

(No Model.)

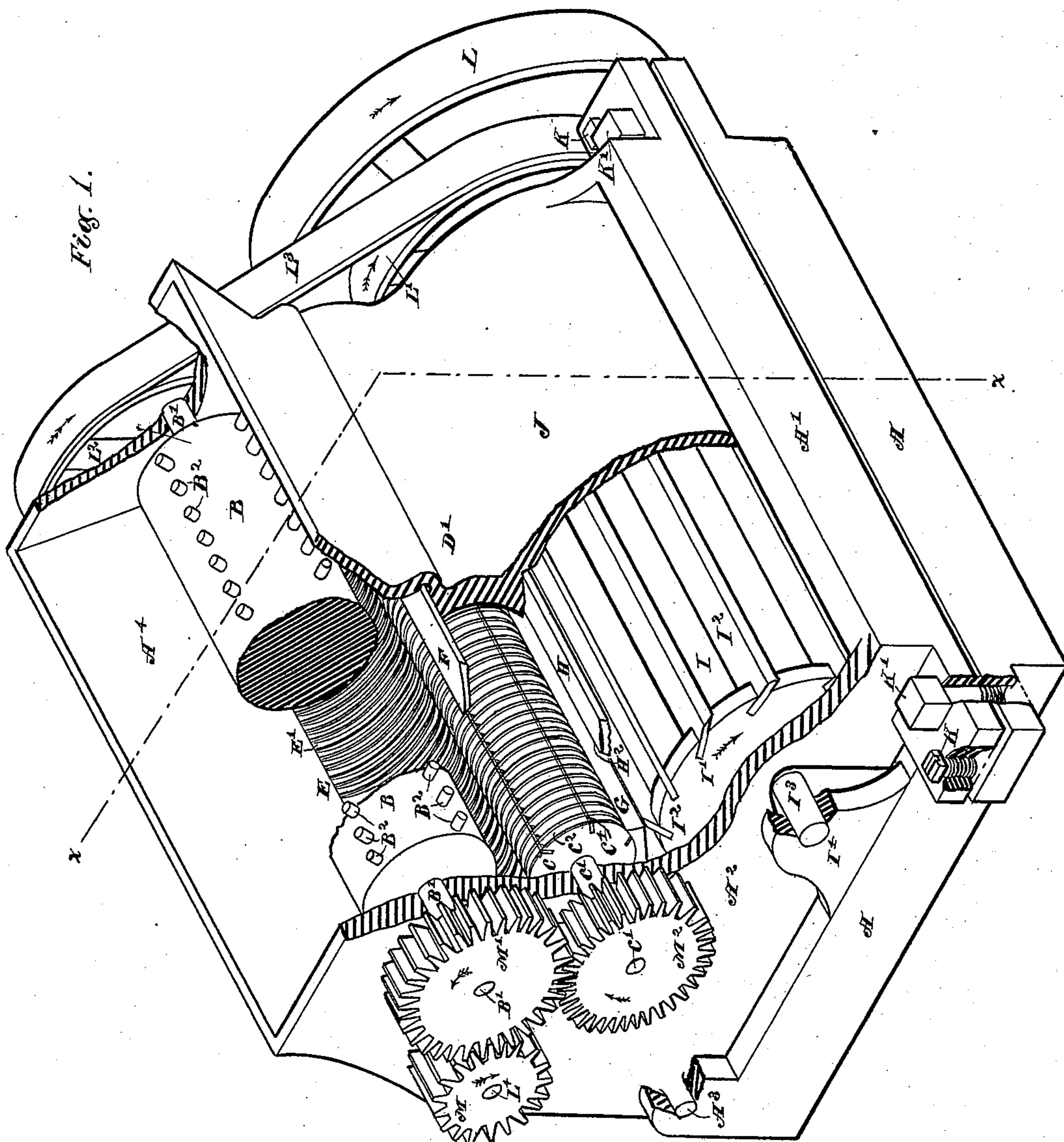
3 Sheets--Sheet 1.

A. W. WOODWARD.

OATMEAL MACHINE.

No. 363,875.

Patented May 31, 1887.



