

(No Model.)

F. A. WELLS.
Huller Knife.

No. 236,470.

Patented Jan. 11, 1881.

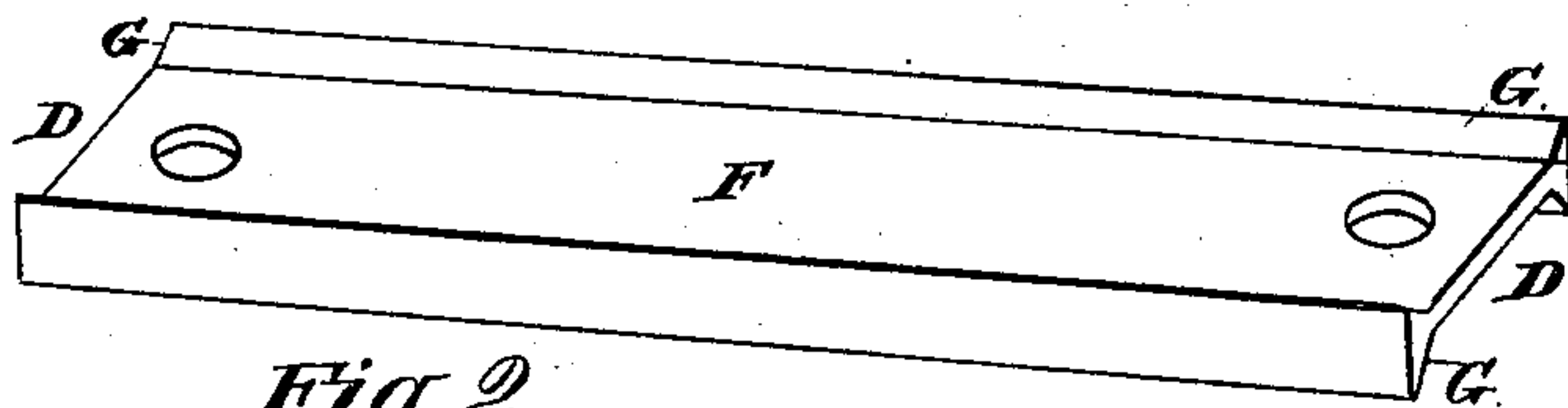
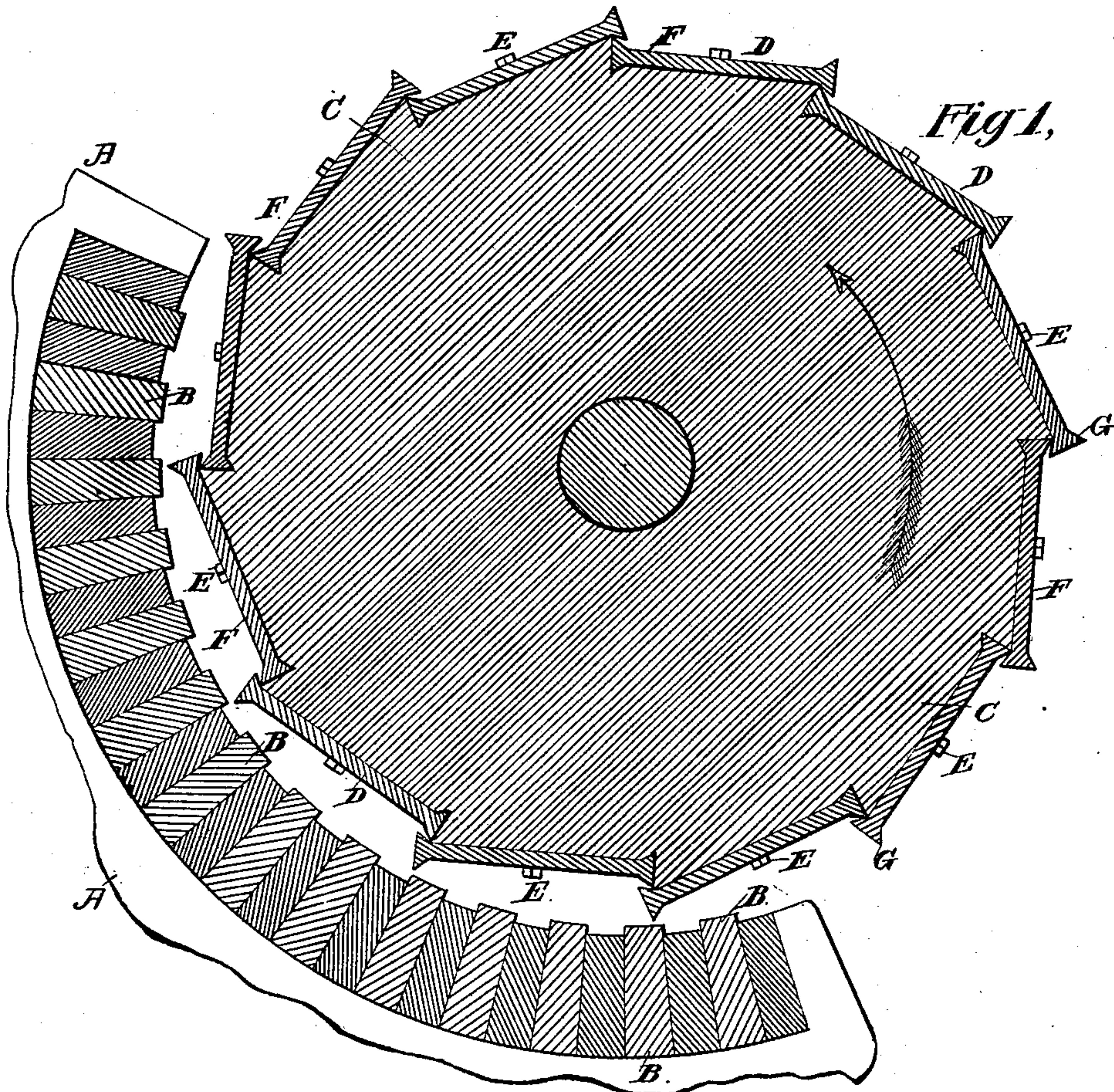


