

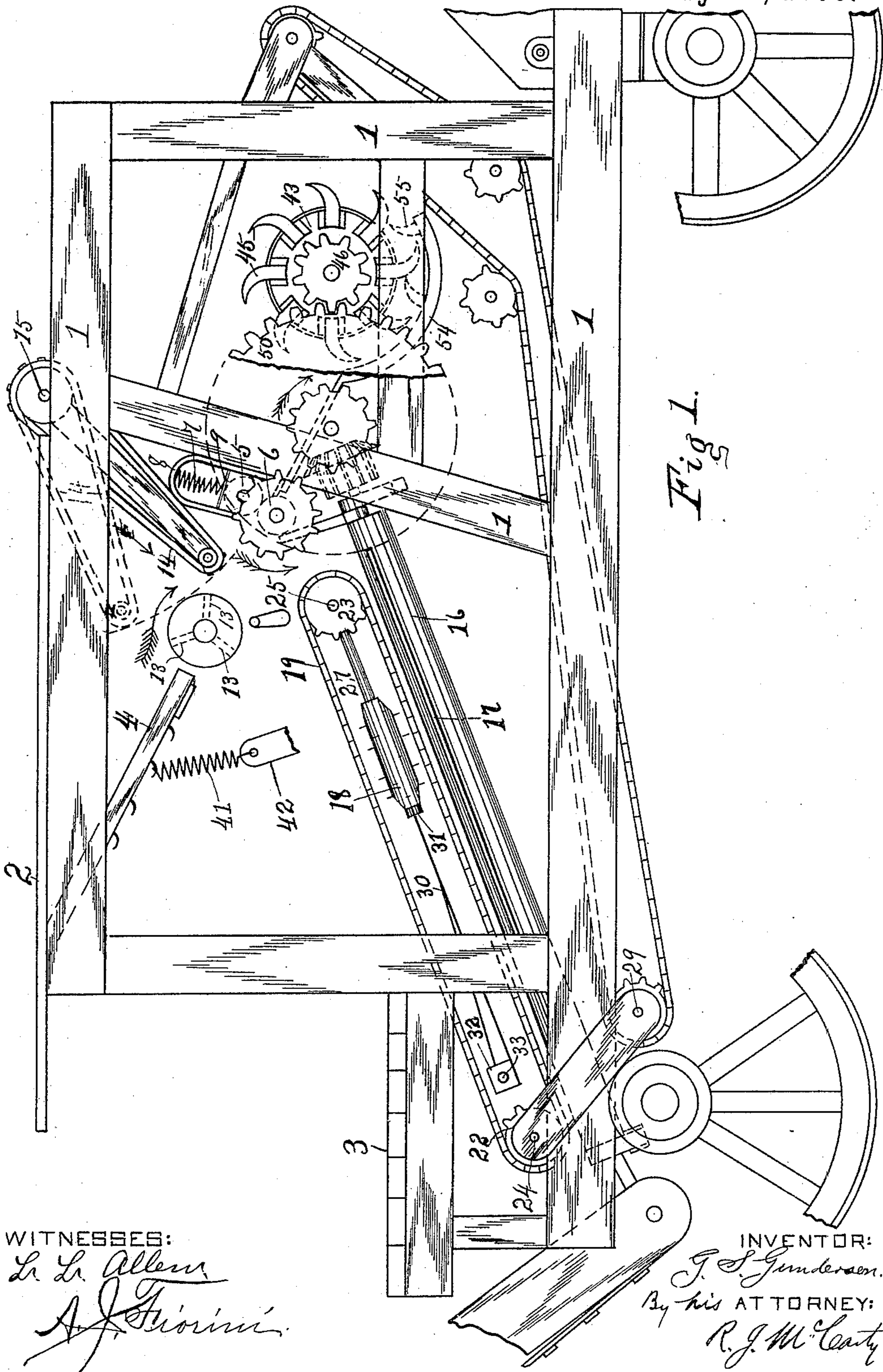
(No Model.)

4 Sheets—Sheet 1.

G. S. GUNDERSEN.
CORN HUSKER

No. 604,528.

Patented May 24, 1898.



WITNESSES:

L. L. Allen
A. Fiorini

INVENTOR:

G. S. Gundersen.
By his ATTORNEY:
R. J. McCarty.

(No Model.)

G. S. GUNDERSEN.
CORN HUSKER

4 Sheets—Sheet 2.

No. 604,528.

Patented May 24, 1898.