Witnesses:

E. E. Johnson.

G. A. Kinans.

Inventor:

Amos W. Woodward,

L. L. Morrison, Att'y.

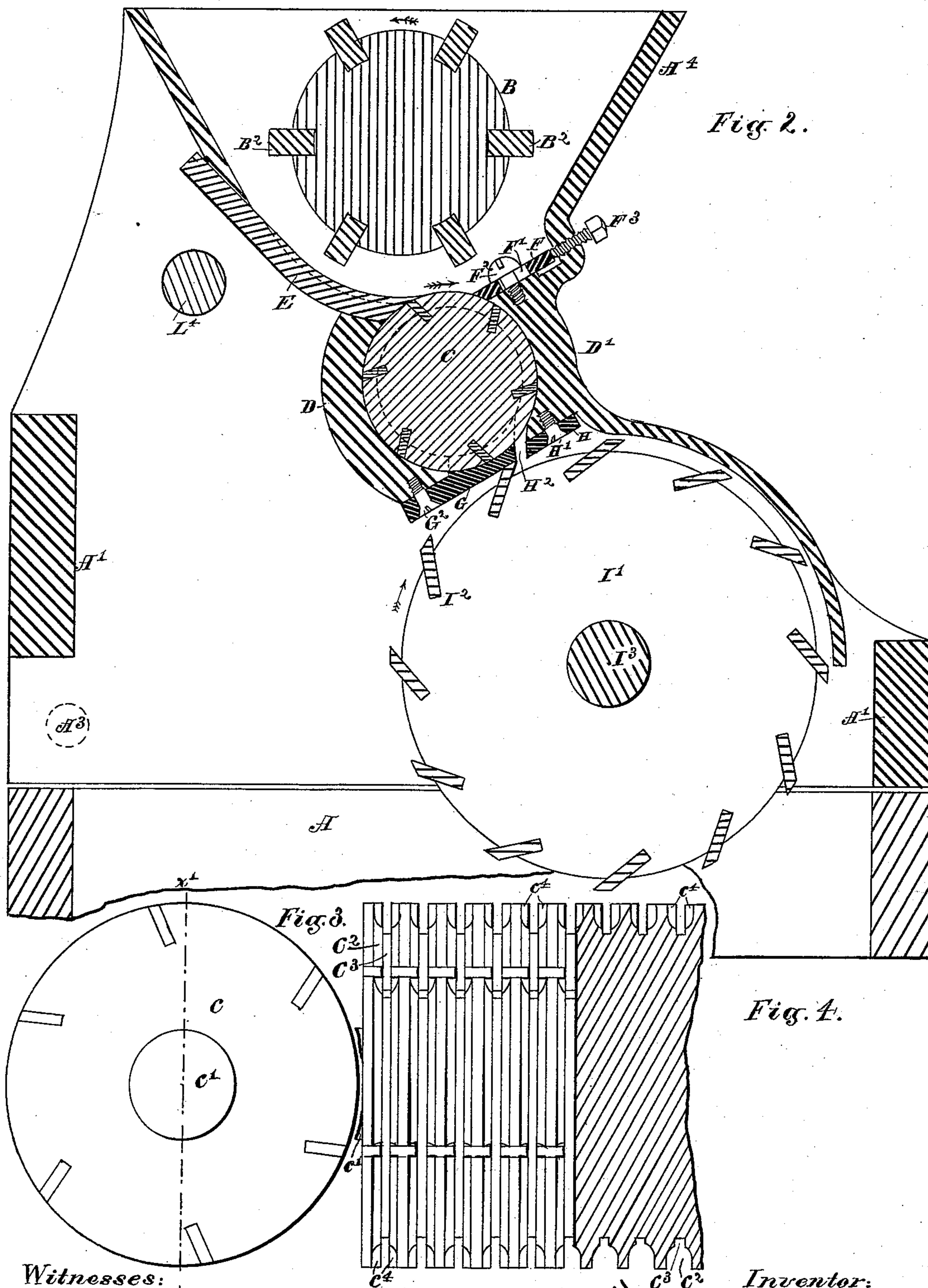
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3 Sheets—Sheet 3.

