

SAMUEL HARRIS.

Improvement in Steam-Boilers.

No. 126,699.

Patented May 14, 1872.

Fig. 1.

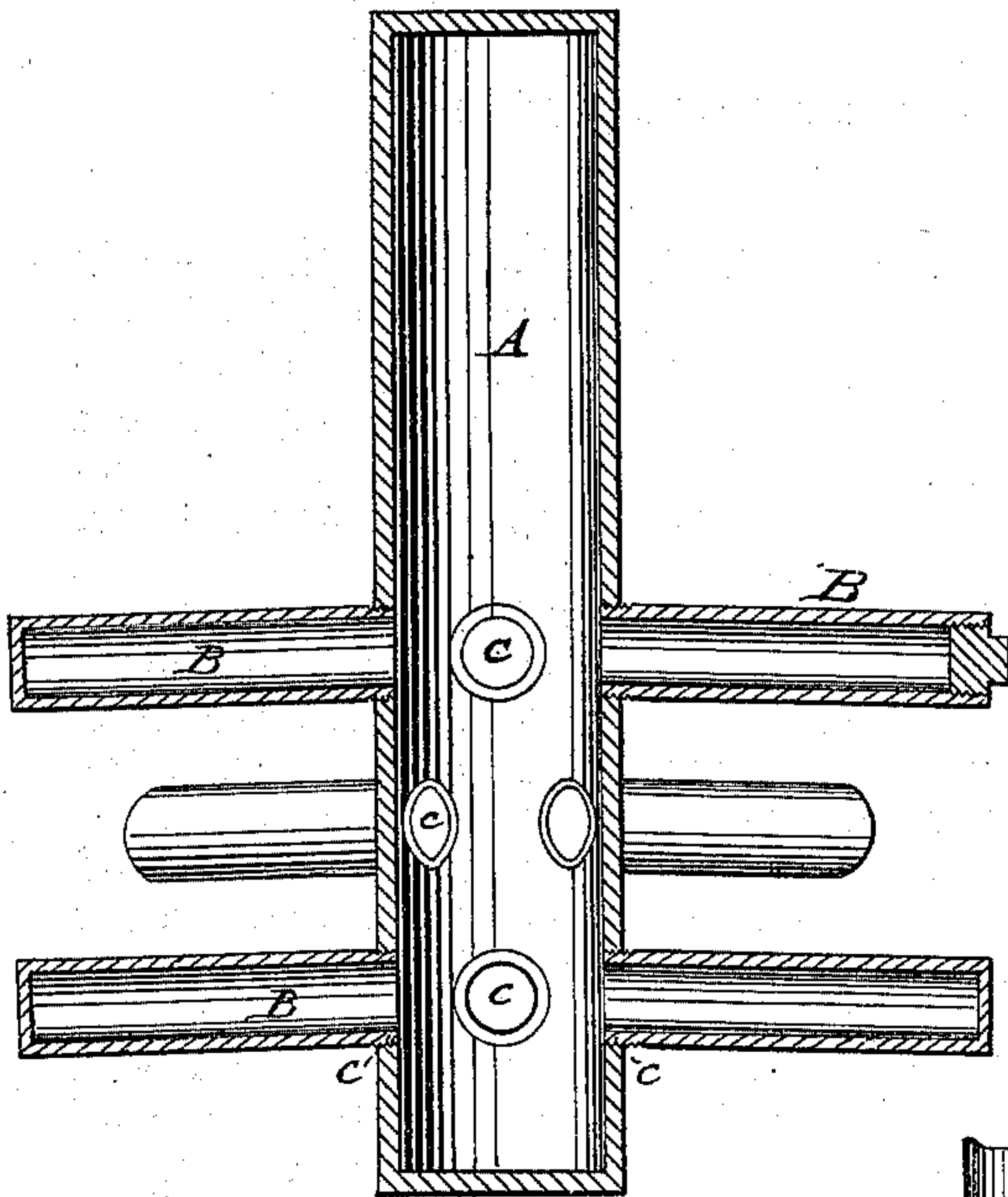


Fig. 2.