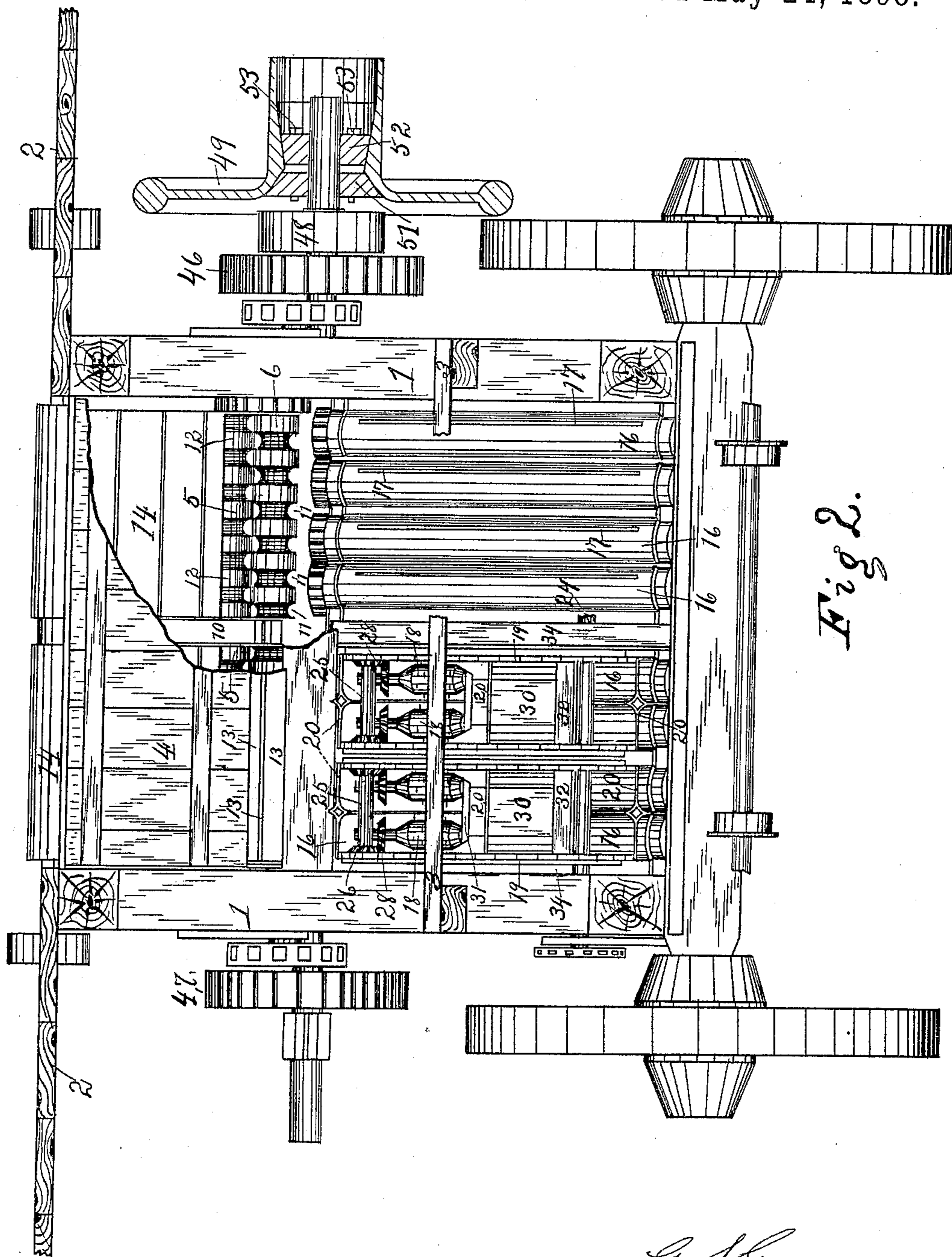


Fig. 2.

