

No. 628,955.

Patented July 18, 1899.

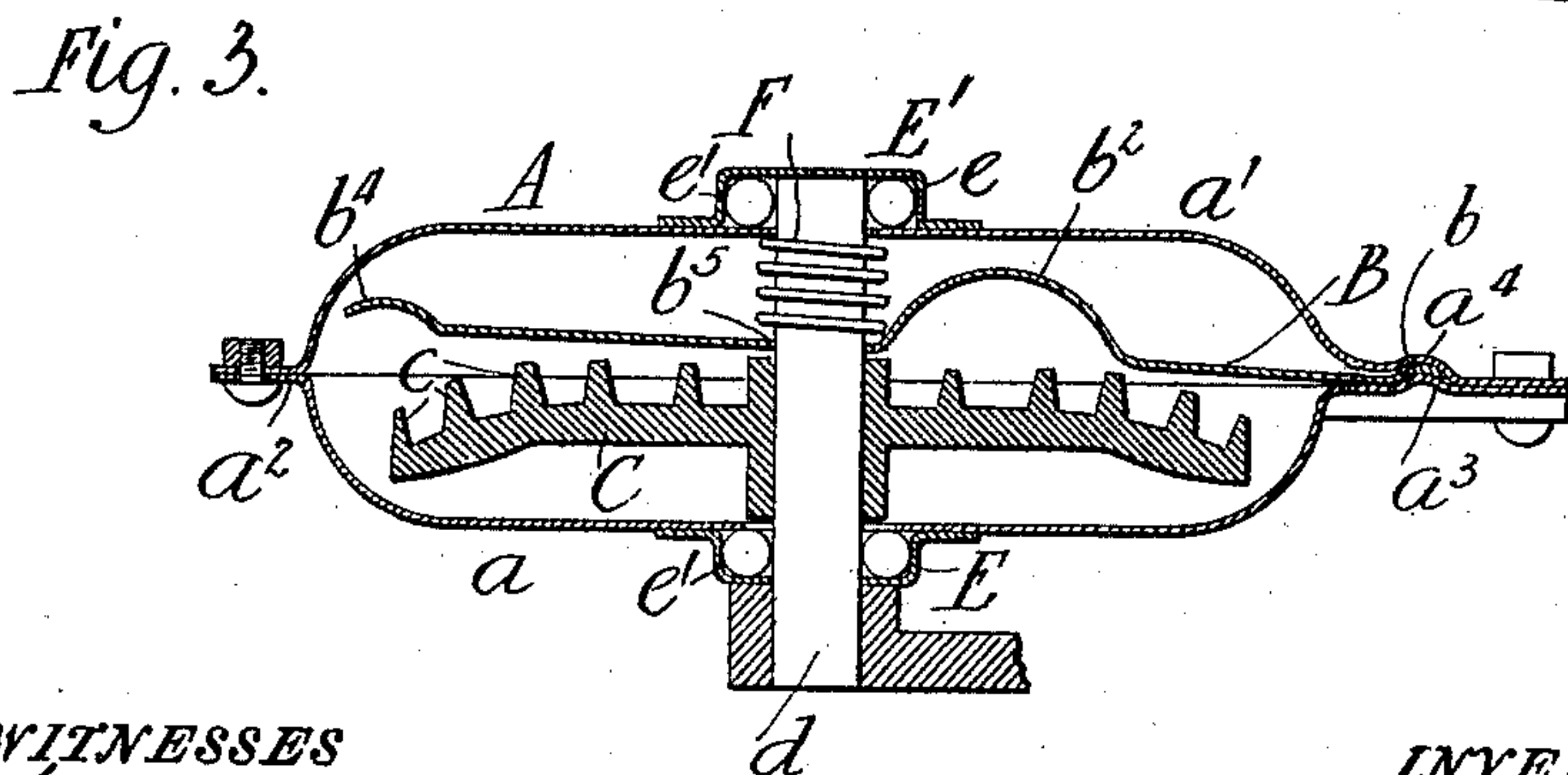
