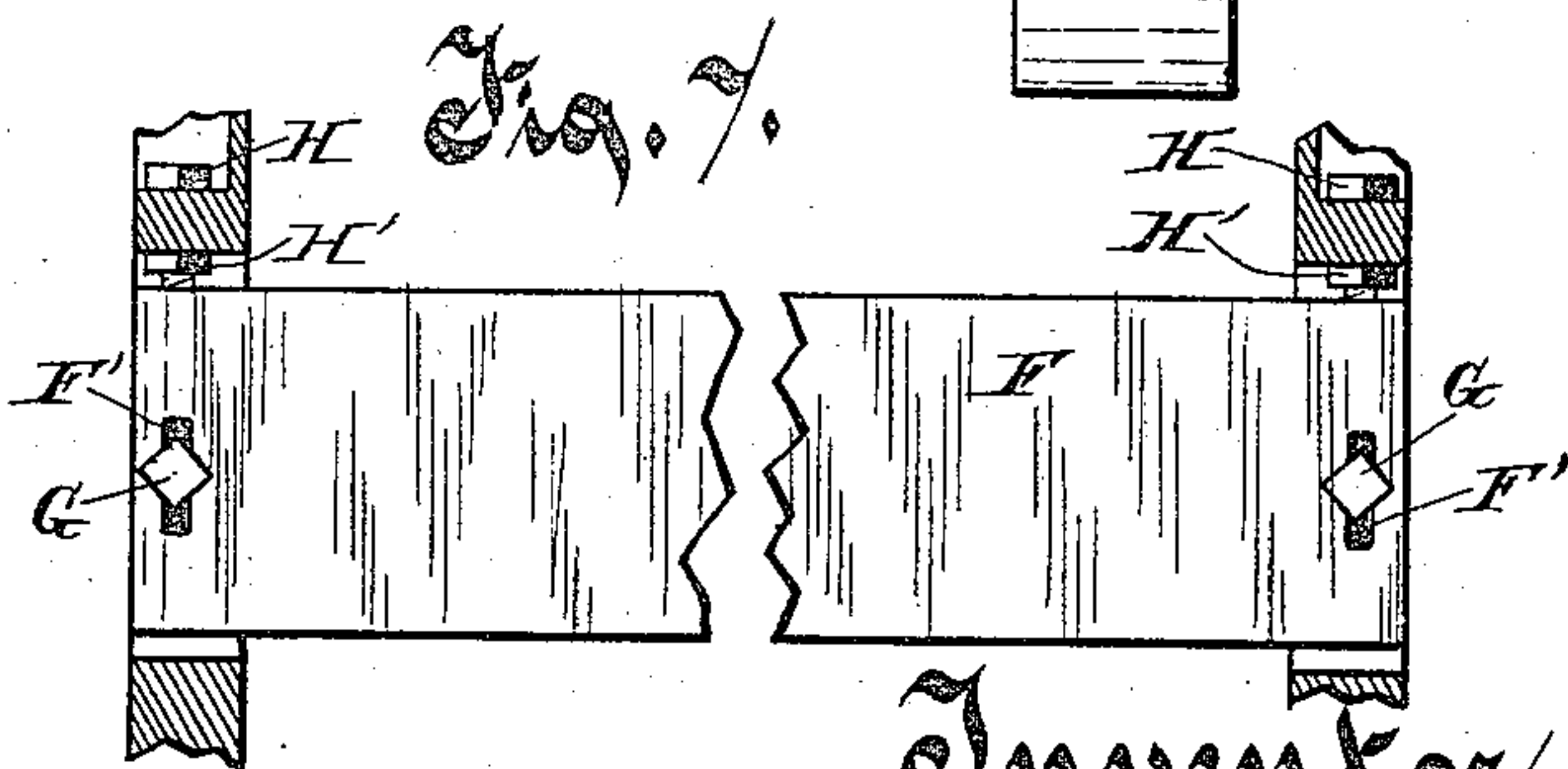
