

No. 611,807.

Patented Oct. 4, 1898.

J. DONOVAN.

OAT CLIPPING ATTACHMENT FOR CORN SHELLERS.

(Application filed Nov. 5, 1897.)

(No Model.)

3 Sheets—Sheet 1.

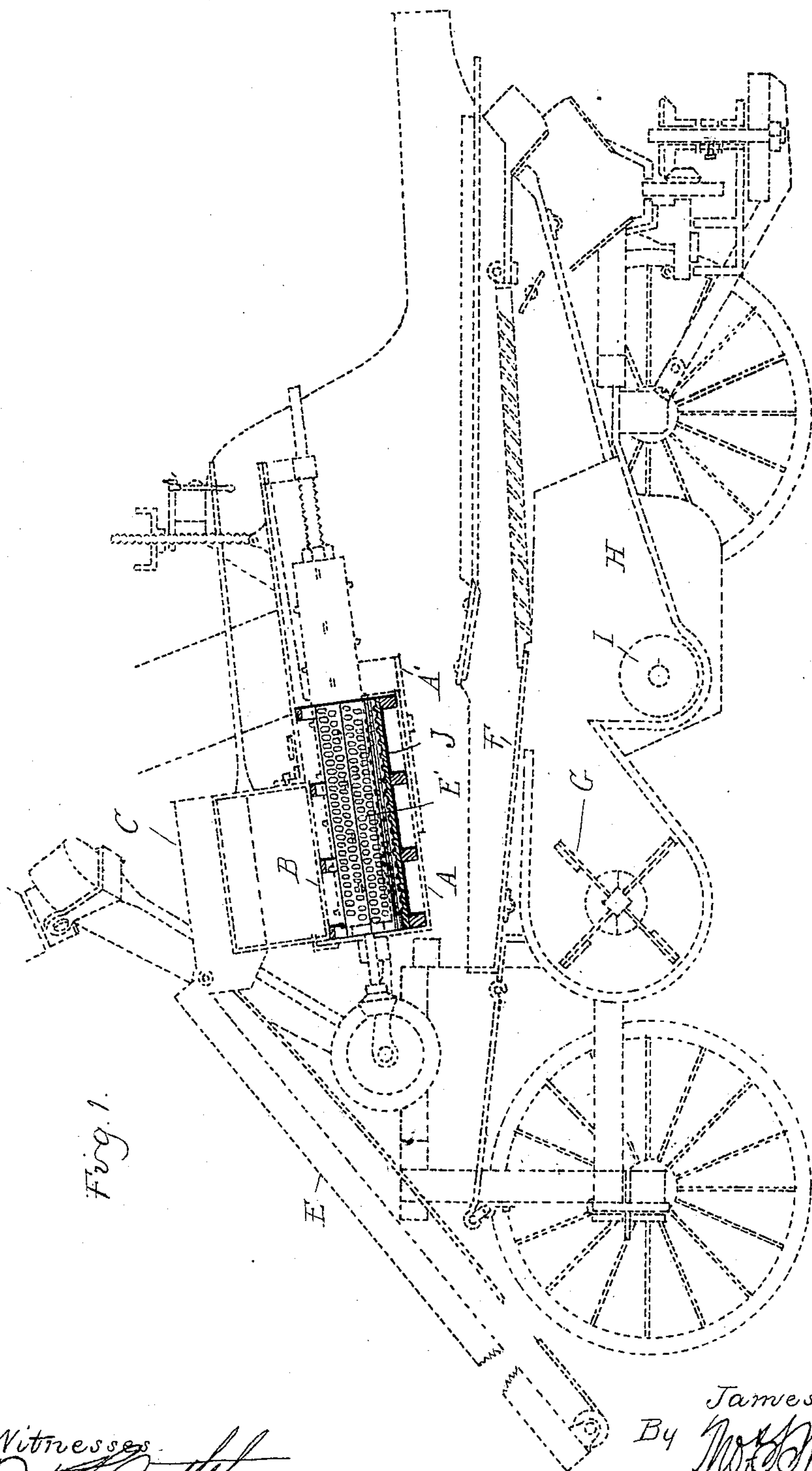


Fig. 1.