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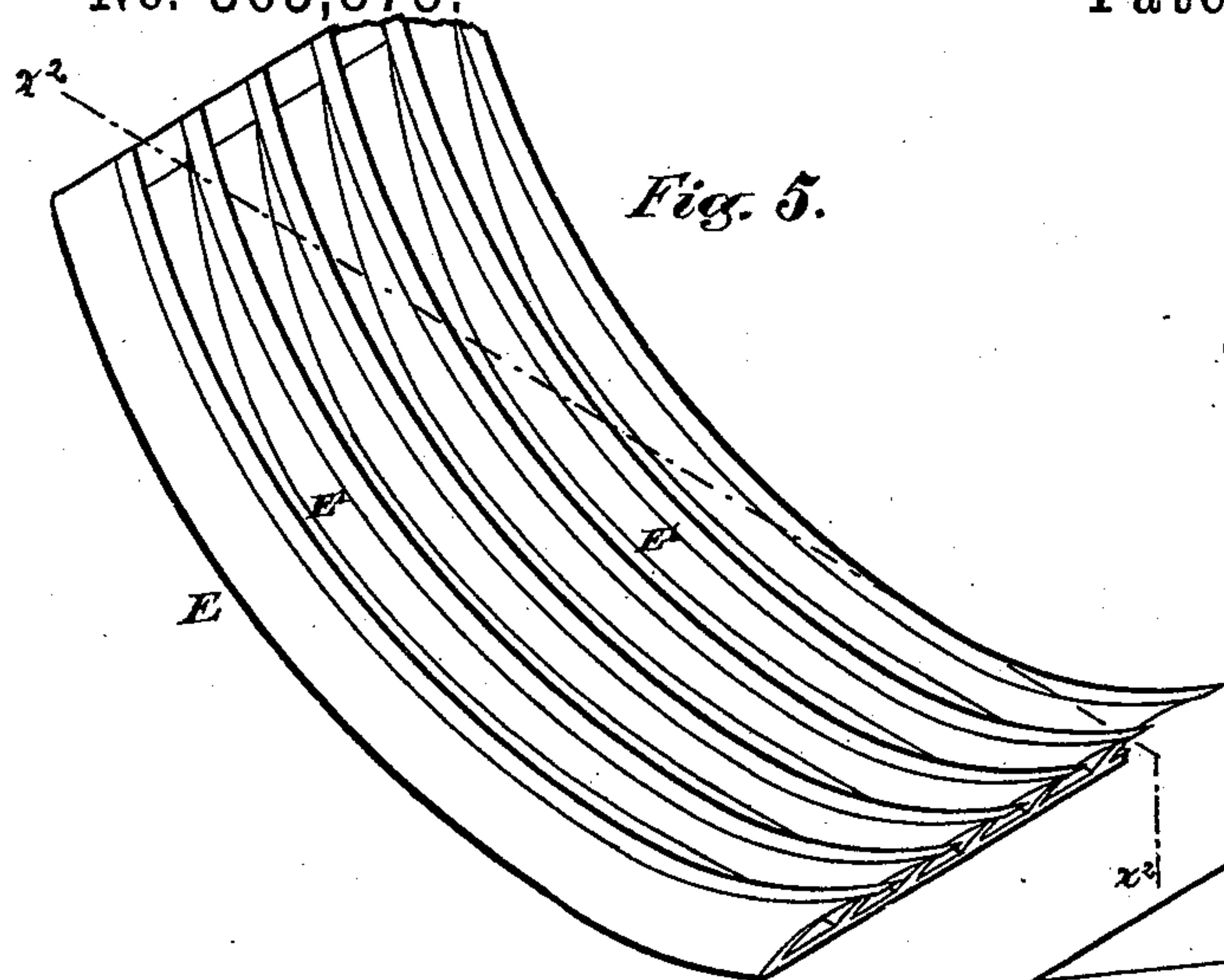


Fig. 5.