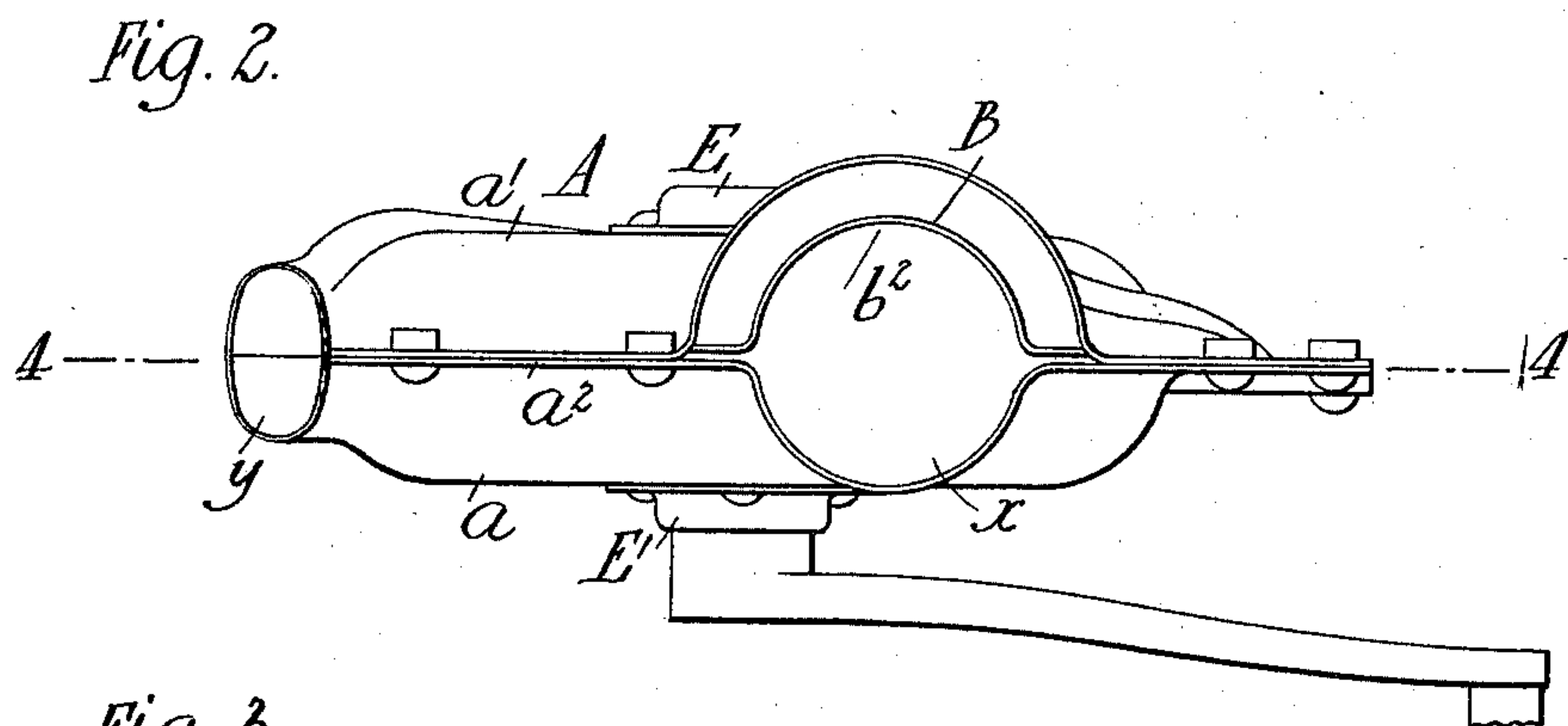
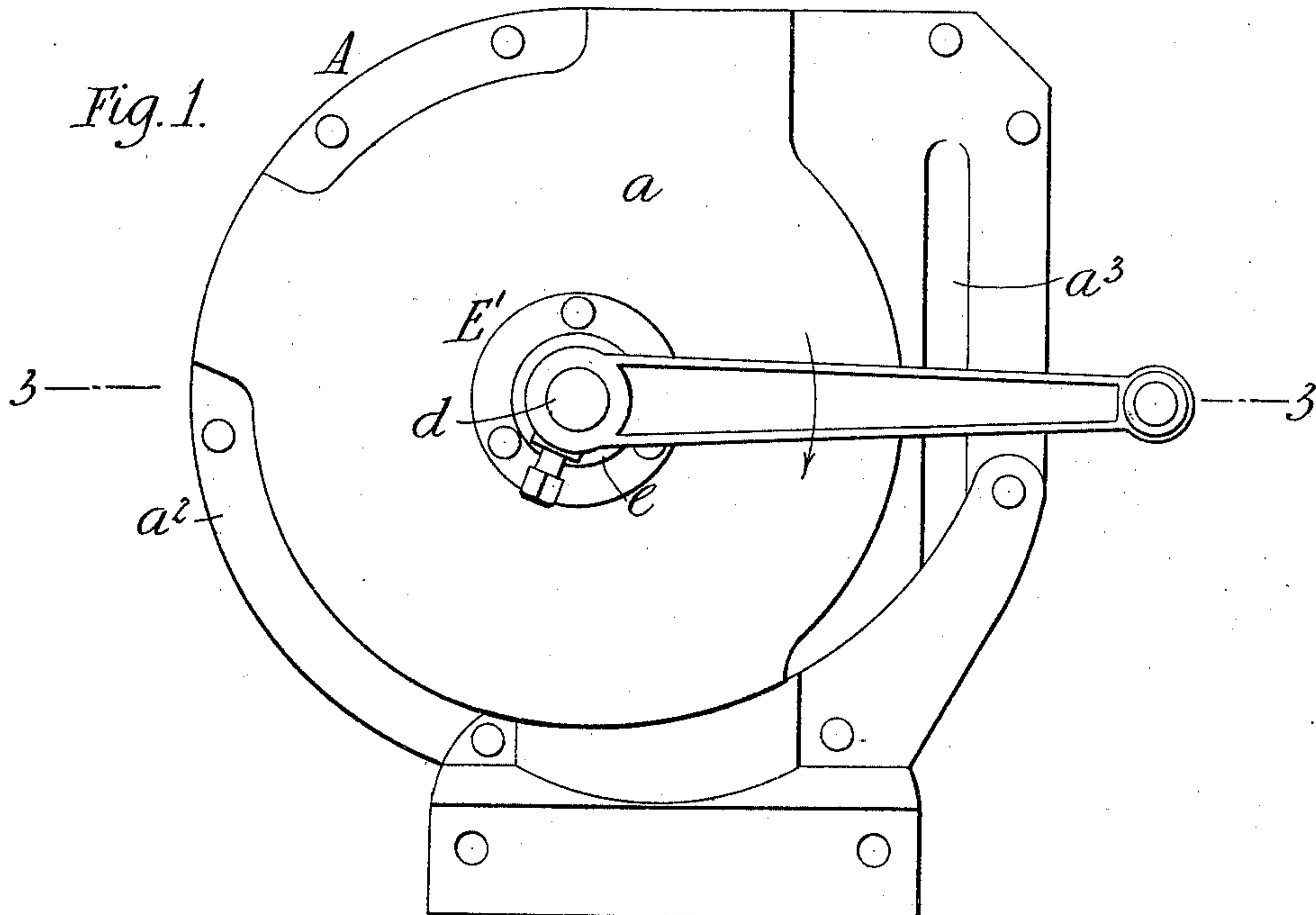
C. N. McLAUGHLIN.