Witnesses
Otto H. Smith
Wm. J. Sogherly

Inventor
James Donovan
By *Wm. J. Sogherly*
Attys.

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Fig. 2.

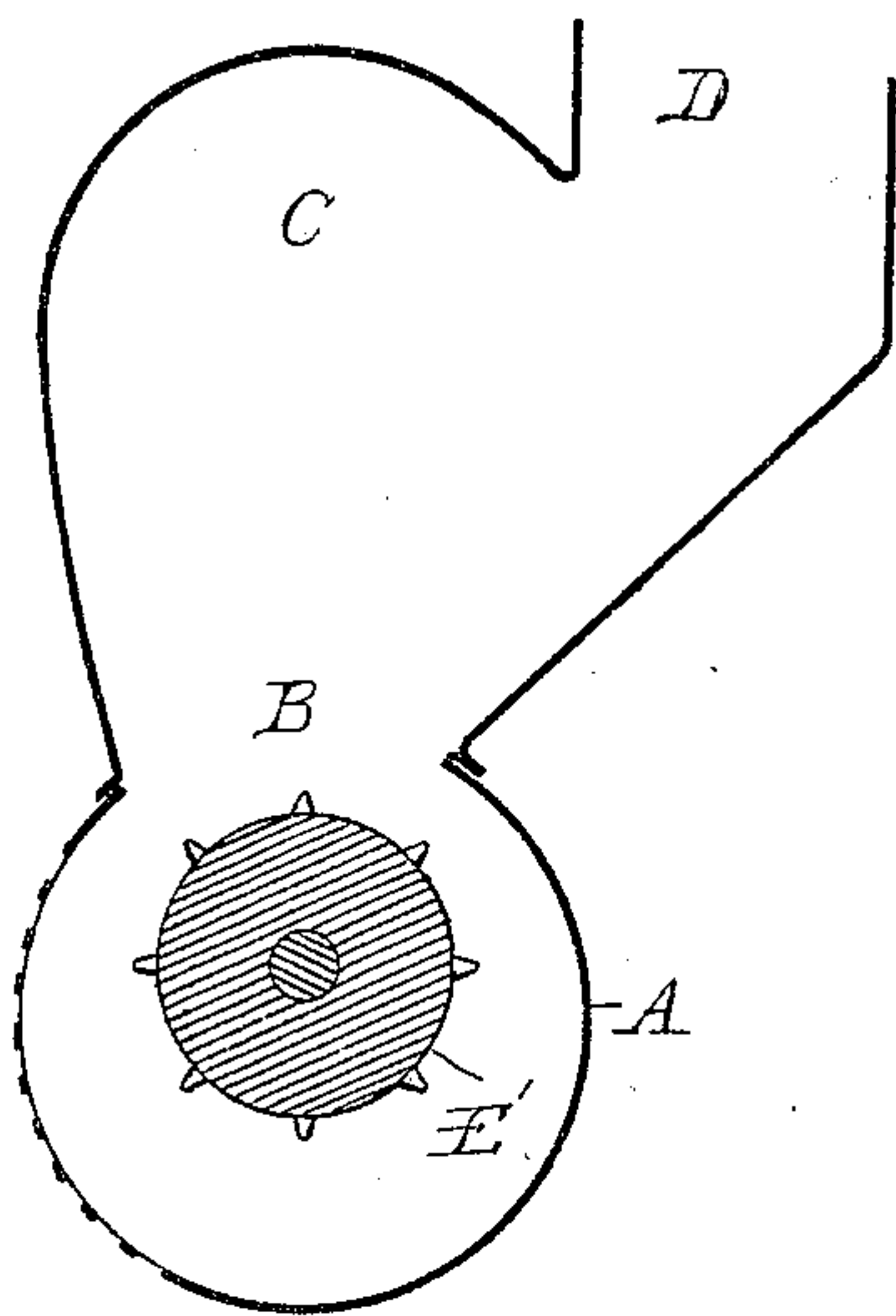


Fig. 3.

