

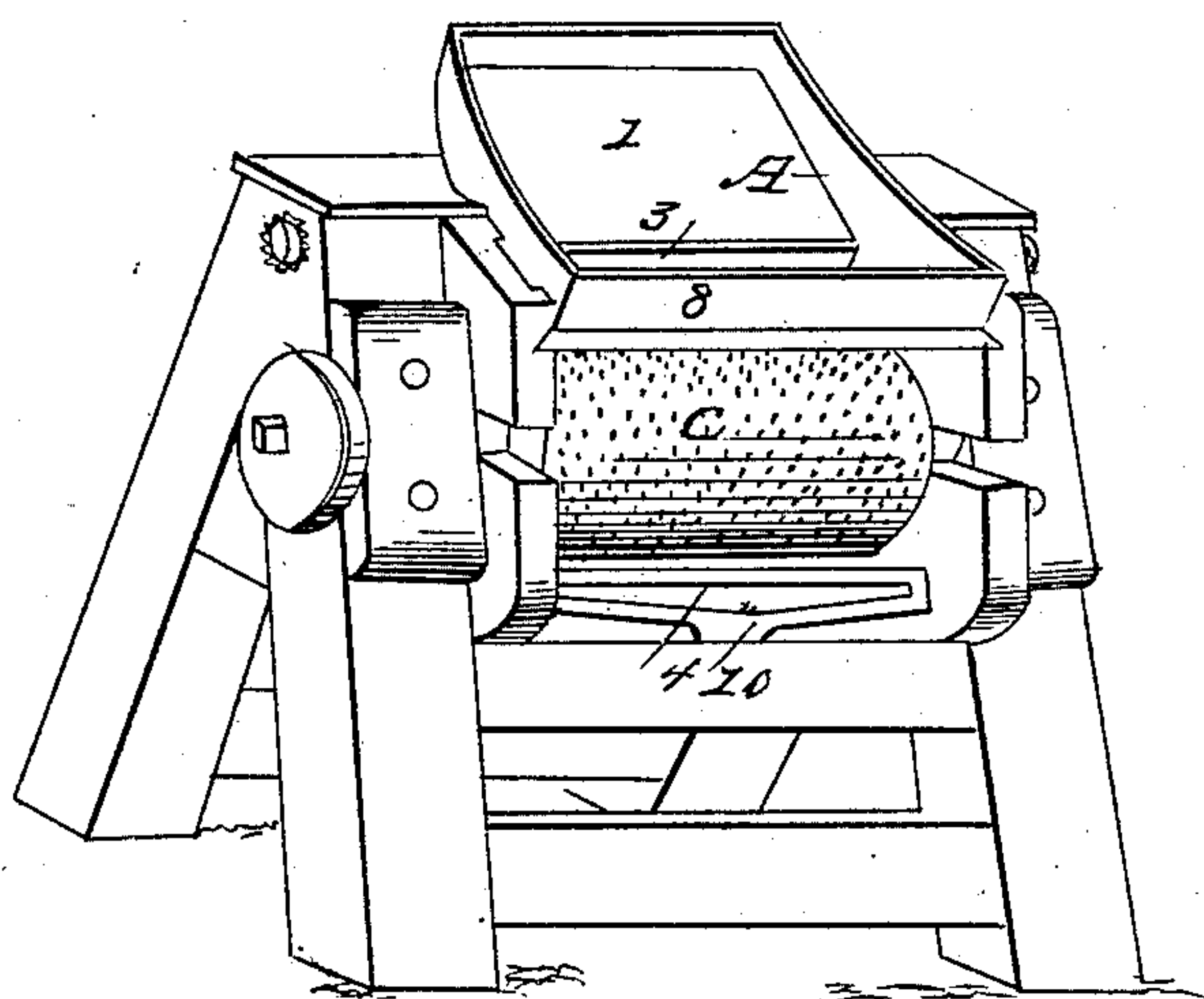
McILROY, BOON & BOON.

Corn Sheller.

No. 1,112.

