(No Model.) 2 Sheets—Sheet 1.

W. BAYLEY.

HAND CORN SHELLER.

No. 497,486. Patented May 16, 1893.

Fig. 1

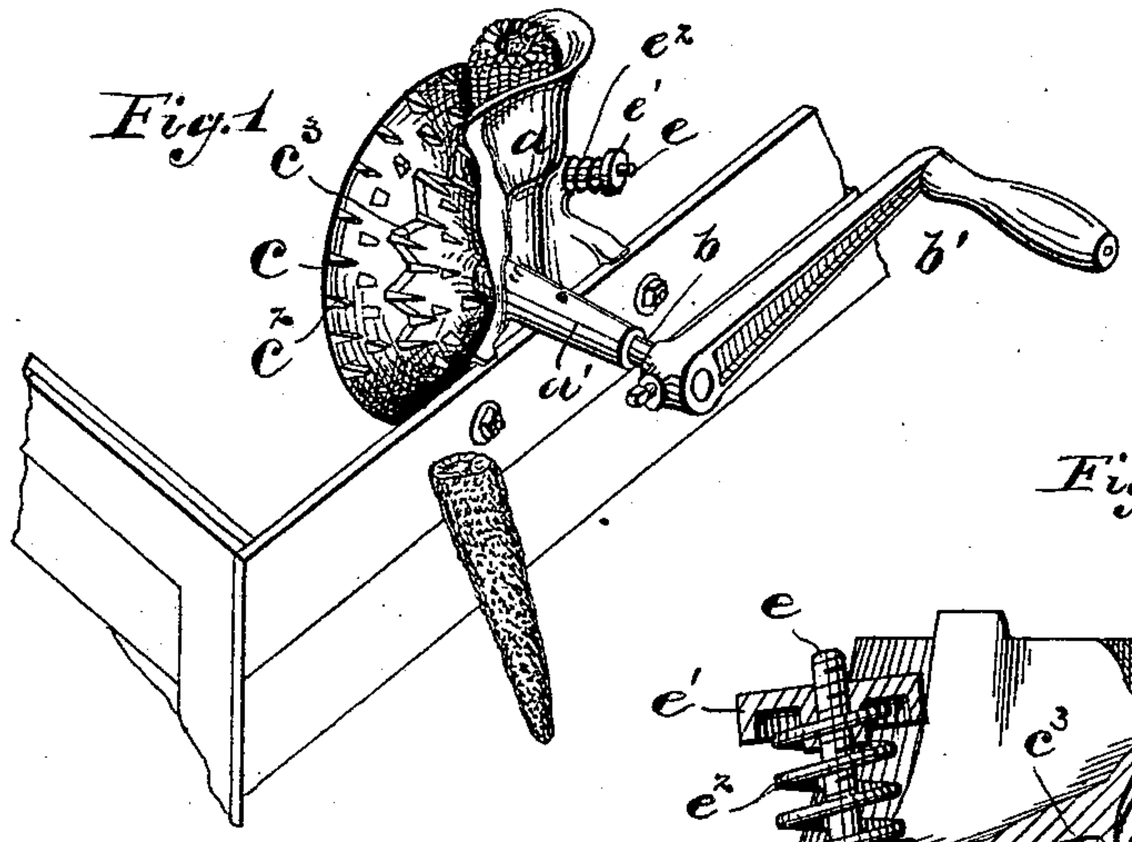


Fig. 3

