

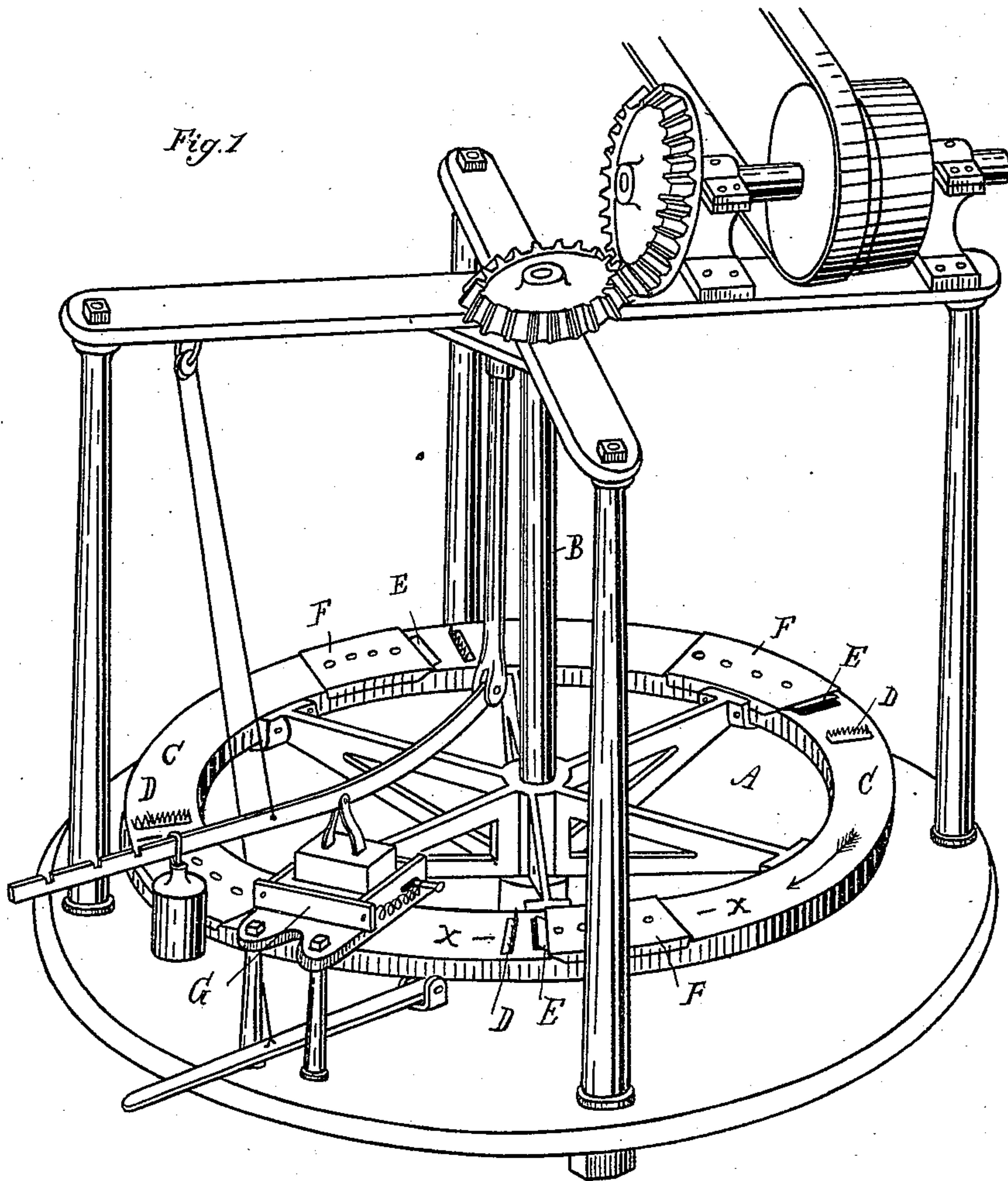
(No Model.)

G. BROOKS.  
EXCELSIOR MACHINE.

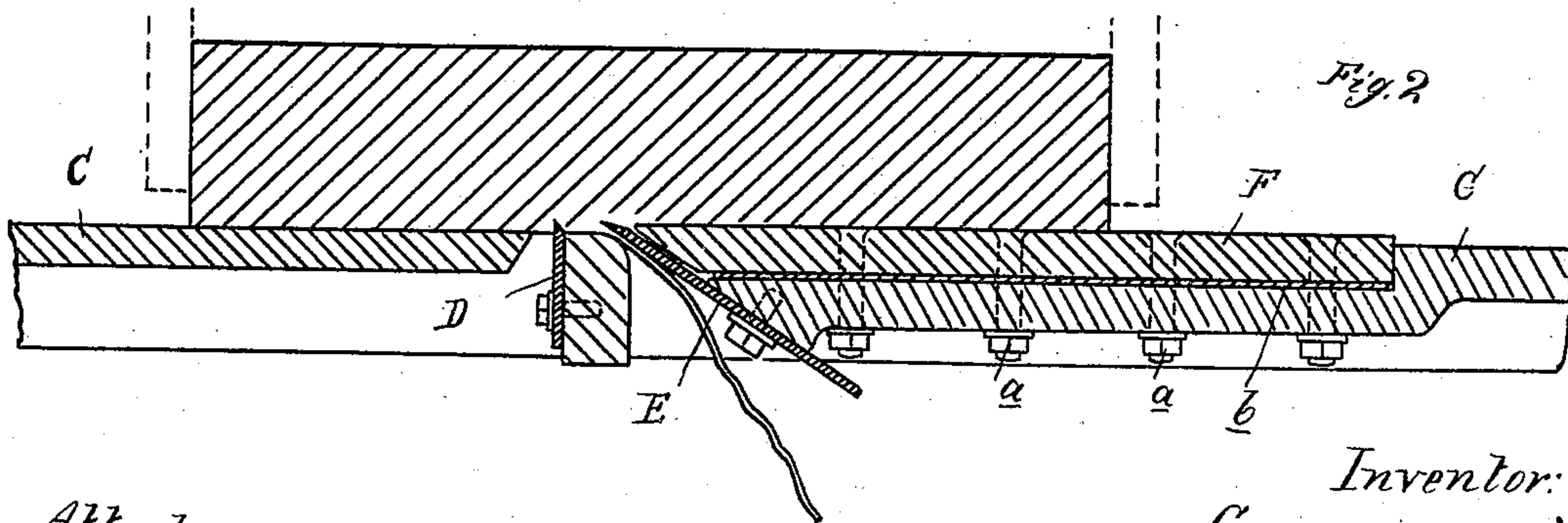
No. 326,395.

