

(No Model.)

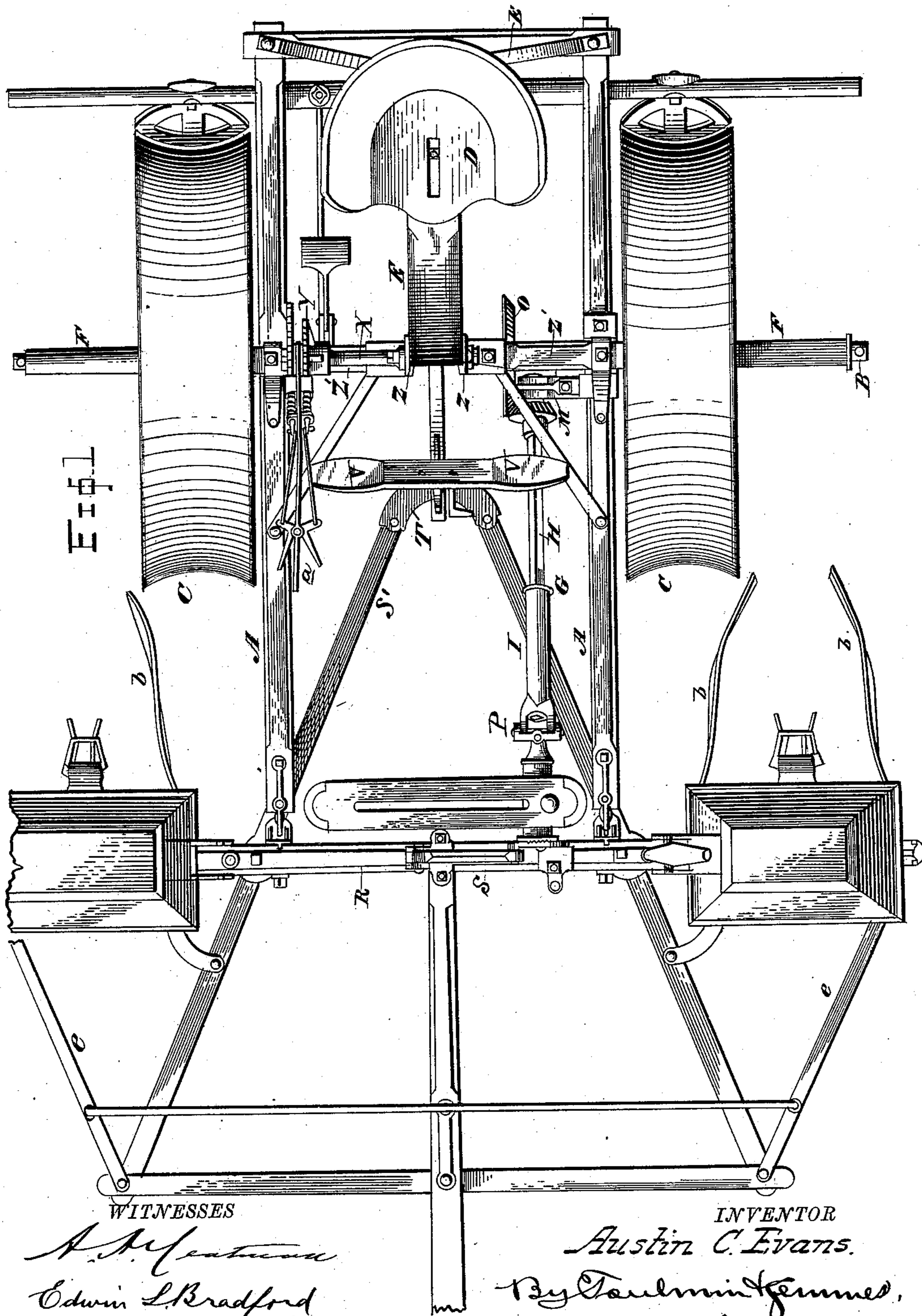
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A. C. EVANS.

CORN PLANTER.

No. 361,214.

Patented Apr. 12, 1887.



(No Model.)