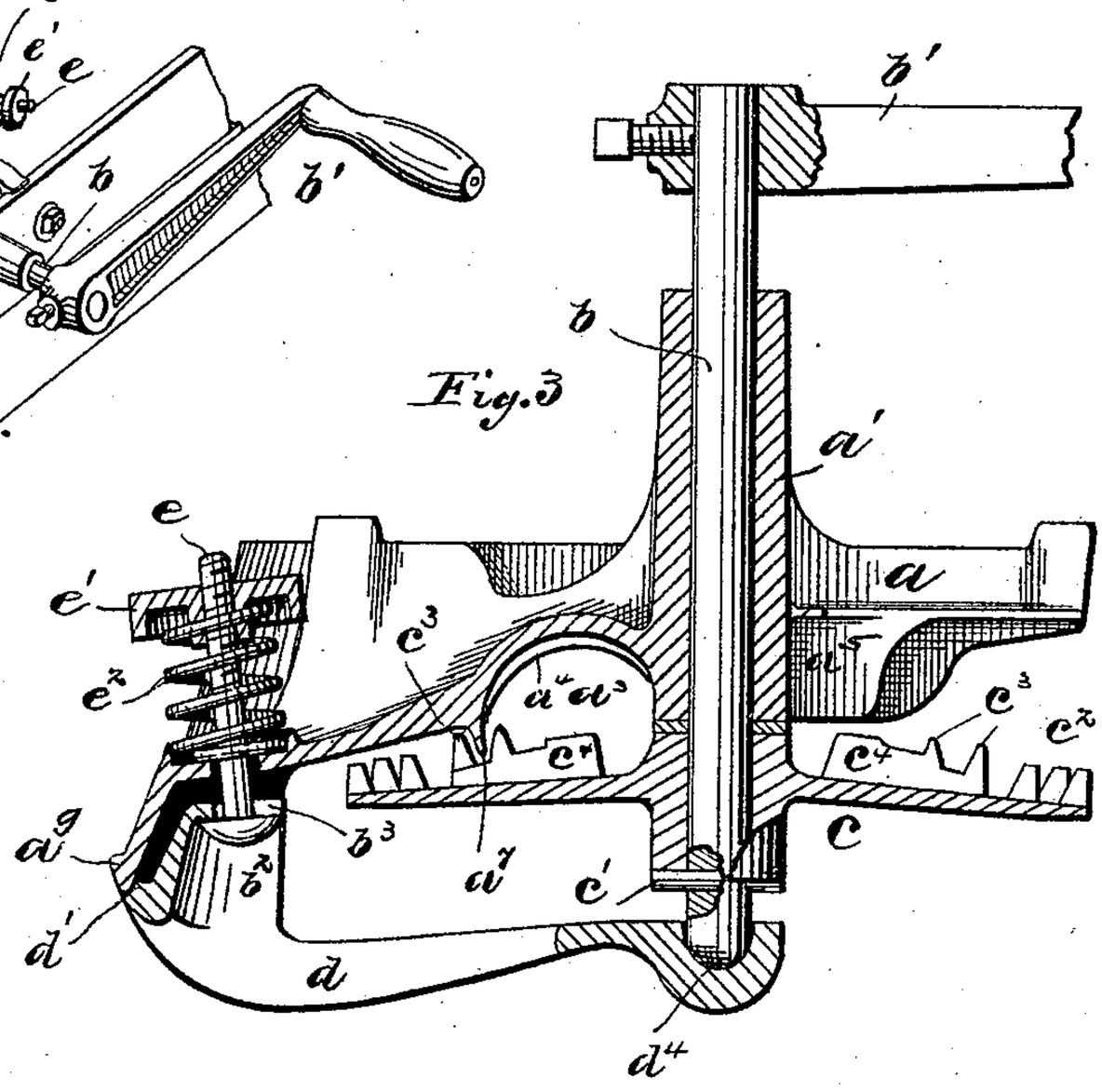


Fig. 2

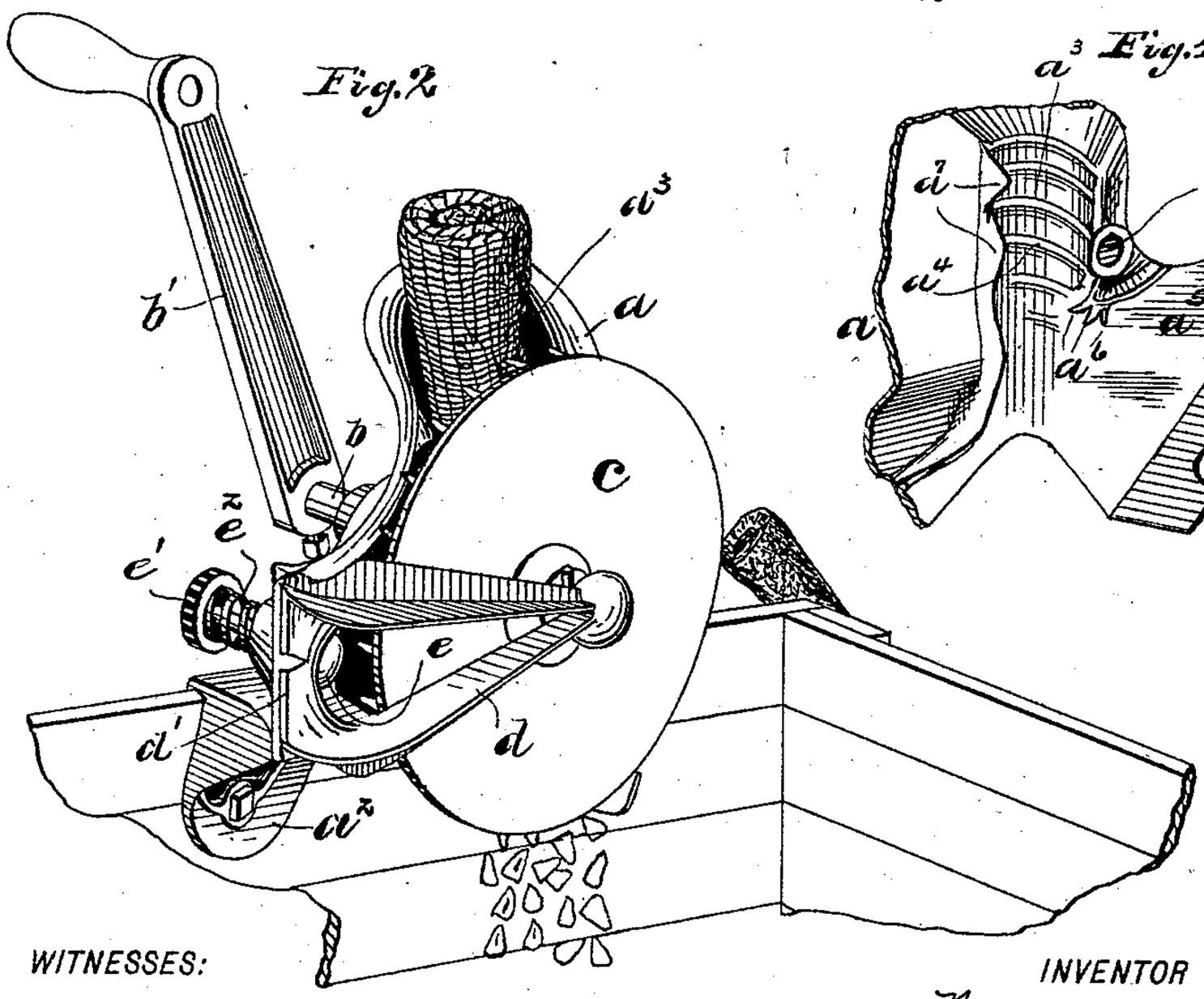


Fig. 4

WITNESSES:

Frank Watt

Jas. M. Smith

INVENTOR

William Bayley

BY Stuart & Shepherd

ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

W. BAYLEY.

HAND CORN SHELLER.

No. 497,486. Patented May 16, 1893.

