

(No Model.)

C. W. POTTER.

WATER PUMP ATTACHMENT FOR AIR COMPRESSORS.

No. 287,325.

Patented Oct. 23, 1883.

Fig 1.

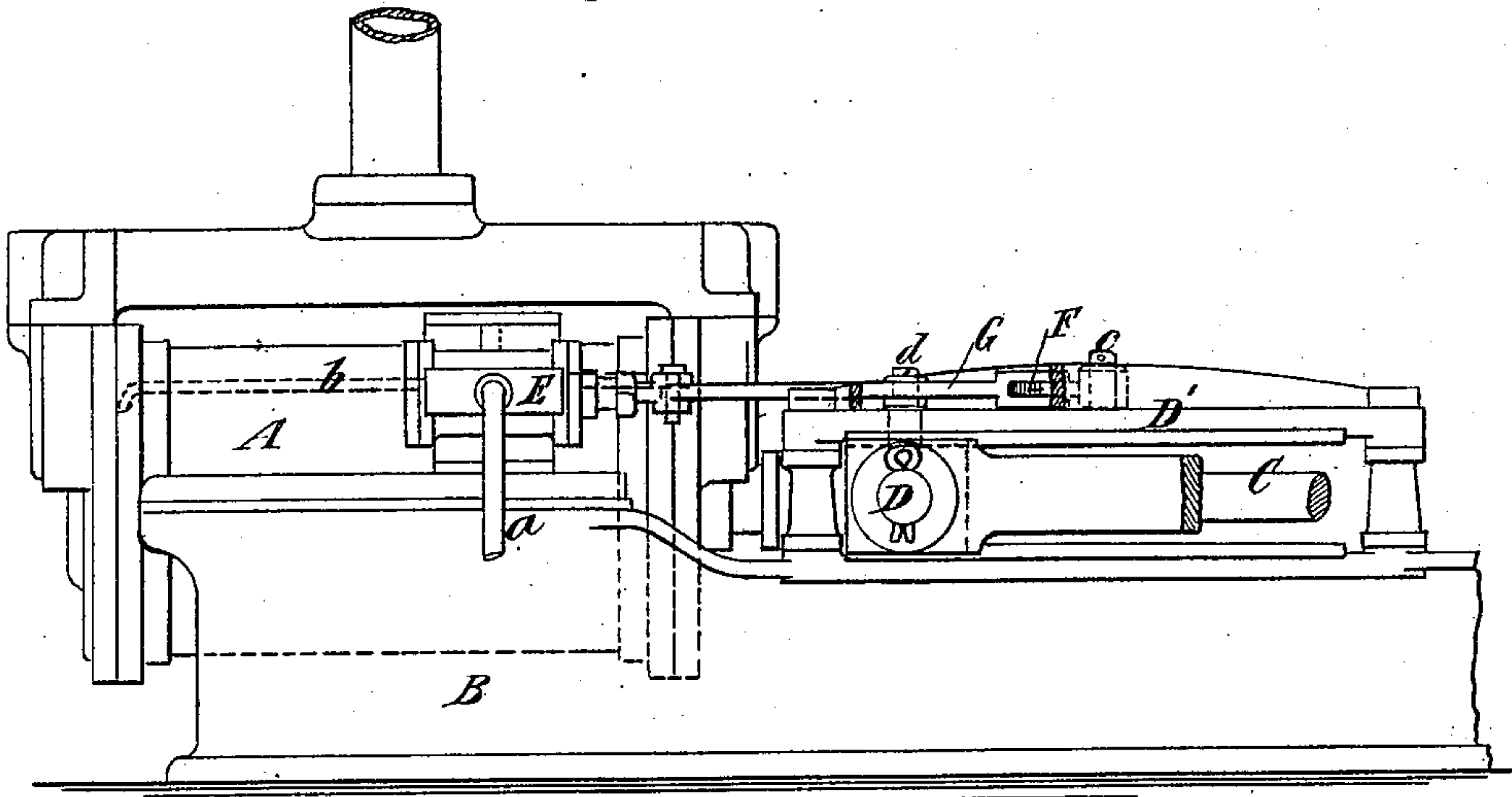
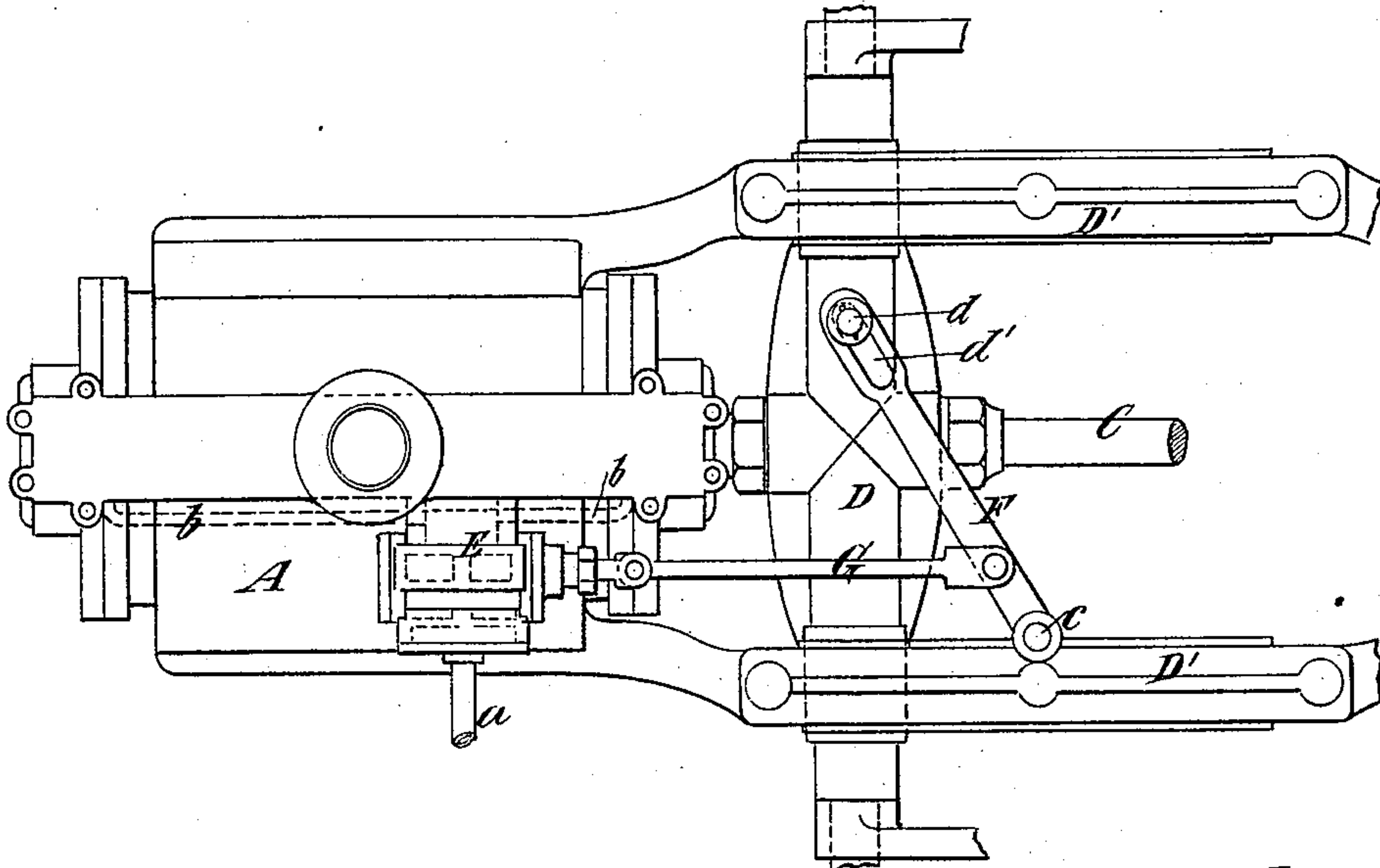


Fig 2.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES W. POTTER, OF NEW YORK, N. Y., ASSIGNOR TO THE SERGEANT
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WATER-PUMP ATTACHMENT FOR AIR-COMPRESSORS.