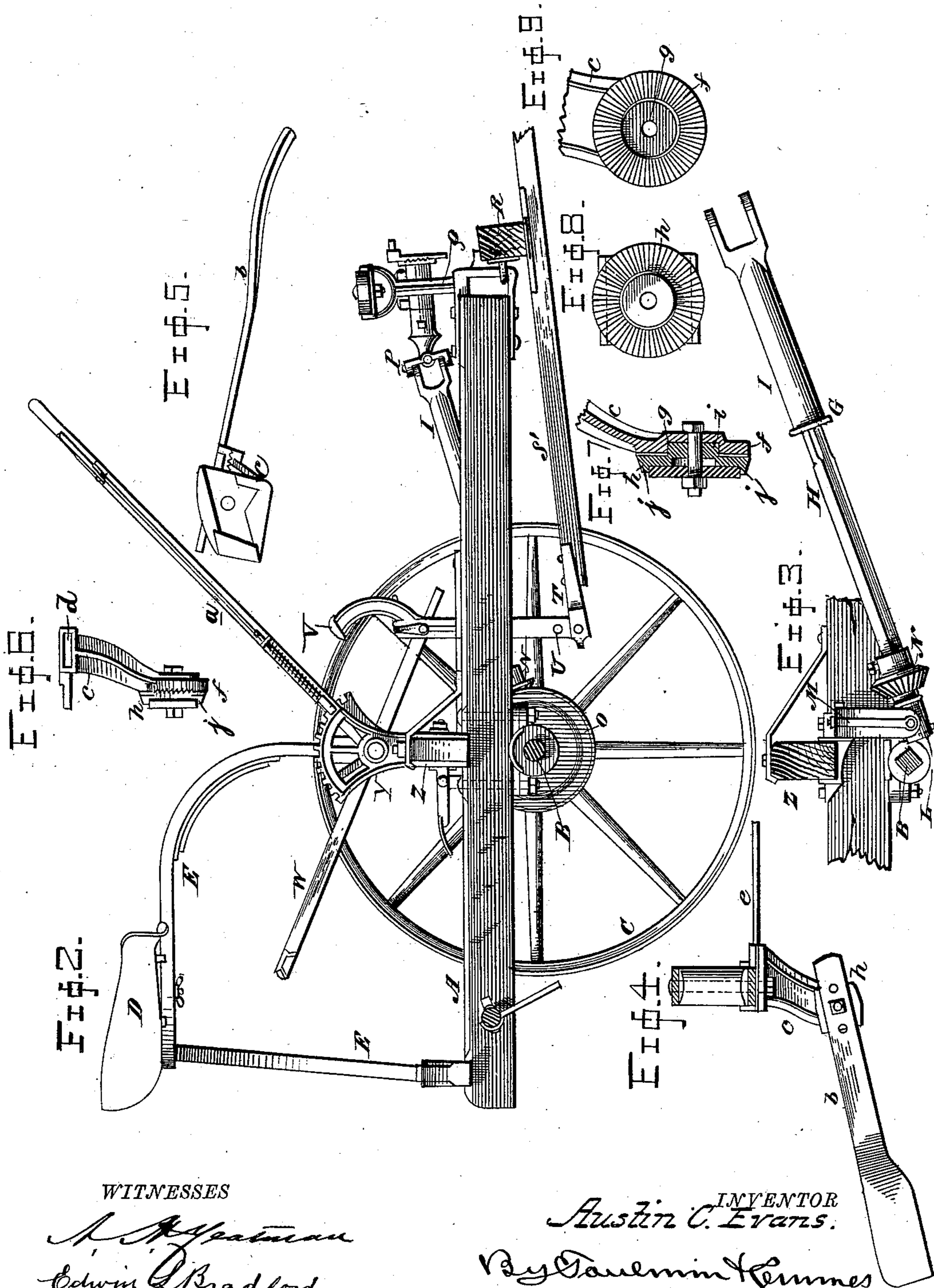
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CORN PLANTER.

No. 361,214.

Patented Apr. 12, 1887.



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(No Model.)

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A. C. EVANS.
CORN PLANTER.

No. 361,214.

Patented Apr. 12, 1887.