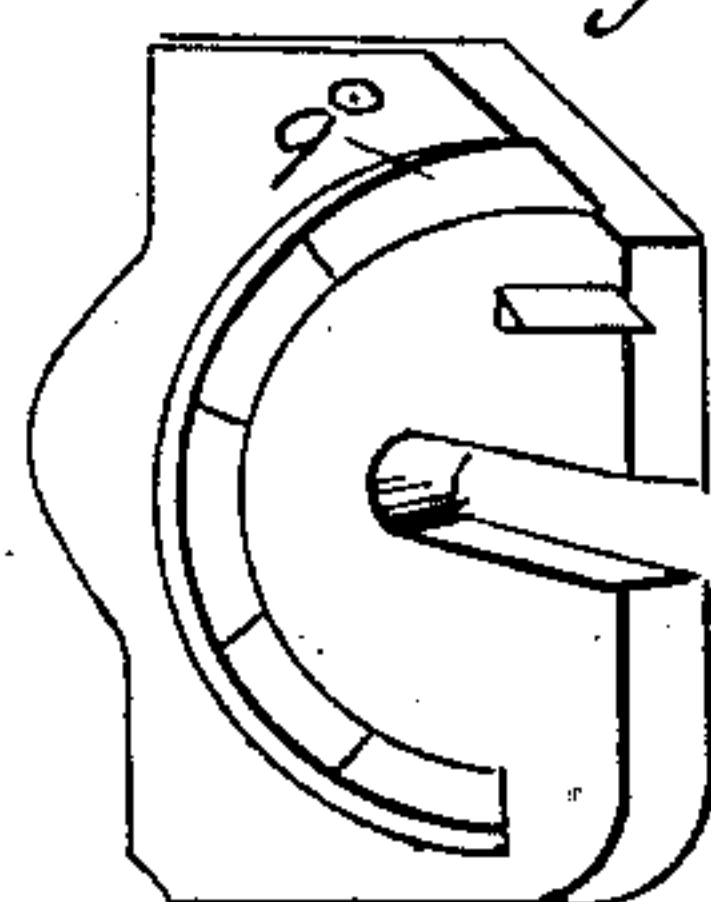
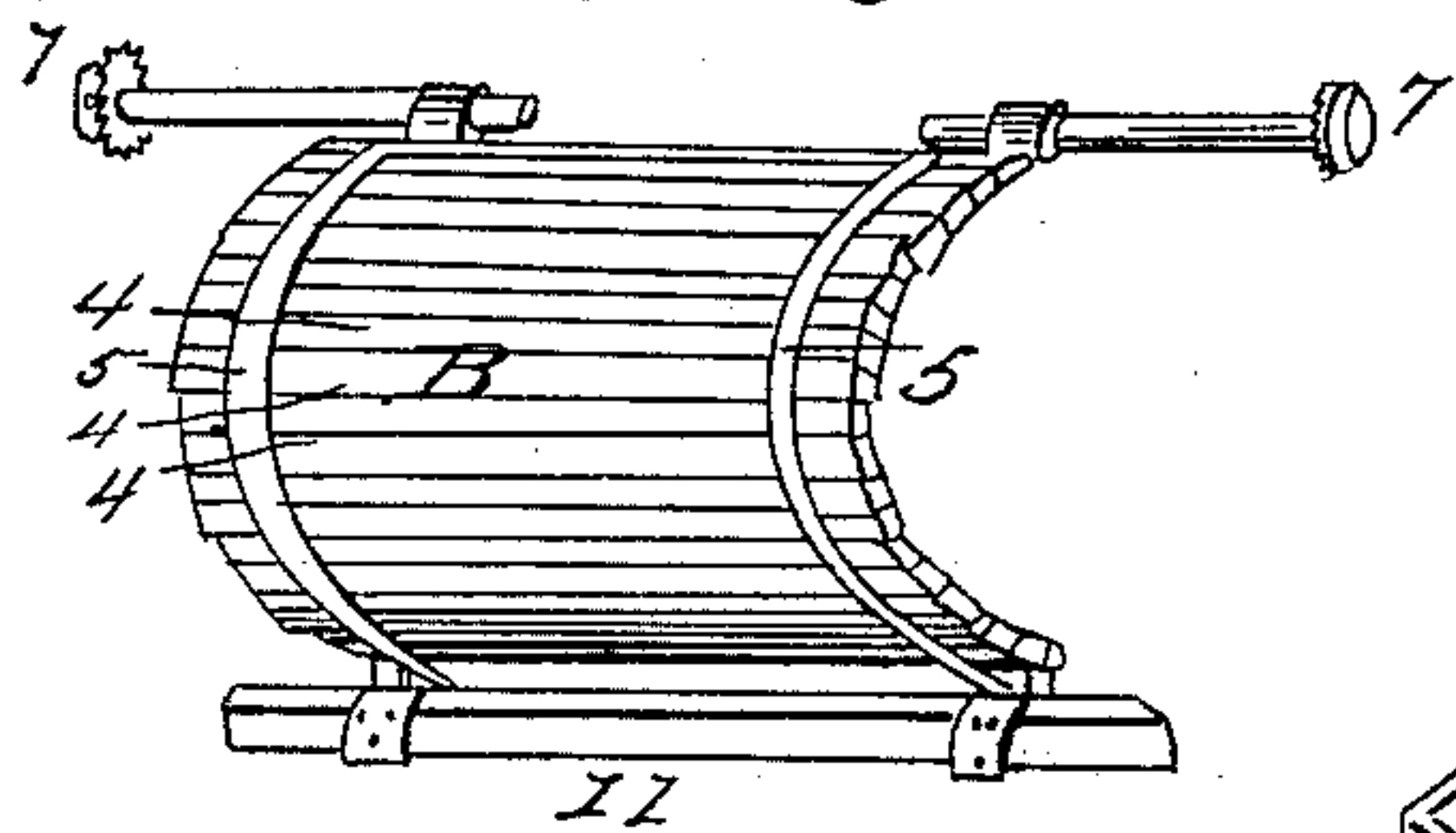
Patented March 30, 1839.

