

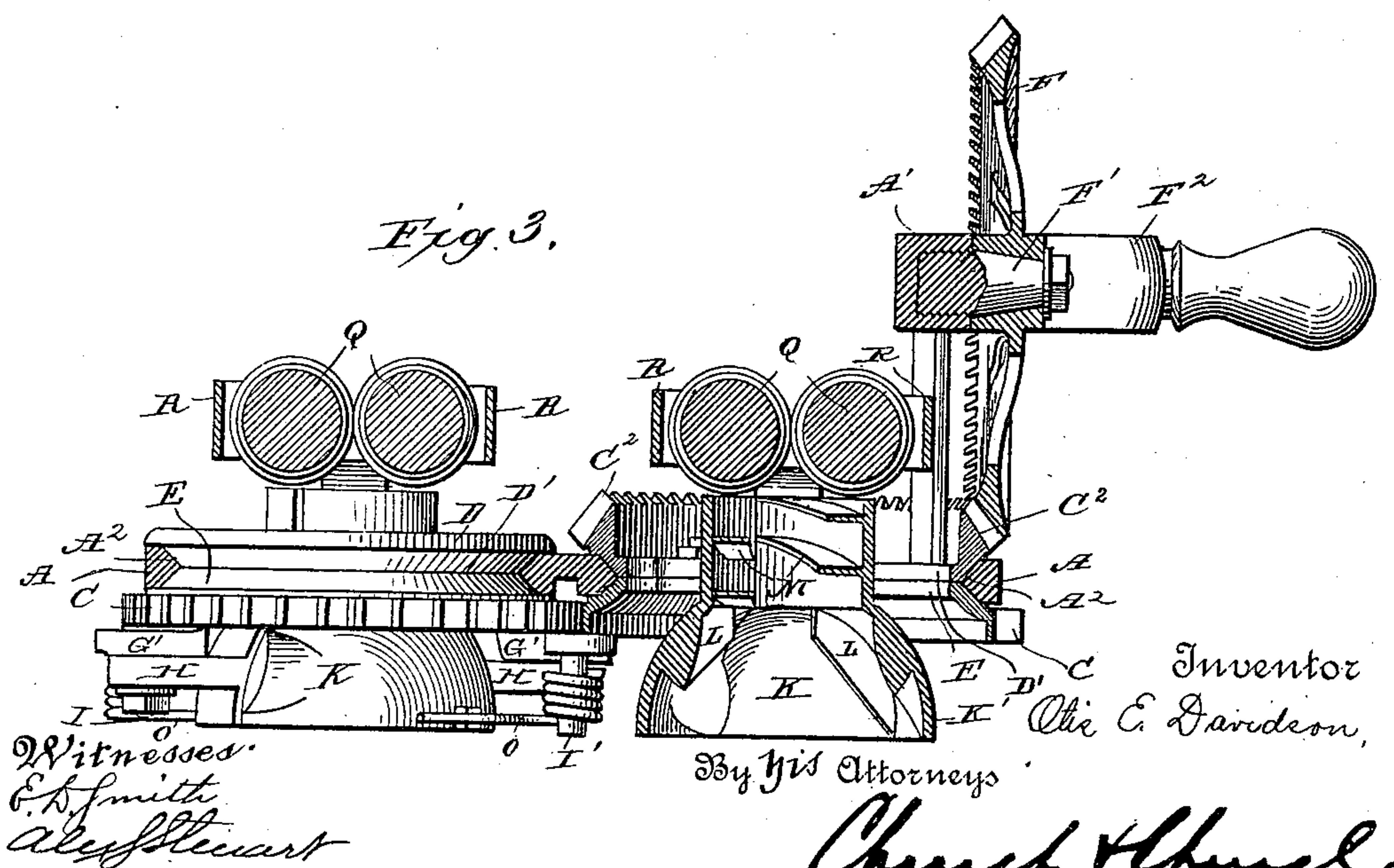