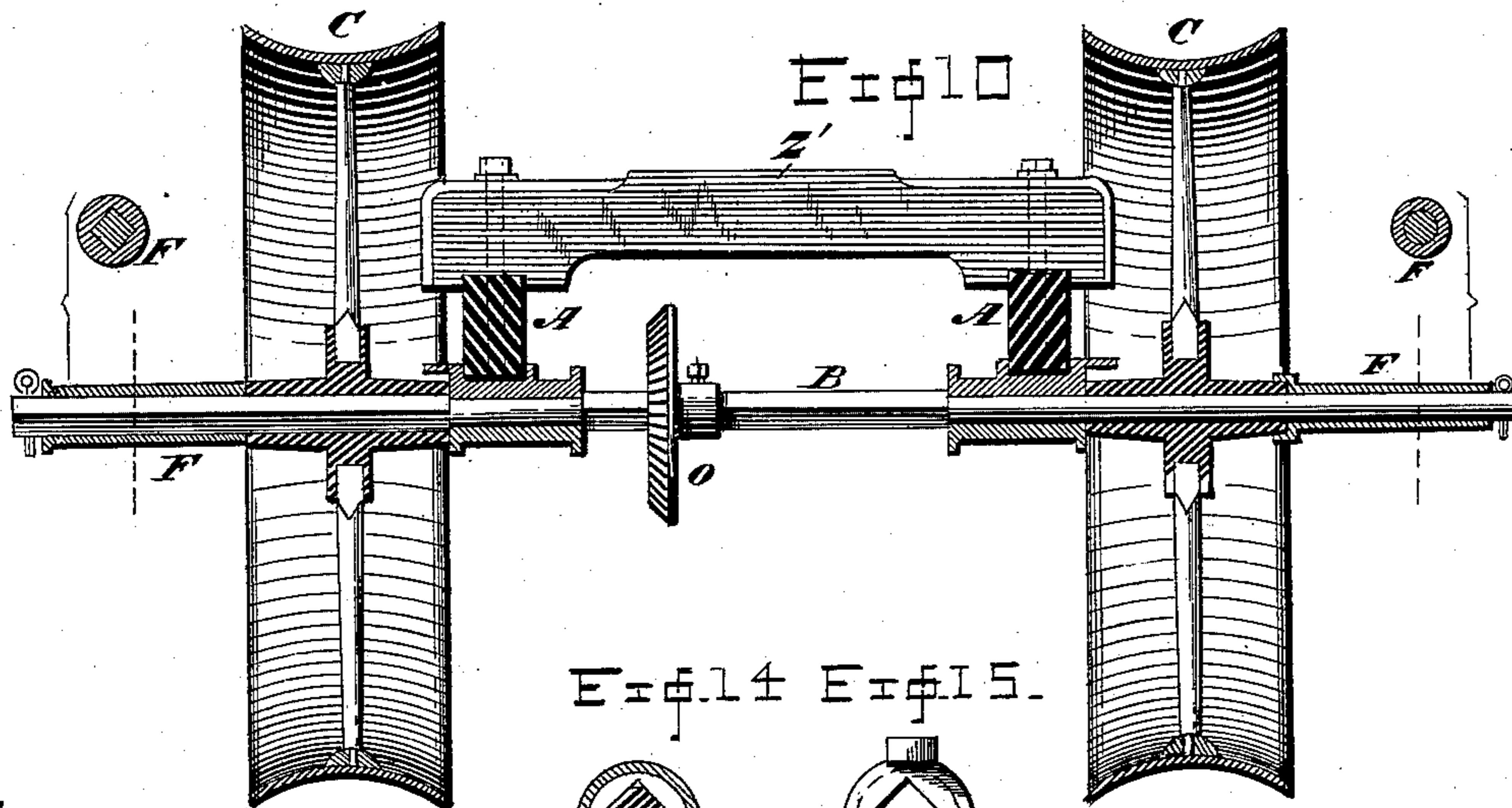


Fig. 14 Fig. 15.