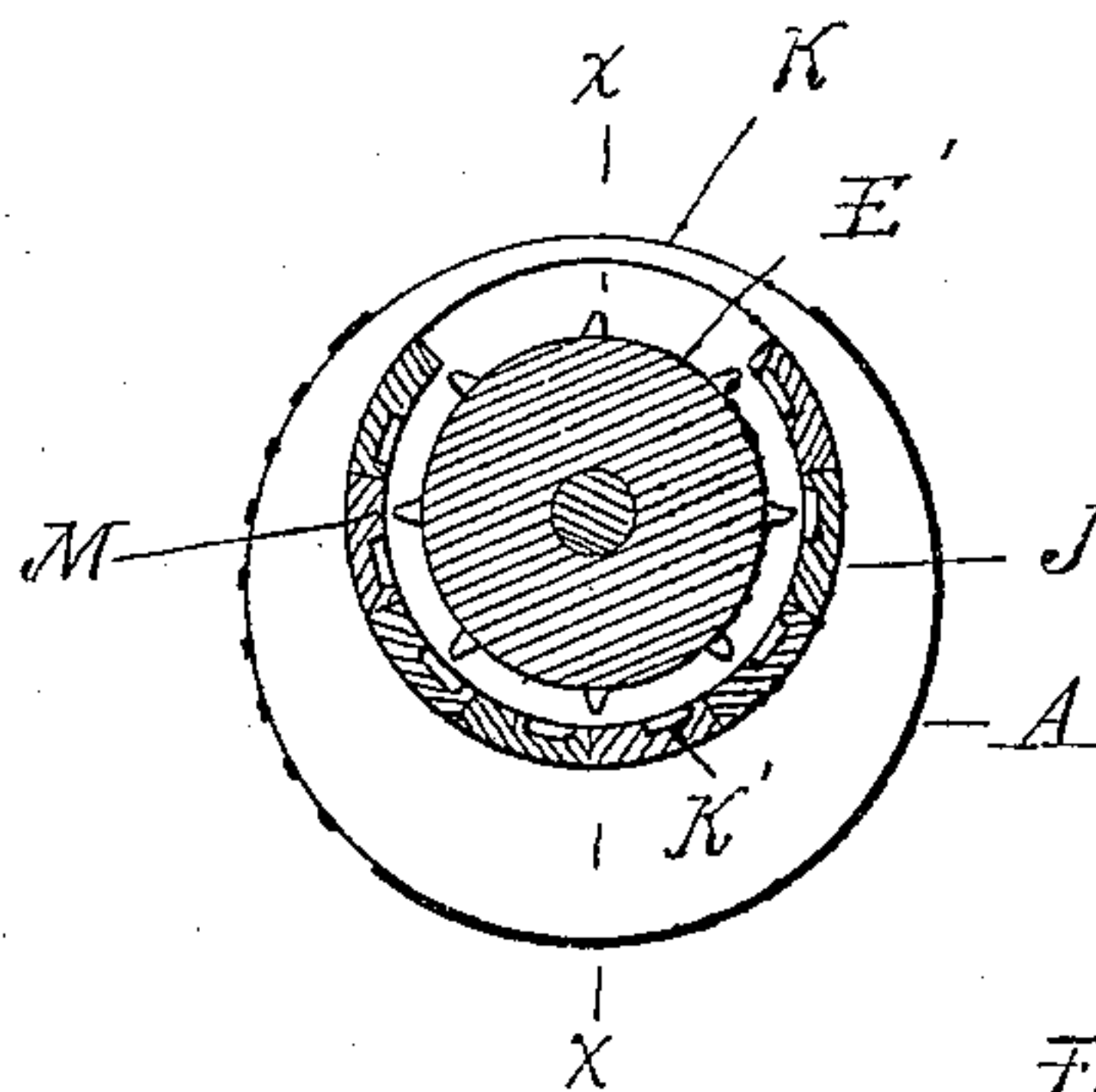


Fig. 4.

