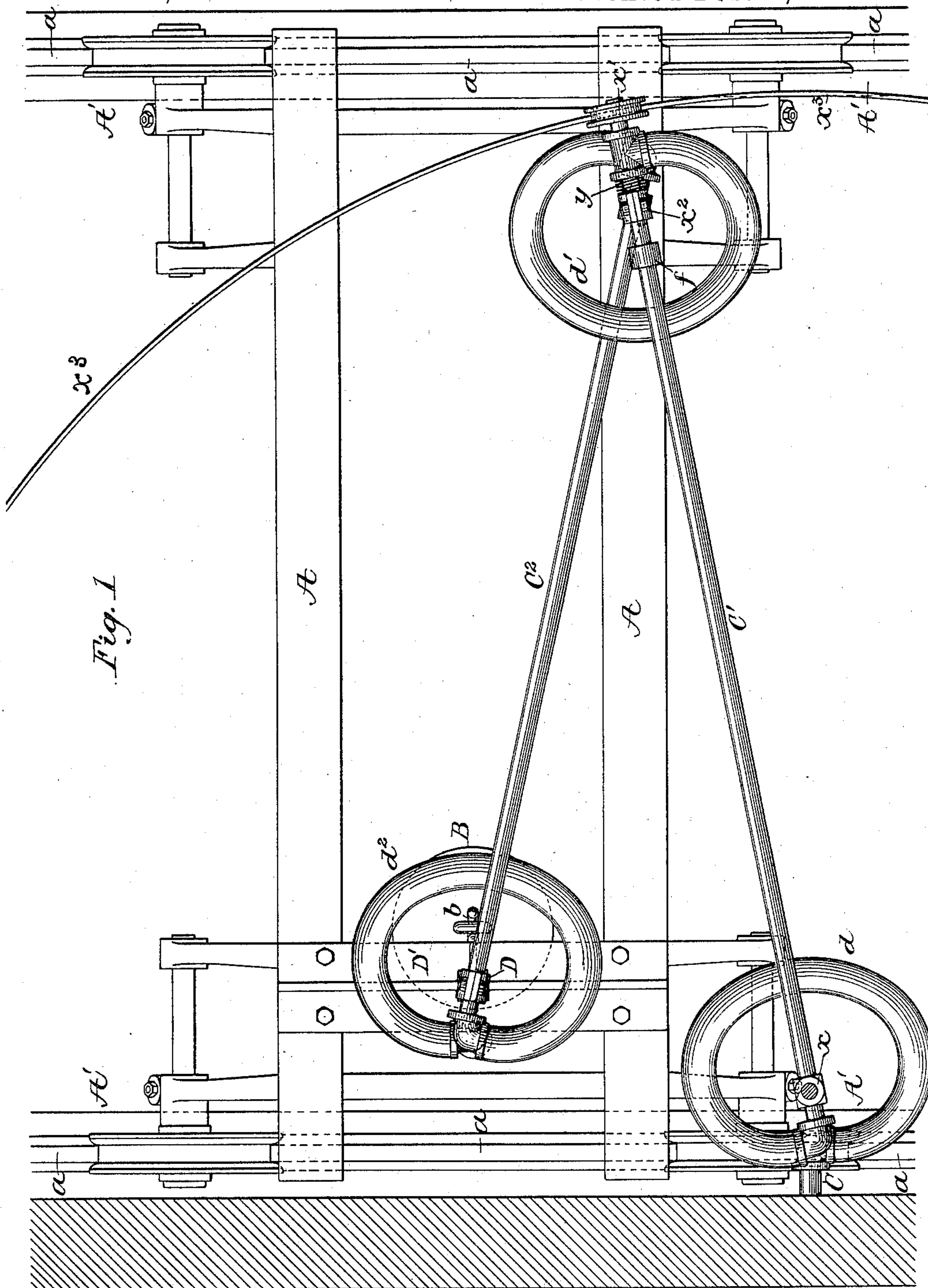
2 Sheets—Sheet 1.