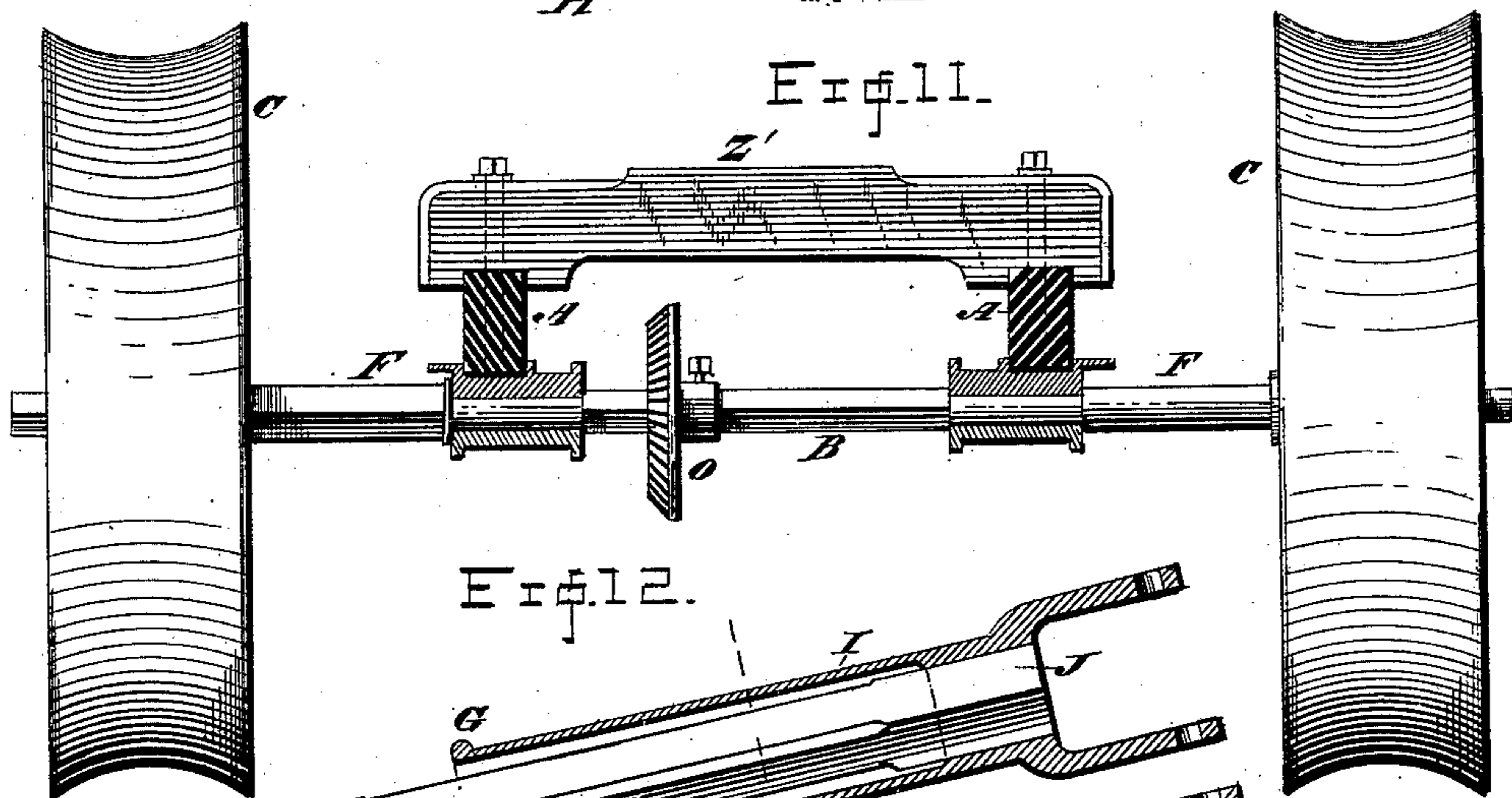
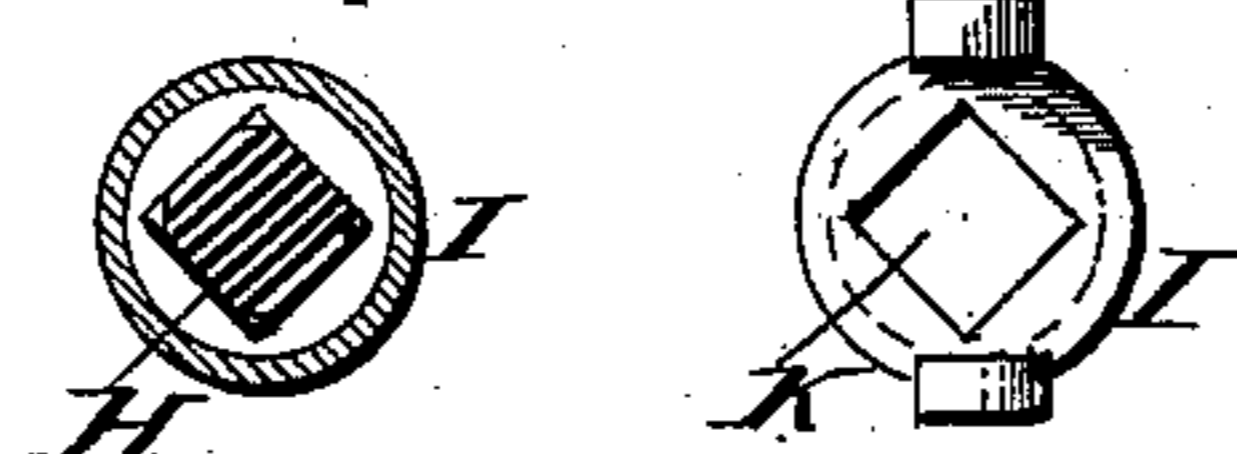