Fig 2,

Attest:

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UNITED STATES PATENT OFFICE.

FRANK A. WELLS, OF MEMPHIS, TENNESSEE.

HULLER-KNIFE.

SPECIFICATION forming part of Letters Patent No. 236,470, dated January 11, 1881.

Application filed April 26, 1880. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. WELLS, residing at Memphis, in the county of Shelby and State of Tennessee, have invented Improvements in Huller-Knives, of which the following is a specification.

My invention relates to an improved form of huller-knife adapted to be applied to cotton-seed hullers, such as shown in Patent No. 96,177, issued to me on the 26th of October, 1869.

The huller-knife consists of a central plate or web of even thickness, provided with flanges on the side edges, said flanges having a uniformly-increasing thickness from the web to their outer faces, so as to form four acute-angled corners to the knife, for purposes hereinafter described.

The cylinder is constructed with recesses, in which the knives are secured by set-screws, as in the patent above referred to.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a sectional view of a cotton-seed huller using my improved knife. Fig. 2 is a perspective view of the knife itself.

A may represent the frame, and B the stationary knives, of a cotton-seed-hulling machine.

C is the rotating cylinder, to the periphery of which the knives are attached.

D D represent my improved knives, which are secured to the cylinder by bolts E. These knives are made of rolled wrought-iron, and consist of a flat web, F, and diverging flanges G, the outer faces of said flanges being plane, as shown. The cylinder C is provided with recesses in its convex surface corresponding in shape to the knives, so as to afford the knives a firm bearing; and it will be observed that the innermost flange of each knife is embedded in the cylinder in such a manner as to relieve the bolts E of most of the side stress.

When one edge of a knife wears out, the bolts E are removed and the knife reversed, so that all the four edges are in turn utilized.

This peculiar form of huller-knife is the most effective and durable shape for the purpose that I have yet found. I have found, also, that it is much better to make the knives of wrought-iron, as when cast the flanges are liable to be broken, and thus injure the efficiency of the huller, both by spoiling the knives and depositing pieces of metal in the machine.

Three advantages arise from the form of my improved huller-knife as distinguished from those double concave in cross-section: First, the web takes a firmer hold upon the material, because it has a sharper edge and steeper sides; second, it takes, in the reverse position, a correspondingly stronger hold upon the cylinder in the channel at the inner edge of the recess formed for its reception, and better resists the tangential pull on the knife, largely relieving the strain on the fastening-bolts; and, third, the plates, in being arranged to overlap, are enabled by their internal angles and edges to interlock, each holding its neighbor in place against tractional strain, and being in turn held up to its work from beneath by the edge of the web of its neighbor.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. The wrought-iron huller-knife consisting of the flat web F, provided on each edge with an acute-angled flange, G, substantially as shown.

2. The combination, in a cotton-seed huller, of the cylinder C and knives D, said knives having a flat web and four acute-angled flanges, and overlapping, so as to interlock, as shown and set forth.

3. The combination, in a cotton-seed huller, of the knives D, of the shape shown and described, and arranged to overlap one another and interlock, and the cylinder C, having the recesses in its convex surface corresponding to the shape of the knives, substantially as and for the purpose set forth.

F. A. WELLS.

Witnesses:

W. H. GODDARD,
JOHN NEAL.