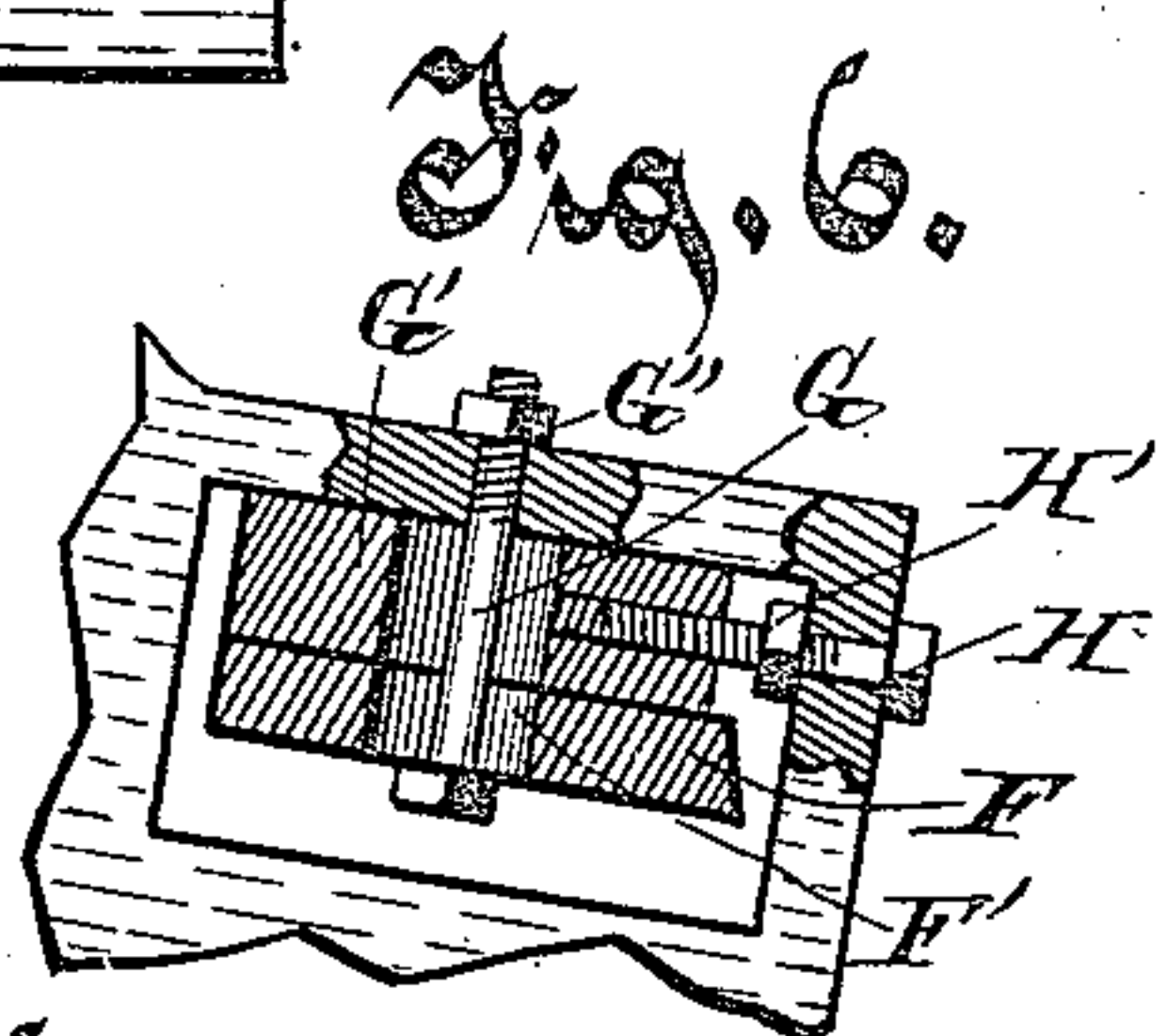
