

UCKER & HUTCHINS.

Corn and Cob Mill.

2 Sheets—Sheet 1.

No. 80,244.

Patented July 21, 1868.

Fig: 1.

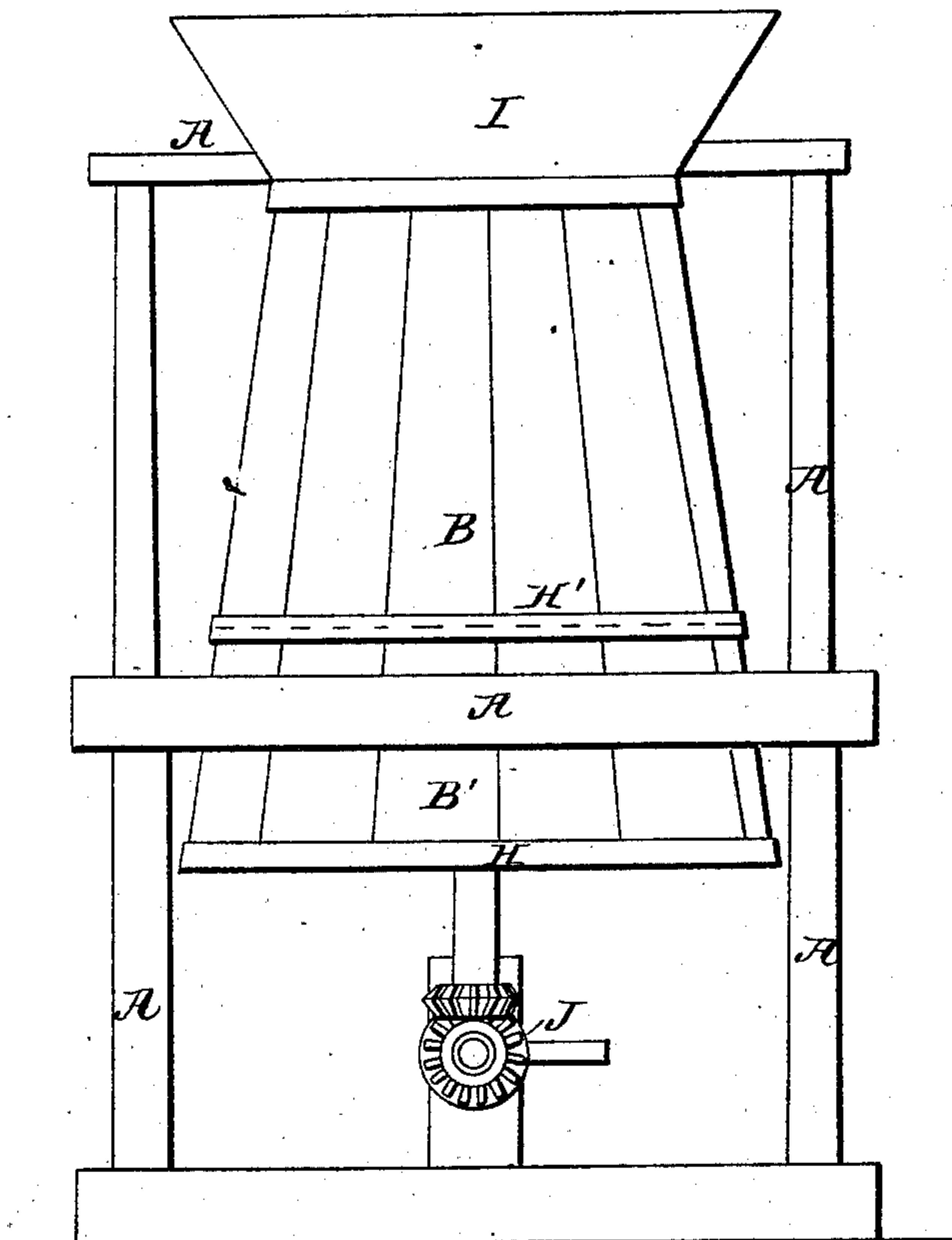


Fig: 2.