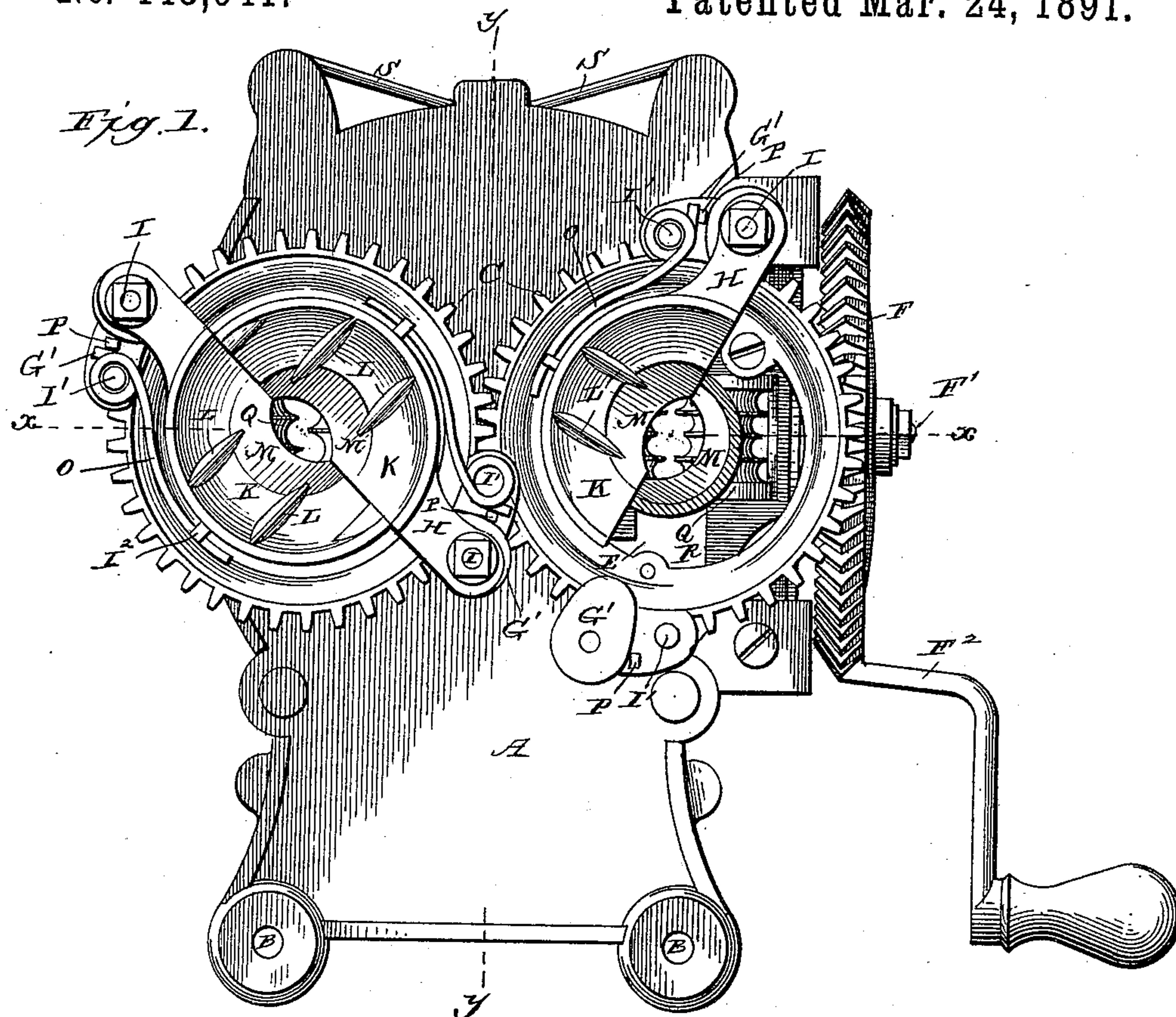
(No Model.)