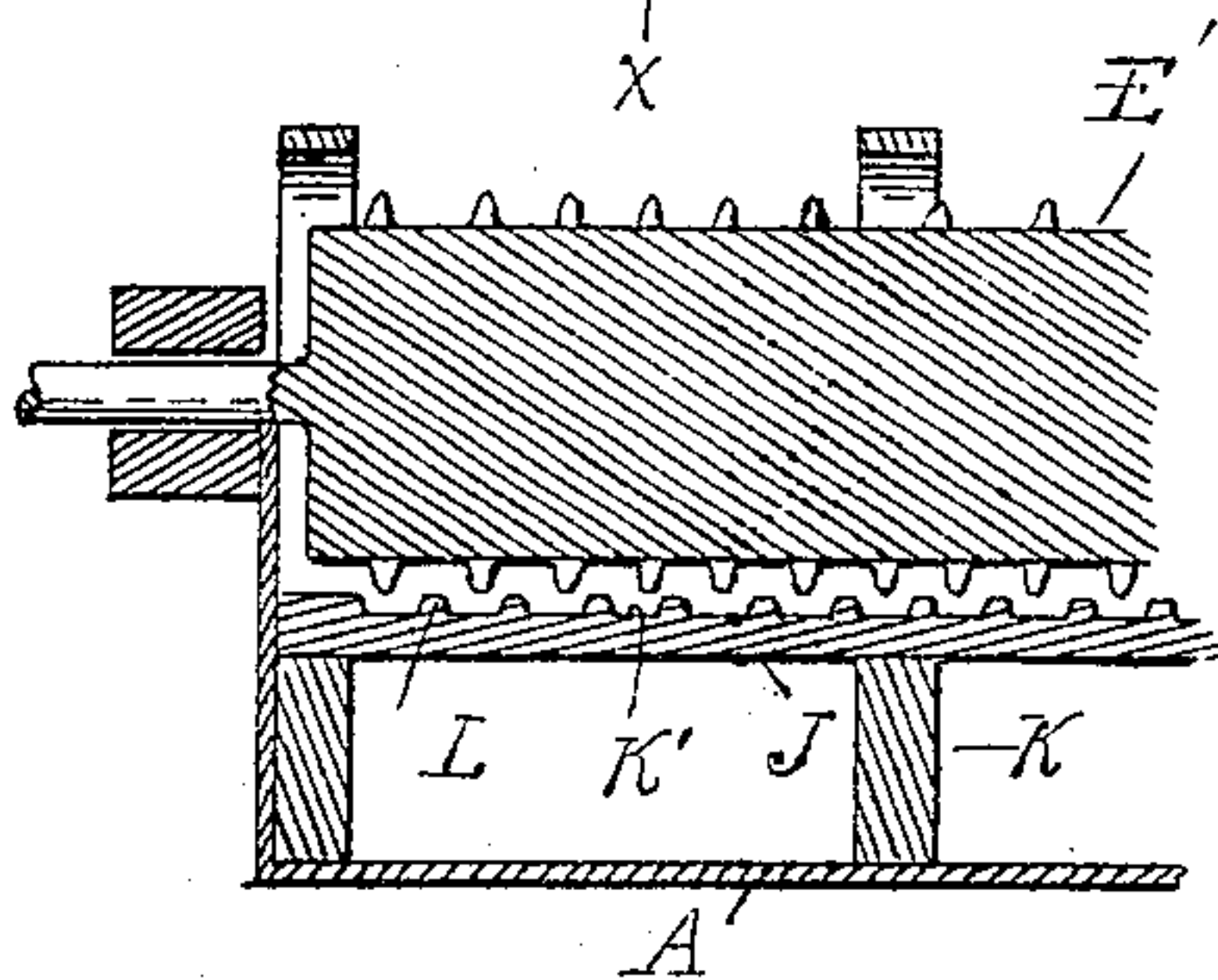