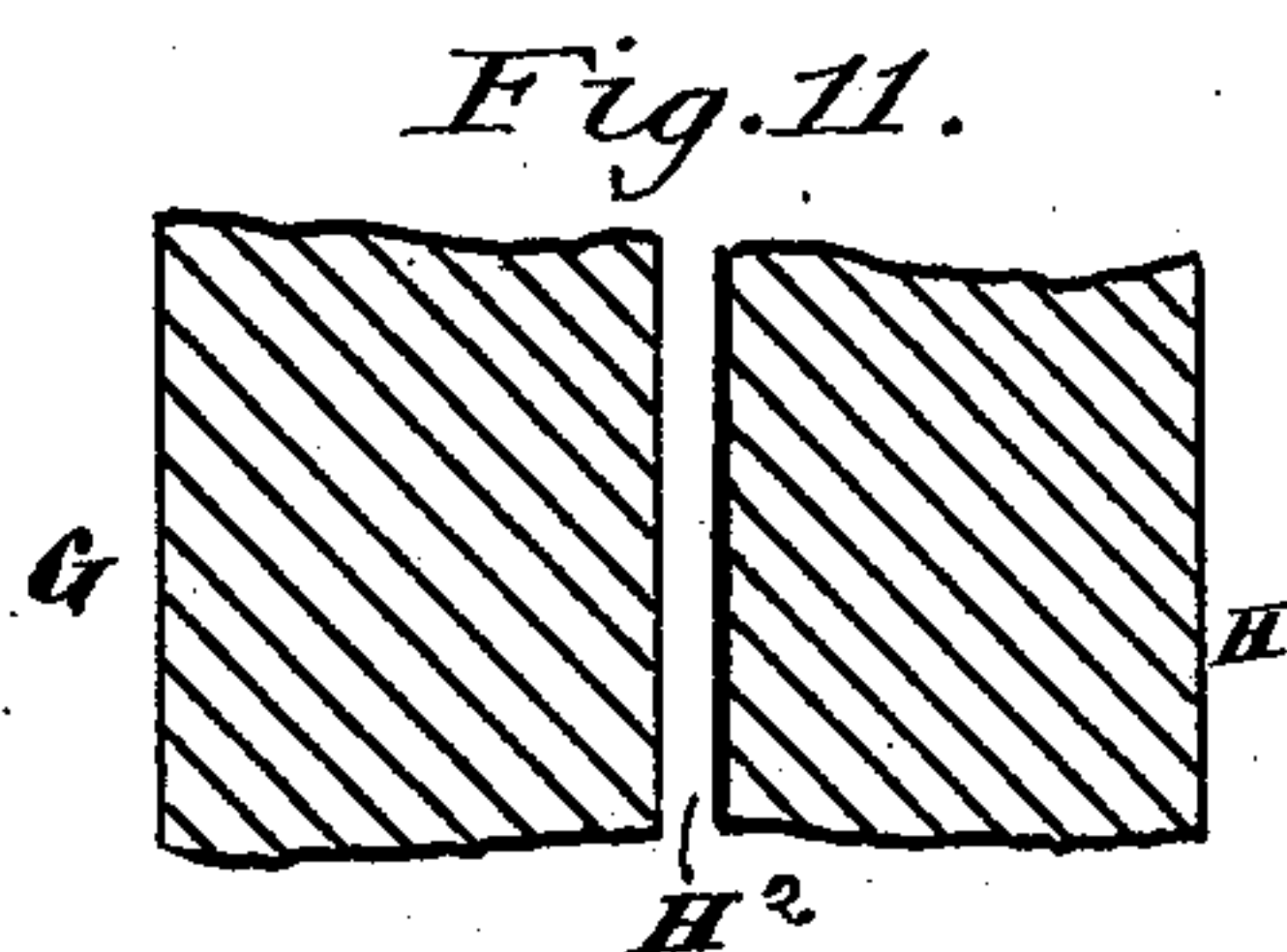


Fig. 11.

