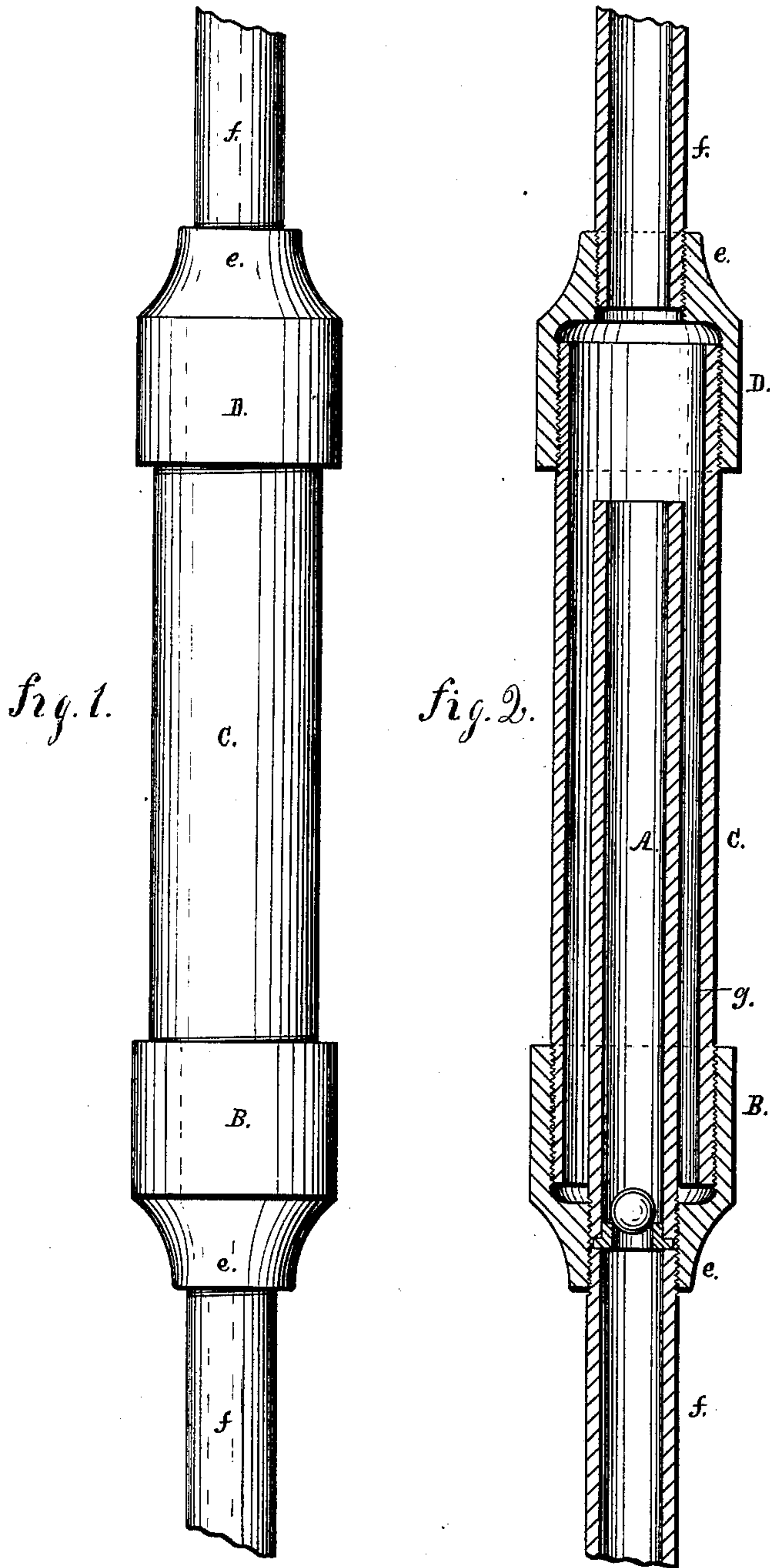


R. F. MILFORD.  
Pump for Oil-Wells.

No. 220,085.

Patented Sept. 30, 1879.



Witnesses  
H. B. Davis  
W. Blakely

Inventor  
Robert F. Milford  
By A. C. Johnson  
att'y

# UNITED STATES PATENT OFFICE

ROBERT F. MILFORD, OF PARKER CITY, PENNSYLVANIA.

## IMPROVEMENT IN PUMPS FOR OIL-WELLS.

Specification forming part of Letters Patent No. **220,085**, dated September 30, 1879; application filed January 11, 1879.

*To all whom it may concern:*

Be it known that I, ROBERT F. MILFORD, of Parker City, in the county of Armstrong, State of Pennsylvania, have invented a new and useful Improvement in Pumps for Oil-Wells; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to pumps for oil-wells in which the working-barrel is surrounded by a casing of greater diameter and length, so that a chamber is formed between the two.

My improvement consists in the way in which the barrels are united by means of reducing-unions, as hereinafter more fully set forth and claimed.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a side elevation of my improvement with sections of tubing connected thereto. Fig. 2 is a transverse and longitudinal section of the same.

In the drawings, A represents the working-barrel, which is secured in the reducing-union B, in which is secured the casing C, to which

is attached a reducing-union, D. To the reduced ends *e* of the unions B and D are attached the ordinary pumping-tubing *f*. Around the working-barrel A is a chamber, *g*, into which settles the sand drawn up through with the oil through the working-barrel A.

By surrounding the working-barrel A with a chamber, as represented by *g*, the valves moving in the working-barrel and the inner surface of the working-barrel will be greatly relieved from the wearing action of the sand and other gritty matter drawn up with the oil.

I am aware of the existence of Patent No. 127,880, granted June 11, 1872; and hence

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

In an oil-well pump, the working-barrel A, secured to the reducing-union B, as shown, and the enlarged casing C, which surrounds the same so as to leave chamber *g*, secured also to the reducing-union B, and an upper reducing-union, D, these said reducing-unions being formed with a small and enlarged bore, and the whole being combined, constructed, and arranged as herein shown and set forth.

ROBERT F. MILFORD.

Witnesses:

JOSEPH AVERY,  
WALLACE MARTIN.