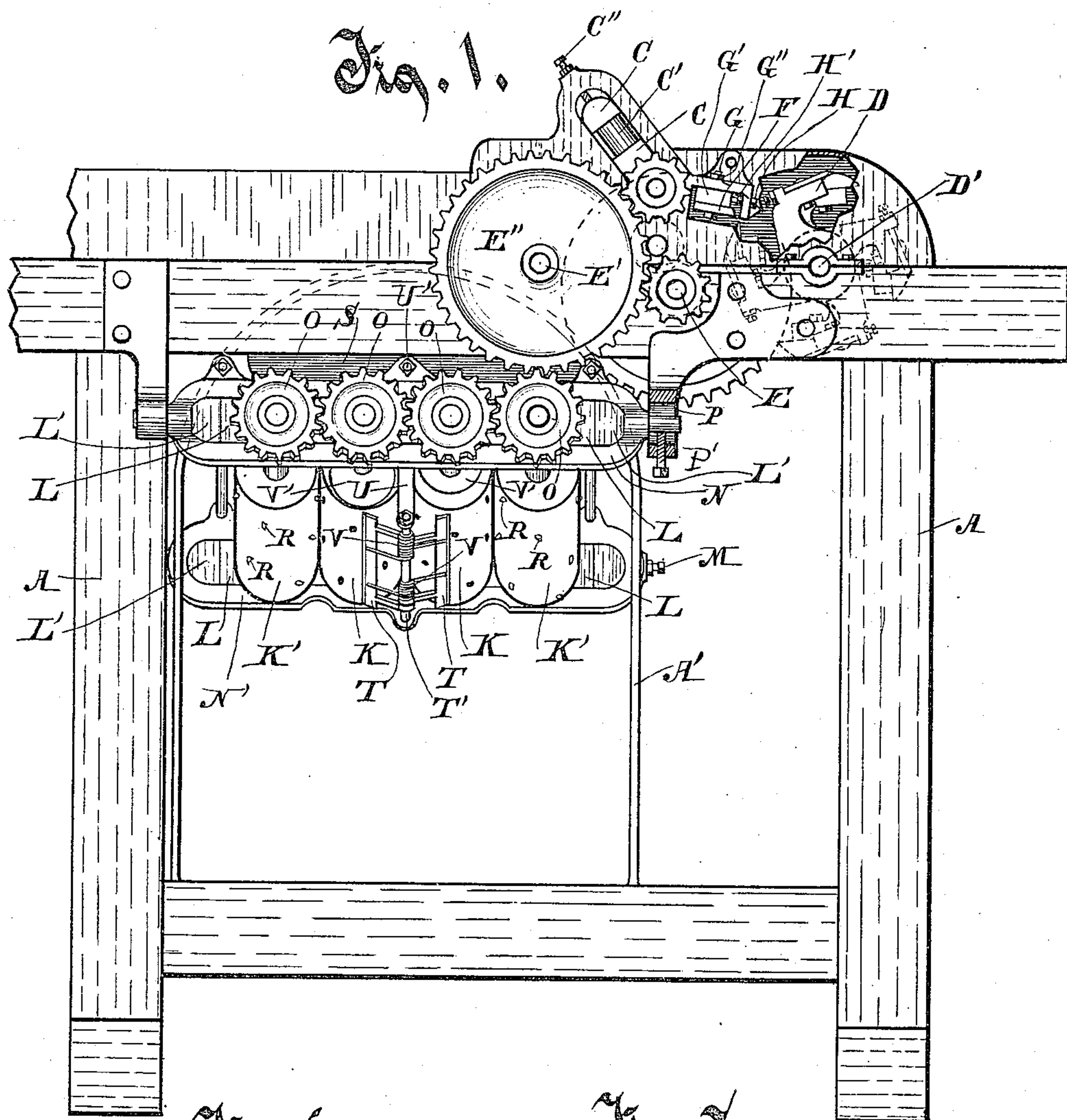