Fig. 12.

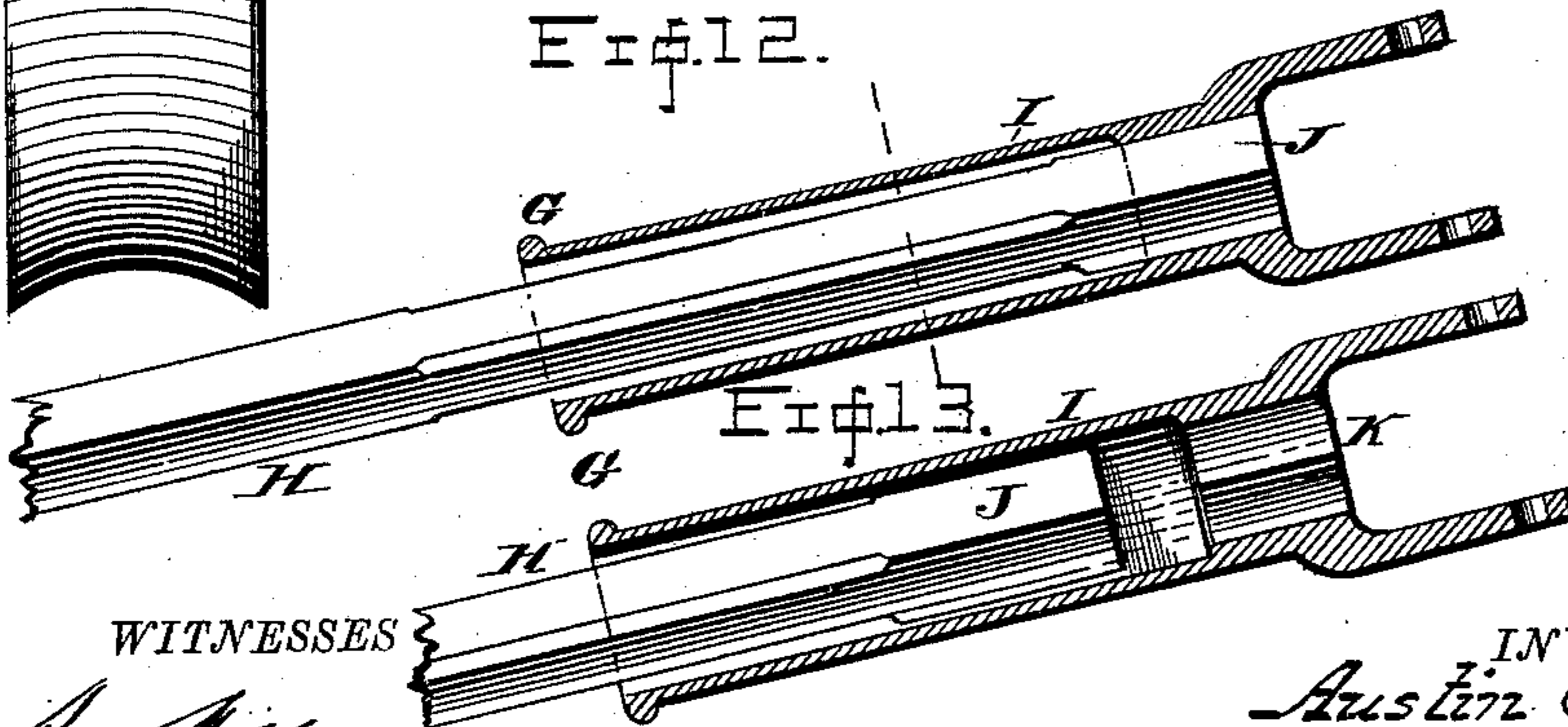


Fig. 13.

WITNESSES

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(No Model.)

