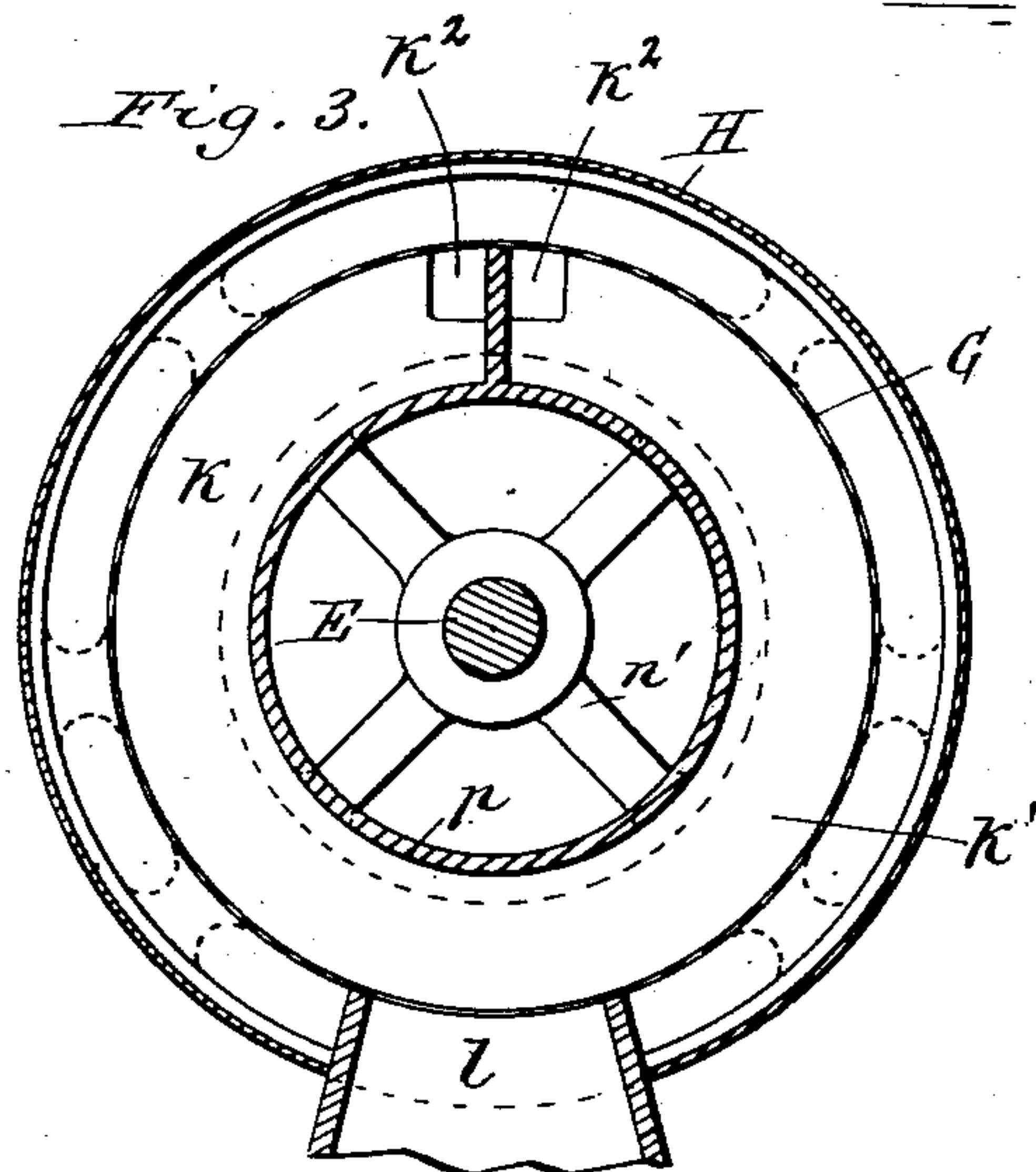
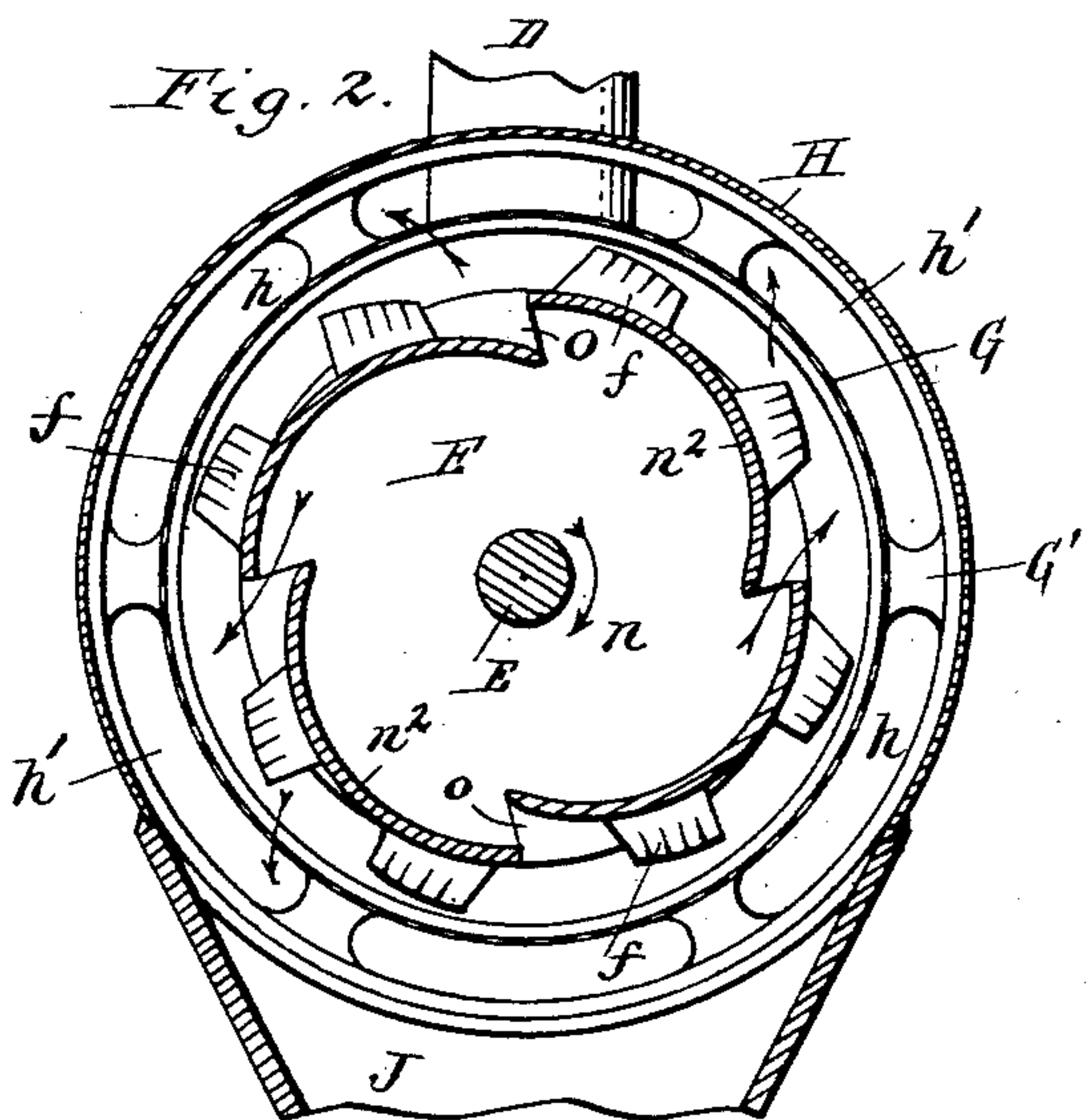