3 Sheets—Sheet 1.

O. E. DAVIDSON.
CORN SHELLER.

No. 448,941.

Patented Mar. 24, 1891.



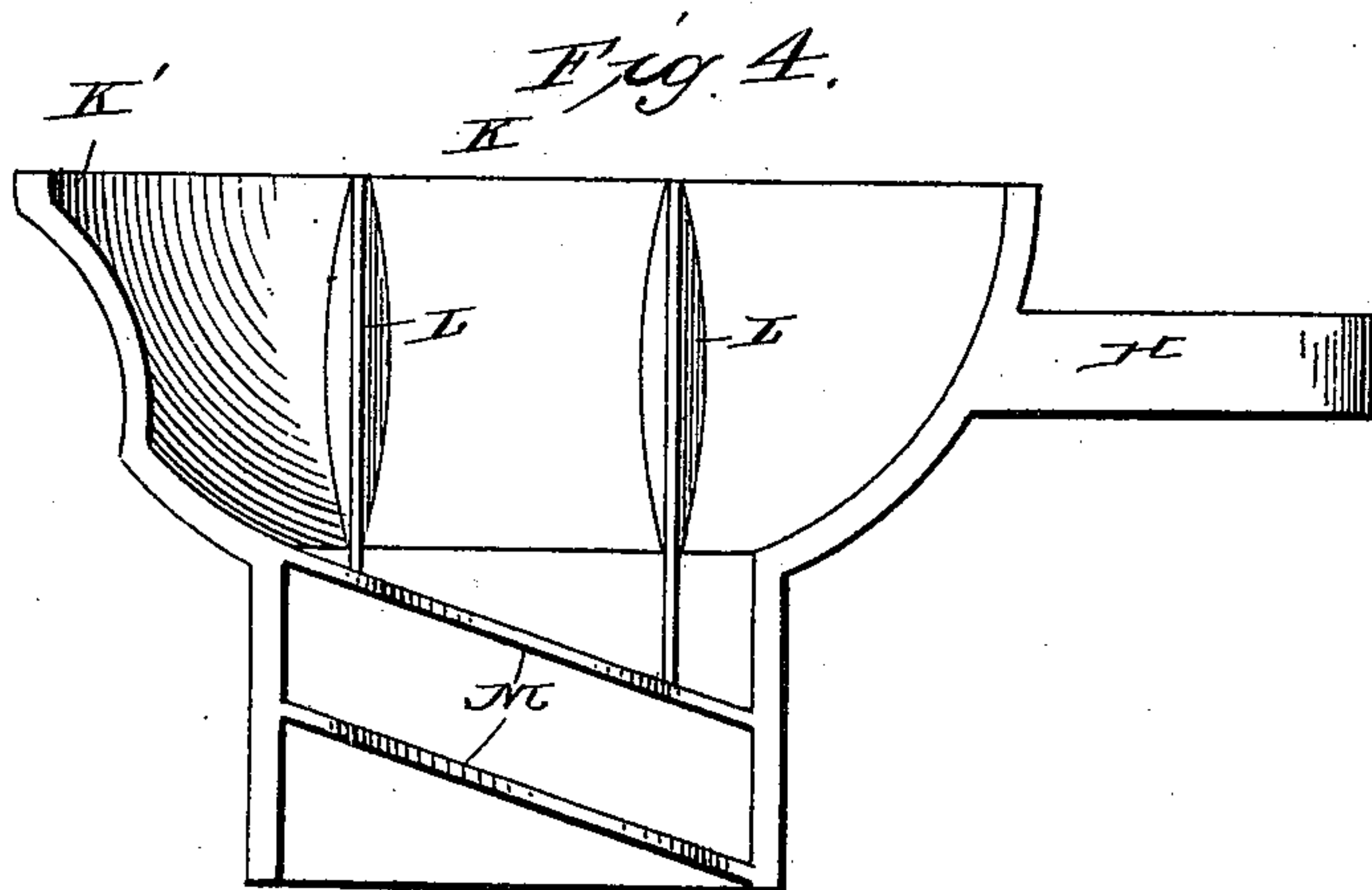
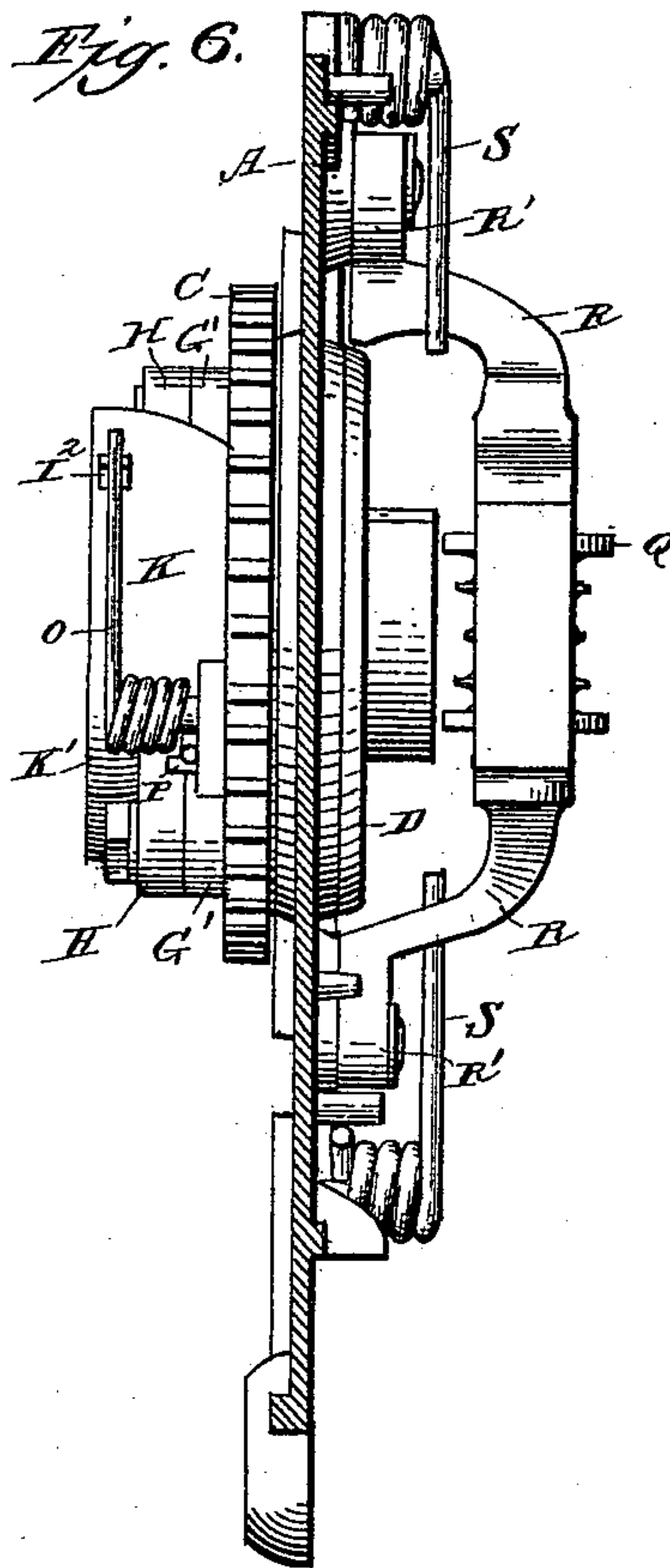