A. ROSENTHAL.
COMBINED FEED CUTTER AND CORN HUSKER.

No. 440,818.

Patented Nov. 18, 1890.



Witnesses.

W. H. Keeney,
Anna Faust.

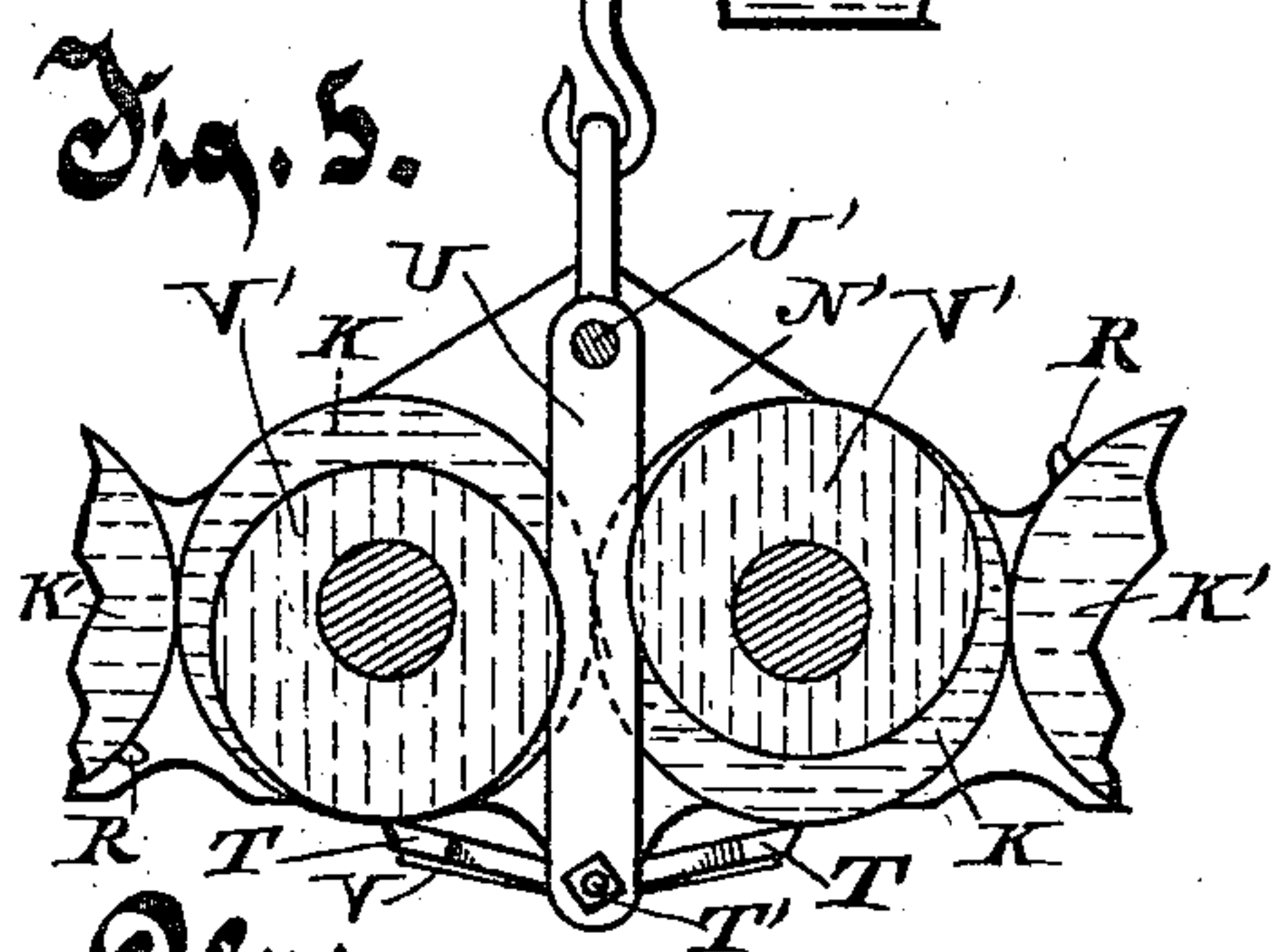
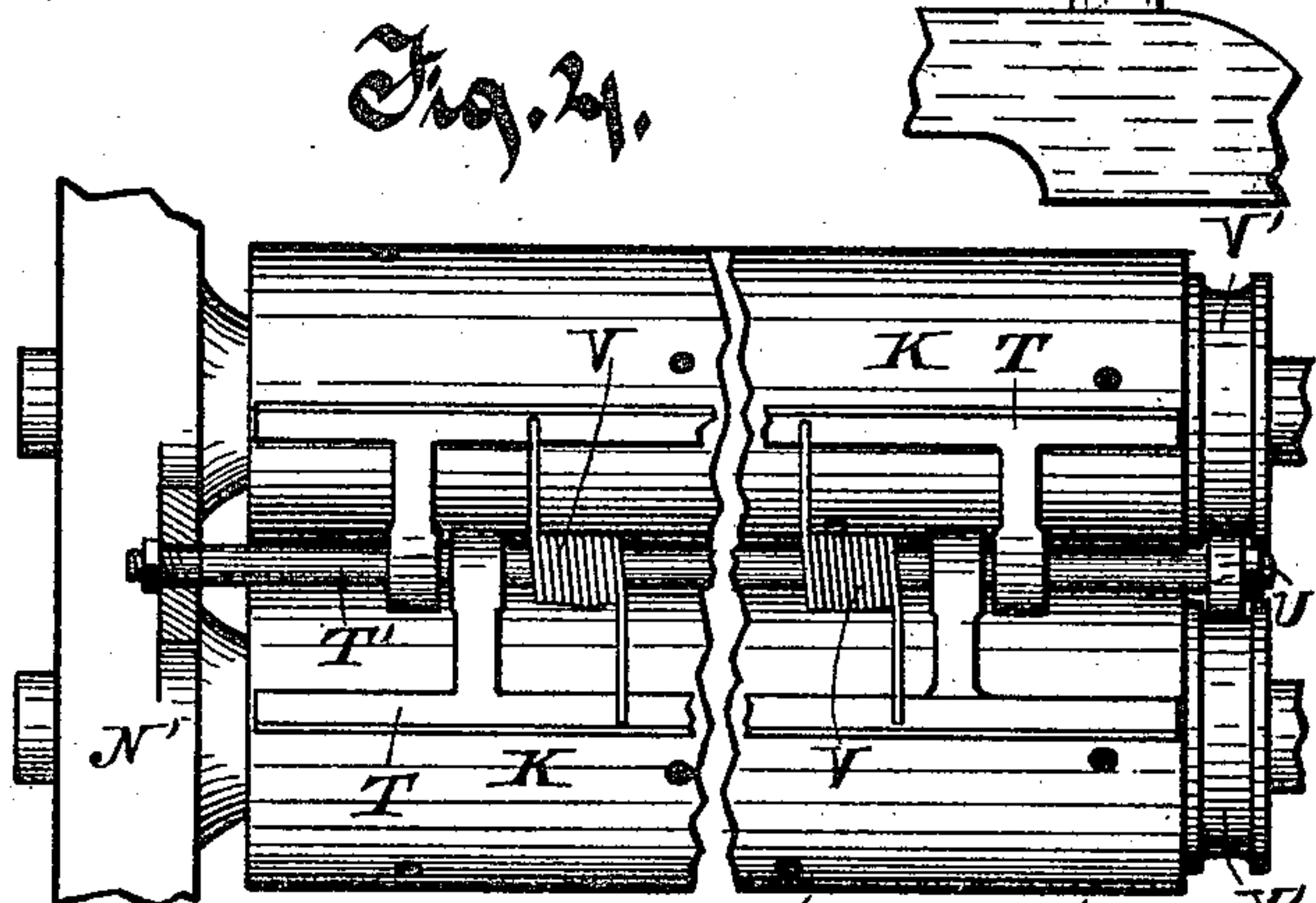
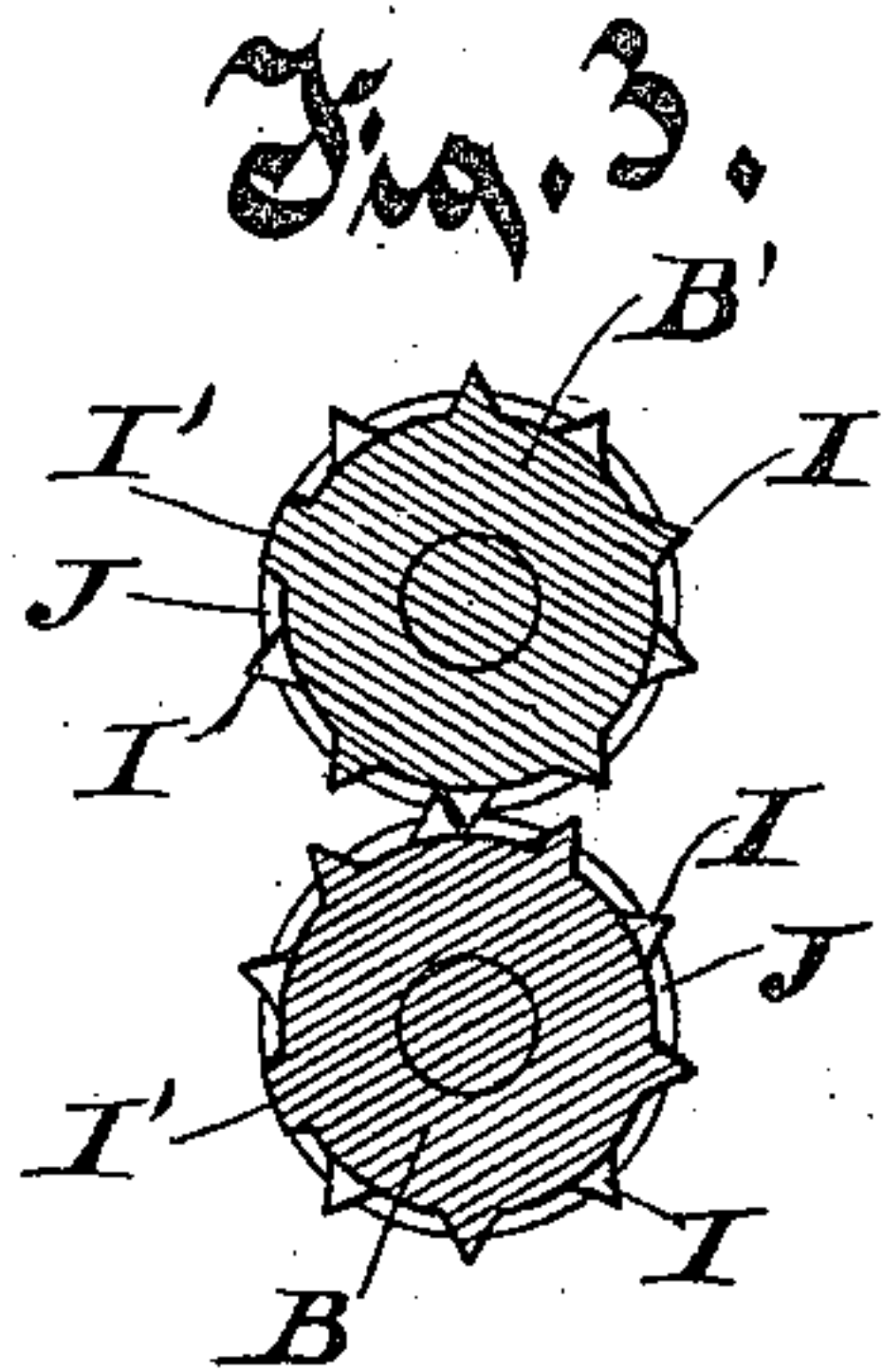