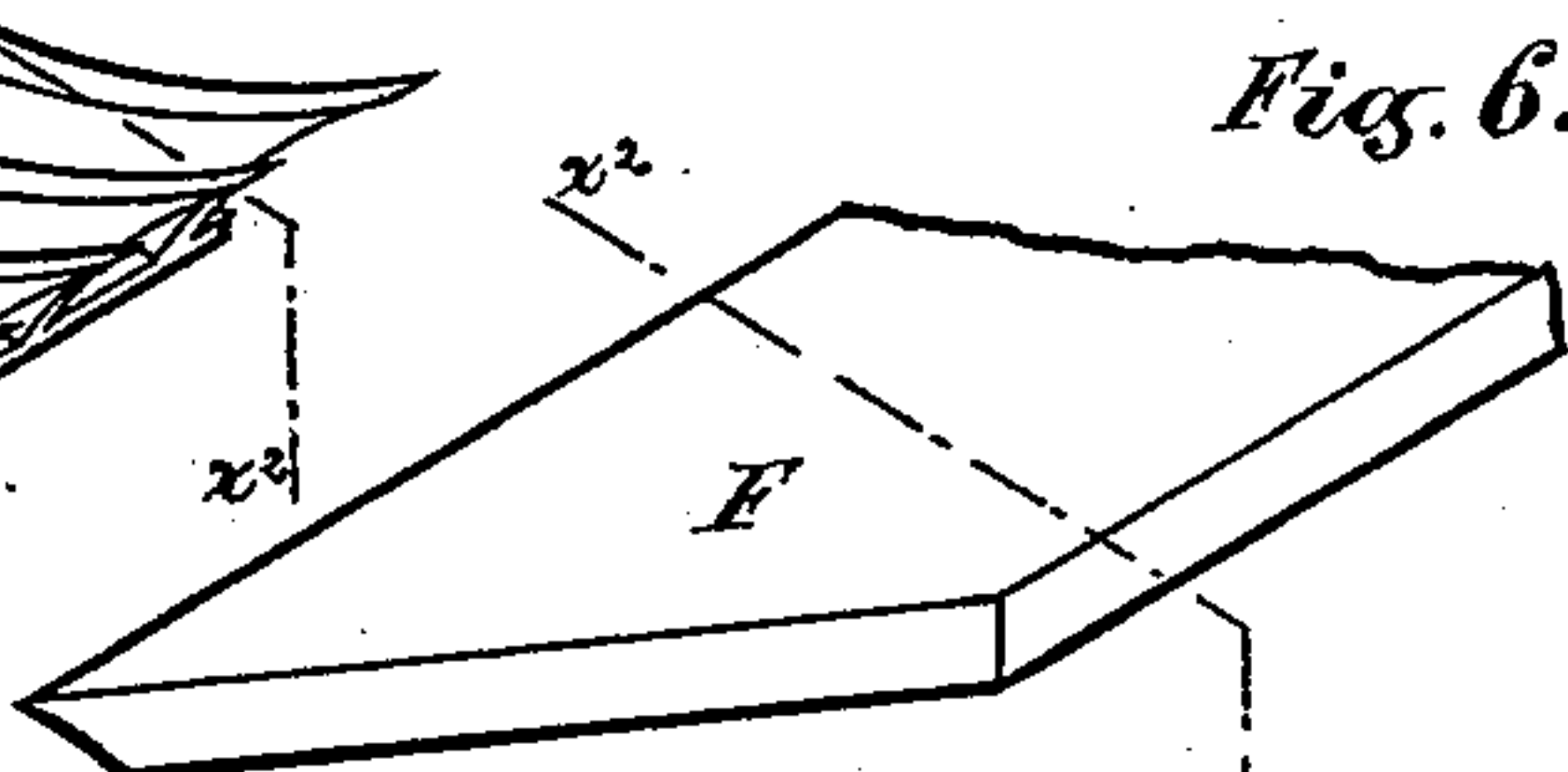


Fig. 6.

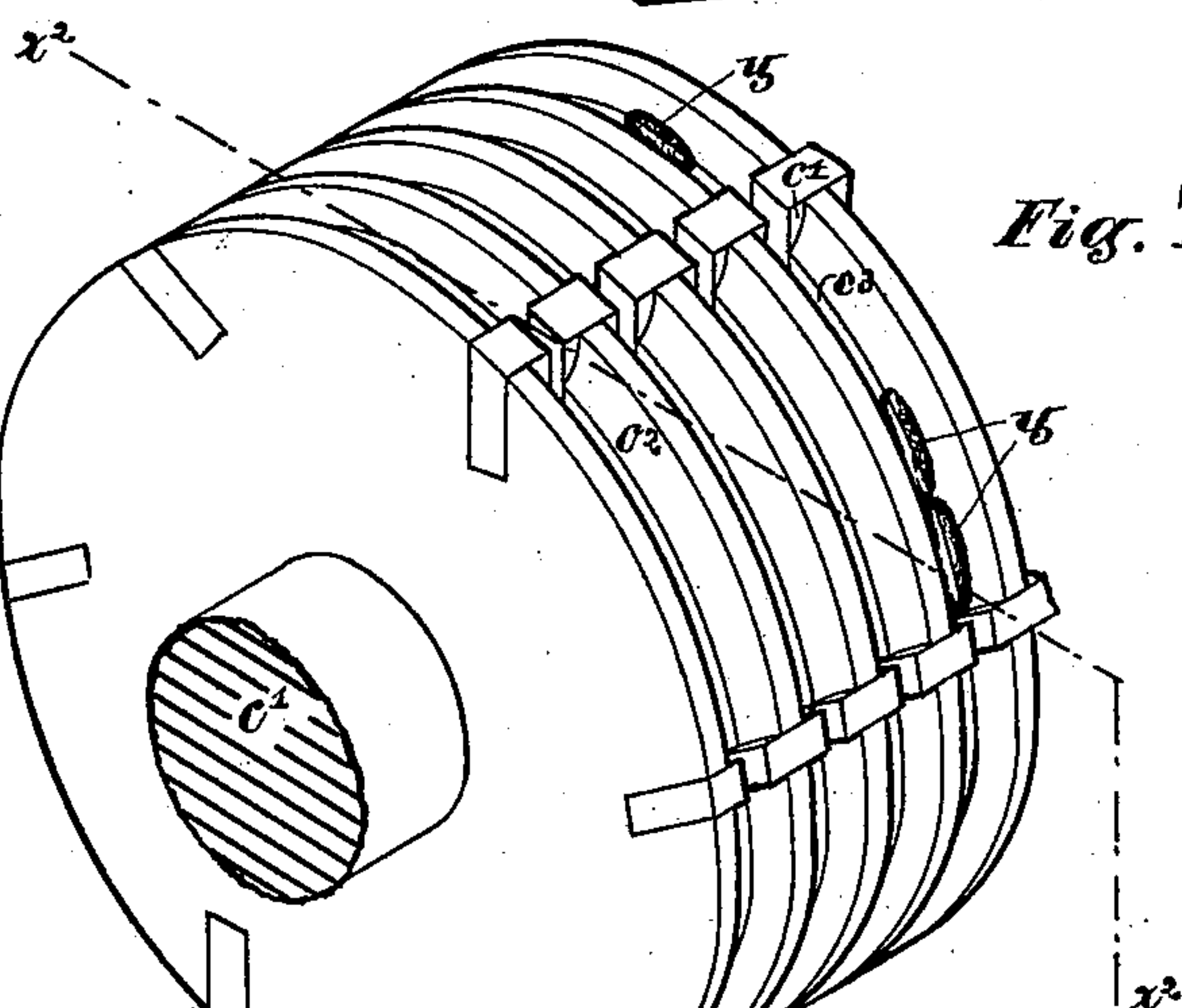


Fig. 7.