CORN SHELLER.

(Application filed May 20, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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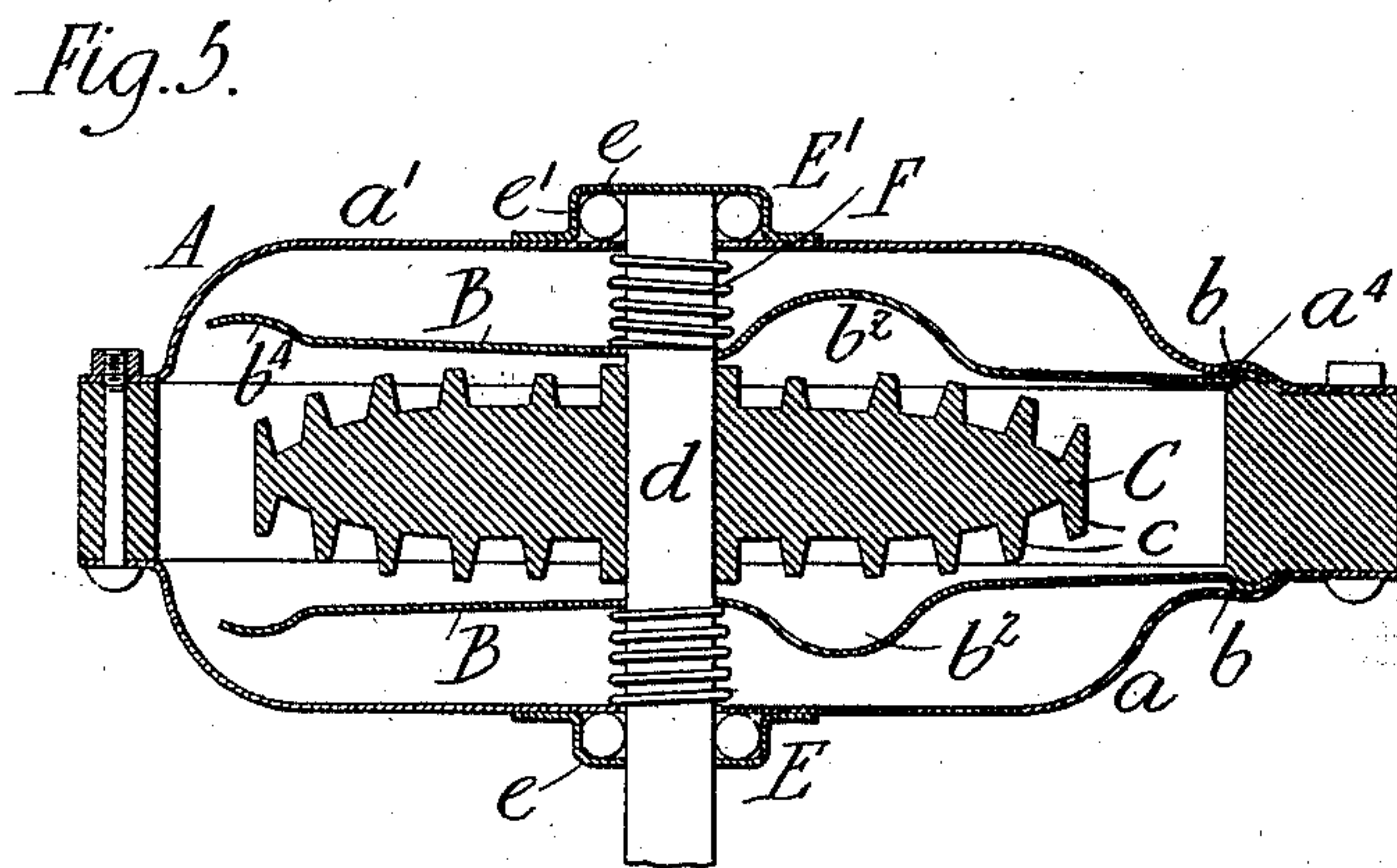
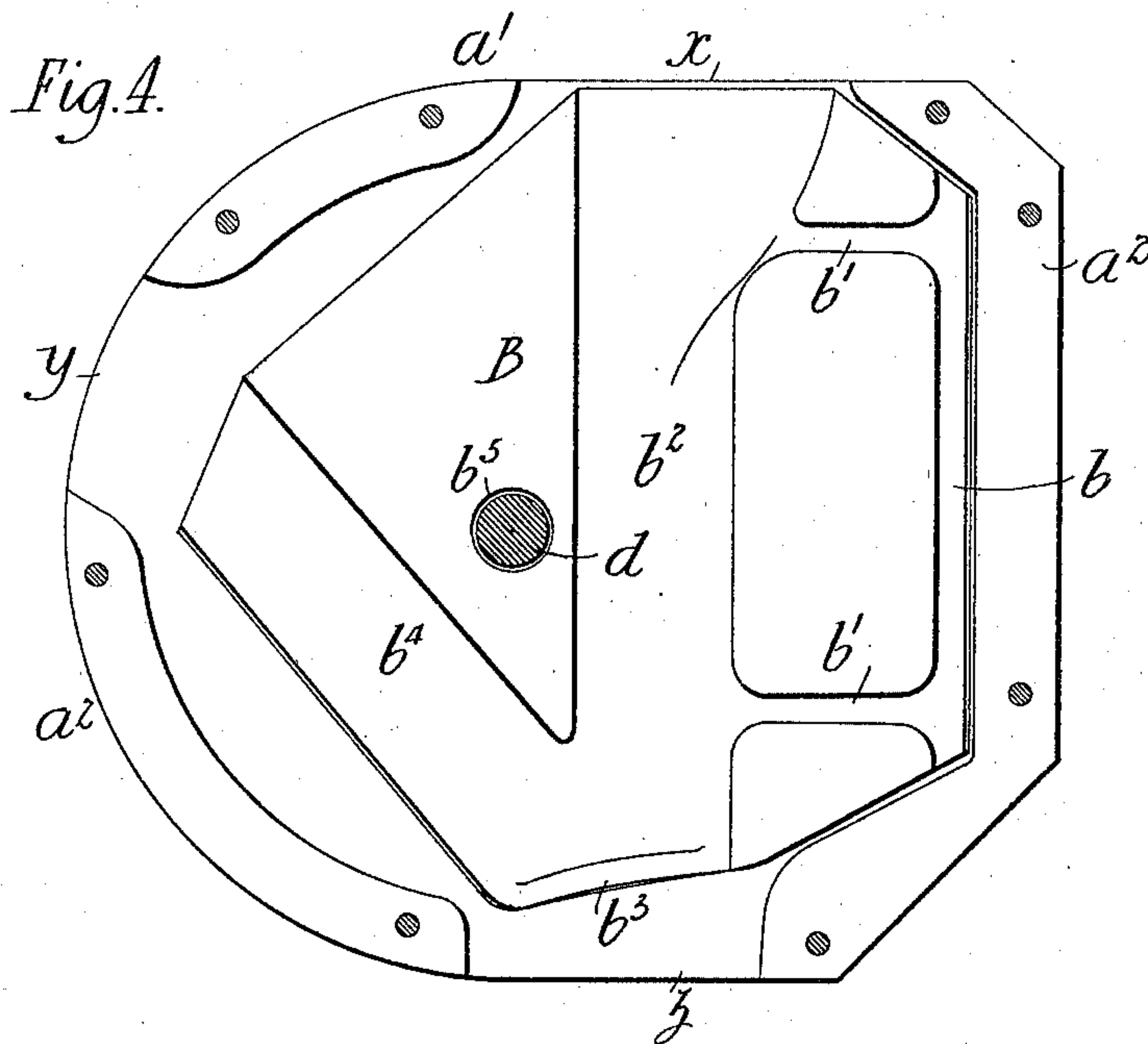
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