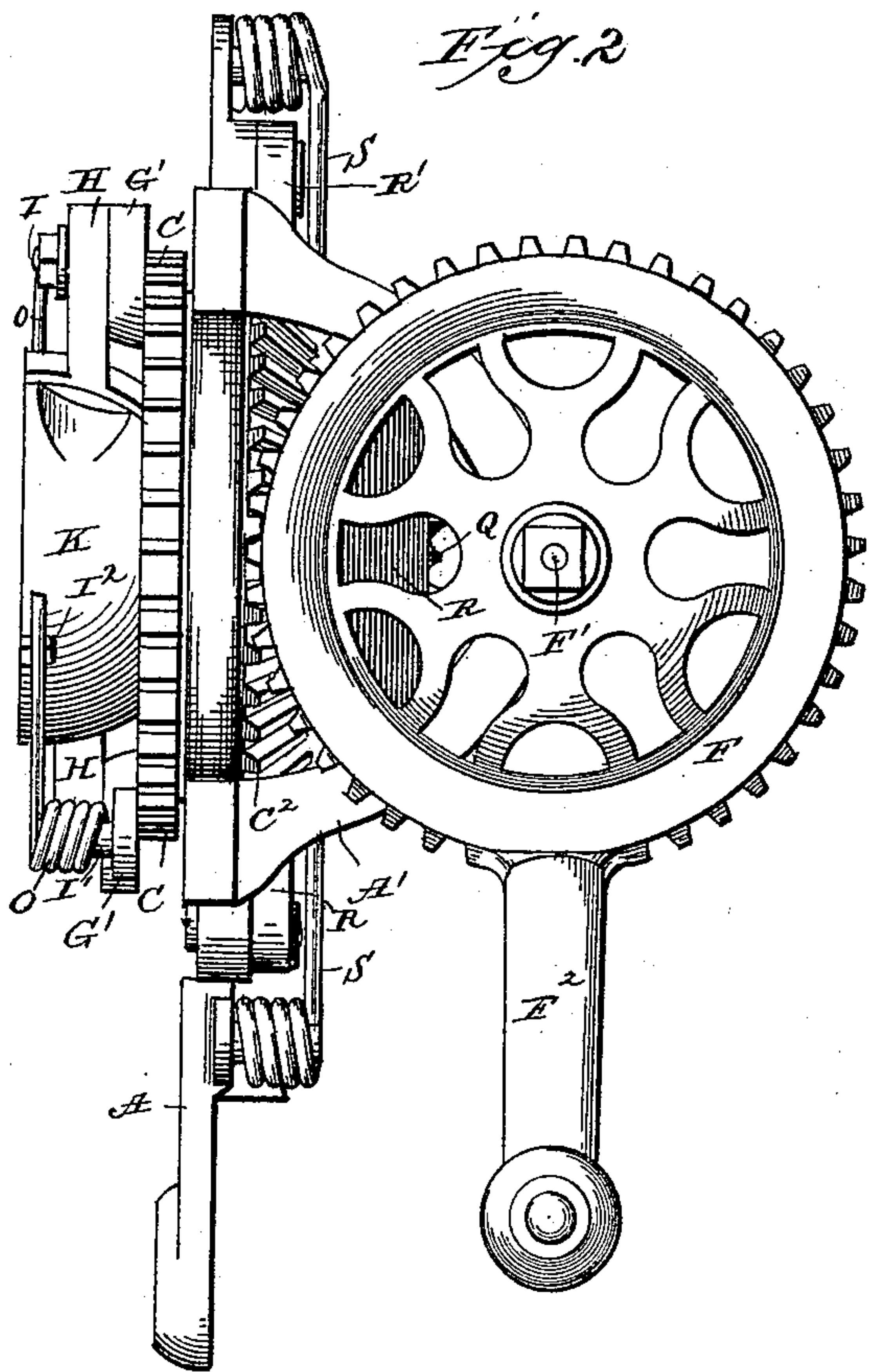
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Witnesses
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Alex. Stewart.

