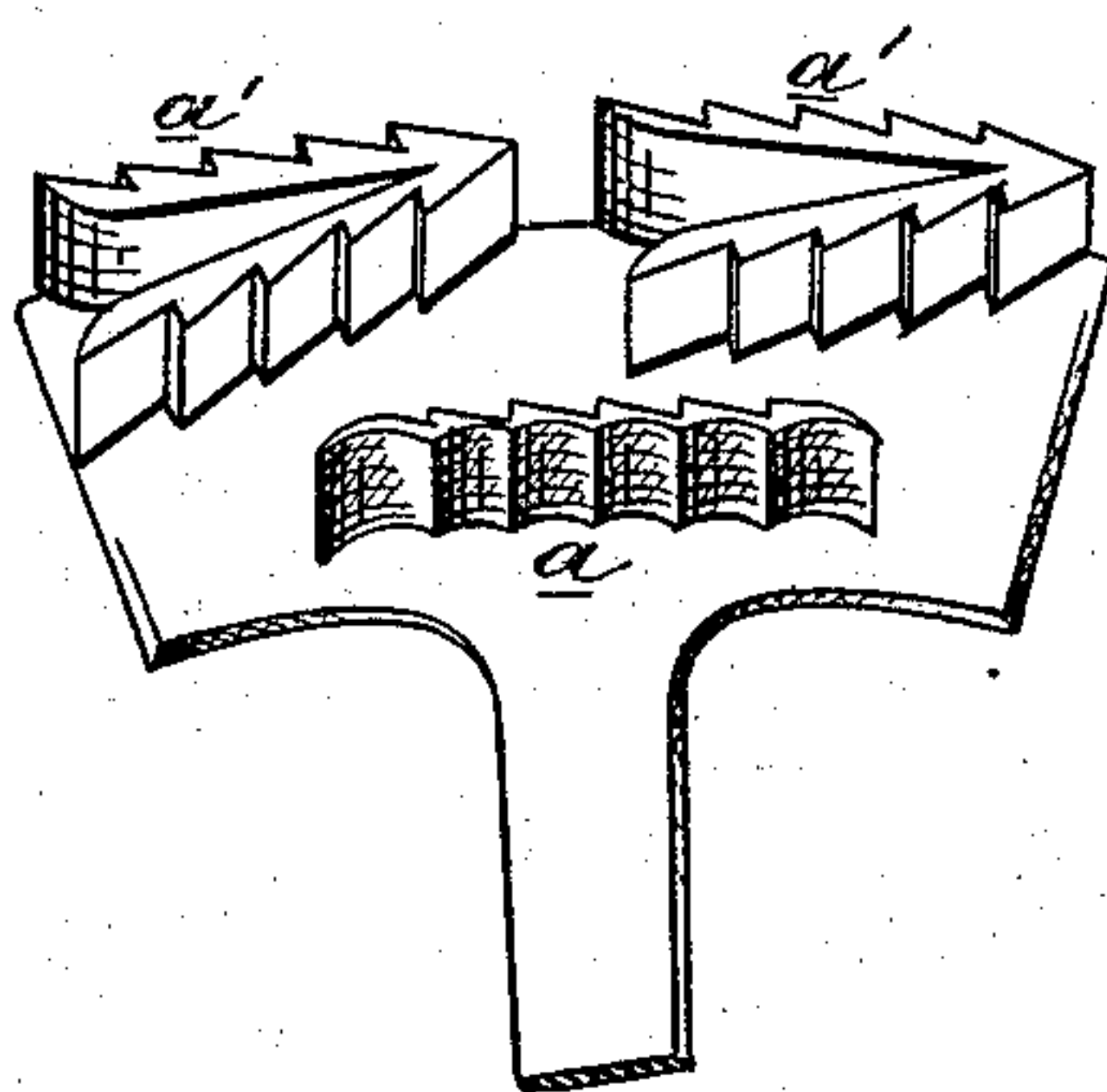
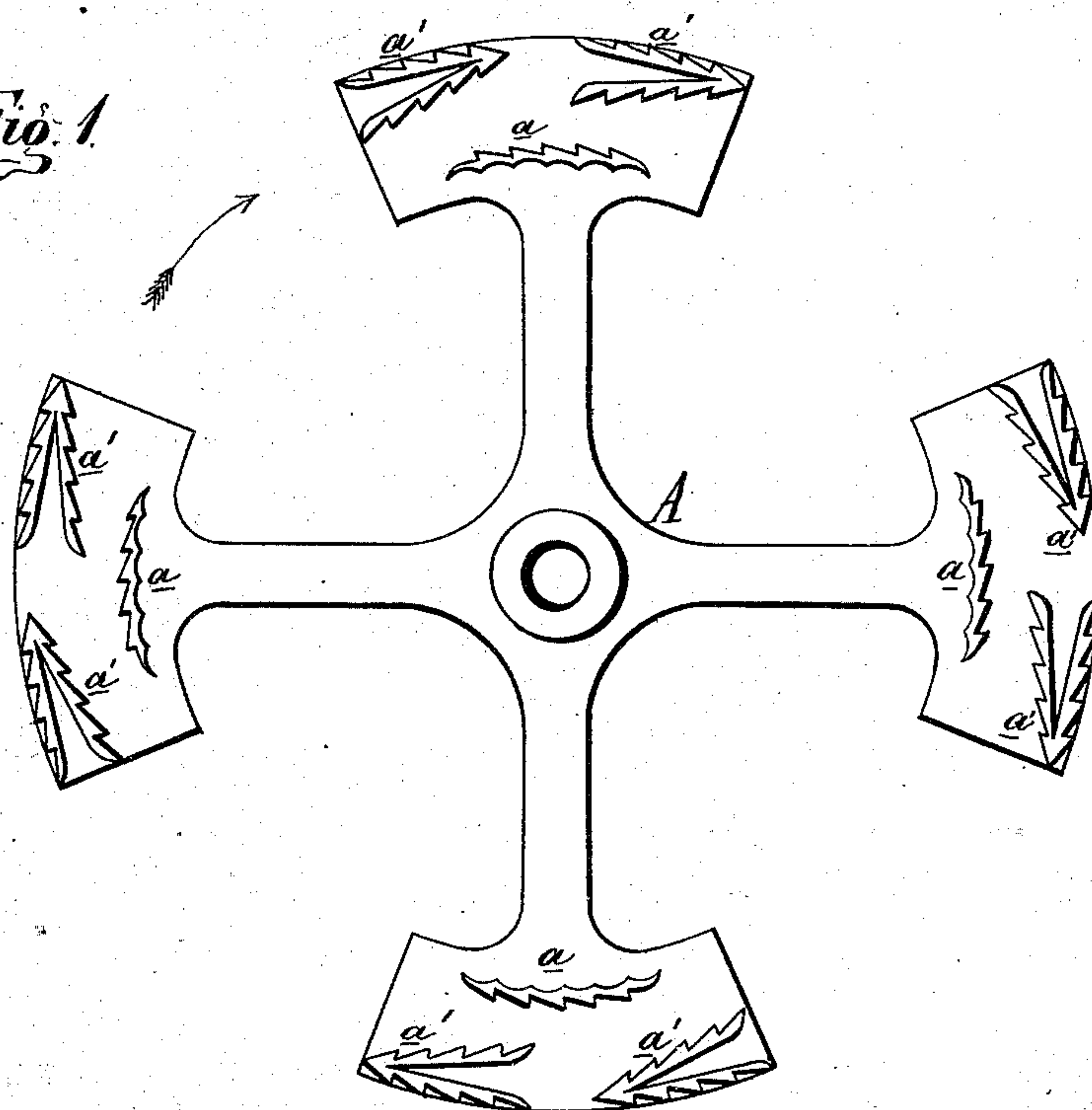