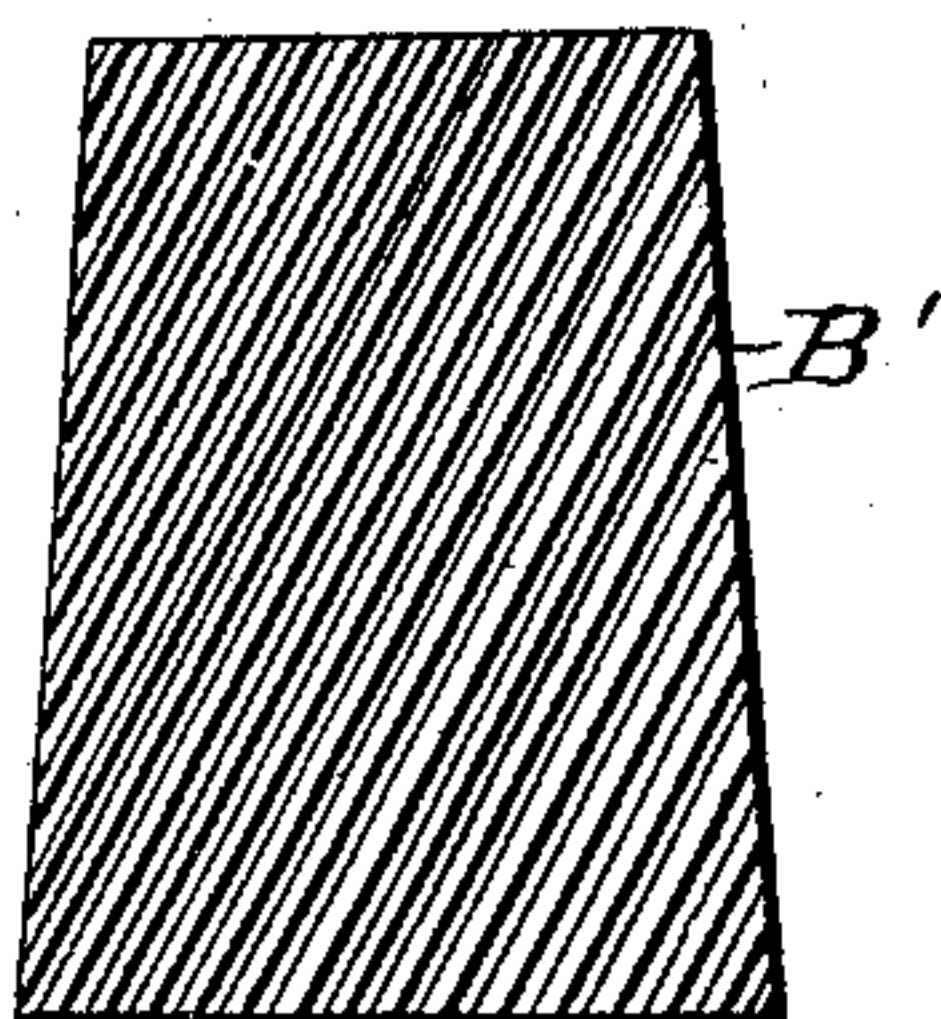