C. E. MARIS.

MOTIVE FLUID SUPPLY DEVICE FOR TRAVELING CRANES.

No. 598,429.

Patented Feb. 1, 1898.



Witnesses:
Murray C. Boyer
Hamilton B. Turner

Inventor:
Chas. E. Maris,
by his Attorneys,
Howson & Howson

(No Model.)

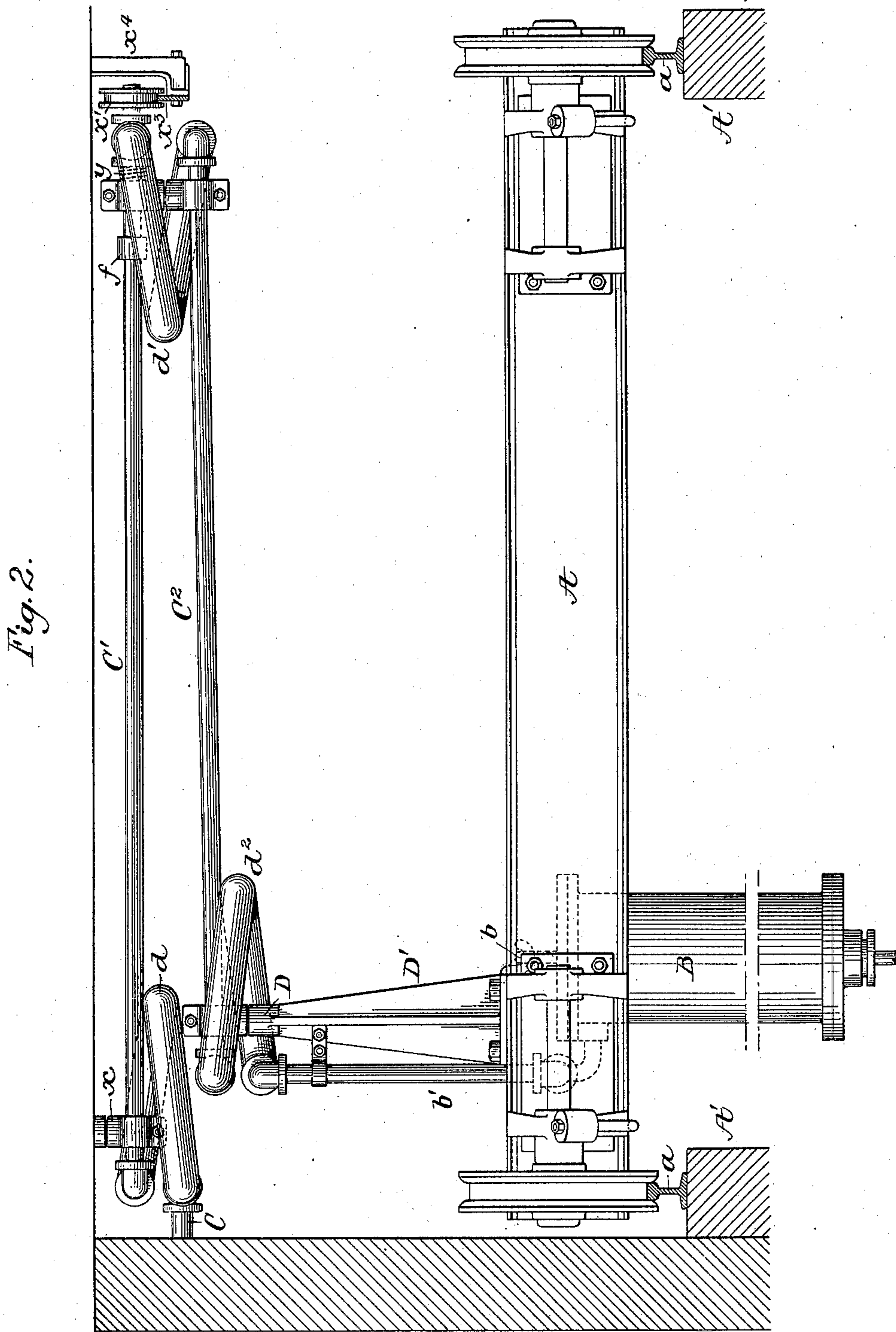
2 Sheets—Sheet 2.