CUNNINGHAM N. McLAUGHLIN, OF WINONA, MINNESOTA.

CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 628,955, dated July 18, 1899.

Application filed May 20, 1898. Serial No. 681,232. (No model.)

To all whom it may concern:

Be it known that I, CUNNINGHAM N. McLAUGHLIN, a citizen of the United States, residing at Winona, in the county of Winona and State of Minnesota, have invented certain new and useful Improvements in Corn-Shellers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention is directed to improvements in corn-shellers, and has for its object the production of a machine of this character possessing advantages, among which are simplicity and economy of construction, efficiency in operation, and durability.

A further advantage lies in the provision of means in the nature of protected anti-friction-bearings for the operating-shaft, whereby the machine may be continuously run by the exercise of but little power and all liability of interruption through clogging of the parts is reduced to the minimum.

The nature of my improvements will become apparent from a reading of the following description, which is directed to the details of construction and operation, and in connection with this description attention is called to the accompanying drawings, in which—

Figure 1 is a view in elevation of my improved corn-sheller. Fig. 2 is a top plan view. Fig. 3 is a horizontal sectional view on line 3 3 of Fig. 1. Fig. 4 is a vertical sectional view on line 4 4 of Fig. 2. Fig. 5 is a horizontal sectional view of a double machine embodying my invention.

Referring to the said drawings by letter, A denotes the casing of the machine, which is formed in two sections a a' , bolted together at intervals, and B is the wing-plate, between which and the shelling-disk C the corn is shelled. The sections a a' and the wing-plate B may be produced by a variety of methods and from various materials. The peculiar form, structure, and manner of assemblage of these parts, however, enable the same to be stamped out of sheet metal, pref-

erably steel, and such method enables a production which is attended with comparatively little labor and time, and as a consequence the machines may be made and sold at a low price. The employment of the method and material stated obtains the desired rigidity, and in addition the liability of fracture common in the use of castings, for instance, is practically overcome.

