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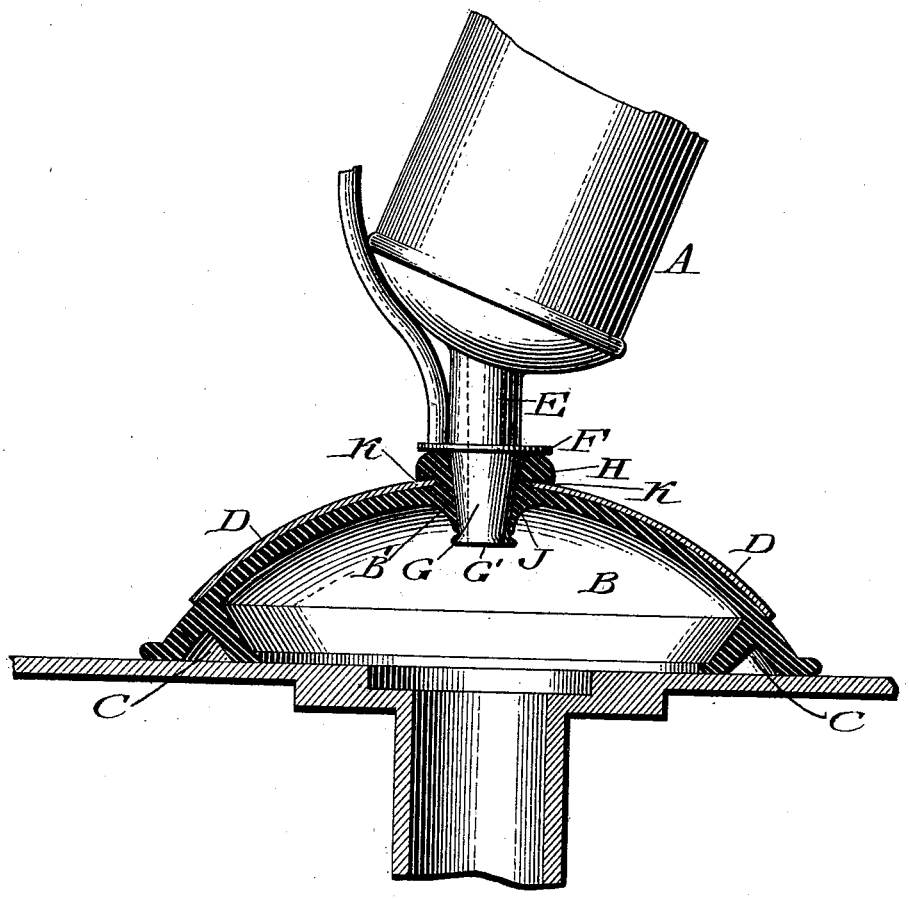
Patented Apr. 3, 1900.

E. NOPPEL.

FORCE AND SUCTION PUMP.

(Application filed Feb. 7, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

EMIL NOPPEL, OF PHILADELPHIA, PENNSYLVANIA.

FORCE AND SUCTION PUMP.

SPECIFICATION forming part of Letters Patent No. 646,668, dated April 3, 1900.

Application filed February 7, 1900. Serial No. 4,322. (No model.)

To all whom it may concern:

Be it known that I, EMIL NOPPEL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Force and Suction Pumps, which improvement is fully set forth in the following specification.

My invention relates to an improvement in pumps; and it consists of a suction-cup which is adapted to be connected with the discharge-nozzle of the same in a simple, inexpensive, firm, and reliable manner, as will be hereinafter described.

The figure represents a vertical section of a cup and a side elevation of a portion of a pump embodying my invention.

Referring to the drawing, A designates a portion of a barrel of a pump, and B designates an inverted cup, of elastic or other pliable material, whose lower edge or rim is bifurcated, as at C, and adapted to be held in contact with a surface to which it is applied by the suction of the same.

D designates a cap, of metal or other suitable material, which embraces the upper side of the cup and serves to stiffen the same.

E designates the discharge-nozzle of the pump, on which is the flange F and the end nipple G, the latter having the flange G′ on its terminus.

B′ designates a socket which is formed by the collars H and J, which are integral portions of the upper wall of the cup at the center thereof, said collars having between them the groove K to receive the wall of an opening centrally in the cap D.

It will be seen that when the nipple G is inserted in the socket B′ it compresses the walls of the latter, so that it is hugged by said socket and firmly held, displacement being further prevented by the flanges F and G′ at the opposite ends of said nipple, thus securely connecting the pump with the cup and avoiding the use of nuts, screw-threads, or other appliances, the integral nature of the socket and cup obviating joints between said parts and fastening devices therefor, the advantageous effects in both cases being evident.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a pumping device having a nipple, a cup having a socket to receive said nipple, and an apertured cap upon the outside of said cup, said cup being provided with a groove that receives the edge portion of said cap surrounding the aperture therein.

2. The combination of a pumping device having a nipple provided with a tapered end, shoulders at the end of said tapered portion, a cup having a socket to receive said nipple, said socket being retained between said shoulders, and an apertured cap upon the outside of said cup, said cup being provided with a groove to receive the edge portion of the cap surrounding the aperture therein.

3. The combination of a pump, provided with a nipple, a cup having an aperture, extensions or collars integral with said cup and surrounding said opening to form a socket for said nipple, the collar or extension on the outside of said cup being provided with a groove, and an apertured cap upon the outside of said cup, the portion of said cap adjacent the aperture therein being situated within said groove.

EMIL NOPPEL.

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