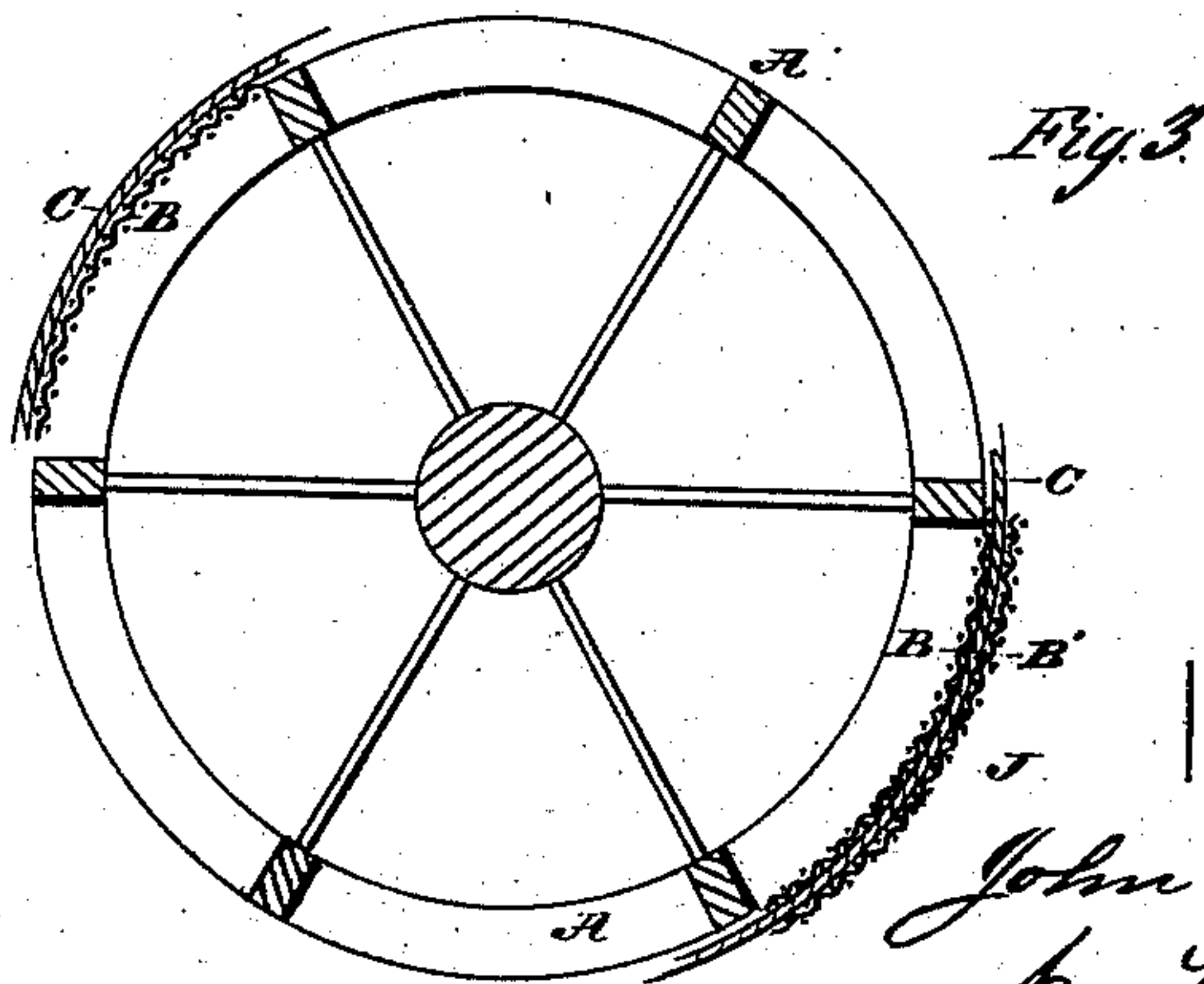
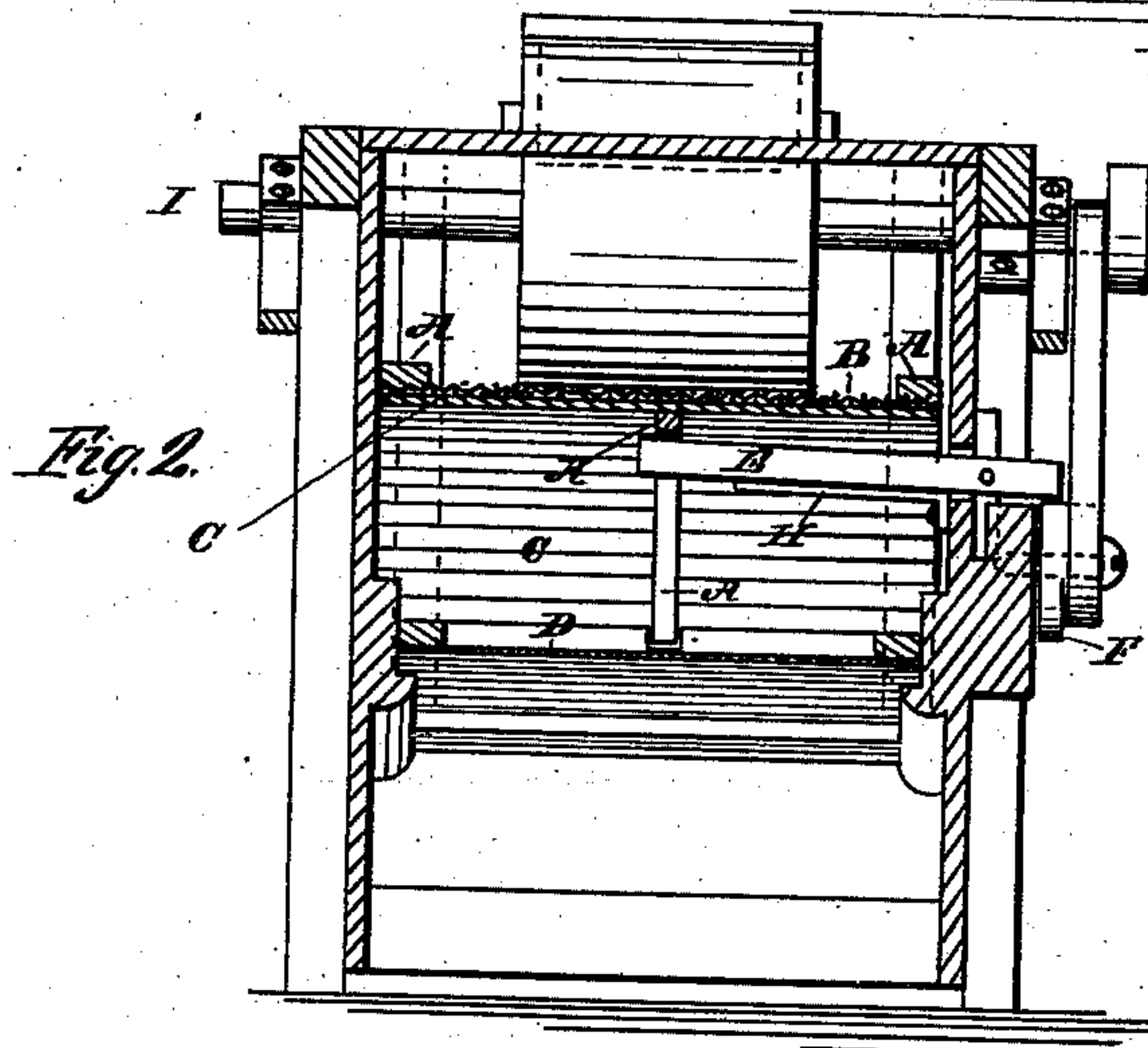