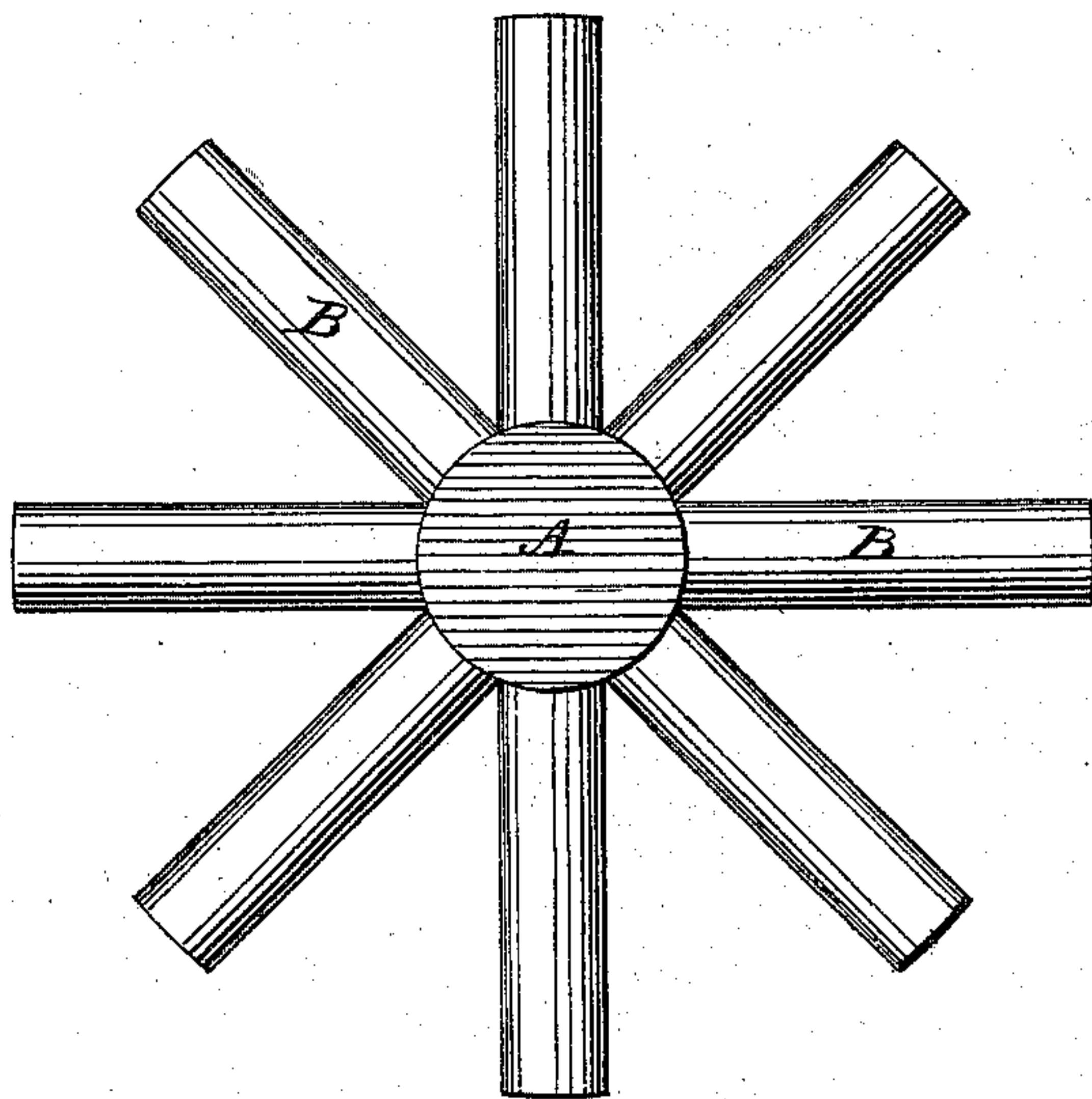
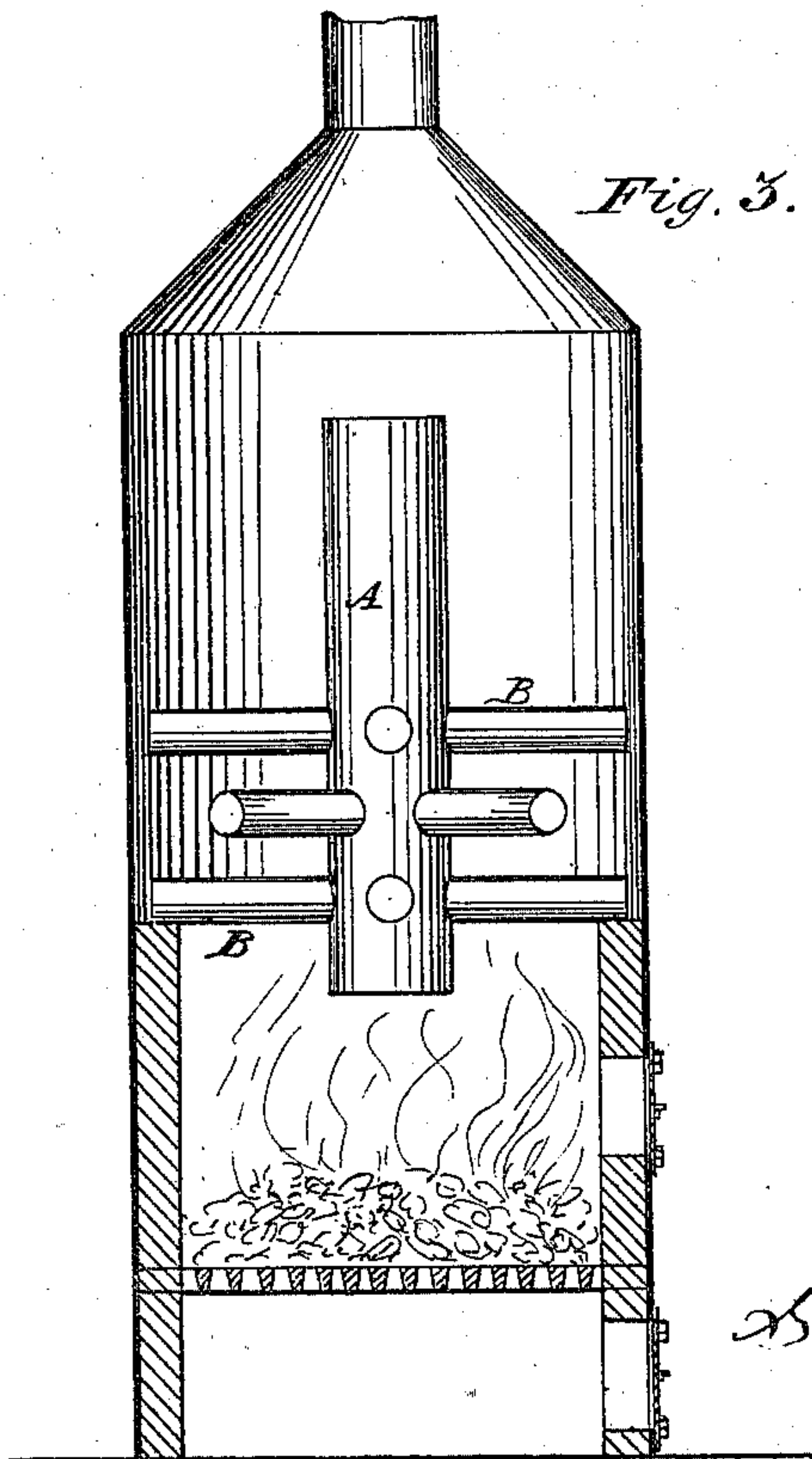