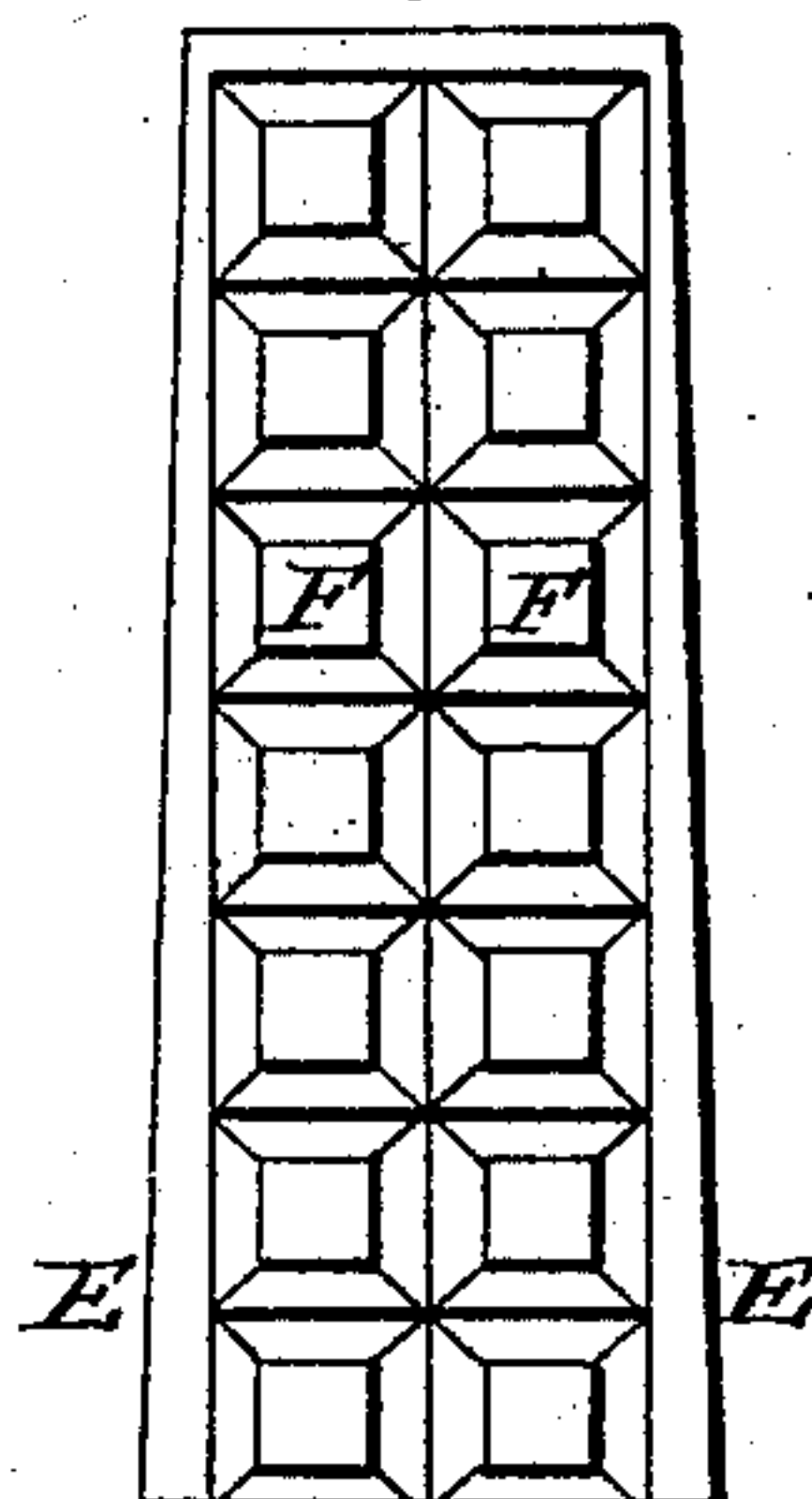