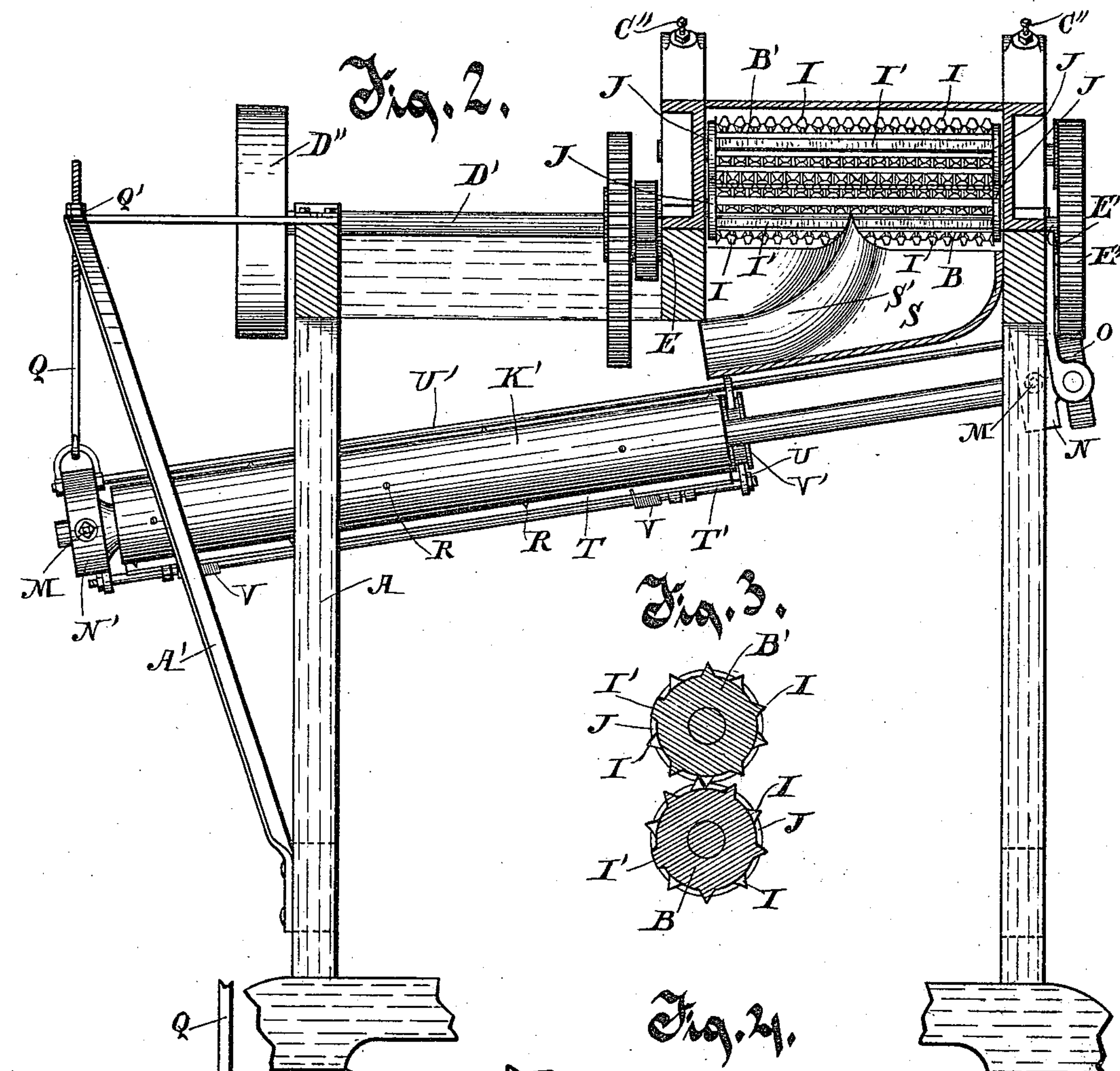
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UNITED STATES PATENT OFFICE.