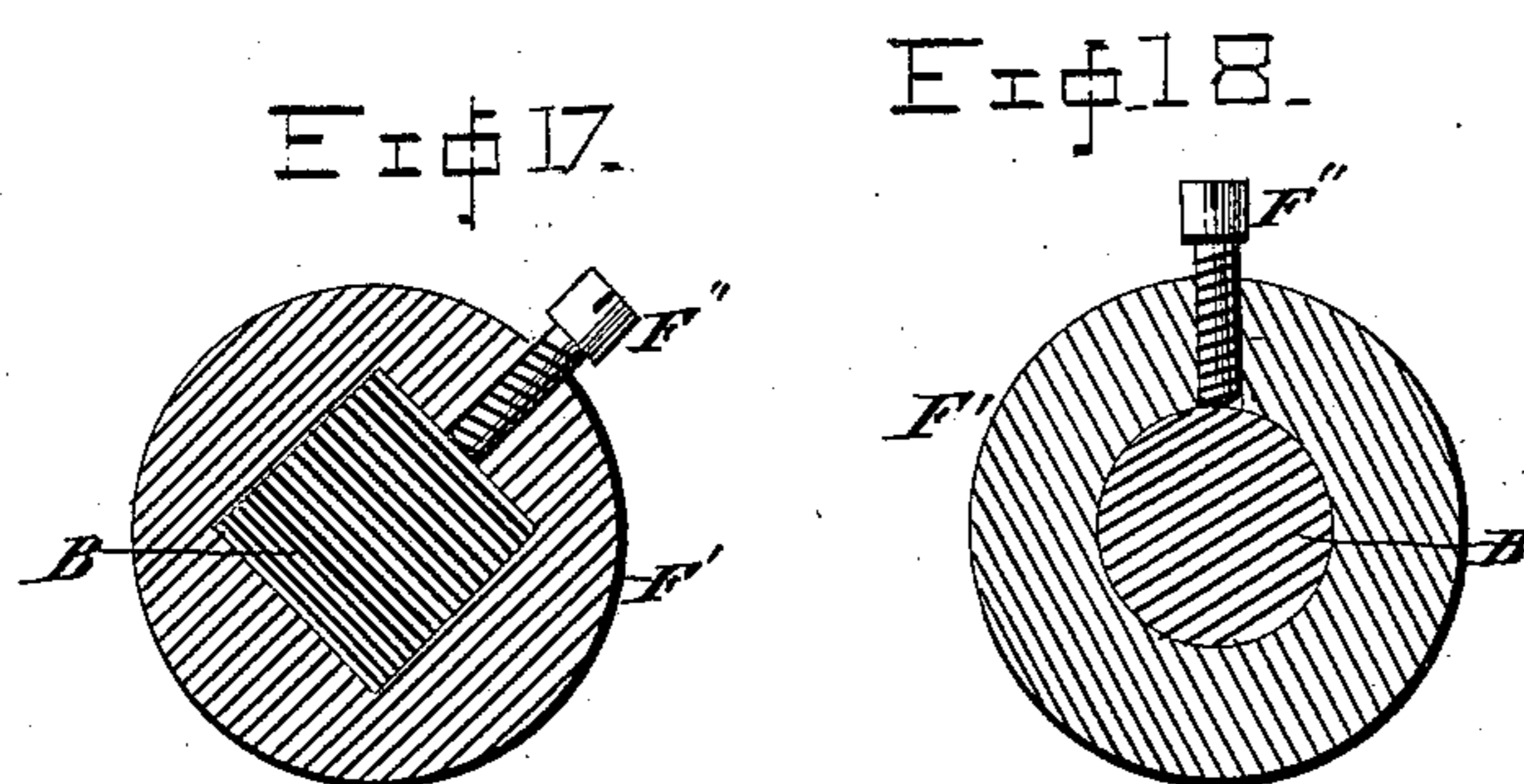
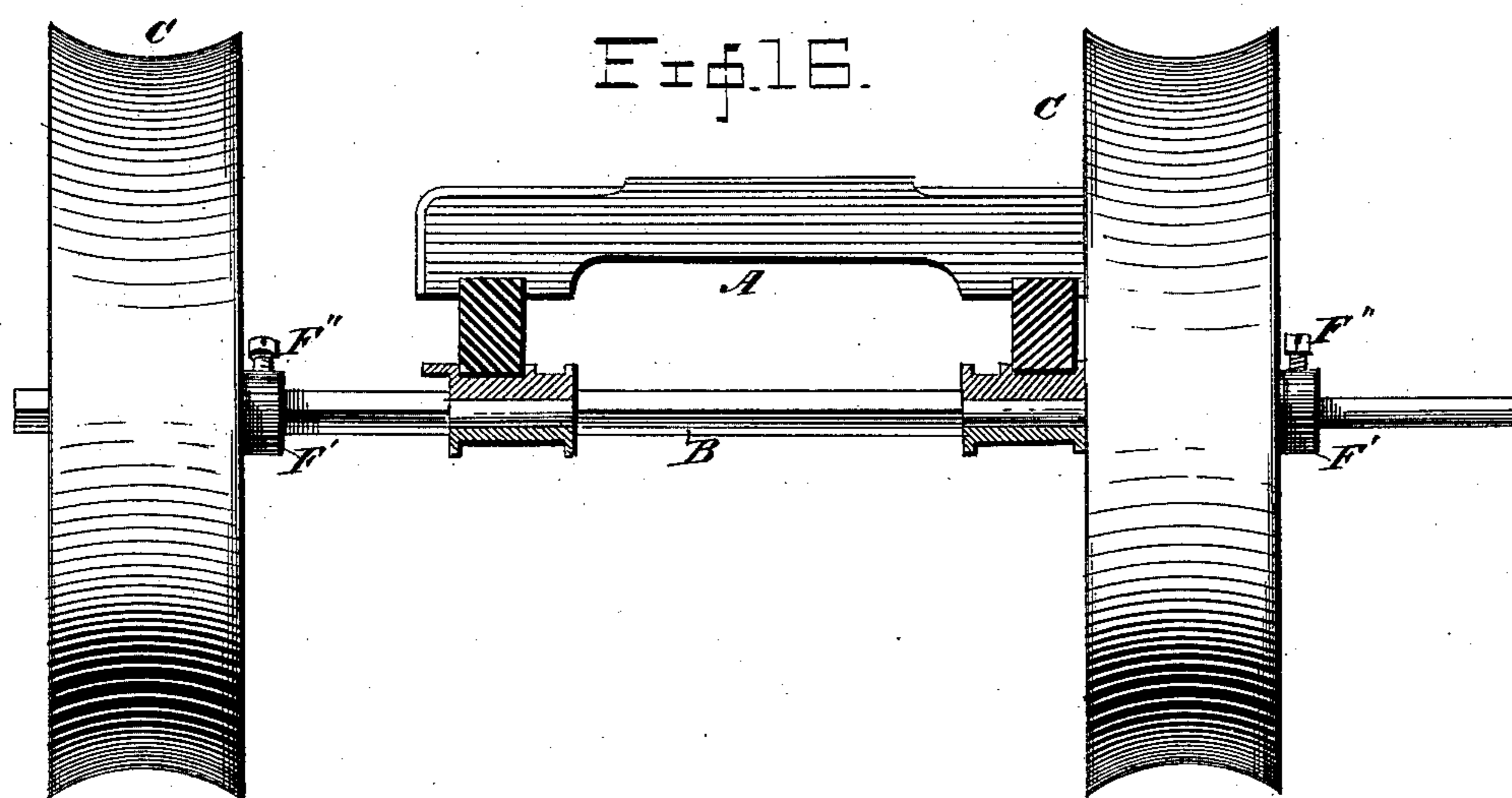
4 Sheets—Sheet 4.

A. C. EVANS.

CORN PLANTER.

No. 361,214.

Patented Apr. 12, 1887.



WITNESSES

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UNITED STATES PATENT OFFICE.

AUSTIN C. EVANS, OF SPRINGFIELD, OHIO.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 361,214, dated April 12, 1887.

Application filed January 15, 1887. Serial No. 224,431. (No model.)

To all whom it may concern:

Be it known that I, AUSTIN C. EVANS, 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 Corn-Planters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in seeding-machines, and has special reference to corn-planters, and this in the several particulars following.

To this end my invention consists in constructing the shaft which transmits motion from the axle of the machine to the seeding devices of a male and female section adapted to rotatingly engage and disengage each other by the actuation of a suitable lever, whereby the seeding devices may be operated or not while the machine is yet in motion.