The sections a a' of the casing beyond the meeting edges a^2 are concaved to provide space for the wing-plate and shelling-disk, and at three points peripheral openings x y z are provided, through which the corn is fed and from which the shelled cobs and kernels are discharged, said openings being formed by bending portions of the edges of each of the sections outwardly in the stamping operation. The edges a^2 of the sections are extended at one side, and between said edges is confined one edge of the wing-plate, the latter having a groove b , which is interposed between a tongue a^3 and a groove a^4 , formed, respectively, in the sections a and a' . The wing-plate adjacent to the groove b is formed with grooves b' b' for the purpose of rigidity and strength.

Centrally of the wing-plate is a channel b^2 , formed by a bend substantially semicircular in cross-section, said channel extending in a straight line from the opening x to the opening z . The upper end of the channel is outwardly tapered, and the lower end is contracted by a deflecting-flange b^3 . The wing-plate is also provided with a channel b^4 , similar to the aforesaid channel, extending from the opening y to the opening z . These channels provide passages for the corn, as will be understood.

The shelling-disk C is provided on its outer or contact face with a plurality of teeth c , which in practice operate through the rotation of the disk to shell the ears of corn. The disk is rigidly mounted upon a shaft d , journaled in bearings in the casing-sections, and said disk at its inner side is close to the inner casing-wall, whereby the adjacent bearing is protected against accumulation of foreign substances, which would tend to clog and interfere with its working and, moreover, would promote friction and wear. The shaft d passes through an opening b^5 in the wing-plate, the

opening being of sufficient size to permit movement of the plate, as will be presently understood. The wing-plate operates as a protection for the opposite bearing in a manner similar to that described with reference to the other bearing.

The bearings in which the shaft is journaled may be of any desired construction, including the cone type; but it is the purpose of my invention to employ antifriction-bearings for the shaft, and thereby secure ease of operation and the minimum of wear. Ball-bearings are shown by preference, the ball-races *e* being arranged in pressed-steel housings *e'*, bolted on the exterior of the sections. One of the bearings, *E*, serves as a thrust-bearing for the shaft, and the other bearing, *E'*, is open to permit of the shaft being brought through and beyond the casing for the attachment of an operating-handle *d'*. The construction of the bearing *E'* allows of the removal of the section *a'* without disturbing the balls.

F is a coiled spring which encircles the shaft between the inner wall of the section *a'* and the wing-plate. The function of this spring is to render the wing-plate self-adjustable to accommodate itself to different-sized ears of corn. The inner end of the wing-plate being confined as above described, said plate is yielding, the spring operating to normally press the plate in the direction of the disk and to keep the ears in close contact with the latter during the shelling operation.

In the operation of the invention the disk is rotated in the direction of the arrow, and the ear of corn entering the casing at *x* is carried by the movement of the disk downwardly through the channel *b³* until by coming into contact with the flange *b³* at the lower end of the channel it is deflected to and carried by the disk into and along the channel *b⁴*, from whence it is discharged through the opening *y*, the kernels passing out through the lower opening *z*.

In Fig. 5 is shown a machine constructed and operating as above described, but having a double capacity by reason of the employment of a shelling-disk having teeth on each face and an additional wing-plate *B*. In this construction one side of the machine is preferably used for smaller ears, while the other side is used for larger ears of corn.

I claim as my invention—

1. In a corn-sheller, the combination of a casing having receiving and discharging openings, a shelling-disk rotatable in the casing, a wing-plate yieldingly mounted in the casing and having channels in alinement with the openings and a deflecting-flange at the lower end of one of the channels, and a spring interposed between the casing-wall and wing-plate and operating to press said plate toward the toothed side of the disk, substantially as and for the purpose described.

2. In a corn-sheller, the combination of a casing having a receiving and two discharging openings, and having side extensions provided with interfitting tongue and groove, a wing-plate within the casing and provided at one edge with a groove engaging the tongue and groove of the casing, and provided with a channel in line with the receiving and one of the discharging openings, said channel having a deflecting-flange, and with a channel in line with the two discharging-openings, a shelling-disk at one side of the casing, a shaft for said disk journaled in antifriction-bearings in the casing-sections and passing loosely through an opening in the wing-plate, and a spring encircling the shaft and interposed between the casing-wall and wing-plate, substantially as described.

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

CUNNINGHAM N. McLAUGHLIN.

Witnesses:

IDA R. PEHLER,
W. J. SMITH.