AUGUST ROSENTHAL, OF MILWAUKEE, WISCONSIN.

COMBINED FEED-CUTTER AND CORN-HUSKER.

SPECIFICATION forming part of Letters Patent No. 440,818, dated November 18, 1890.

Application filed May 29, 1890. Serial No. 353,524. (No model.)

To all whom it may concern:

Be it known that I, AUGUST ROSENTHAL, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in a Combined Feed-Cutter and Corn-Husker, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to improvements in the combined feed-cutter and corn-husker for which Letters Patent No. 401,719 were issued to me on April 16, 1889; and it consists in certain novel features, to be hereinafter specifically claimed.

In the drawings, Figure 1 is a side elevation of the complete machine, a part of the frame or shell being broken away to show interior construction. Fig. 2 is a front elevation of the machine, portions of the frame being broken away for convenience of illustration. Fig. 3 is a transverse section of the feed-rollers. Fig. 4 is an under side view of the husking-rollers and related mechanism, a medial portion being broken away and omitted for convenience of illustration. Fig. 5 is an end view of the husking-rollers from the upper rear end with some related mechanism. Fig. 6 is a detail, partly in section, of the devices for supporting and adjusting the shear-plate. Fig. 7 is a view from the under side of the shear-plate broken away centrally, showing the method of attaching and adjusting it on the frame.

In the drawings the same letters refer to identical parts in all the views.

A is the frame on which, in connection with a bracket A' thereto affixed, the operative mechanism is supported. Two feed-rollers B and B', located parallel to each other, are journaled in the frame, the upper feed-roller B' being journaled in blocks C C, formed in two parts movable in upwardly-inclined slots in the frame, which blocks are provided with elastic rubber cushions C' C' interposed between the two parts of the blocks, the blocks being held adjustably to their work by set-screws C'' C'' turning through the frame against them. A cutter-head D, located just in the rear of the feed-rollers and provided with spirally-arranged upwardly-cutting knives, is fast on the driving-shaft D', which

shaft is provided with a band-wheel D'', for transmitting the power to the mechanism. The driving-shaft D' is geared to the shaft E, which in turn is geared to the shaft E' through the cog-wheel E'', the two shafts E and E' having their journal-bearings in the frame. The upper feed-roller B' is geared to the wheel E'' and the lower feed-roller is geared to the shaft E.

In this machine the knives of the cutter-head are arranged to cut the feed by the upward stroke of the knives alongside of the shear-plate F. The shear-plate F is made adjustable on the frame toward and from the knives of the cutter-head, the plate being secured movably laterally to the frame by means of bolts G G passing through elongated slots F' F' in the shear-plate and through blocks G' G', affixed to or integral with the shear-plate, and provided with slots continuous with the slots F' through the shear-plate, the bolts passing through the frame, to which they are secured removably by nuts G'' G'' turning thereon. The shear-plate is adjusted toward and from the knives of the cutter-head by means of the screw-threaded bolts H H passing revolvably through the frame and turning into the edge of the blocks G' G', the heads of the bolts bearing against the frame on the outer surface of a part thereof, and jam-nuts H' H' turning on the bolts against the inner surfaces of the parts of the frame.

The feed-rollers are each provided with longitudinal rows of radially-projecting teeth I I, which rows of teeth on the two feed-rolls alternate with each other, the rows of teeth on one feed-roll entering the intermediate spaces on the other feed-roll as the rollers revolve. On one side of each feed-roller there is, in the stead of a row of teeth, a longitudinal rib I', projecting radially a distance equal to about half the length of the teeth, and having an outer surface of considerable width curved laterally in an arc of the periphery of the feed-roller, the broad-top ribs I' I' of the two feed-rollers being arranged and adapted to come together, bearing against each other as the rollers revolve. This construction of these broad-topped ribs is adapted to separate the ears of corn from the stalks as the feed-rollers revolve. The feed-rollers are provided at their ends with guide wheels or

flanges J J, projecting radially as far as the broad-topped ribs I' I' project, which guide-wheels are adapted to bear against each other on the two feed-rollers and limit the approach of the feed-rollers toward each other.

Two sets of husking-hollers, consisting of two rollers K and K' in each set, are located in a plane below the feed-rollers and have their axes in vertical planes parallel with the vertical plane of the feed-rollers. These husking-rollers K and K' are journaled in blocks movable laterally in the head-blocks N and N'. These journal-blocks and their supported rollers are held yieldingly up to their work by elastic rubber blocks L L, inserted in the head-blocks outside of the journal-blocks, to which they are held adjustably by the set-screws M M turning through the head-blocks against movable bearing-blocks L' L'. The head-block N is pivoted at its lateral ends centrally in brackets affixed to the frame.