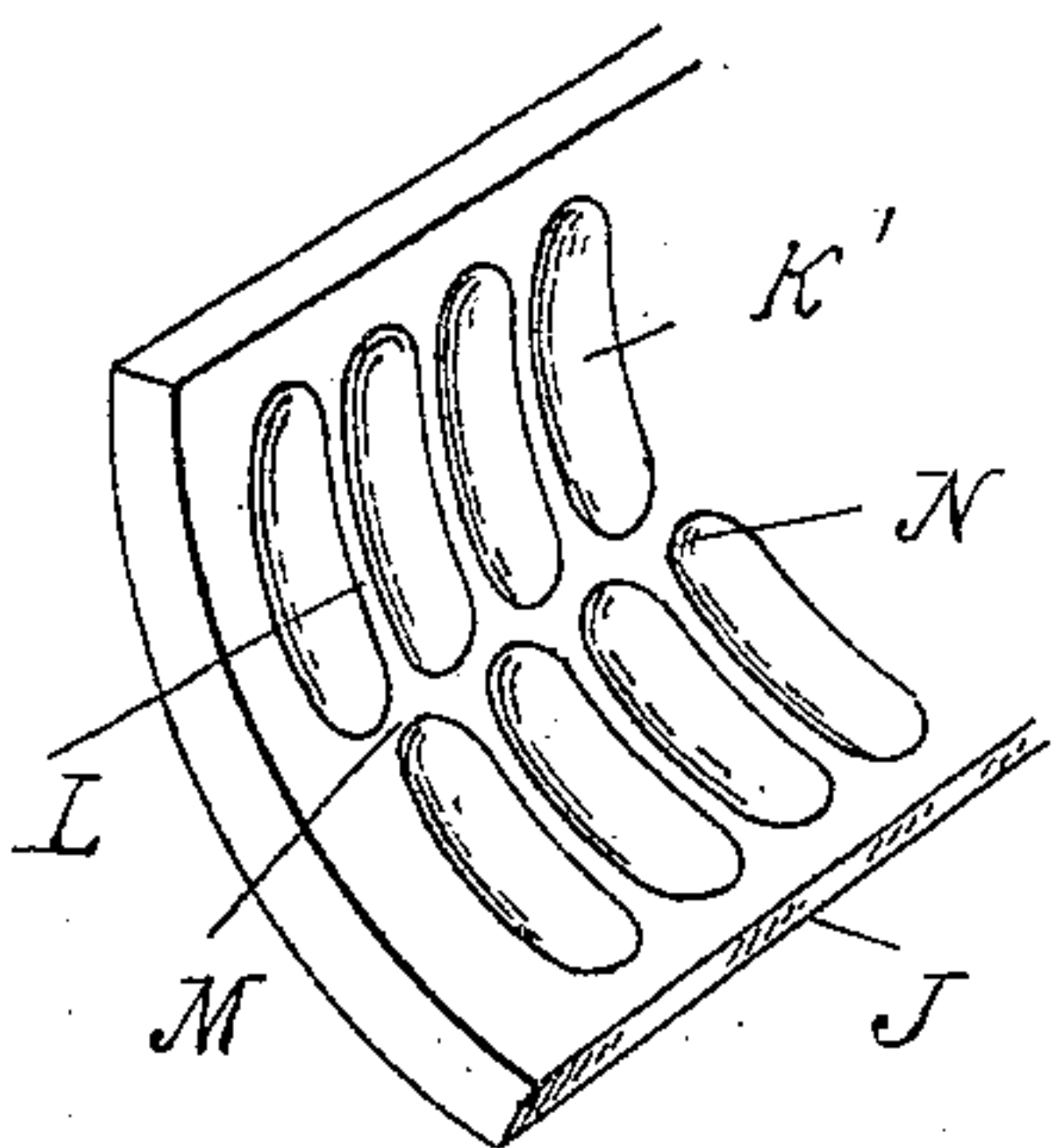