D. M. RICHARDSON.  
Grain-Scourers.

No. 158,740.

Patented Jan. 12, 1875.

Fig. 1



Inventor:  
D. M. Richardson  
per Attorney  
Phil S. Sprague

# UNITED STATES PATENT OFFICE.

DAVID M. RICHARDSON, OF DETROIT, MICHIGAN.

## IMPROVEMENT IN GRAIN-SCOURERS.

Specification forming part of Letters Patent No. **158,740**, dated January 12, 1875; application filed December 11, 1874.

*To all whom it may concern:*

Be it known that I, DAVID M. RICHARDSON, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Machines for Cleaning and Scouring Wheat, of which the following is a specification:

The nature of this invention relates to an improvement in the construction of grain cleaning and scouring machines, and is especially designed as an improvement in the construction of the machine for this purpose which was patented to Ephraim Russell, February 14, 1871, No. 111,779, and also in the construction of the spiders as patented to me August 6, 1872, No. 130,315; and its object is the more effectually removing from the wheat-berries of the fuzz and chit at the ends thereof, without breakage or damage to the berry, than has heretofore been done.

Figure 1 is an elevation of one of the spiders, of which a series are used in a machine, varying in number according to the different sizes of machines built. Fig. 2 is a perspective view of a portion of one of the arms.

In the drawing, A represents one of the spiders described in said above-named Letters Patent, with the exception of the teeth and segments therein described, which I replace by the ratchet-faced segments *a* and the V-shaped and ratchet-faced spurs *a'*, disposed on the blades of the arms, as shown in Fig. 1 in the accompanying drawing.

It is found in practice that the ratchet-faced

segments and spurs will materially facilitate the removal of the fuzz and chit growing on the end of the berry, and in which the smut-germs gather.

In the rotation of the spider the berries are deflected from the face of the spurs against the segments, and the movement reversed by being again deflected to the next spur in succession, so that each end of the berry is presented alternately to the segments and the spurs, so that any adhering fuzz or chit is effectually removed from the berries. The ratchet-faces of the segments and spurs very materially assist to complete the process. The berry, being rapidly deflected from one series of segments to the other in succession, avoids all abrupt impingements which break and damage the berry, while at the same time the fuzz and chit are removed, and the berry is effectually scoured or polished without in the least injuring the bran properties, which has been a great desideratum in the preparation of grain heretofore.

What I claim as my invention, and desire to secure by Letters Patent, is—

The spider A, provided with the ratchet-faced segments *a* and the V-shaped and ratchet-faced spurs *a'*, arranged as described, and for the purposes set forth.

DAVID M. RICHARDSON.

Witnesses:

H. S. SPRAGUE,  
WM. P. SPALDING.