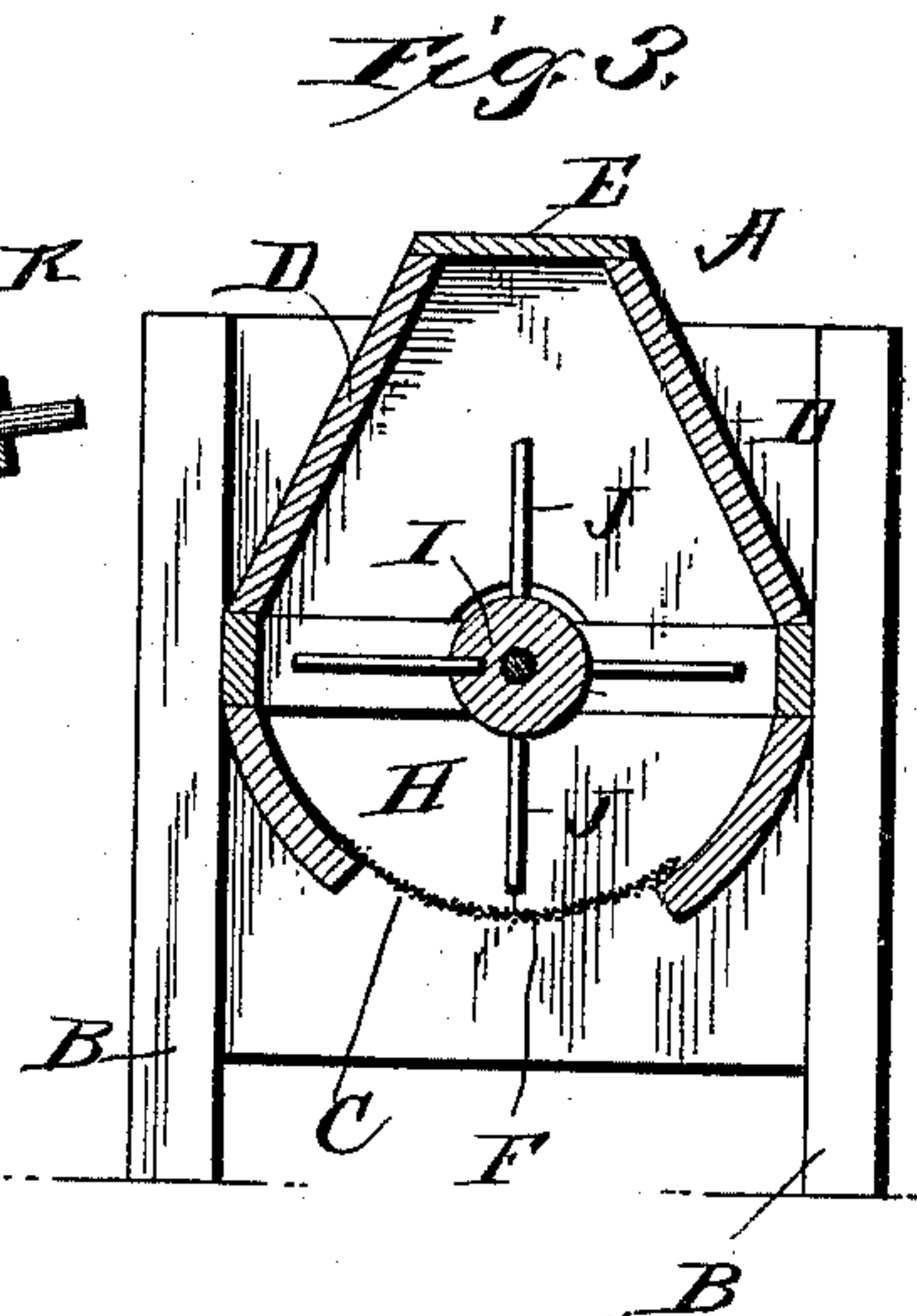