Inventor
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By his Attorneys
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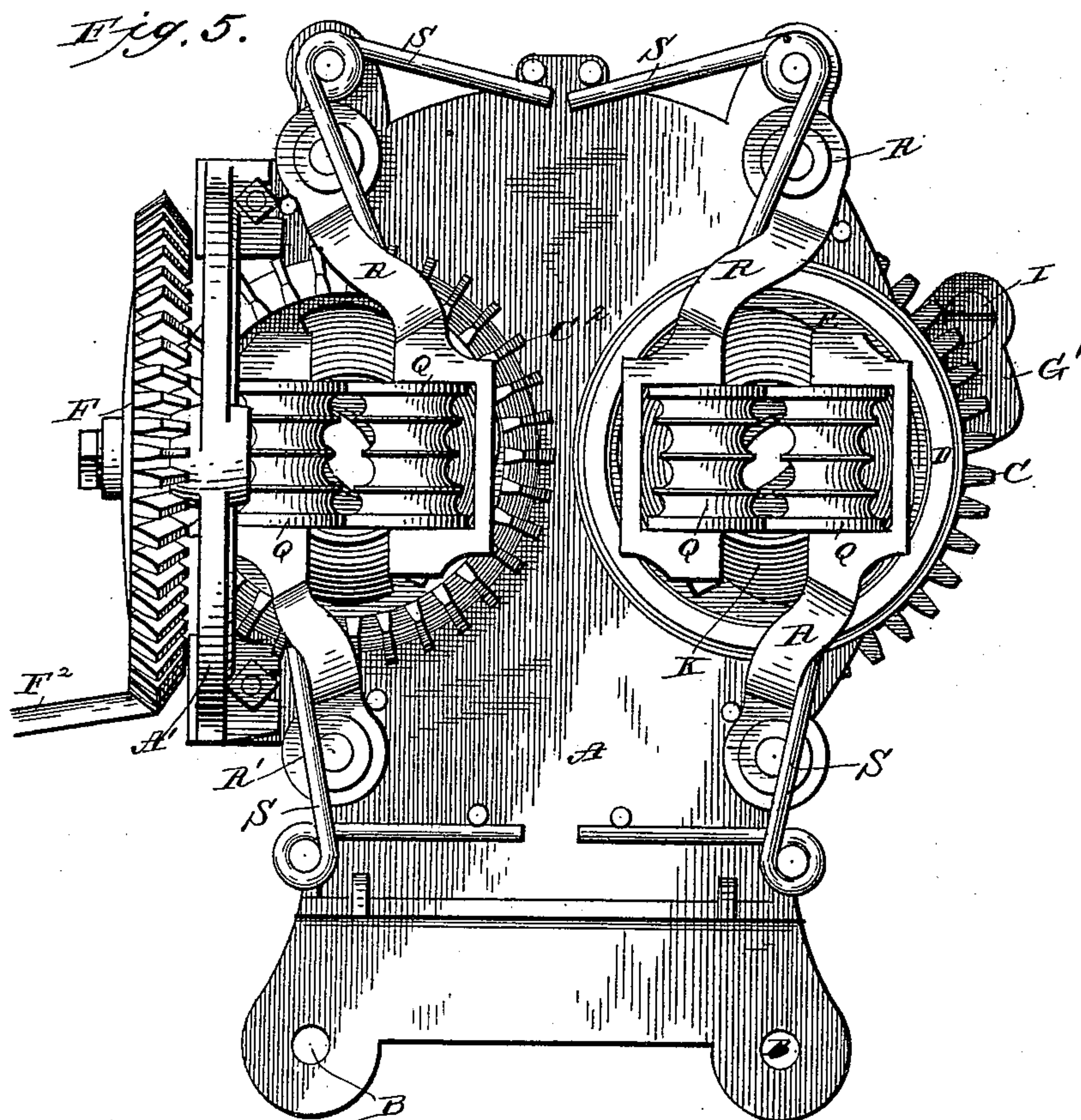
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By his Attorneys