Fig. 3.



Witnesses:

A. Moore
D. Howl

Inventor:

Samuel Harris.

UNITED STATES PATENT OFFICE.

SAMUEL HARRIS, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN STEAM-BOILERS.

Specification forming part of Letters Patent No. 126,699, dated May 14, 1872.

Specification describing certain Improvements in Steam-Boilers, invented by SAMUEL HARRIS, of Washington, District of Columbia.

My invention consists of an improvement in boilers for generating steam for engines or other purposes.

Figure 1 is a vertical sectional view. Fig. 2 is an end or plan view. Fig. 3 is a sectional view of casing with the boiler in position.

A is a reservoir of suitable diameter and length, which may be made of wrought or cast-iron. The reservoir is closed at each end, and is drilled and tapped on its circumference as at C C to receive the projecting tubes B B. The holes C C are drilled spirally or staggered around the reservoir A, so that the tubes B B do not stand over each other. One end of the tubes B B is threaded and screwed into the reservoir A at C C; or they may be fastened to the reservoir by any other suitable means. The outer ends of the tubes B B may be threaded and a cap screwed on them; or they may be plugged or welded up. The holes C C are drilled so that the tubes B B are placed

slightly inclined. This is for the purpose of allowing the steam free exit from the tubes B B. Usually the water line will be above the tubes B B; but in case dry or superheated steam is desired the tubes B B will be continued above the water line, and will then act as superheaters.

The boiler is placed within a thin wrought-iron casing provided with suitable fire-brick or other lining. The reservoir A is vertical, and with the lower end just above the fire. The heat passes around and outside the reservoir A and tubes B B. The reservoir A and pipes or tubes B B may be cast in one piece of either cast or malleable iron or other metal.

What I claim as my invention is—

In combination, the vertical reservoir A and projecting tubes B B, closed at the ends, substantially as and for the purposes set forth.

SAMUEL HARRIS.

Witnesses:

A. MOORE,
D. P. COWL.