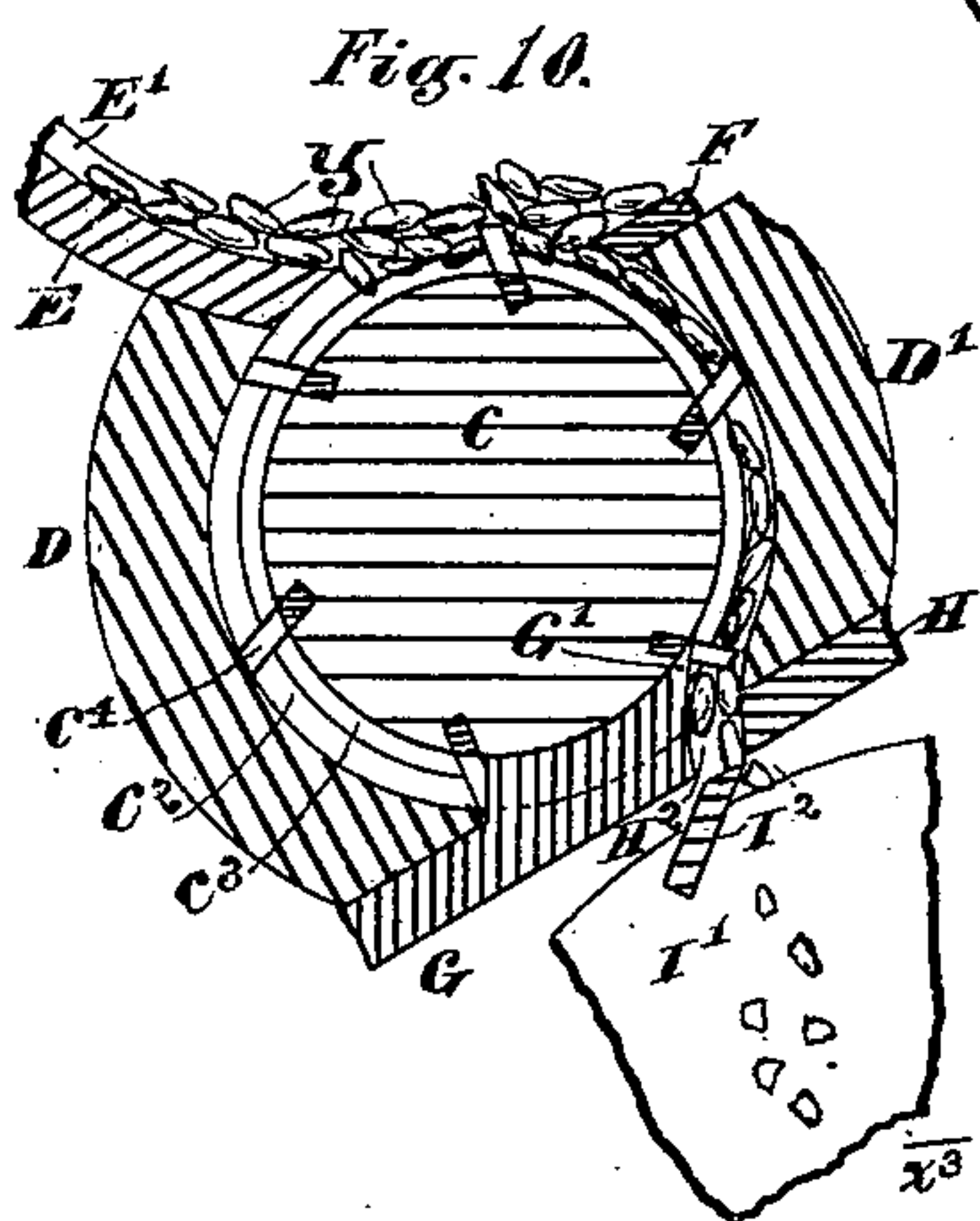


Fig. 10.