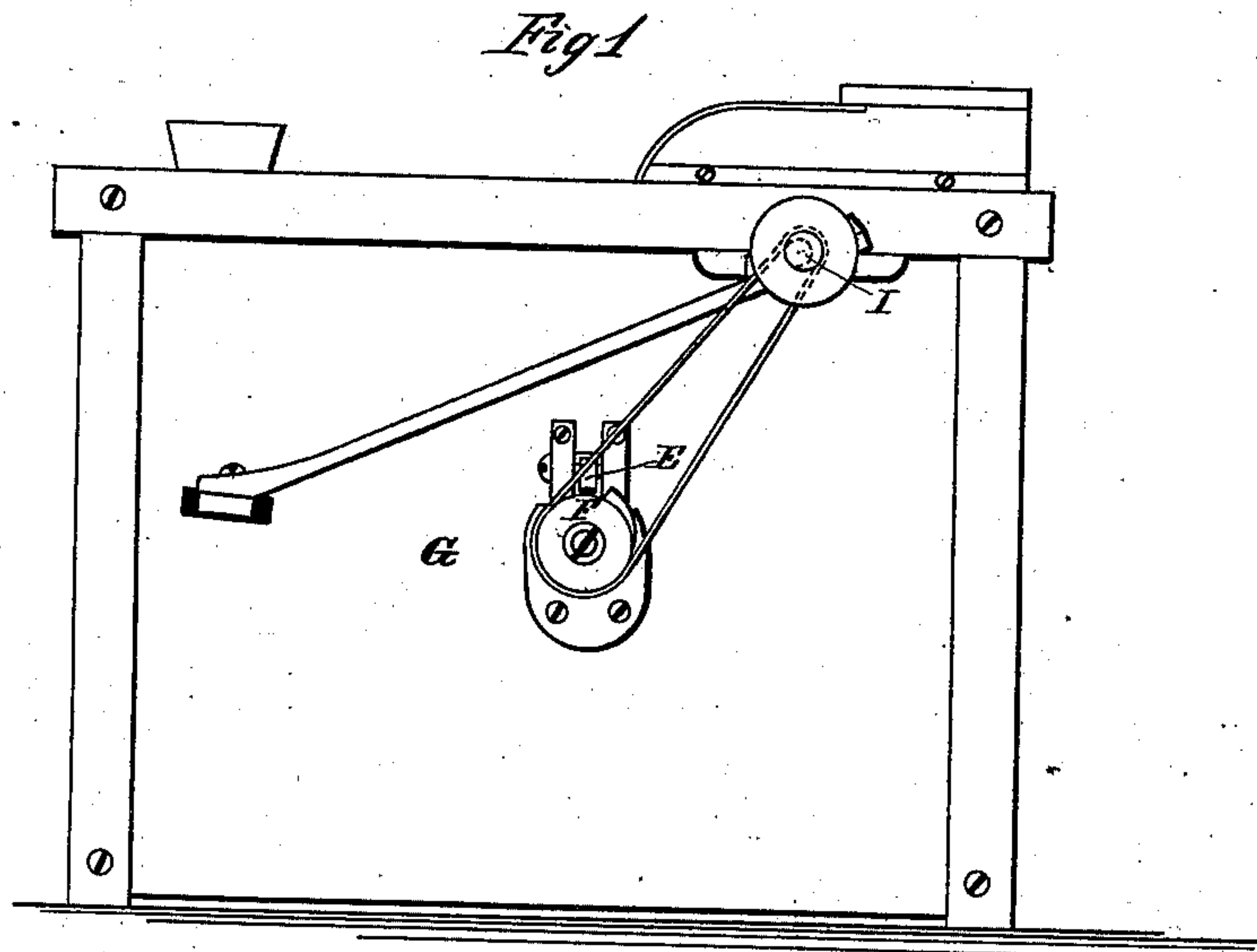