Fig. 5.



Witnesses
Otto A. Bantel
Wm. J. McCarthy

By

Inventor
James Donovan
Wm. J. McCarthy
Atty.

No. 611,807.

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Fig. 6.

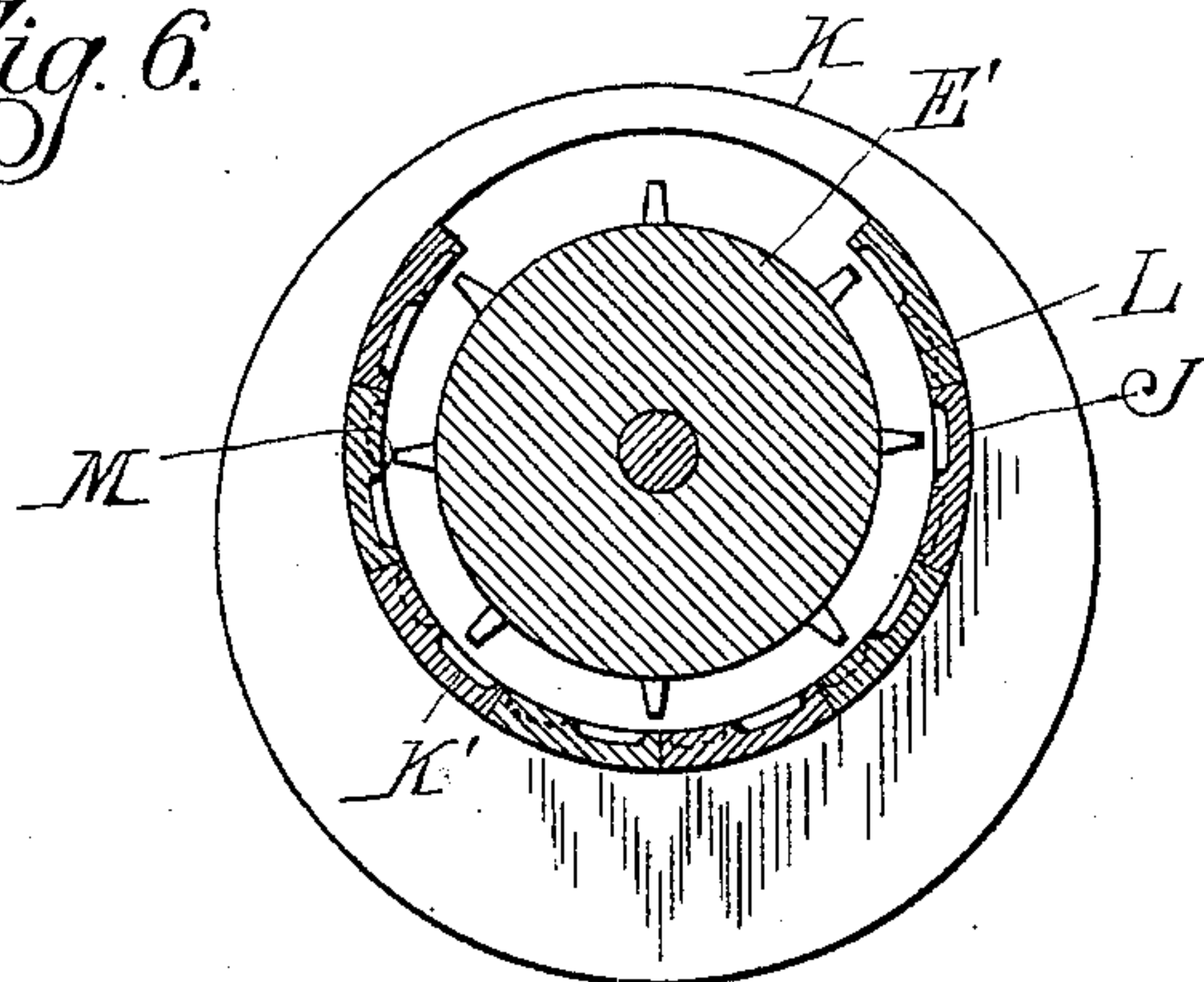
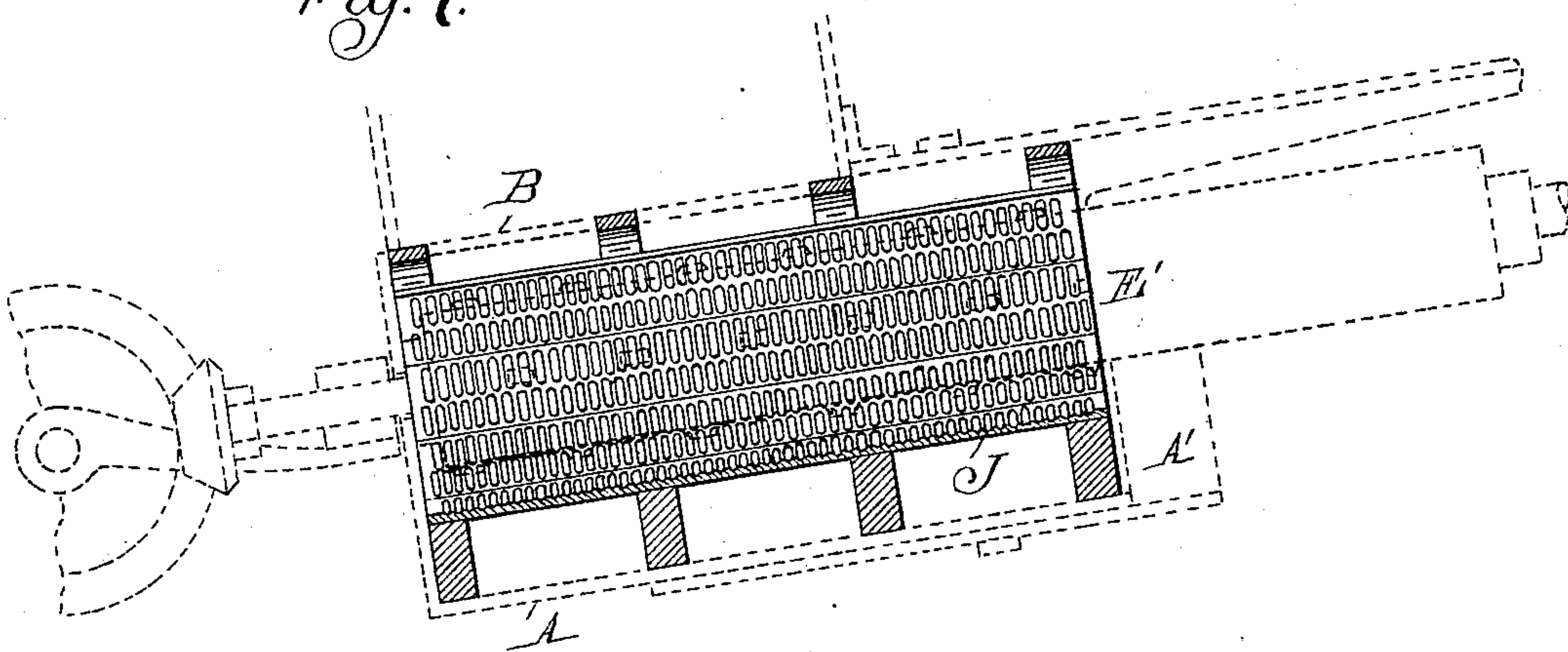