Fig: 3.



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UCKER & HUTCHINS.
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Fig: 4

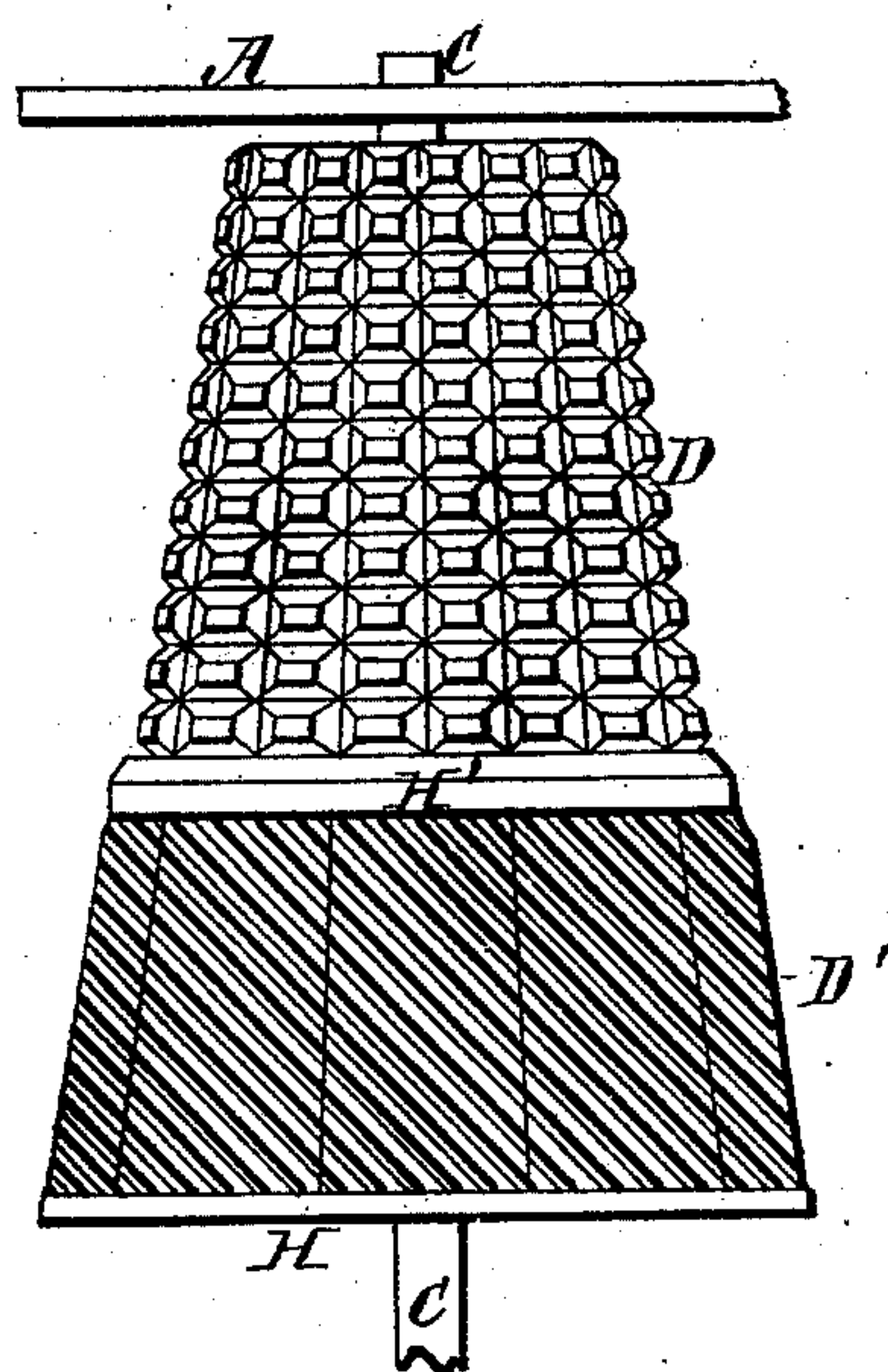


Fig: 6.

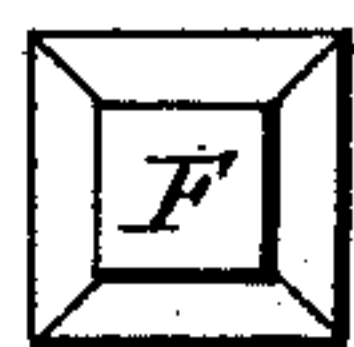
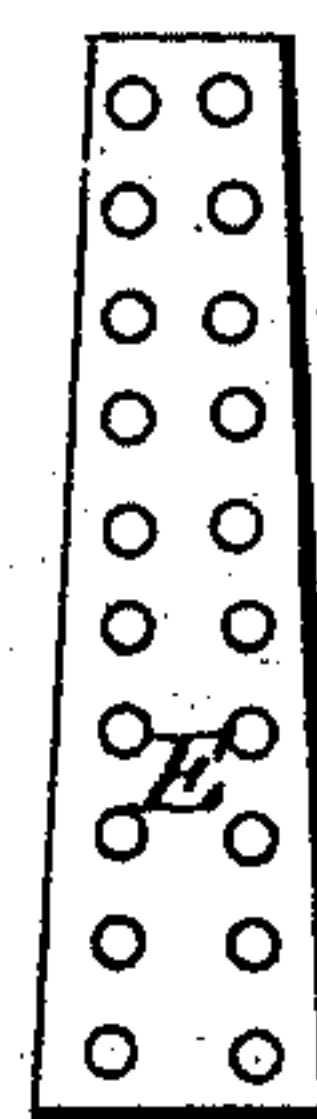


Fig: 5.



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THOMAS UCKER AND ANDREW HUTCHINS, OF AMANDA, OHIO.

Letters Patent No. 80,244, dated July 21, 1868.