My invention further consists in constructing the shovels with an adjustable connection between them and the frame or box-beam of the machine, whereby they may be set more or less deeply into the ground, and consequently cover the seed or grain with more or less earth.

My invention still further consists in providing a rigid main axle or shaft with detachable devices to hold the wheels and with spindle portions of usual length, whereby the supporting and covering wheels may be set and held at different distances apart, so as to run or not run upon the seed-rows and act or not act as coverers, according to what is expedient under individual circumstances.

In the accompanying drawings, forming a part of this specification, and on which like reference-letters indicate corresponding parts, Figure 1 represents a plan view of a corn-planter of any approved type with my improvements applied thereto; Fig. 2, a side elevation of a like machine with one supporting-wheel, the seed-boxes, and some of the features immaterial to the present purposes removed; Fig. 3, a detailed enlarged view of the seeding-device-actuating shaft, with the parts in juxtaposition thereto; Fig. 4, a detailed attached view of one of the covering-shovels, its standard, and the seed-box beam; Fig. 5, a plan view of the shovel and its standard; Fig. 6, a detached view of the shovel-

standard; Fig 7, a section, and Figs. 8 and 9 face views, of the serrated plates included in the shovel-connection; Fig. 10, a transverse sectional view of the machine-frame and the supporting-wheels with the axle in elevation, and showing the wheel in position to run between the seed-rows; Fig. 11, a like view, but illustrating the wheels in that position relative to the frame which causes them to run upon the seed-rows; Figs. 12 and 13, partial sectional and partial side views of the male and female portions of the seeding-device-operating shaft, the former showing the portions in rotating engagement and the latter in disengagement, and Figs. 14 and 15 cross-sectional and end views, respectively, of the said portions of the shaft; Fig. 16, a similar view to Figs. 10 and 11, and Figs. 17 and 18 sections of the axle and modified sleeves.

The letter A designates the main frame of a corn-planter of any approved construction, and which is mounted upon an axle or shaft, B, carried by the supporting-wheels C. This frame and axle, however, while not of necessity structurally different from those now generally used, are yet peculiar in respect to their relative size, the difference between the length of the axle and the width of the frame being such that the supporting-wheels may be set to run on or run off and between the seed-rows. To this end I make the spindle portions of the axle about twice the length of the wheel-hub and provide detachable sleeves F, one for each side of the machine. As seen in Fig. 11, the sleeves are on the axles and inside and the wheels on the outside or away from the frame. In this position they run on the seed-rows and act to pack the soil over the planted corn. This position of the wheels and the resulting function is desirable when the soil is rather dry, and consequently somewhat light. As shown in Figs. 1 and 10, the wheels are set near the frame and the sleeves F on the outside, thus narrowing the gage of the wheels and causing them to run off the seed-rows. When in this position, the wheels do not pack the soil over or upon the planted corn, but leave the entire covering operation to be performed by the shovels, to be presently mentioned. This last-described position of the wheels is preferred when the soil is wet or

largely of a clay nature, in which case packing is unnecessary, or, possibly, under some conditions, objectionable. One of the spindles is angular in cross-section and the hub for it is of like shape, so as to give rotary motion to the axle to operate the seed-dropping mechanism. I will now turn to another feature of my machine.

The letter G designates the seed-device-operating shaft, and this shaft is composed of a male section, H, and a female section, I, the former having an angular part, J, and the latter a like part, K, as seen in Figs. 12 and 13, whereby they are rotatably engaged or not, according to whether the part J is projected into or withdrawn from the part K. The section H is suitably supported at its lower and rear ends, as by a collar, L, swung in a bracket, M, secured to one of the side beams of the frame. It also carries a bevel-pinion, N, which intergears with a larger bevel-pinion, O, on the axle, whereby motion is transmitted to the section H and to the section I when the parts J and K are in engagement. The section K is connected by a universal joint of any approved type, as at P, to a short shaft suitably supported in a bracket, Q, carried by the seed-box beam R, and having a wrist-pin and pitman, S, (see Fig. 1,) for operating the seed-slide. The particular construction, however, of these several last-named devices forms no part of the present invention, the novelty being in the shaft G and in the features combined with it for operating it, as will presently appear.

To the box-beam R are secured the pole and the hounds S', the latter being joined together at their rear ends by a yoke, T, to which is pivoted a pitman, U, having a foot-rest, V, at its upper end. To this pitman is also pivotally connected the foot-lever W, mounted rigidly upon the short shaft X, having bearings in the segments Y and in the standards Z, carried by the transverse beams Z'. To this shaft X is also secured a lever, a, having spring-detents which engage the segments Y. It will be noticed that the joint between the main frame and the box-beam is flexible. It will also be noticed that the section I of the shaft G is supported through the devices already mentioned by the box-beam R. Again, the forward end of the pole is held up by the breast chains or straps. Therefore, when the lever W is depressed, the rear ends of the hounds will be raised and the box-beam tilted forward, thus drawing the part K of the section I out of engagement with the part J of the section H of the shaft G, and thereby stopping the operation of the seeding devices. These several movements are all quickly and synchronously accomplished, and without undue exertion on the part of the operator. Thus in going to and returning from the field, and in turning round at the ends of the rounds, the discharge of the corn is suspended, and this without leaving the machine-seat.