Fig. 7.



Witnesses:

Otto A. Buntel
W. B. Agnew

Inventor:

James Donovan,

By *McB. Maguire & Son*
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES DONOVAN, OF THREE RIVERS, MICHIGAN, ASSIGNOR TO THE
ROBERTS, THROP & COMPANY, OF SAME PLACE.

OAT-CLIPPING ATTACHMENT FOR CORN-SHELLERS.

SPECIFICATION forming part of Letters Patent No. 611,807, dated October 4, 1898.

Application filed November 5, 1897. Serial No. 657,459. (No model.)

To all whom it may concern:

Be it known that I, JAMES DONOVAN, a citizen of the United States, residing at Three Rivers, in the county of St. Joseph and State of Michigan, have invented certain new and useful Improvements in Oat-Clipping Attachments for Corn-Shellers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention is designed to save the user the expense of buying a separate machine by enabling him to convert his corn-sheller at comparatively little expense into an oat-clipping machine; and to this end my invention consists in the construction, arrangement, and operation of a removable concave adapted to be introduced within the concave of a certain well-known type of corn-sheller, and thereby convert the same by this single change into a most effective and satisfactory oat clipping and scouring machine, all as more fully hereinafter described, and shown in the drawings, in which—

Figure 1 shows in dotted lines a vertical central longitudinal section of a portion of a corn-sheller of well-known construction and to which my attachment is applied and shown in full lines. Figs. 2 and 3 are two like cross-sections through the cylinder of the corn-sheller, the former showing it without the attachment and the latter with the attachment in position therein. Fig. 4 is a longitudinal vertical section of the cylinder on line $x x$ in Fig. 3. Fig. 5 is a detached perspective view of a section of the concave for clipping oats. Fig. 6 is a section similar to Fig. 3 drawn to a larger scale. Fig. 7 is an enlarged view of a portion of Fig. 1.