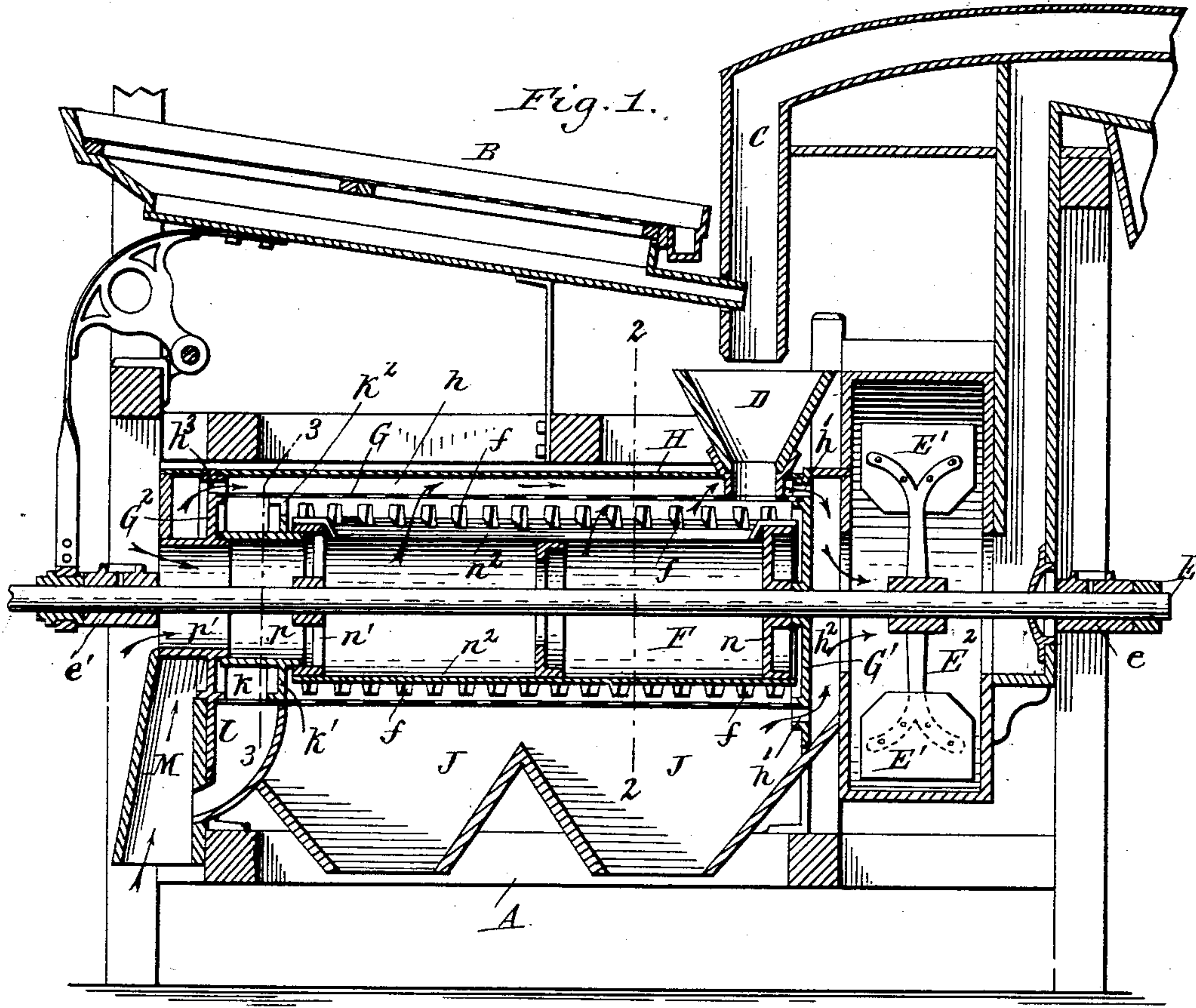