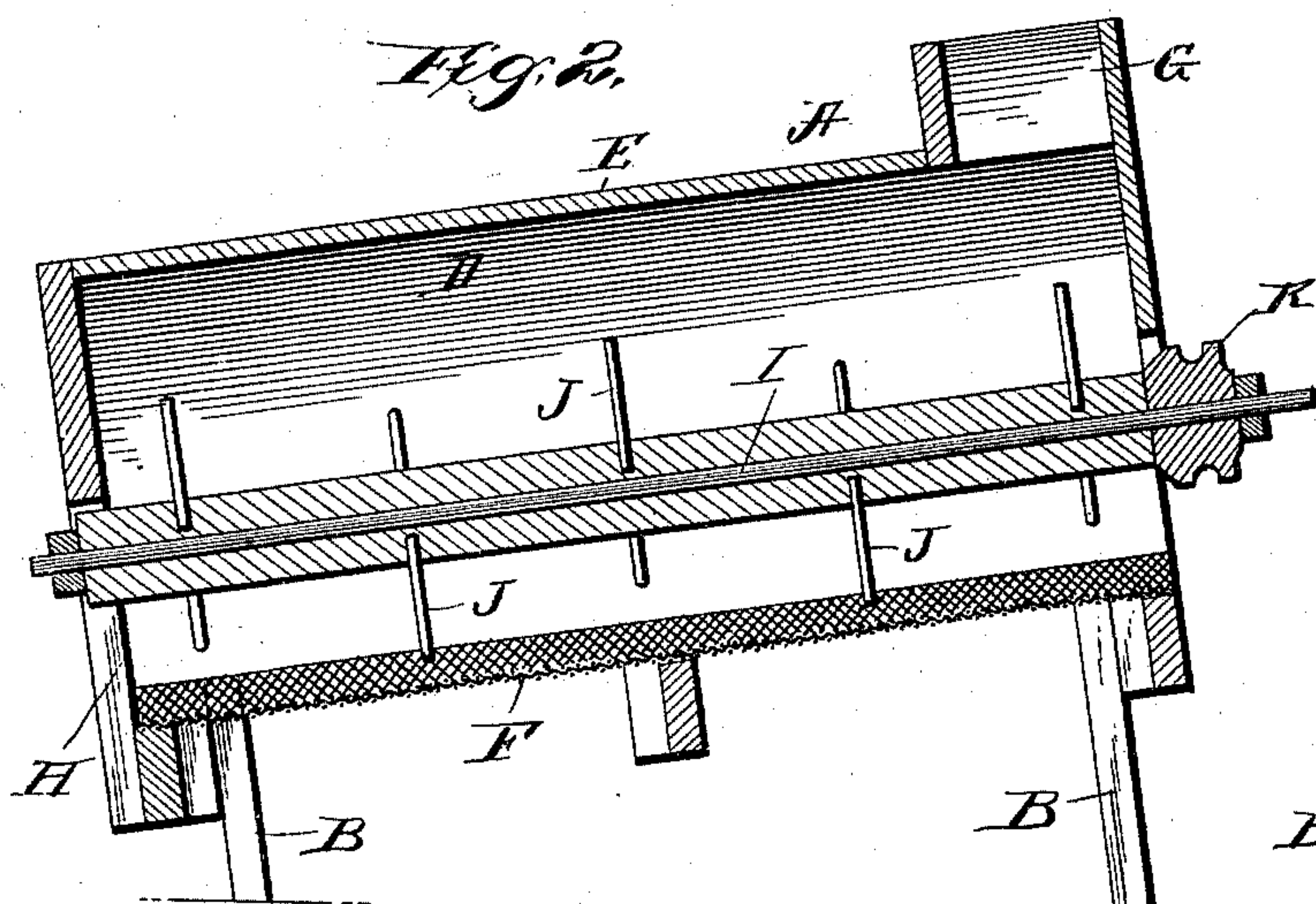