The corn-sheller shown in the drawings is of a well-known type and may be further identified as the "Cyrus Roberts" corn-sheller described and shown in United States Letters Patent No. 353,885, of December 7, 1886, and No. 354,239, of December 14, 1886. Briefly described, the construction of this corn-sheller, as far as it is material to the understanding of my invention, is as follows:

A is a cylindrical casing the rear end of which communicates through an opening B with a hopper C, which hopper has a suitable

opening D, through which the ears of corn are introduced into the hopper, there being generally an elevating device E, which starts from near the ground and elevates the corn into the hopper. Within this casing (shelling cage or concave) is eccentrically mounted the revolving shelling-cylinder E', which is studded, as usual in this class of devices, with steel pins, teeth, or other equivalent projections. This casing and shelling-cylinder, which form the shelling devices, are mounted at an incline which is usually adjustable within a certain limit, and preferably the casing is provided with an adjustable sliding extension A', both of which devices are for the purpose of regulating the action of the drum. Beneath the drum are located the devices for separating the shelled corn from the debris, which devices include the vibrating shoe F, the revolving fan-wheel G, and the receiving-hopper H, with its conveyer-screw I for collecting the shelled corn and discharging it from the machine.

With a corn-sheller of this type my invention is carried out in the following manner: I construct a supplementary casing or concave J, which can be introduced within the casing A and which instead of being eccentric with the shelling-cylinder is concentric therewith and presents its interior surface to within a distance of about three-eighths of an inch, more or less, to the pins of the shelling-cylinder. This casing J, I preferably construct of a series of cast-iron staves bound together by iron loops or rings K, which are made eccentric, so that they bear the staves in concentric relation to the shelling-cylinder when the supplementary casing is in its proper position. Upon their inner faces the staves have elongated shallow pockets K', arranged in longitudinal rows in such manner that the pockets in the alternate rows are staggered, the object of these pockets being to produce upon the inner face of the staves an annular series of longitudinal ribs L, intersected by rows of transverse ribs M, which at their connection with the longitudinal ribs form a series of scallops N along said ribs.

In operation the corn-sheller is converted into an oat-clipper by inserting the supplementary

mentary casing described within the casing of the corn-sheller and securing it therein in any suitable manner against accidental displacement. The oats to be clipped are fed in
5 through the hopper, and by the centrifugal force created by the revolving cylinder the grains are thrown against the inner face of the casing and carried around, and as the distance in the center between two transverse
10 ribs is only wide enough to admit grains of oats minus barbs it is evident that the oats in being forced into and out of the pockets have their barbs bruised and knocked off, as said barbs are relatively the least resisting
15 part of the grain.

In making the pockets rather shallow and dish-shaped the action while not severe enough to bruise or injure the kernels still results in a thorough scouring, which greatly
20 enhances the appearance and value of the oats.

As the grain is discharged out at the open end of the casing (which latter is preferably used with the extension fully drawn out) it
25 falls below onto the vibrating shoe and is acted upon by the cleaning and separating devices in the usual manner, the dust and clippings and other like debris being blown off by the wind, while the clipped oats drop into
30 the collecting-trunk and are discharged by the screw conveyer.

My attachment thus needs no change or al-

teration in the corn-sheller to convert it into an effective oat clipper and scouring device, and thus greatly enhances the usefulness of
35 a corn-sheller, especially in view of the fact that in the corn-growing sections of the country where corn-shellers are mostly in extended use the necessity for oat-clipping machines
40 mostly exists.

What I claim as my invention is—

1. The combination with the shelling-cylinder and shelling-casing of a corn-sheller, of a cylindrical casing having its inner surface
45 formed concentric with said shelling-cylinder and having longitudinal rows of pockets therein and its outer surface having eccentric bearings adapted to fit the shelling-casing.

2. The combination with the shelling-cylinder and shelling-casing of a corn-sheller, of
50 a cylindrical casing removably secured within said shelling-casing comprising a series of stave and binding-hoops therefor, the inner surface of said staves being concentric with said shelling-cylinder and having longitudinal
55 rows of pockets formed therein for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES DONOVAN.

Witnesses:

JAMES MCCARTHY,
MARVIN H. BUMPFREY.