

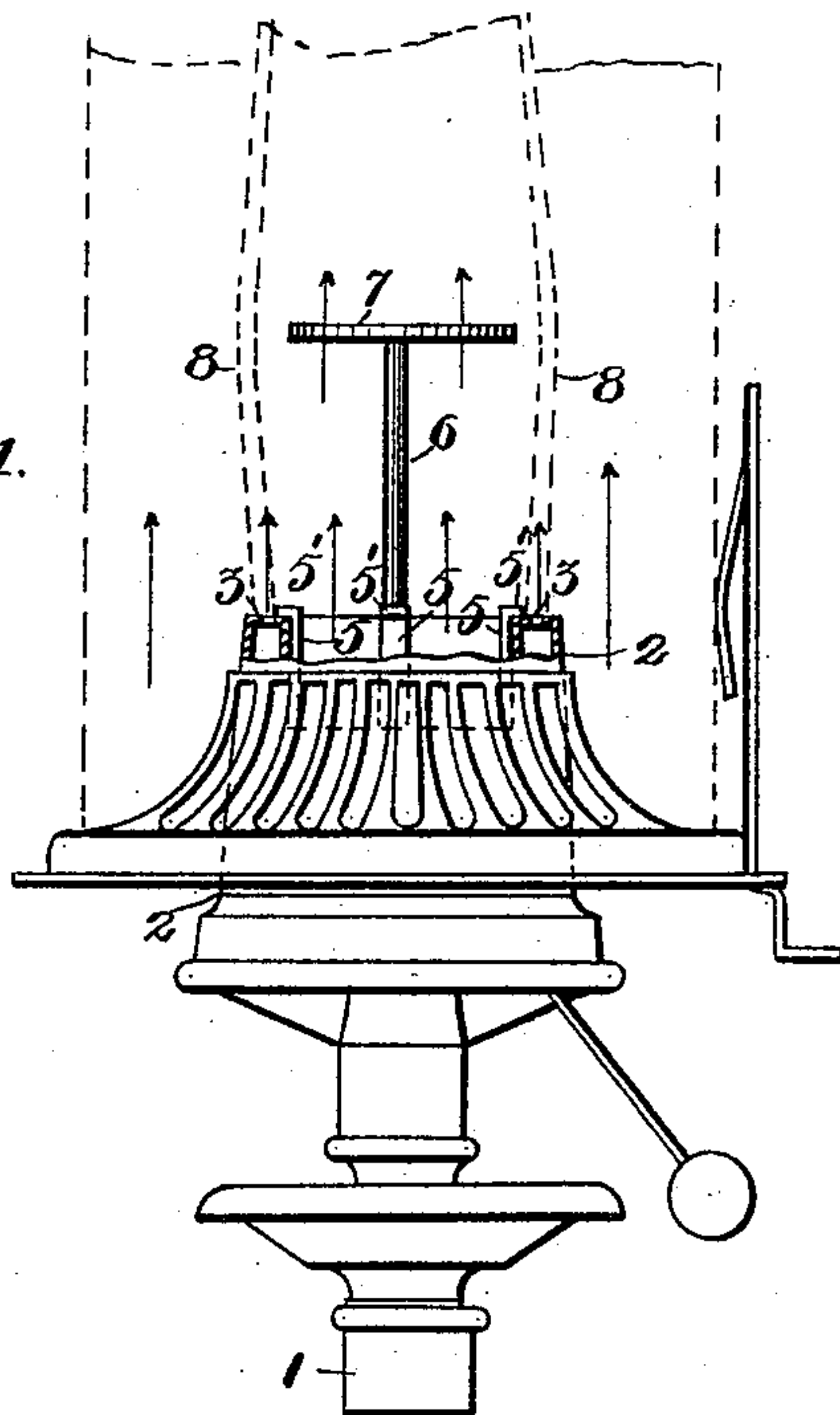
(No Model.)