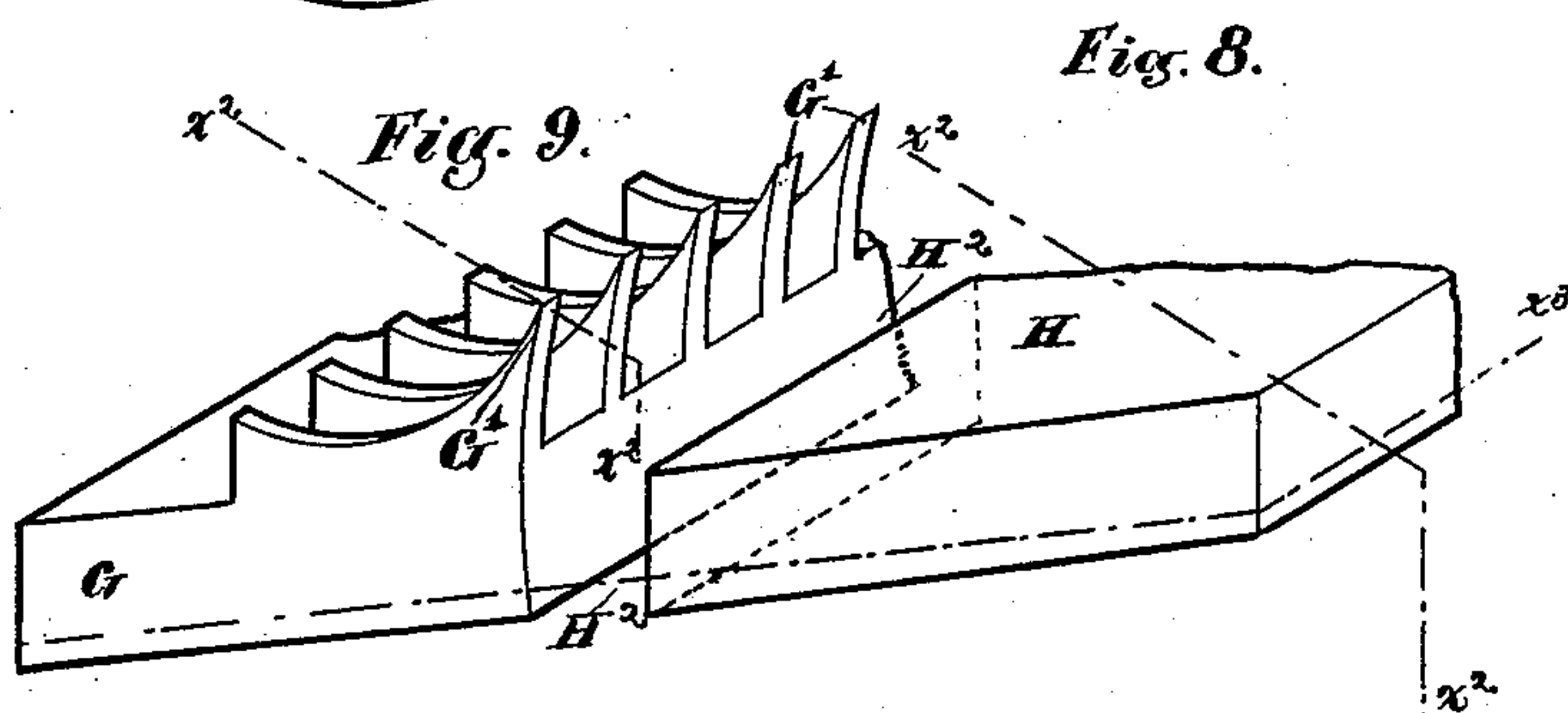


Fig. 9.

Fig. 8.

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UNITED STATES PATENT OFFICE.

AMOS W. WOODWARD, OF ROCKFORD, ILLINOIS.

OATMEAL-MACHINE.

SPECIFICATION forming part of Letters Patent No. 363,875, dated May 31, 1887.

Application filed July 30, 1886. Serial No. 209,593. (No model.)

To all whom it may concern:

Be it known that I, AMOS W. WOODWARD, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Oatmeal-Machines, of which the following is a specification.

This invention relates to that class of machines wherein hulled oats and other cereal grains are cut transversely to their longer axes into grits by means of chisel-edged knives.

The object of this invention is to cut grain rapidly into grits without crushing or breaking it.