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UNITED STATES PATENT OFFICE.

OTIS E. DAVIDSON, OF NASHVILLE, TENNESSEE, ASSIGNOR TO MATTIE
VERMONT DAVIDSON, OF SAME PLACE.

CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 448,941, dated March 24, 1891.

Application filed June 24, 1890. Serial No. 356,569. (No model.)

To all whom it may concern:

Be it known that I, OTIS E. DAVIDSON, of Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Corn-Shellers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention has for its object to improve the construction and operation of corn-shell-ers; and it consists in certain novel details of construction and combinations of parts, which will be first described, and then pointed out particularly in the clauses of the claim at the end of this specification.

Referring to the accompanying drawings, Figure 1 represents a front elevation of my improved corn-sheller with one pair of shelling-jaws partially in section. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional view taken on the line $x x$, Fig. 1. Fig. 4 is an elevation of one of the shelling-jaws. Fig. 5 is a rear elevation of the machine, and Fig. 6 is a sectional view taken on the line $y y$, Fig. 1.

Similar letters of reference in the several figures indicate the same parts.

The letter A represents the main frame, or what I prefer to term the "base-plate," of the machine, the same having openings B B through which to pass the bolts which are to secure it to the box or other support upon which it is designed to mount the machine.

C C are pinions mounted upon the base-plate A and in mesh with each other, one of them being driven by a bevel-gear C^2 below the base-plate and in gear with a pinion F, mounted so as to turn freely upon an axial bolt F', screwed into a flange A', projecting from the base-plate A. The pinion F is provided with a crank or handle F² for turning it.

The construction of the pinions C will be better understood by reference to Figs. 2 and 3. Each of them has an open center and an annular flange E, which projects part way through an opening A² in the base-plate A, where it is bolted or otherwise secured to a flange or flanges D' on a ring D or the gear

C^2 , projecting into said opening in plate A from the opposite side, the connection between the pinion C and ring D or gear C^2 being such as to enable said parts to freely rotate together in the opening of the base-plate whenever the driving-pinion F is turned. The front or outer portion of each of the pinions C is provided with lugs G', and to each of these lugs is hinged, by means of a pin I, the shank H of one of the shelling-jaws K. The jaws K K of each pinion are adapted to operate upon a single ear of corn, and as there are two pinions and consequently two pairs of jaws, two ears of corn can be simultaneously shelled by the operation of the single driving-gear F.