The journals of the rollers K and K' are provided with intermeshing pinions O O, one of which normally meshes with the cog-wheel E'', whereby the husking-rollers are revolved. The head-block N, at one end, has its journal in a vertically-elongated slot P, and a set-screw P', turning through the bracket against the journal, is adapted to raise or lower that end of the head-block, whereby the pinion O is thrown into or out of gear with the cog-wheel E''. The journal-bearing of the other end of the head-block N is sufficiently loose to permit of the required oscillation of the head-block therefor. The outer ends of the husking-rolls are adjustable vertically by means of the suspended rod Q, hooked at its lower end into a shackle attached to the head-block N', the rod Q at its upper end being screw-threaded and passing movably through the bracket A', and being provided with nuts Q', turning on the rod against the bracket A'. By this construction the outer ends of the husking-rollers may be raised or lowered as desired. The outer rollers K' K' are provided with a number of teeth R, which register with and enter corresponding apertures in the rollers K K as the rollers revolve. A chute S, supported on the frame, is arranged to receive the ears broken from the stalks in front of the feed-rollers and convey them to the husking-rollers. The chute S is divided into two channels by the raised central part S', whereby the ears are delivered to the husking-rollers about centrally of each set of rollers.

As a certain amount of silk and strips of husk from the ears is liable to adhere to and wind about the husking-rollers, I provide a set of scrapers T T for removing the silk and foreign matter from the rollers. These scrapers consist of longitudinal bars hinged to an intermediate longitudinal rod T', which at the outer end enters and is secured to a lug or projecting part of the head-block N', and at the other end enters and is supported in

the swinging bar U, which bar U at its upper end is pivoted on a rod U', inserted and supported at its ends in the head-blocks N and N'. The scrapers T T have semi-sharp edges bearing yieldingly against the under sides of the rollers K K normally at about their lowest central longitudinal line, and are held yieldingly thereto by springs V V, coiled about the rod T' and bearing against the under side of the scrapers. Two complementary eccentrics V' V' are fixed on the journals of the rollers K K, between which the bar U depends, bearing against both eccentrics, whereby as the rollers revolve the bar U is made to oscillate laterally, by which means the upper inner ends of the scrapers are vibrated laterally, the lower end of the rod T' being sufficiently loose in its bearing to permit of such vibration; or, as the vibration is quite limited, a slight amount of elasticity in a rod T' is sufficient to permit of such vibration of the scrapers at one end.

A table (not shown in the drawings) is provided, which rests on the frame in front of the feed-rollers and partially over the husking-rollers, from which table the cornstalks with the ears attached thereto are fed to the feed-rollers, the stalks passing between the rollers and being cut up by the revolving knives on the cutter-head, while the ears of corn are broken from the stalks by the action of broad-topped ribs I' I' of the feed-rollers, and the ears with the husks attached thereto fall onto the chute S, from which they are discharged by gravity onto the husking-rollers K and K' and are carried by gravity down along and on the husking-rollers, being discharged therefrom at the lower outer ends, having in the meantime been stripped of their husks by the teeth on the rollers.

No claim of invention is herein made for the specific devices for which claims of novelty are made in the application of William Gutenkunst, bearing even date herewith.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a feed-cutter and corn-husker, the combination of a set of feed-rollers arranged parallel and near to each other, the feed-rollers having longitudinal rows of intermeshing teeth and broad-topped longitudinal ribs, one rib on each roller arranged to register and bear against each other and adapted for severing the ears of corn from their stalks, with a chute for conveying the ears to husking devices, substantially as described.

2. In a feed-cutter and corn-husker, the combination, with revoluble husking-rollers, of scrapers arranged longitudinally thereof and held yieldingly thereto and a depending swinging bar in which the scrapers are supported at one end, which bar passes between and bears against complementary eccentrics on the journals of the rollers, whereby the bar and scrapers at one end are made to vibrate laterally, substantially as described.

3. In a combined feed-cutter and corn-

husker having feed-rollers and husking-rollers, the combination, with sets of husking-rollers journaled at one end in a head-block pivoted centrally at its lateral ends, of a suspending-rod attached centrally to the other husking-roller head-block, which suspending-rod is screw-threaded and passes movably through a portion of the frame, in which it is made adjustable vertically by means of nuts

turning thereon, which bear against the frame, substantially as described.

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

AUGUST ROSENTHAL.

Witnesses:

C. T. BENEDICT,
ANNA FAUST.