IMPROVED CORN AND COB-MILL.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, THOMAS UCKER and ANDREW HUTCHINS, both of Amanda, county of Fairfield, and State of Ohio, have invented certain new and useful Improvements in Corn and Cob-Crushing Machines; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a side-elevation of our improved corn and cob-crushing machine.

Figure 2 is a front view of one of the lower staves.

Figure 3 is a similar view of one of the upper staves with the teeth applied.

Figure 4 is an elevation of the inner cone or cylinder.

Figure 5 represents a front and side view of one of the teeth detached.

Figure 6 represents one of the upper perforated staves before they are applied thereto.

Our invention relates to a novel construction of a corn-and cob-crusher and mill combined, and consists in making the crusher and mill, or the upper and lower portions of both, the grinding-cylinder or cone, and its external casing, in separate parts, each composed of sections, or metal staves banded together, and operating as hereinafter described.

It further consists in providing the staves or sections of the crusher with perforations, and in forming the teeth separately, and providing them with shanks, adapting them to be attached to the perforated staves by riveting or otherwise, in such manner that they may be readily removed and replaced, or renewed when broken, as hereinafter described.

This arrangement also enables us to use the staves for repairing or replacing either the cone or the shell, by attaching the teeth to either the convex or concave side of the staves, as the case may require.

In the accompanying drawing, A represents a stout frame of any suitable form and construction, to afford a support for the internally-toothed outer drum or casing B B', and bearings for the shaft C of the rotating toothed cone or cylinder D D', of which the crusher and mill is composed.

The upper parts, B and D, of the outer casing and cone or cylinder are made separately from the lower portions, B' D', and are each composed of a number of metal staves, E, (see figs. 3 and 6,) cast of uniform size, and are shown provided with perforations to receive the shanks of the teeth F, also made or cast separately, and in any desired or suitable form, (see fig. 5,) and secured to the staves by riveting or in any other suitable manner. If preferred, however, the teeth may be formed upon or cast with the staves.

The inner face of the lower staves of the external casing, and the outer adjacent face of the corresponding staves of the revolving-cone or cylinder, are represented in fig. 2. These staves are made in the same manner as those above described, except that the teeth being smaller and finer, to adapt them to pulverize or grind what is broken by the teeth of the upper staves or crusher-part of the machine, said teeth-ribs or grinding-surfaces are formed upon or cast with the staves. The staves of the outer casing, thus formed, are united by means of hoops or bands, H H', as represented in the drawing, the central band or hoop H' being rebated on both its edges, or otherwise adapted to receive the lower ends of the upper staves, and the upper end of the lower staves secured thereto by rivets or other suitable means, and in such manner as to give them the proper working relation to each other.

The rotating-cone or cylinder is provided at each end with a head, and also with a central rebated disk or diaphragm, to which the staves, arranged in a manner corresponding to those of the outer case, may be secured by screws or other suitable fastenings.

At the junction of the upper and lower portions of the machine there is an offset in the cone, or cylinder, or casing, either or both, for the purpose of bringing the cone and casing nearer together at the bottom or grinding-portion of the mill, to adapt them to the pulverizing process.

I represents a hopper attached to the top of the outer casing, through which the material to be operated upon is fed to the crusher, and thence to the mill.

J represents a system of gearing, through which a rotary motion is imparted to the inner drum or cone, and which may be operated either by hand or by other suitable motive-power, according to the size and capacity of the mill, and applied in any usual manner.

The operation of the mill and crusher will be readily understood without further description. The upper or coarser part of the machine or mill is adapted to the crushing of cobs or other similar substance or materials, and the lower part to the pulverizing or grinding of the broken and crushed materials to any required degree of fineness. It will be obvious that changes in the form and arrangement of the teeth of both the crushing and grinding-portions of the machine may be varied without departing from the invention illustrated in the accompanying drawing and hereinabove described.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The upper and lower circles of toothed staves forming the grinding-surfaces of both the revolving-cone and the surrounding case, the upper circle of both revolving-cone and the case being composed of perforated staves, which are capable of being applied to either said cone or case, the whole banded together at top and bottom, and at the junction of the upper and lower parts of the mill, substantially as and for the purpose described.

THOMAS UCKER,
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Witnesses:

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DAVID YOUNG.