C. E. MARIS.

MOTIVE FLUID SUPPLY DEVICE FOR TRAVELING CRANES.

No. 598,429.

Patented Feb. 1, 1898.



Witnesses:

Witnesses:
Murray C. Boyer
Hamilton D. Turner

Inventor:

Chas. E. Maris,
by his Attorneys,
Howson & Howson

UNITED STATES PATENT OFFICE.

CHARLES E. MARIS, OF PHILADELPHIA, PENNSYLVANIA.

MOTIVE-FLUID-SUPPLY DEVICE FOR TRAVELING CRANES.

SPECIFICATION forming part of Letters Patent No. 598,429, dated February 1, 1898.

Application filed December 24, 1896. Serial No. 616,898. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. MARIS, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Motive-Fluid-Supply Devices for Traveling Cranes, of which the following is a specification.

My invention consists of an arrangement of pipes and connections for supplying motive
10 fluid to the fluid-operated hoists carried by traveling cranes, whereby I am enabled to do away with long runs of hose for conveying the motive fluid, which are objectionable because they soon become worn and useless from
15 being so often bent and twisted by the travel of the crane.

My invention is fully illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my improved arrangement of motive-fluid-supply pipes and connections; and Fig. 2 is a view in elevation of the traveling crane, showing the motive-fluid-supply pipes mounted above the same.

Heretofore fluid has been supplied to the
25 hoisting-cylinders carried by traveling cranes by means of a flexible hose connection supported by hooks on the wall of the building in which the crane was located, or supported by brackets on the crane. As the crane approached the point where the hose was connected to the supply-pipe it was necessary to take up the same and coil or twist it on the crane, and as the crane left this point the hose had to be let out. This twisting or coiling of the hose soon causes it to wear and become leaky and consequently useless. Another plan has been to hang a pipe by a hinge-joint from the supply-pipe and to hang another pipe by a like joint from the inlet of the
30 hoisting-cylinder, these pipes being provided with a hinge-joint at their lower extremities. This plan, however, is unsatisfactory because of the hinge-joints and because the weight of the pipes is borne by the crane.

45 With my improved form of motive-fluid-supply pipes I provide a structure that is at once efficient, simple, and not liable to get out of order.

In the drawings, A represents a traveling
50 crane which is adapted to rails a , mounted on the stringers A' , which may be supported in

any suitable manner. A vertical hoisting-cylinder B may be suspended from the crane at b , a pipe b' being connected with the inlet-passage of this cylinder. The supply-pipe
55 for the motive fluid is shown at C, C' and C^2 being the pipes which convey it to the cylinder B. The upper pipe C' is carried by a swiveled hanger x , secured to the ceiling of the building or to a bracket projecting from
60 the wall. At its opposite end it is provided with a trolley x' , adapted to a rail x^3 , carried by brackets x^4 , depending from the ceiling. The pipe C' carries a swiveled hanger x^2 , which supports the pipe C^2 , the hanger being secured to said pipe C^2 and free to slide longitudinally on the pipe C' . The other end of
65 said pipe C^2 is carried by a swiveled head D, mounted on the top of the standard D' , secured to the crane. A flexible hose d connects the fluid-supply pipe C with the pipe C' .
70 A like hose d' connects the pipes C' and C^2 , and a hose d^2 connects the pipe C^2 with the pipe b' , which supplies the cylinder B with the motive fluid.

75 The rail x^3 , on which the trolley x' is adapted to travel, constitutes the arc of a circle the center of which is the pivot-point of the swiveled hanger x , carrying the pipe C' .