In the accompanying drawings, which form a part of this specification, Figure 1 represents an isometrical view of my machine, partially broken away to show the interior construction thereof. Fig. 2 represents a transverse vertical section of my machine through the dotted line $x x$, Fig. 1. Fig. 3 represents an end view of the feed-cylinder of the machine. Fig. 4 represents a longitudinal partial section of a fragment of the feed-cylinder through the dotted line $x' x'$, Fig. 3. Figs. 5, 6, 7, 8, and 9 represent enlarged isometric views in detail of fragments of obvious portions of the machine. Fig. 10 represents a transverse section through the dotted lines x^2 of the parts shown by Figs. 5 to 9, inclusive, arranged in operative relation, with additional cross-sectioned adjacent parts. Consider the dotted lines x^2 as all having laid in the same vertical plane at the time the section shown in Fig. 10 was made. Fig. 11 represents a section of Figs. 8 and 9 through the dotted lines x^3 .

Like letters of reference indicate corresponding parts throughout the several views.

A A' A² represent, respectively, the bed-piece, sides, and ends of the frame-work of the machine.

A³ represents trunnions formed on the frame-work A², and having their bearings in lugs formed on bed-piece A.

A⁴ represents a hopper for receiving the grain to be cut.

B represents a grain-distributing cylinder mounted upon the journal B' and provided with radial pins B².

C represents a feed-cylinder mounted upon the journal C', and having the annular primary grooves C², transverse secondary grooves C³,

extending along and below the bottoms of the primary grooves, and the propelling-shoulders C⁴. The journals B' and C' are formed integrally with their cylinders B and C.

D D' represent casings partially inclosing the feed-cylinder C.

E represents an inclined curved plate provided with the parallel grooves E', for conducting grain downward into the primary grooves C² of the feed-cylinder C.

F represents a knife furnished with the transverse slots F' and secured to the cylinder-casing D' by means of screws F².

F³ represents a set-screw for adjusting the knife F to the feed-cylinder C.

G represents a grain-guide provided with the teeth G'.

G² represents screws securing the grain-guide to the casing D.

H represents a strong knife secured to the casing D' by means of the screws H'.

H² represents a long narrow aperture extending between the grain-guide G and knife H.

I represents a skeleton cutting-cylinder composed of the circular disks I' and the revolving cutting-knives I², set into the peripheries thereof. The cutting-cylinder I is mounted upon the shaft I³, the latter having the bearings I⁴, which are secured to the bed-piece A.

J represents a casing covering the front of the cutting-cylinder.

K represents screws, with their lower ends resting upon the upper surface of the bed-piece A, for regulating the distance between the knives I² of the cutting-cylinder I and the grain-guide G.

K' represents screws for securing the front of the frame-work to the bed-piece A after the screws K have been adjusted.

L L' L² represent pulleys—the two former mounted upon shaft I³ and the two latter connected by a belt, L³.

L⁴ represents a shaft, whereon the pulley L² is mounted and revolves.

M M' M² represent gear-wheels meshing together and mounted upon the shafts L⁴, B', and C', respectively.

By removing the belt L³ and loosening the screws K', the frame-work A' A² and all the parts which it supports may be turned back, fully exposing the cutting-cylinder I to view.

The distributing-cylinder B, operating in

conjunction with the grooved plate E, distributes the grain to the primary grooves C² of the feed-cylinder C, whereupon the propelling-shoulders C⁴ propel the grain downward until
 5 the teeth G' of the grain-guide G intercept the kernels of moving grain and guide them downward and forward out of the primary grooves C² and discharge them lengthwise in single
 10 grits by the joint operation of the knives H and I².

The sole function of the primary grooves C² is to receive kernels of grain *y*, as indicated in Fig. 10, and convey them to the teeth G' of
 15 the grain-guide G, which discharge them through the aperture H². The only office of the secondary grooves C³ is to contain the teeth G' of the grain-guide G.

The office of the knife F is to break up all
 20 hard gritty substances, (they will invariably find their way in small quantities into the cleanest grain,) so as to allow their fragments to pass through the machine without eroding the inner surfaces of the casings D D' or dull-
 25 ing the knives H and I².

I claim—

1. In an oatmeal-machine, a feed-cylinder having annular primary grooves in the periphery thereof, narrower annular secondary
 30 grooves extending along and below the bottoms of the primary grooves, and shoulders projecting into the primary grooves for propelling kernels of grain to revolving cutting-knives, substantially as described.

2. The combination, in an oatmeal-machine, 35 with the feed-cylinder C, having the primary grooves C², secondary grooves C³, and propelling-shoulders C⁴, of a grain-guide provided with teeth for intercepting and conducting grain away from the primary grooves of said
 40 feed-cylinder to revolving cutting-knives, substantially as described.

3. The combination, in an oatmeal-machine, with the distributing-cylinder provided with the pins B³, of the grooved plate E, feed-cyl- 45 inder C, casings D D', knife F, grain-guide G, knife H, and cutting-cylinder I, substantially as described, and for the purpose specified.

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Witnesses:

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