As will be seen by reference to Figs. 1, 2, and 4, and particularly to Fig. 4, each of the jaws is provided with one or more, preferably two, projecting shelling-ribs L, a flange K' extending outwardly beyond said ribs L, and with the internal spirally-arranged feeding-ribs M, and when the two jaws are brought into juxtaposition, as shown in Fig. 1, and an ear of corn is inserted between the jaws, while at the same time rotary motion is given to the pinions, the ribs L will operate to strip off or shell the corn from the cob, and the flange K' will prevent the flying off of the shelled corn laterally, while the ribs M will operate to draw inward and gradually feed along the cob while the shelling operation is in progress.

In order that the jaws may accommodate themselves to various sizes of ears and that they may grasp the ears with the requisite degree of pressure, I cause each of them to be acted upon by a spring O, coiled about the pin I', and having its inner end abutted against the bracket I² on the flange K' and its outer or free end abutted against a stud or projection P on the lugs G', as shown in Figs. 1 and 6.

In order that the ear being acted upon by each pair of shelling-jaws may be properly guided and steadied, I provide at the back of the base-plate A and behind each pair of said jaws a pair of co-operating spring-pressed roller-jaws, as shown in Fig. 5. Each of said roller-jaws consists of a corrugated or flanged roller Q, mounted so as to turn freely in a supporting-arm R, and its ribs or corruga-

tions are made of smallest diameter at the middle so that they will operate to center and hold centered the cob and also prevent it from rotating while passing through the shell-
5 ing-jaws.

On the inner end of the supporting-arm R is formed a bearing R', through which a pivot-bolt passes, said pivot-bolt being secured in the base-plate in any preferred manner.

10 The roller-jaws are kept closed with yielding pressure by means of springs S, each of which is adapted to operate upon one roller of each pair by engaging with the supporting-arms which support said roller, as shown
15 in Figs. 5 and 6, its opposite end being held by a pin or projection on the base-plate.

From the foregoing description it is thought the operation of the machine will be readily understood. The operator with one hand
20 turns the crank or handle F², thereby causing pinions C and the shelling-jaws connected to each to be put into rotation. Then with his other hand he introduces under moderate pressure ears of corn into the two pairs of
25 jaws K, which jaws act, as before described, to strip off the corn by means of ribs L, and to automatically advance the cobs by the action of the spiral feeding-ribs M and force the forward end of the cobs between the
30 roller-jaws Q, which then operate to steady the cobs and keep them properly centered without rotating. Each cob remains clasped by the roller-jaws Q until it is dislodged by the advance of the next succeeding cob.
35 It will be observed that the lower feeding-rib is not so wide as the upper one, so as to leave a larger opening between the lower ribs, the idea being to enable the cob to be more easily started in between the jaws, as
40 the operator only has to overcome the resistance of two ribs until the roller-jaws come in contact with the cob, when all the ribs become effective and feed the cob through rapidly, the ribs meanwhile stripping off every
45 grain of corn as they rotate around the cob.

I claim as my invention—

1. The combination, with the base-plate A,

of the two gears C, meshed together, as described, and each bearing a pair of co-operating shelling-jaws, and the pinion F for im-
50 parting rotation to said gears C, substantially as described.

2. The combination of the base-plate A, the gears C C, meshed together, as described, and each having a flange projecting part way
55 through the base-plate A, with the ring D, having the flange secured to the flange of one of the gears C, and the driving-gear F and its crank or handle, substantially as described.

3. The combination of the base-plate A, the
60 gears C C, meshed together, as described, and each having a flange projecting part way through the base-plate A, with the ring D, having the flange secured to the flange of one
65 of the gears C, the bevel-gear, with the flange secured to the other wheel C, and the driving-gear F and its crank or handle, substantially as described.

4. In a corn-sheller, the combination, with the rotating gears C, of the co-operating hinged
70 shelling-jaws mounted thereupon, each having the feeding-ribs M, the curved flange K, formed integral therewith to prevent the corn from flying out laterally, and the stripping-ribs L, formed on the inner surface of the
75 flange K, substantially as described.

5. The combination, with the meshed gears C, each having a pair of hinged shelling-jaws mounted upon and rotating with it, and each
80 jaw being provided with stripping-ribs L, of the spiral feeding-ribs M, substantially as described.

6. The combination, with the two meshed gears C, each having a pair of hinged shelling-jaws mounted upon and rotating with it,
85 and each jaw being provided with stripping-ribs L, of two spiral feeding-ribs M, the lower rib being narrower than the upper one, substantially as described.

OTIS E. DAVIDSON.

Witnesses:

HENRY CATO,
T. J. TODD.