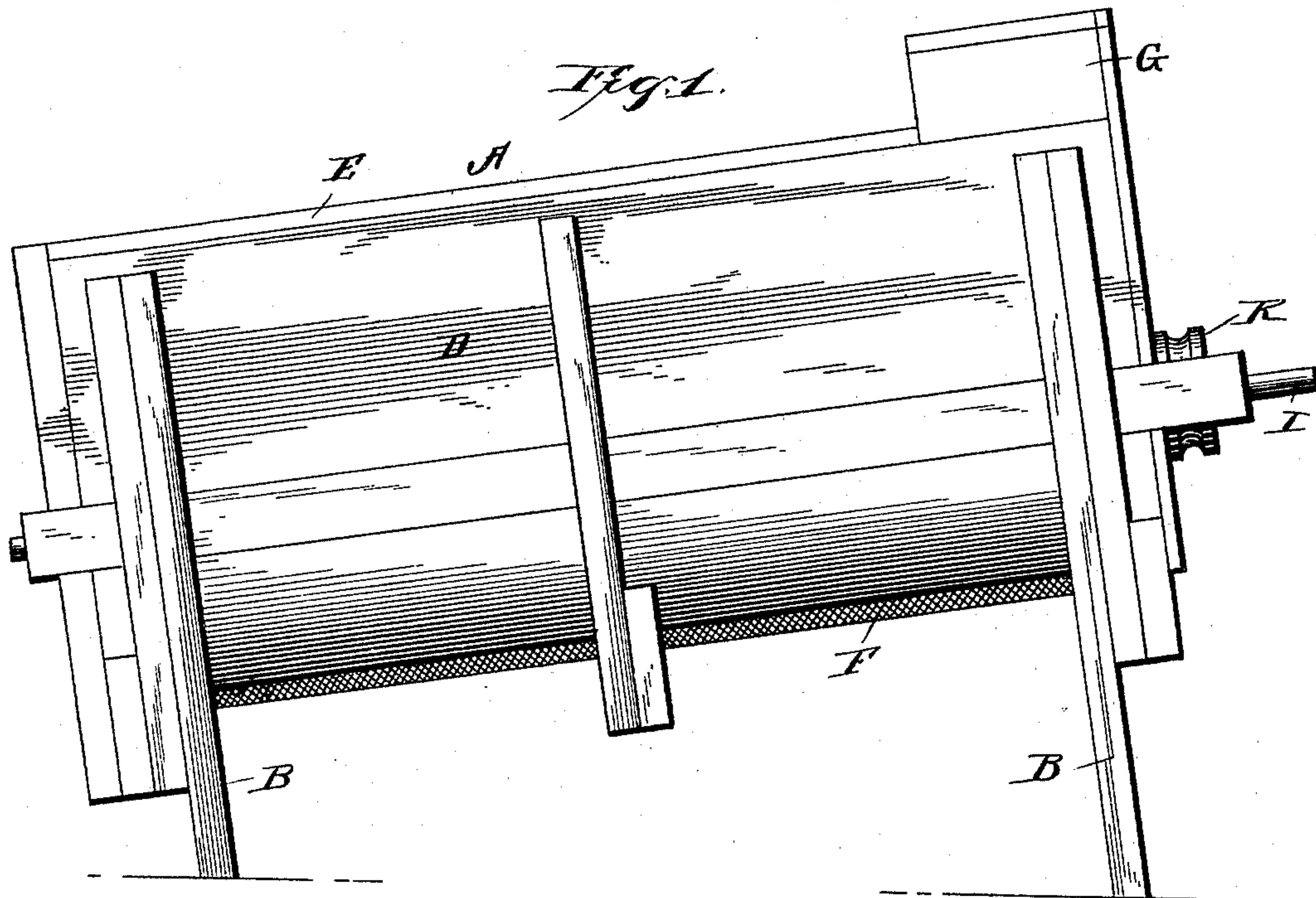