Between the hanger x^2 and the connection
80 for the hose d' is interposed a spring y , which tends to move said hanger x^2 inwardly on the pipe C' , such inward movement being limited by a stop f on said pipe C' .

The first portion of the pull of the pipe C^2
85 after the latter passes the pipe C' in either direction is mainly inward, and the spring causes the hanger x^2 to follow this inward pull until it strikes the stop f , by which time the pipe C^2 has been moved so far out of line with
90 the pipe C' that a sufficient sidewise pull upon the same will be exerted to cause its easy movement.

I claim as my invention—

1. In motive-fluid-supply devices for traveling cranes, the combination of the cylinder
95 carried by the crane, a series of horizontal pipes for supplying motive fluid to said cylinder, one of said pipes being pivoted to a fixed structure independent of the crane, and
100 another pipe being pivoted to the crane, flexible connecting-sections between the pipes

and a pivoted connection for the outer ends of the pipes.

2. In motive-fluid-supply devices for traveling cranes, the combination of the hoisting-cylinder, an upper horizontal motive-fluid-conducting pipe, a swiveled support for the same independent of the crane, a lower horizontal motive-fluid-conducting pipe having a swiveled support on the crane, a sliding and pivotal connection for the outer ends of the pipes, and flexible connecting-sections between the pipes, substantially as described.

3. In motive-fluid-supply devices for traveling cranes, the combination of the crane, the cylinder carried thereby, horizontal conducting-pipes for the motive fluid located above the cylinder and having swiveled connections, a flexible connection between said pipes, a rail secured to a fixed structure independent of the crane, and a wheel or trolley carried by one of the pipes and adapted to said rail.

4. In motive-fluid-supply devices for traveling cranes, the combination of the cylinder carried by the crane, horizontal pipes for supplying motive fluid to said cylinder, one of said pipes being pivoted to a fixed structure independent of the crane and the other being pivoted to the crane, a flexible connecting-section between the pipes, a sliding pivotal connection for the outer ends of the pipes, and a spring acting on said sliding connection to move the same inwardly, substantially as specified.

5. In motive-fluid-supply devices for traveling cranes, the combination of the cylinder carried by the crane, horizontal pipes for supplying motive fluid to said cylinder, one of said pipes being pivoted to a fixed structure independent of the crane, and the other being pivoted to the crane, a flexible connecting-section between the pipes, a sliding pivotal connection for the outer ends of the pipes, and a stop for limiting the inward movement

of said sliding connection, substantially as specified.

6. In motive-fluid-supply devices for traveling cranes, the combination of the cylinder carried by the crane, horizontal pipes for supplying motive fluid to said cylinder, one of said pipes being pivoted to a fixed structure independent of the crane and the other being pivoted to the crane, a flexible connection between the pipes, a sliding pivotal connection for the outer ends of the pipes, a spring acting on said sliding connection to move the same inwardly, and a stop for limiting said inward movement, substantially as specified.

7. In motive-fluid-supply devices for traveling cranes, the combination of the cylinder carried by the crane, horizontal pipes for supplying motive fluid to said cylinder, one of said pipes being pivoted to a fixed structure independent of the crane and the other being pivoted to the crane, a flexible connecting-section between the pipes and a flexible connecting-section between the motive-fluid-supply pipe and the first of said pivoted conveyer-pipes, substantially as specified.

8. In motive-fluid-supply devices for traveling cranes, the combination of the cylinder carried by the crane, horizontal pipes for supplying motive fluid to said cylinder, one of said pipes being pivoted to a fixed structure independent of the crane and the other being pivoted to the crane, a flexible connecting-section between the pipes, and a flexible connecting-section between the second of said pivoted conveyer-pipes and the cylinder on the crane, substantially as specified.

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

CHAS. E. MARIS.

Witnesses:

MURRAY C. BOYER,
JOS. H. KLEIN.