Fig. 6

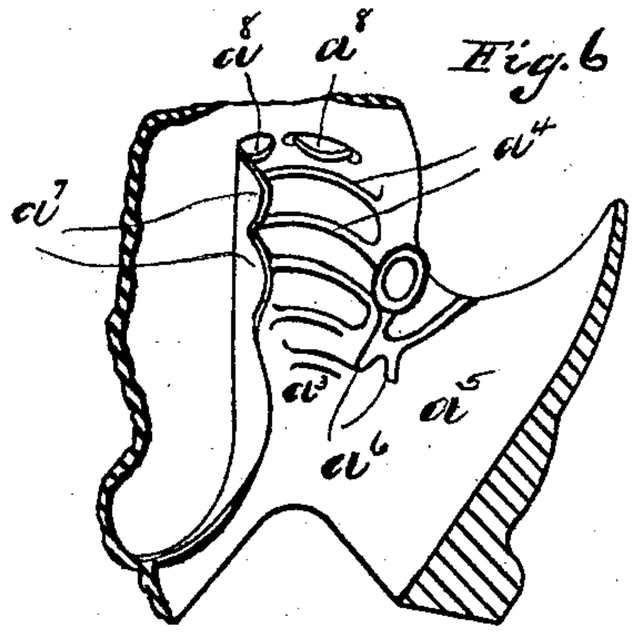


Fig. 5

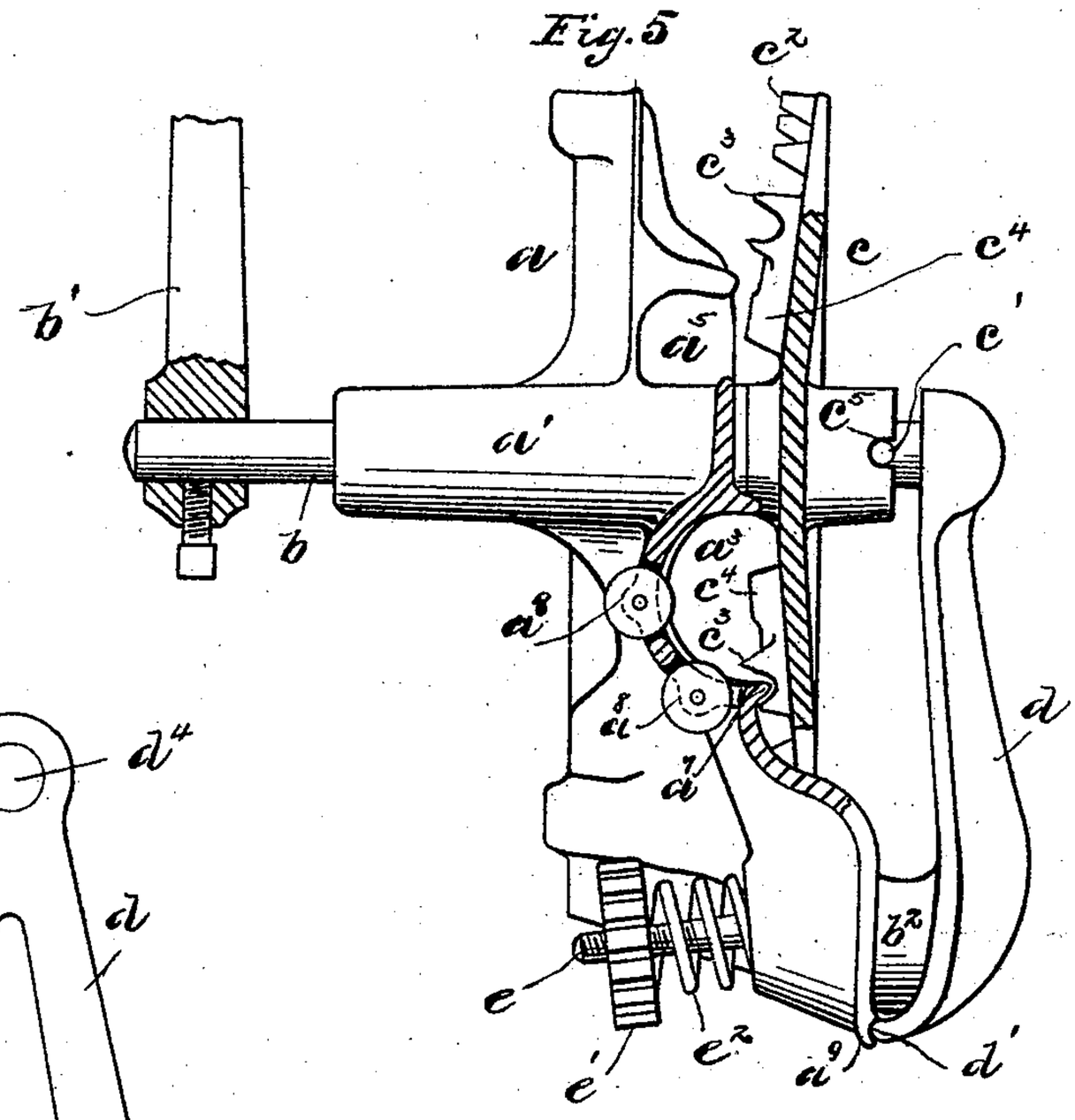
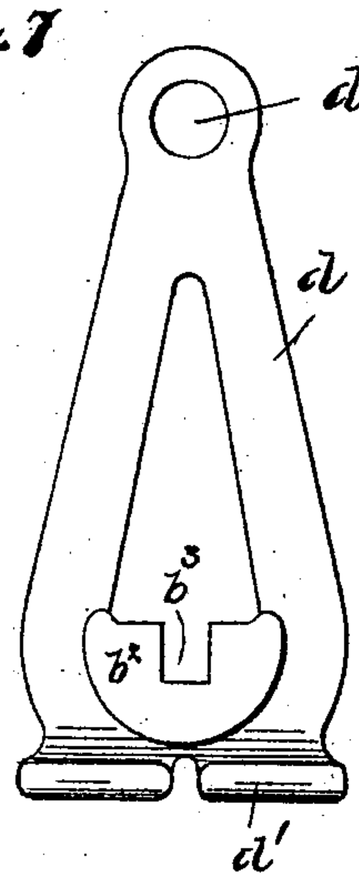