(No Model.)

J. N. SMITH.  
COTTON CLEANER.

No. 497,219.

Patented May 9, 1893.



Witnesses

*E. Hurdeman*  
*D. P. Holhaupster*

By *his* Attorneys,

*J. N. Smith*

*C. A. Snow & Co.*

Inventor



# UNITED STATES PATENT OFFICE.

JONATHAN N. SMITH, OF GILMER, TEXAS.

## COTTON-CLEANER.

SPECIFICATION forming part of Letters Patent No. 497,219, dated May 9, 1893.

Application filed January 19, 1892. Serial No. 418,580. (No model.)

*To all whom it may concern:*

Be it known that I, JONATHAN N. SMITH, a citizen of the United States, residing at Gilmer, in the county of Upshur and State of Texas, have invented a new and useful Cotton-Cleaner, of which the following is a specification.

This invention relates to cotton cleaners; and it has for its object to provide a machine of this character which shall be simple in construction and which will effectually remove all particles of sand and other foreign matter which are in the cotton either before or after ginning, and thereby greatly enhance its marketable worth and quality.

It is also an object of this invention to provide a machine for cleaning cotton which will not only subserve this function, but will also clean the cotton in such a manner as to avoid the possibility of tearing it into shreds, and will make the lint more even and smooth, and of a better grade adapted for subsequent use than most ordinary cleaned cottons.

With these and many other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a cotton cleaner constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a vertical transverse sectional view of the same.

Referring to the accompanying drawings:—A represents a hollow stationary drum mounted upon suitable supports B, which support said drum at an incline from its upper feeding to its lower discharging end so as to allow for the easy working of the cotton from its ingress to its egress from said drum. The said drum A is provided with a bottom longitudinal opening C, and the opposite curved sides thereof extend up convergingly as at D, and are capped by the inclined inclosing top piece E, which thus forms a longitudinal contracted and raised top, lying above and over the center of the bottom of the drum or the bottom opening therein while at the same time itself forming a deflector for the cotton, to deflect the same toward the discharge of

the drum after the cotton has been thrown up to the top at an angle by the agitator to be described. The said bottom opening C of said drum is inclosed by the curved and continuous sieve F of wire fabric or perforated metal, and which forms a continuation of the rounded body of the drum. The said drum A is further provided with a receiving hopper G located at its highest upper end, and with a discharge opening H located at the corresponding lowest edge of the drum, which provides means for the receiving and discharging of the cotton. An agitator shaft I is journaled in opposite ends of the hollow stationary drum and extends longitudinally through the center thereof parallel with the inclined top piece E of said contracted top. The said agitator shaft I is provided with a series of radially extending and regularly spaced beating fingers J secured at right angles to the shaft and which travel in close proximity to the rounded sides of the drum and the curved bottom sieve, but below the point at which the sides of the drum converge to form the contracted and raised top lying above the top of the agitator fingers.

To one end of the agitator shaft I is keyed a driving pulley K which may be connected with a gin or any suitable power, and on account of the apparent light draft of the cleaner, it will be readily seen that a comparatively small expenditure of power is required to drive the same.

It will be seen that by having the beating fingers J, at right angles to the shaft and the inclined top E, the same are set at an angle to a vertical line or to the perpendicular, so that by drawing a vertical line from the ends of the fingers below the shaft to the top of the drum, a space will be left between the ends of the lower fingers and the ends of the upper fingers to form a clearance for the cotton deflected from the inclined top, and falling in a vertical line to the bottom and center of the drum where it is caught up by the lower fingers and again thrown to the top and so on until it is discharged from the drum.

Now it will be readily seen that as the cotton is fed in the upper end of the drum from the hopper, the first set of beating fingers J take the cotton up from the bottom and gently toss the same at an incline up into the



raised reduced top portion of the drum. The cotton being necessarily contracted by the converging sides of the drum forming the raised top, that which is thus tossed into said top portion, lies directly over the bottom and center of the drum, and as it falls, or at least is deflected down by the inclined top E the same drops between the inclined fingers and upon the perforated bottom or sieve of the drum. By dropping upon the bottom sieve the dirt and foreign matter in the cotton are loosened up and pass through said sieve without the machine. The cotton is now taken up by the next fingers and tossed up into the raised top and allowed to drop upon the sieve or perforated bottom in the same manner as just described. The cotton is thus successively operated upon until it finds its way out at the lower discharging end of the drum.

The construction, operation and advantages of the herein described cotton cleaner are thought to be apparent without further description.

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

In a cotton cleaner, the combination of an

inclined hollow drum having a curved sieve bottom and convergent raised sides, a deflecting top connecting the upper edges of said convergent sides and declining from the point of entrance to the point of exit parallel with the bottom to deflect the cotton thrown thereagainst, an agitator-shaft mounted in the drum parallel with the bottom and top thereof and provided with a series of radially-disposed sets of cotton-collecting and throwing fingers disposed at a right angle to the shaft, the bottom, and top, said fingers traveling in close proximity to the bottom of the drum and materially below the plane of said top, each set of fingers being sufficiently spaced apart to produce a vertical clearance therebetween for the vertically falling cotton when deflected from the convergent side walls, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JONATHAN N. SMITH.

Witnesses:

M. P. MELL,  
J. H. SMITH.