(No Model.)

W. W. HUNTLEY.
GRAIN SCOURER.

No. 541,235.

Patented June 18, 1895.



Witnesses:
Thos. L. Popp.
F. Gustav Wilhelm.

W. W. Huntley Inventor.
By Wilhelm Popp.
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM W. HUNTLEY, OF SILVER CREEK, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE HUNTLEY MANUFACTURING COMPANY, OF SAME PLACE.

GRAIN-SCOURER.

SPECIFICATION forming part of Letters Patent No. 541,235, dated June 18, 1895.

Application filed October 29, 1892. Serial No. 450,320. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. HUNTLEY, a citizen of the United States, residing at Silver Creek, in the county of Chautauqua and State of New York, have invented new and useful Improvements in Grain-Scourers, of which the following is a specification.

This invention relates to grain scourers which consist essentially of a perforated horizontal scouring case through which the grain passes, a toothed scouring drum revolving in the scouring case, a tight case inclosing the perforated scouring case and forming an air passage around the latter, and a fan drawing an air current through said passage, such, for instance, as the machine which is shown and described in Letters Patent No. 407,722, dated July 23, 1889.

The object of my invention is to provide means for a more speedy and complete removal of the dust and other light impurities which are detached from the grain in the scouring cylinder.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of my improved scouring-machine. Figs. 2 and 3 are vertical transverse sections, on an enlarged scale, in lines 2-2 and 3-3, Fig. 1, respectively.

Like letters of reference refer to like parts in the several figures.