Fig. 7



WITNESSES:

Frank Watt

Jas. M. Smith

INVENTOR

William Bayley

BY Staby and Shepherd

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM BAYLEY, OF SPRINGFIELD, OHIO.

HAND CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 497,486, dated May 16, 1893.

Application filed February 11, 1893. Serial No. 461,935. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BAYLEY, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Hand Corn-Shellers, of which the following is a specification.

My invention relates to improvements in corn shellers, and it particularly relates to corn shellers adapted to be operated by hand for domestic or similar purposes.

The object of my invention is to provide a corn sheller of the simplest character, the constructions of which admit of ease and effectiveness in operation, the part being capable of ready adjustment to the work to be performed and in convenient reach under the control of the operator.

My invention consists in the various constructions and combinations of parts hereinafter described and pointed out in the claims.

In the accompanying drawings Figure 1 is a perspective view of a device embodying my invention. Fig. 2 is a similar view from the rear of the machine. Fig. 3 is a transverse sectional view of the same. Fig. 4 is a detail of a portion of the frame. Fig. 5 is a transverse section and Fig. 6 is a detail, showing the bearing rollers. Fig. 7 is a detail of the adjusting arm.

Like parts are designated by similar letters of reference in the several views.

In the said drawings a, represents the main frame which is preferably cast integral and is provided with a central bearing a', and downwardly projecting fastening lugs a^2. The bearing a', is adapted to receive the operating shaft b, which carries at one end the toothed shelling wheel c, and is provided at the opposite end with a crank b'. The toothed wheel c, is secured to the shaft b, by a pin c', so as to revolve positively therewith. The frame a, is provided on that side next to the toothed wheel c, with a vertical depression a^3, arranged adjacent to said wheel and provided with a series of angular ribs or projections a^4, which extend partially around the recessed opening a^3, in the nature of screw-threads. This depression is continued to a point at or near the bottom of the said frame where it joins an auxiliary depression a^5, also formed in the frame to secure a channel or passage leading from the bottom of the main recess or passage a^3, upwardly at an angle thereto.

In the rear of the toothed wheel c, is a projecting lever arm d, fulcrumed at d', on a projecting portion a^9, of the frame and provided with a depressed engaging lug b^2, having at the bottom a slotted opening b^3, in which is engaged the head of an adjusting bolt e. This adjusting bolt e, extends through the opening in the main frame and is screw-threaded and provided with an adjusting nut e', preferably formed cup-shaped on its inner edge and adapted to bear against and partially inclose the end of a coil spring e^2, which extends between said adjusting nut and the frame a, which is similarly provided with projecting flanges to form a spring cup for the other end of said spring. The outer end of the arm d, is formed with a concave recess d^4, adapted to receive the end of the shaft b, which projects through the wheel and is correspondingly rounded to fit said recess. Means are thus provided by which a varying pressure may be exerted against the said shaft and thus against the toothed wheel by varying the tension of the spring e^2. The wheel c, is preferably made slightly convex on its inner face and is provided with a series of projections c^2, adapted to engage with the corn on the cob and shell the same. It is further provided with a series of elongated teeth c^3, which are arranged preferably about midway from the center of the said wheel to the periphery and in staggered rows; these teeth being longer than the sheller teeth and pointed so as to engage between and project through the kernels and engage with the cob and thus insure the rotation of the ear in shelling, in the manner hereinafter more fully described.

Between the center of the wheel c, and the elongated teeth I provide radial ribs c^4, which are adapted, as the wheel is revolved, to contact with the corn on the cob in a vertical direction and strip the same; these radial ribs being termed by me the strip teeth.