J. W. COLLINS.
Dust-Arrester for Flour-Mills.

No. 227,957.

Patented May 25, 1880.



WITNESSES.
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UNITED STATES PATENT OFFICE.

JOHN W. COLLINS, OF CHICAGO, ILLINOIS.

DUST-ARRESTER FOR FLOUR-MILLS.

SPECIFICATION forming part of Letters Patent No. 227,957, dated May 25, 1880.

Application filed February 25, 1880.

To all whom it may concern:

Be it known that I, JOHN W. COLLINS, of Chicago, State of Illinois, have invented certain new and useful Improvements in Dust-Arresters or Screens; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to devices for arresting the dust or impurities carried by an air blast or current from middlings-separators or other apparatus, and from which devices the dust is to be dislodged by jarring the same.

Such arresters or collectors have heretofore consisted of a loosely-woven woolen or other cloth fabric stretched upon various forms of widely-open frames, and so placed as to intercept the current of air bearing the dust forward. The dust has been dislodged from the cloth by occasionally striking some portion of the frame for the purpose of jarring the cloth and thus loosening the dust. Ow-
ing to the elastic character of the cloth, it is plain that the jarring effect upon the cloth at points only a little distance from the points of its attachment to the frame is comparatively slight, and that only part of the dust will be detached.

My improvement has for its object to secure a more uniform or widely-distributed jarring effect upon the cloth; and to this end it consists in combining with such cloth a wire-netting, or more than one, also secured to the frame and lying in extended contact with the cloth.

It is obvious that a blow applied to the netting at any point, or to a frame supporting the same, will be felt in its jarring effect nearly uniformly throughout the extent of the netting. In the combination of the netting with the cloth in the manner described, therefore, the cloth in contact with the netting must be jarred with equal uniformity.

The invention is illustrated herein as applied to the interior of a middlings purifier or separator, and also to a collector in the form of a reel.

Figure 1 is a side elevation of the purifier.

Fig. 2 is a transverse vertical section thereof, and Fig. 3 is a transverse section of a detached reel having my improvement.

A is the frame-work of the collector. B is a sheet of wire-netting applied to the frame, and C is a loosely-woven flannel or other suitable fabric applied to the frame in contact with the netting.

In its application to a purifier, as shown in Figs. 1 and 2, the frame is rectangular, for the purpose of filling the space traversed in the purifier by the air in its passage from the screen or screens D.

E is a pivoted arm, actuated in one direction by the cam-pulley F on the exterior of the casing G, and in the other to strike the frame A by the spring H. The cam-pulley F is driven at any desired speed from the fan-shaft I, or otherwise.

In Fig. 3 the reel form of collector is shown unassociated with the knocking and other devices which accompany this form. The wire is applied beneath the flannel, and it thereby supports the latter in cylindric form.

At J two nettings are shown—one, B, beneath, and the other, B', above, the flannel—by which means the distribution of the jarring effect is still more perfectly extended.

In the use of a single netting the flannel may be stitched at intervals to the netting to obtain and preserve more intimate contact between the two. The meshes of the netting are so coarse as not to interfere with the passage of the air through the cloth.

The application of a dust-collector to the interior of a purifier is not my invention.

I claim, without limitation by its location—

In combination with the cloth of a dust-collector and mechanism for jarring the same, a wire-netting arranged in direct contact with the cloth, whereby the jarring effect is distributed more widely over the cloth, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JOHN W. COLLINS.

Witnesses:

M. E. DAYTON,

WILLIAM M. STANLEY.