A represents the stationary main frame of the machine, B the preliminary separating screen, and C the separating wind trunk through which the grain passes from the screen B to the feed hopper D.

E represents the horizontal shaft journaled in bearings e e' secured to the frame A, and carrying near one end the fan blades E' which rotate within a case E^2 .

F represents the scouring drum secured to the shaft E, and provided on its outer surface with inclined teeth f , whereby the grain is agitated and conveyed toward the tail end of the machine.

G is the perforated scouring case surrounding the scouring drum, and supported upon the main frame by front and rear heads G' G^2 .

H represents the tight casing inclosing the perforated scouring case and forming an annular air passage h between the perforated

case and the tight casing. This passage communicates with one eye of the fan by means of openings h' formed in the front head G' and by a passage h^2 , and it receives air through the perforated scouring case and through openings h^3 formed in the rear head G^2 . The heavier material which passes through the perforations of the scouring case drops into hoppers J, which communicate with the lower portion of the annular air passage h , while the light dust is removed by the air current passing through the annular passage to the fan.

K represents the discharge chamber arranged at the rear end of the scouring case and separated therefrom by a partition k' provided in its upper portion with grain discharge openings k^2 . The grain is discharged from the chamber k by a spout l , which delivers the grain into an air trunk M connected with the openings h^3 of the rear head G^2 .

The scouring drum consists of a closed front head n , an open rear head n' , and longitudinal scouring plates n^2 , which are secured to the peripheries of the heads and carry the teeth f . The trailing end of each scouring plate considered in the direction in which the plates rotate, is arranged in line or nearly so, with the peripheries of the heads, while its advancing end is curved or inclined inwardly, and projects underneath the trailing end of the next preceding plate, thereby forming longitudinal slots o in the scouring drum for the passage of air currents from the interior of the drum to the perforated case. Air is admitted to the interior of the scouring drum by an inner tube p extending centrally through the discharge chamber k , and fitted with its inner end into the open head of the scouring drum, and an outer tube p' extending through the air trunk M, and fitted with its inner end into the outer end of the inner tube p , while its outer end is open. The inner tube p is preferably cast integrally with the partition k' forming the inner wall of the delivery chamber, and the outer tube p' with the rear head G^2 , as shown in Fig. 1. The grain entering between the revolving scouring drum and the perforated case at the head of the machine is scoured while passing to-

ward the tail of the machine by the rubbing of the kernels against each other and against the scouring surfaces of the drum and perforated case, thereby detaching the dust and other light particles from the kernels. The light particles which are detached from the kernels, are carried into the annular passage by the air currents issuing from the slots of the scouring drum and passing through the perforations of the scouring case. These air currents possess considerable force because the inwardly curved form of the scouring plates causes them to act as fan blades and to throw the air from the interior of the scouring drum toward the perforated shell, whereby the action of the fan, which also causes air currents to flow outwardly through the slots of the scouring case is considerably increased or supplemented. These strong currents of air passing outwardly through the body of grain in the scouring case remove the impurities as soon as they are detached from the kernels, and prevent them from accompanying the grain in its movements toward the tail end of the machine, thereby insuring a more perfect cleaning of the grain.

I claim as my invention—

1. The combination with the perforated scouring case, the perforated scouring cylinder and the tight case surrounding the scouring case, of a partition arranged in the scouring case at the tail end of the scouring cylinder and separated from the rear head of the

scouring case by a space forming a grain discharge chamber, an air trunk arranged on the outer side of said rear head, and communicating with the delivery spout of said discharge chamber, and an air inlet tube surrounding the shaft of the scouring drum and extending from the scouring drum rearwardly through said grain discharge chamber and said air trunk, substantially as set forth.

2. The combination with the perforated scouring case, the perforated scouring cylinder and the tight case surrounding the scouring case, of a partition arranged in the scouring case at the tail end of the scouring cylinder and separated from the rear head of the scouring case by a space forming a grain discharge chamber, an air trunk arranged on the outer side of said grain discharge chamber, and an axial air inlet passage extending from the scouring drum rearwardly through said grain discharge chamber and said air trunk, and composed of a tubular inner section formed integrally with said partition and a tubular outer section formed integrally with the rear head of the scouring case, substantially as set forth.

Witness my hand this 25th day of October, 1892.

WILLIAM W. HUNTLEY.

Witnesses:

CARL D. FREEBURG,
CHARLES G. HAMMOND.