*Design. 1,*

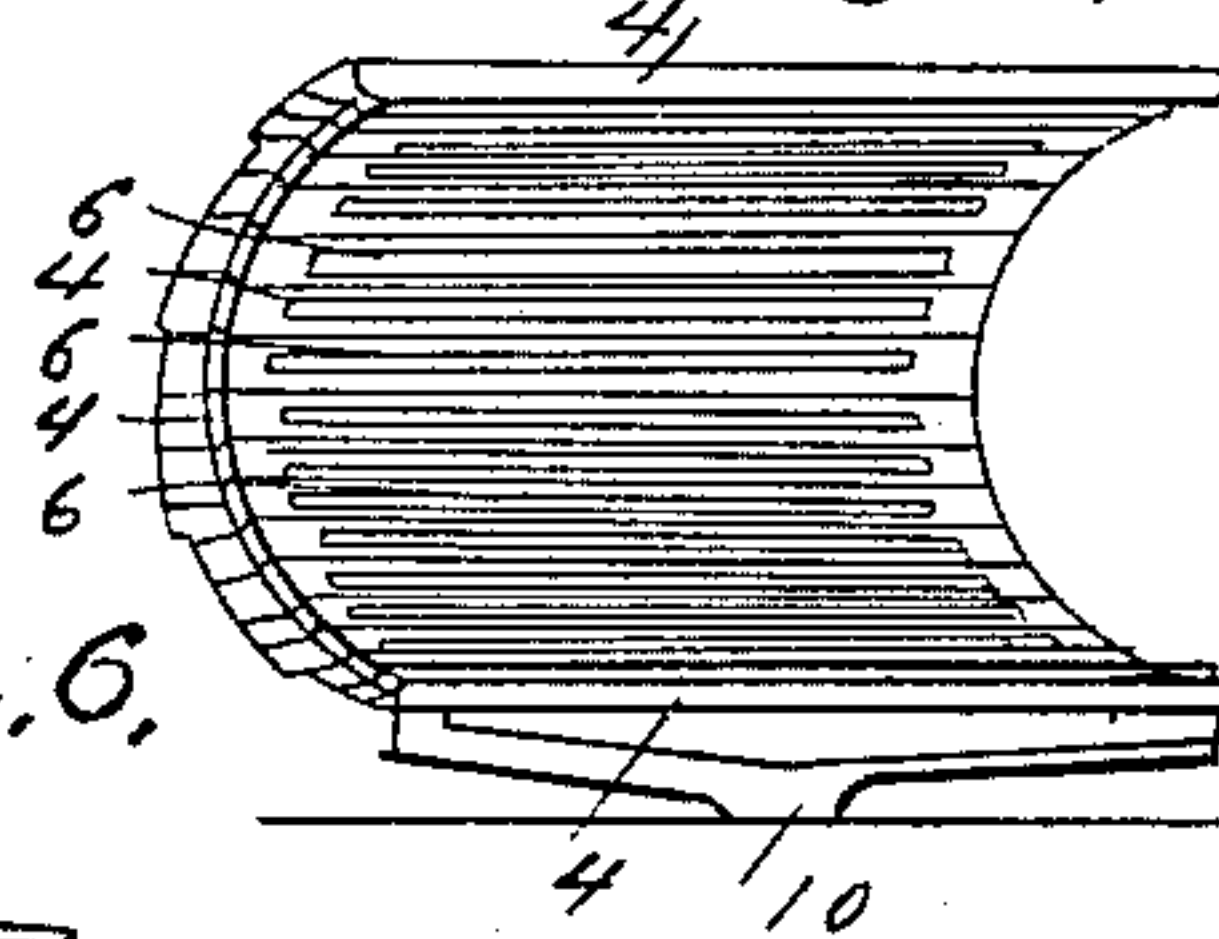


*Design. 5.*

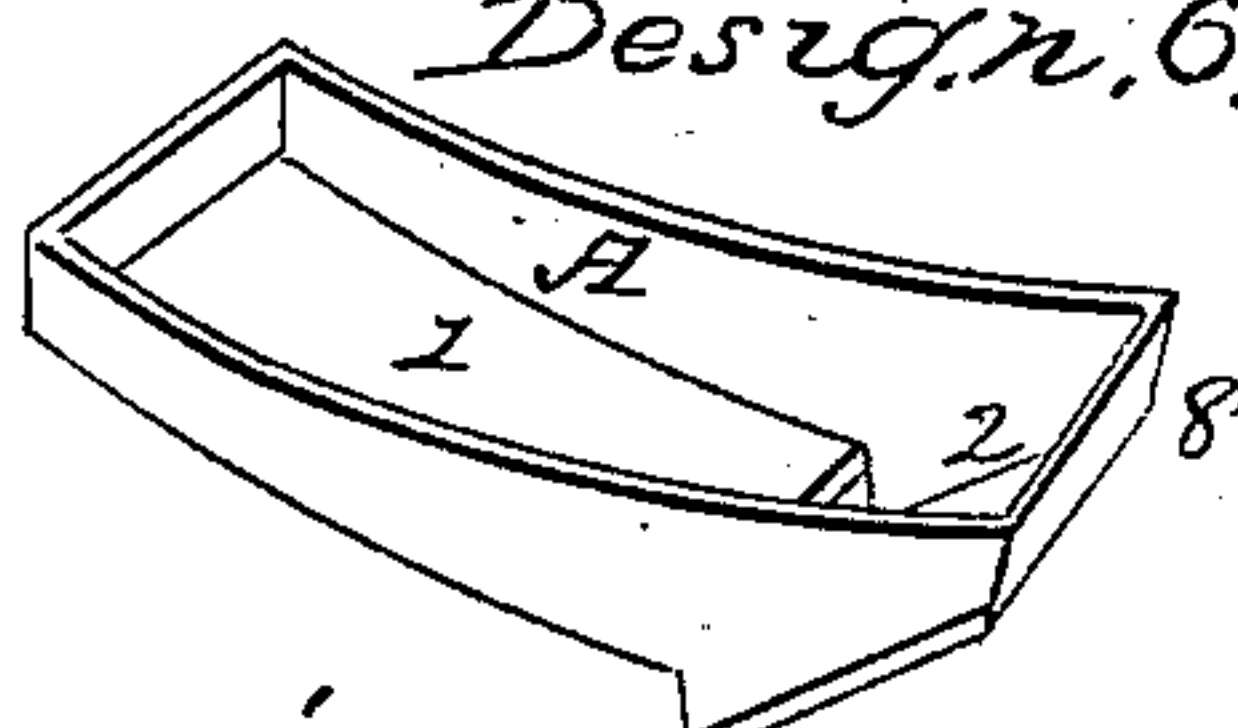
*Design 3*



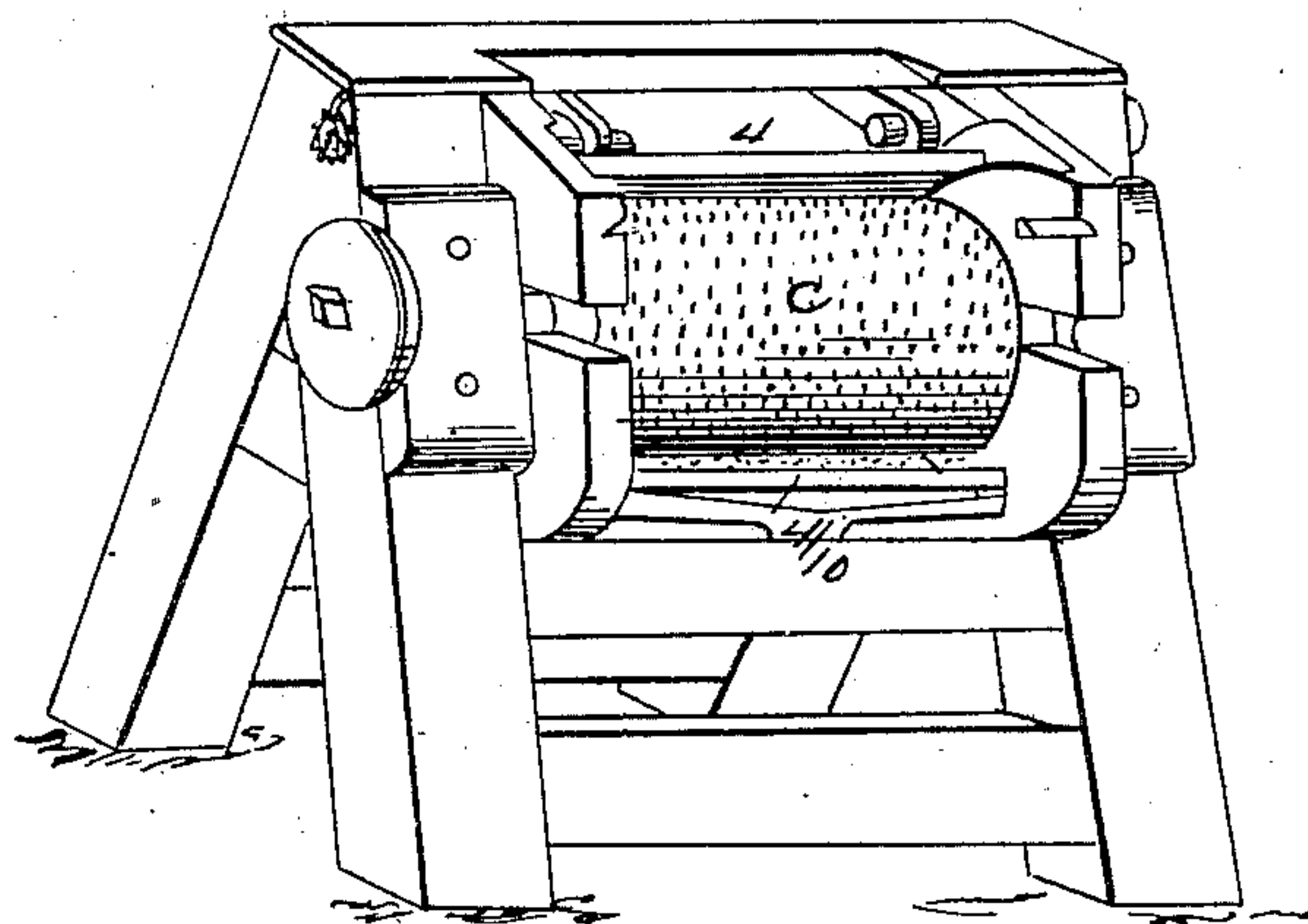
*Design. 4*



*Design. 6.*



*Design. 2,*





# UNITED STATES PATENT OFFICE.

WM. MCILROY, JR., B. BOON, AND W. BOON, OF GREENWICH, NEW JERSEY.

## MACHINE FOR SHELLING CORN.

Specification of Letters Patent No. 1,112, dated March 30, 1839.

*To all whom it may concern:*

Be it known that we, WILLIAM MCILROY, Jr., BARTLEY BOON, and WILLIAM BOON, all of the township of Greenwich, in the county of Warren and the State of New Jersey, have jointly invented a new and useful Improvement in the Mode of Shelling or Threshing Indian Corn; and we do hereby declare the following to be a full and exact description thereof, to the better and more perfect understanding of which, however, we also refer to the accompanying drawings.

In the first place Design 1 in the drawings represents a perspective view of the entire machine, by which it will be perceived, as is the case, that we use an ordinary frame for the support of the cornshelling apparatus, that the hopper, letter A, in the same design is also of ordinary construction and placed as in ordinary, and that furthermore the cylinder, letter C, also in the same design, is a common horizontal cylinder, armed in its circumference by threshing teeth or spikes so closely placed as to prevent the ears of corn and cobs, and so forth, from insinuating themselves between said threshing teeth, &c.

Secondly Design 2 represents the same machine with the hopper A removed.