Patented Sept. 15, 1885.

*Fig. 1*



*Fig. 2*



*Attest:*  
*John Schuman.*  
*E. J. Scully.*

*Inventor:*  
*George Brooks.*  
*by his Atty*  
*Thos. J. Sprague*



# UNITED STATES PATENT OFFICE.

GEORGE BROOKS, OF DETROIT, MICHIGAN, ASSIGNOR OF TWO-THIRDS TO  
H. N. BREVOORT AND ROBT. J. MARSH, OF SAME PLACE.

## EXCELSIOR-MACHINE.

SPECIFICATION forming part of Letters Patent No. 326,395, dated September 15, 1885.

Application filed February 18, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE BROOKS, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Excelsior-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to new and useful improvements in a machine for making excelsior; and the invention is intended to form an improvement on a machine of this kind patented March 24, 1868, No. 75,728. In this machine a large wheel revolving on a vertical shaft has a horizontal and annular bed formed near its periphery into which a series of planer-knives are secured radially, each planer-knife being preceded by a scoring-knife. The bolt is held in a stationary position on top of the annular bed and in contact therewith, which exposes its face to the scoring and cutting action of the knives, so as to produce the article commonly called "excelsior."

My improvement consists in constructing the annular bed in such manner that a section of it in rear of each planer-knife is in the same horizontal plane with the cutting-edge of each knife, so as to prevent the bolt from tipping while it is operated upon by the knives. This section of bed I make vertically adjustable, so as to adjust it in connection with the cutting-edges of the knives upon different planes to cut different grades of excelsior.

In the drawings which accompany this specification, Figure 1 is a sectional perspective view of my machine, and Fig. 2 is a vertical section of the same on line *x x*.

A is a wheel of relatively large diameter, secured to a vertical shaft, B, by means of which the wheel is revolved in the direction shown by an arrow.

C is a horizontal annular bed formed near the periphery of the wheel and concentric thereto.

D D are a series of scoring-knives set vertically and adjustably into the annular bed C.

E E are a series of planer-knives adjustably secured to the wheel.

The scoring and planer knives are arranged in pairs, there being several pairs arranged at equal distances, with their cutting-edges projecting through the annular bed, each planer-knife being preceded by a scoring-knife placed in proximity thereto.

F F are steel plates forming sections of the annular bed immediately in rear of each planer-knife. These plates are vertically adjustable by means of suitable adjusting devices—such as the screw-bolts *aa* and suitable shims, *b*—inserted below them. These plates are adjusted upon the same horizontal plane with the cutting-edges of the planer-knives.

G is a stationary box or case with an open bottom, and of suitable shape to confine the bolts in position. Into this box the bolts are placed on top of each other and pressed down by a suitable weight, so as to keep the lowest bolt always in contact with the annular bed.

In practice the revolving annular bed will pass the knives successively under the bolt, and the combined actions of each scoring and planer knife in jointly operating against the under side of the bolt resting upon the annular bed will produce the excelsior.

It will be seen that by adjusting the steel plates F F so that their faces will be upon the same horizontal plane with the cutting-edges of the planer-knives the entire face of the bolt, while the knives are cutting against it, is supported its whole length, and therefore cannot tip and produce irregular shavings, as it would do if the whole annular bed were constructed upon the same horizontal plane.

To have the steel plates F operate in the desired manner, they should be somewhat longer than one-half the length of the bolt, and the normal sections of the annular bed between each pair of knives must be of sufficient length to allow the bolt to drop down upon it before it is again acted upon by another pair of knives.

What I claim as my invention is—

1. In a machine substantially as described, the revolving annular bed C, having sections F, the faces of which are adjusted upon the same plane with the cutting-edges of the

planer-knives, substantially as and for the purposes described.

2. In a machine substantially as described, the revolving annular bed C, having plates F, 5 forming sections of the annular bed, and provided with suitable adjusting devices for adjusting them to the same plane with the cut-

ting-edges of the planer-knives, substantially as and for the purpose described.

GEORGE BROOKS.

Witnesses:

H. S. SPRAGUE,  
E. J. SCULLY.