At or near the top of the vertical depression a^3, and above the angular ribs or projections a^4, I preferably provide bearing rollers a^8, which are journaled in the main frame with their peripheries projecting through the same into said recessed opening; the said rollers being preferably arranged at an angle cor-

responding to the angle of the angular ribs or projections; these rollers being adapted to prevent the friction of the cob against the frame and thus assist in the revolution of the cob by the toothed wheel. At or near the bottom of the vertical depression a^3, and between the same and the auxiliary depression or passage a^5, I provide toothed projections a^6, adapted to engage with the top of the cob in its passage from one channel to the other and thereby strip any kernels which may be at the top of the same. The pin c', which secures the toothed wheel c, to the shaft b, extends through the shaft b, and engages at each end in suitable open bearings c^5, formed in the end of the hub of said wheel; the parts being retained in their engaging position by the spring e^2. The main frame a, is provided at the side of the vertical depression or channel a^3, with projecting teeth a^7, which extend into the annular spaces between the teeth on the wheel c, and thus form an extended side to said channel or passage, to prevent the cobs from being carried out of said passage and between the wheel and the main frame.

In operation the device is secured to the edge of a box or bin or any other suitable position as illustrated. The handle is turned with one hand while the respective ears of corn are fed into the recessed opening a^3, where they are engaged by the revolving toothed wheel and caused to revolve therewith; the kernels being shelled therefrom at the same time by the toothed projections c^2, and the stripping teeth c^4, on said wheel which move at different speeds with reference to the ear of corn, owing to their relative positions between the center and periphery of said wheel. The stripping teeth also assist in feeding the corn downwardly as the ear is moved, thus causing every part of it to be brought into contact with the toothed wheel until the upper end of the cob is brought opposite the lower end of the auxiliary passage a^5, when the cob is carried laterally into said passage, and, by the further revolution of the wheel and the engagement of the teeth thereof with said cob, is carried upwardly again and discharged from the mouth of the auxiliary passage a^5.

The constructions above described, as will be seen, are extremely simple and very effective in operation. By the arrangement of the adjusting lever d, fulcrumed to the main frame at one end and resting against the shaft at the other with the adjusting screw between the said points, means are provided by which the adjustment may be attained, from the same side of the main frame as the handle without interfering with any of the other operating parts; the construction being such that the parts may be readily assembled or adjusted as desired with the greatest facility and ease.

Having thus described my invention, I claim—

1. In a sheller, the combination with the toothed wheel or disk and the main frame having the passages and projecting teeth, as described, of an adjusting lever contacting at one end against the wheel shaft and at the other against the frame and held in its position by a spring, substantially as specified.

2. In a corn sheller, as described, the bearing rollers arranged in the ear passage to relieve the friction of the cob against the frame, substantially as specified.

3. The combination with the frame and the toothed wheel the shaft carrying said toothed wheel, the spring pressed lever operating against said shaft, and a pin in said shaft adapted to fit into open bearings or notches in the disk hub, substantially as specified.

4. In a corn sheller having a main frame formed integral with a central opening and the main and auxiliary passages, as described, a toothed wheel mounted on a central shaft journaled in said central opening and provided with toothed projections, and a series of auxiliary teeth or projections arranged in staggered rows and extending outwardly beyond the face of the shelling projections, substantially as specified.

5. The combination with the main frame formed integral with the main and auxiliary passages, as described, and the toothed wheel mounted on a shaft journaled in said frame, the adjusting arm or lever d, bearing at one end against said shaft and at the other against the fulcrumed projection on said frame, said arm being provided with an engaging lug having a notched opening adapted to receive a screw-threaded adjusting bolt, and the adjusting nut on said bolt formed cup-shaped on one side, and a spring arranged between said adjusting nut and the main frame, substantially as specified.

6. In a corn sheller having a main frame formed integral with a central opening and the main and auxiliary passages which join each other at an acute angle, as described, a toothed wheel mounted on a central shaft journaled in said central opening, and a series of teeth projecting from the frame and extending laterally into said passage at the point where the main passage joins the auxiliary passage, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 4th day of February, A. D. 1893.

WILLIAM BAYLEY.

Witnesses:
OLIVER H. MILLER,
FRANK WATT.