I will not advert to the remaining special

present features—to wit, the shovels. These of themselves do not differ materially from the approved types, and are designated *b*; but the novelty lies in their connection with the machine. To the box-beam R are bolted standards *c*, those at the ends being preferably slotted at *d*, (see Fig. 6,) to receive the hound-braces *e*. These standards at their lower ends are fashioned on one side into radially-serrated plates or faces *f*, having depressions *g*, and these plates and depressions receive like serrated disks, *h*, having bosses *i*. The opposite sides of these disks have lugs *j*, between which fit the shanks of the shovels, and by a bolt the parts are detachably held together, as seen in Fig. 7. The disks can be adjusted with respect to the plates, and thus the shovels can be made to take more or less deeply into the soil, and consequently throw more or less earth over the before-dropped corn; nor do the shovels fail to properly cover the corn, no matter what be the condition of the soil, whether wet or dry, or rubbish-strewn or clear.

The other features illustrated in the drawings and not specially described are merely shown to facilitate an understanding of those claimed.

My improvements have been described in connection with a two-horse riding corn-planter; but it is obvious that they are equally applicable to a machine of this character in which only one draft animal is used.

The form of the sleeve or device for holding the wheels in the different positions on the axle may of course be largely changed without departing from the invention. As showing this, I illustrate in Figs. 16, 17, and 18 sleeves *F'*, which are much shorter than those already described, and which are provided with a set-screw, *F''*, to secure them in any set position.

I am aware that corn-planter wheels have been set to run or not run on the seed-rows; but in one instance the axle was made with extensible portions, so as to lengthen or shorten the same, and the objection to this is that it greatly enhances the cost of its manufacture and gives the user a weakened axle having several joints, while in the other instance the axle was provided with pivoted spindle portions, upon which the wheels were adjustable and held by a spring-arm, the spindle portions being also extensible under a modified form of said axle. In this pivoted and extensible axle numerous joints also occur and add to the cost, and produce more or less weakness in the machine, which finally reaches the user. By my invention, however, the axle is free of extensible and pivoted portions, and the device for holding the wheels to set positions is also of simple construction. I wish, therefore, to be understood as laying claim to such an axle with elongated spindle portions, combined with the wheels and devices of some description, to hold the wheels where set. The construction of said devices being capable of being

largely varied, I show, as already suggested, two forms of sleeves for this purpose. Of course my specific sleeves may be used with pivoted spindle portions.

5 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a corn-planter, the combination, with the axle and the seeding devices, of a sectional shaft geared to the axle and connected to said devices to operate them, the sections thereof being constructed to rotatably engage and to disengage each other by moving one section longitudinally with respect to the other.

15 2. In a corn-planter, the combination, with the axle and the seeding devices, of a male and female sectional shaft, one section having a round and angular portions, and the other section an angular portion which engages the other angular portion and plays in the round portion, according to longitudinal adjustment, one of said sections being geared to the axle and the other connected with said seeding devices to operate them.

25 3. In a corn-planter, the combination, with the frame, the axle, and a pivoted lever, of the box-beam connected flexibly to the frame, the seeding devices carried by the beam, the hounds connected to said beam, a rotating shaft connected with the seeding devices and carried by the box-beam, and a sectional shaft, one section being geared to the axle and the other flexibly connected to the seeding devices, and both sections being rotatably engaged by
35 actuating said lever and disengaged by freeing it.

4. In a corn-planter, the combination, with the frame and the supporting-axle mounted in said frame so as to rotate, of supporting-wheels

laterally adjustable on the axle to gage them 40 to run between the seed-rows, one at least of said wheels being so fitted to the axle as to rotate it, and sleeves constructed to fit the spindle portions of the axle and changeable from one side of the wheel to the other.

5. In a corn-planter, the combination, with a narrowed main frame and an axle whose spindles project beyond it approximately double the width of the supporting-wheels, of sleeves fitted to the spindles and changeable 50 from near their ends to near the frame and the supporting-wheels, likewise changeable in position on the spindles.

6. In a corn-planter, the combination, with the axle having elongated spindles, one angular 55 in cross-section and the other round, of supporting-wheels whose respective hubs fit the respective spindles, whereby one of the wheels in rotating rotates the axle, and sleeves fitted to said spindles and changeable from one side 60 of the wheels to the other.

7. In a corn-planter, the combination, with the main frame and the box-beam, of shovel-standards secured to the beam and shovels adjustably secured to said standards.

8. In a corn-planter, the combination, with the frame and the box-beam secured thereto, of shovel-standards secured to the beam and having each a serrated face, the shovels and disks to which they are fitted at one side and 70 serrated on the other, and means to bolt each standard, disk, and shovel together.

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

AUSTIN C. EVANS.

Witnesses:

A. A. YEATMAN,
EDWIN L. BRADFORD.