SPECIFICATION forming part of Letters Patent No. 287,325, dated October 23, 1883.

Application filed March 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. POTTER, of the city of New York, in the county and State of New York, have invented a new and useful Improvement in Water-Pump Attachments for Air-Compressors, of which the following is a specification.

My invention relates to the means employed for working the pumps which are employed for supplying cooling-water to the compression-cylinders of air-compressors; and it consists in the combination, with an air-compressor and water-pump, of a novel arrangement of devices connected with the cross-head or other reciprocating part of the compressor, for imparting to the pump plunger or piston a reciprocating movement much shorter than the movement of the cross-head or part which operates the connecting devices.

In the accompanying drawings, Figure 1 is a side view of a portion of an air-compressor and a pump embodying my invention, and Fig. 2 is a plan thereof.

Similar letters of reference designate corresponding parts in both figures.

A designates the compression-cylinder, and B the end portion of the bed to which it is secured.

C designates the piston-rod, and D the cross-head, which is adapted to work in suitable guides, D'. The piston may have a reciprocating motion imparted to it by a crank or cranks on a shaft to which power is transmitted by belt or gearing; or a steam-cylinder may be employed for the purpose, and the piston-rod C may be extended so as to form the piston-rod of the engine.

E designates the pump for cooling-water, here shown as arranged at the side of and secured directly to the compression-cylinder A. The pump takes water through the suction-pipe *a*, and the cylinder A has formed in it passages *b*, (shown in dotted lines,) through which water is discharged by the pump into the said cylinder.

F designates a lever fulcrumed at *c* on one side of the piston-rod C, and, as here shown, to one of the guides D'. This lever is connected with the piston-rod of the pump E by

a rod, G, and it extends across above the cross-head D and to the opposite side of the piston-rod, where it is connected by a pin or stud, *d*, with the said cross-head. In the lever F is a slot, *d'*, which receives the pin or stud *d* through it. As the piston-rod and cross-head are reciprocated, the lever F is vibrated back and forth in an approximately horizontal plane, and imparts a reciprocating movement to the piston of the pump through the rod G. The rod G is connected to the lever F between its fulcrum *c* and the piston-rod C, and owing to the relative distances of the rod G and the pin or stud *d* from the fulcrum *c* of the lever F, the stroke of the pump-piston is very much shorter than the reciprocating movement of the cross-head.

The length of the lever F may be such that it will not project beyond the inner sides of the guides D', and it is therefore arranged below the tops and between the said guides. It may, however, be arranged below the cross-head, if desired, in which case the pump would be lowered; or, instead of receiving its motion from the cross-head, the lever may be connected with an arm projecting from the piston-rod, or with any other reciprocating part of the compressor.

By the arrangement and combination of devices here shown I enable a movement of the desired length to be imparted to the pump piston or plunger in a very simple and desirable manner.

I do not claim, broadly, as of my invention, the combination, with a reciprocating cross-head, of a lever fulcrumed at one end, and having its other end connected with said cross-head, and a pump-operating rod connected with said lever; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with an air-compressor and a pump for supplying cooling-water thereto, of a lever adapted to swing in a horizontal plane, fulcrumed at one side of the piston-rod of the compressor to one of the cross-head guides, and connected on the opposite side of the piston-rod with the cross-head or other reciprocating part of the compressor, and a

rod for working the pump connected to said lever between its fulcrum and the said piston-rod, substantially as and for the purpose described.

- 5 2. The combination, with the compression-cylinder A, piston-rod C, cross-head D, and guides D', of the pump E, the lever F, arranged below the tops of and between said guides, fulcrumed on one side of said piston-rod, and

connected with the said cross-head on the op- 10
posite side of said piston-rod, and the pump-
operating rod G, connected with said lever
between its fulcrum and said piston-rod, sub-
stantially as and for the purpose described.

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Witnesses:

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