J. FRIEDLANDER.  
GAS BURNER.

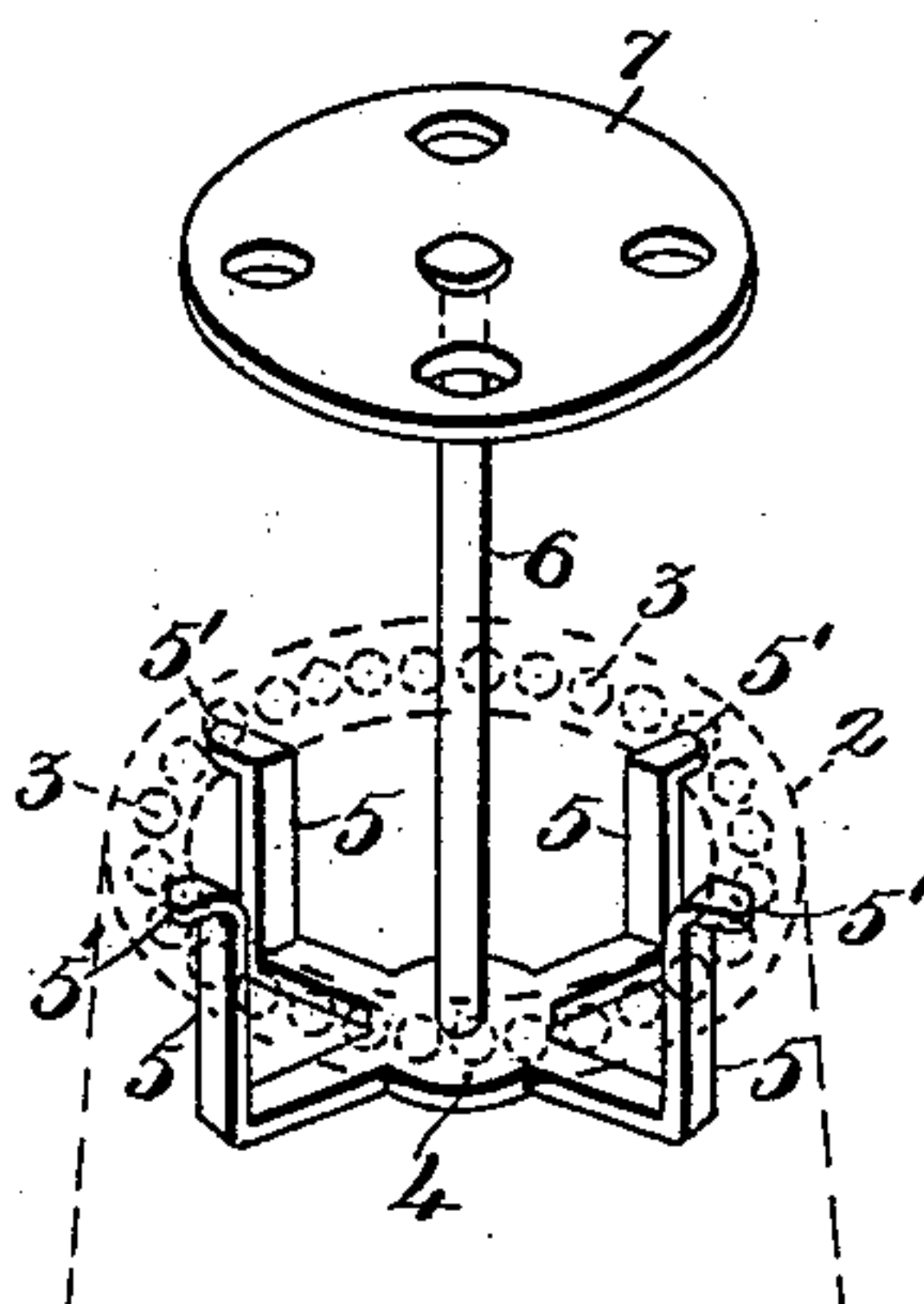
No. 583,225.

Patented May 25, 1897.

*Fig. 1.*



*Fig. 2.*



Witnesses  
*Edw. A. Mathew*  
*W. B. Wells*

Inventor  
*John Friedlander.*  
By *his Attorneys*  
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# UNITED STATES PATENT OFFICE.

JOHN FRIEDLANDER, OF ST. LOUIS, MISSOURI.

## GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 583,225, dated May 25, 1897.

Application filed January 29, 1897. Serial No. 621,229. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN FRIEDLANDER, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Gas-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

10 My invention has relation to improvements in gas-burners; and it consists in the novel arrangement and combination of parts more fully set forth in the specification, and pointed out in the claims.

15 In the drawings, Figure 1 is a side elevation of my improved burner, and Fig. 2 is a detached perspective view of the "spider" carrying the disk by which a conical form is imparted to the otherwise cylindrical flame.

20 The present invention is a modification of the construction of burner set forth and described in my pending application for Letters Patent, filed June 6, 1896, Serial No. 594,549, and has for its object to simplify the mechanism by which the tubular cylindrical flame of the Argand burner, of which the present attachment forms a part, is converted into a conical or tapering flame, and by which at the same time a perfect condition of incandescence of the carbon constituting the flame is insured.

30 In detail the invention may be described as follows:

Referring to the drawings, 1 represents an ordinary base which may be secured to any gas pipe or fixture supplying gas and to which the ordinary Argand burner is generally secured, the burner proper, 2, being provided, as is well known, with a series of openings 3, arranged in a circle along the upper circular edge of the burner and adapted to produce a tubular flame substantially cylindrical in form. Adapted to be supported by the upper circular edge of the burner 2 is a spider 4, the latter being suspended from said burner by means of a resilient or elastic series of radiating arms 5, each having a terminal outwardly-deflected finger or end 5', resting directly on said upper circular edge, the resiliency of the arms allowing the latter to readily conform to any slight inequalities of dimensions of the circle of the edge of said burner,

whereby a tight connection between said arms and the burner is always insured. The vertical offset by which each finger is connected 55 to the arm proper bears against the inner periphery of the conical surface of the burner adjacent to the upper edge of the latter, so that the spider not only rests on the upper edge of the burner but is prevented against 60 lateral displacement by the friction between the said offset and the inner peripheral surface of the burner. The conical form of the Argand burner precludes the possibility of securing the spider in any other practical way, 65 since the Argand being already a complete article of manufacture is provided with no means of attaching the spider without necessitating a reconstruction of the burner itself; and when it is recollected that cheapness is 70 a desideratum the present manner of securing the spider is the only practical one. Projecting upwardly and vertically from the center of the spider is a stem 6, which extends a suitable distance beyond or above the upper 75 circular edge of the burner, said stem being surmounted by a circular perforated disk 7, said disk serving to impart a tapering or conical form to the flame 8, and the openings of said disk allowing for the free and uninterrupted passage therethrough of the air-currents by which the necessary draft to the flame is imparted. The spider thus serves to accurately and properly center the disk 7 80 within the otherwise cylindrical flame, (as produced by the Argand burner,) converting the latter into a tapering form of flame greatly resembling in outline the mantle on the well-known Welsbach burner. At the same time the air-currents passing through the disk 90 serve by reason of their velocity through the openings of the disk to furnish and carry to the flame a maximum amount of oxygen, thereby causing the carbon of the flame to assume a perfect condition of incandescence 95 and perfectly whitening the flame.

Having described my invention, what I claim is—

1. As an article of manufacture to be used in connection with an Argand burner, a suitable spider having a series of radiating arms, outwardly-deflected portions or fingers forming the terminals of said arms and adapted to rest on the upper edge of the conical burner, 100



each finger being connected to its arm proper  
by a vertical offset adapted to frictionally  
bear against the inner peripheral surface of  
the burner adjacent to the upper edge of said  
5 burner, a stem forming a part of, or carried  
by the spider, and a disk carried by the up-  
per end of the stem, substantially as set forth.

2. As an article of manufacture, a suitable  
spider, radiating arms forming a part of the  
10 same, outwardly-deflected portions or fingers  
forming the terminals of said arms and adapt-

ed to rest on the upper circular edge of the  
burner, a stem forming a part of, or carried  
by the spider, and a perforated disk carried  
by the upper end of the stem, substantially 15  
as set forth.

In testimony whereof I affix my signature  
in presence of two witnesses.

JOHN FRIEDLANDER.

Witnesses:

ALFRED A. MATHEY,  
EMIL STAREK.