Design 3, marked originally, letter B, in the drawings, represents a back view of the part wherein consists our improvement, to wit: the back of a pliable, "self-adapting, elastic back" with its sustaining strips, &c., while Design 4 represents a front view of the same back with its internal horizontal bars for giving a rolling motion to the ears of corn, &c., which are made to pass over its surface.

Design 5 represents the face of the inner sides, or rather the inner faces of the sides of the machine on a level with the self adapting back and cylinder, but is chiefly designed to show the loose groove or rabbeting 9 in the same for the reception, play and support of the corresponding edges of the semicircular self-adapting back, Design 3, as will be hereafter more fully had relation to.

Design 6, represents the hopper apart from the machine from which it is readily lifted.

The pliable self adapting elastic back represented in the drawings, Designs 3 and 4, is composed of an indefinite number of horizontal staves, properly of from  $1\frac{1}{2}$  inches to  $2\frac{1}{2}$  inches in width and of suitable thickness.

These staves, marked 4 in said designs, are separately fastened behind to two common leather or other straps or cords placed near their respective extremities, running the course of the entire back with the exception of the one (or two) lower staves, and marked 5 in the same design, to wit: Design 3. The staves 4 in the designs aforesaid have their inner faces furnished with one or more metal or other raised ledges or bars 6, in the Design 4, running with their length, at proper intervals, for the purpose of affording, as was before stated, a rolling motion to the ears and cobs passing over their surface, while every third or fourth stave is made a trifle longer than the remainder generally for purposes to be hereafter described. The self adapting back thus composed is to be constructed of a sufficient number of staves to enable it to half surround the cylinder (C, in the drawings,) which will generally be of from 15 to 18 inches in diameter, at a proper distance for allowing the intermediate passage of the ears of corn, &c. Its sides of course will describe a large semicircle, in this position, and will be made to rest in the groove or rabbeting 9, in Design 5, already had relation to, in which the back will find movement and support. In this groove also, there are to be sundry deep-end loose mortises for the reception of the lengthened staves of the back, whereby a firm support is gained to the back against the downward dragging motion of the cylinder and corn, &c., the object being also to divide the resistance between a number of points. Pins or other simple mechanical means will promote the same result. The straps or cords 5, in Design 3, are firmly attached at the lower part of the machine to a cross piece 11, in Design 3, set into the frame, while above they are connected with a stout roller or rollers 7, in the same design, and also in Designs 1 and 2, by the operation of which through a lever, the whole back is relaxed or straightened at pleasure and the distance between it and the threshing teeth on the cylinder increased or diminished at will. The said roller or rollers may be furnished with notch wheels and catches or other means to retain them firm. The first upper stave should have its anterior edge slightly elevated so as to form something of a mouth for the more ready reception of the corn falling from the hopper above. The last lower, and perhaps also



the next to the last of the lower staves, will rest, not on the straps or cords, but on a wooden or other spring or springs, marked 10 in Designs 1, 2, and 4, whereby the elastic motion is also obtained for which the straps are chiefly desirable. The object of the straps, &c., however is pliability as well as elasticity, both of which objects are attained by their use, to such a degree as to bring on an excellent adaptation of the back to the sizes of the ears of corn so passed between it and the working cylinder, C, at various points at the same time. The anterior edges of the self adapting back show themselves in position at 4, in Designs 1, 2, and 4. The wooden spring supporting the last lower stave is seen in the drawings at 10 in the same designs. The hopper must be so constructed and placed as to direct the ears of corn into the space intermediate to the back and cylinder. The corn will be received to most advantage by those parts if directed between them in a horizontal position.

25 The advantages of our improvement are briefly, the constant and accommodating

pressure made by the "self-adapting back" upon the ears of corn of various sizes, along with the rolling motion conferred on them by the bars 6, in Design 4. Secondly, the convenience and certainty with which the distance between the back B, Design 3, and the cylinder C, Design 1, can be shifted by means of the straps and rollers, the great amount of power saved by the lessened friction in consequence, as well as by the comparative non breakage of the cobs, &c. Thirdly, the advantage of retaining the cobs whole for fuel, &c.

Finally what we claim as our invention and desire to secure by Letters Patent is—

The mode herein described of sustaining and regulating the self-adapting back by the combined action of the straps, &c., and lower spring or springs.

WM. McILROY, JR.  
BARTLEY BOON.  
WILLIAM BOON.

Witnesses:

WM. C. McCULLOUGH,  
DAVID C. SMITH.