WITNESSES:

L. L. Allen.
H. J. Trivini

G. S. Gundersen,
INVENTOR:

By R. J. McCarty,
his ATTORNEY:

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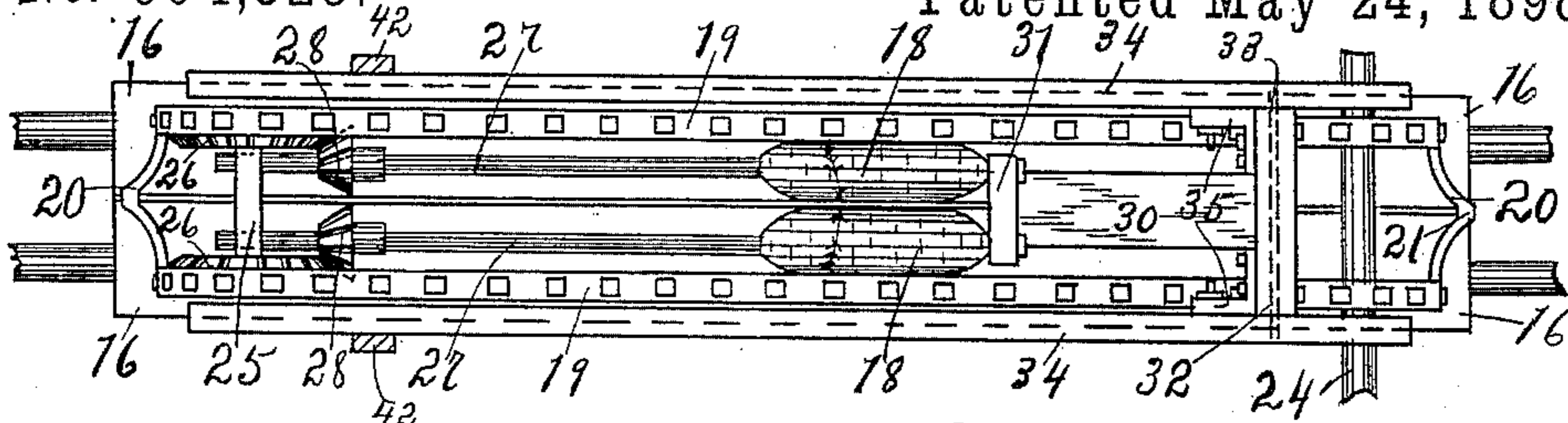


Fig. 3.

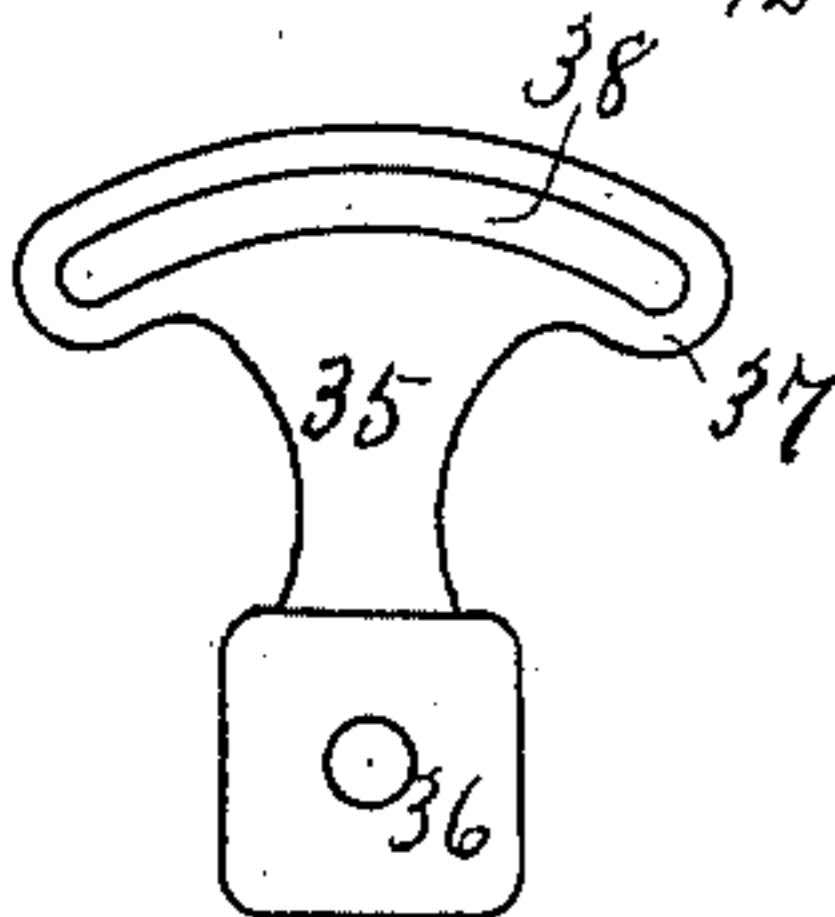


Fig. 9.

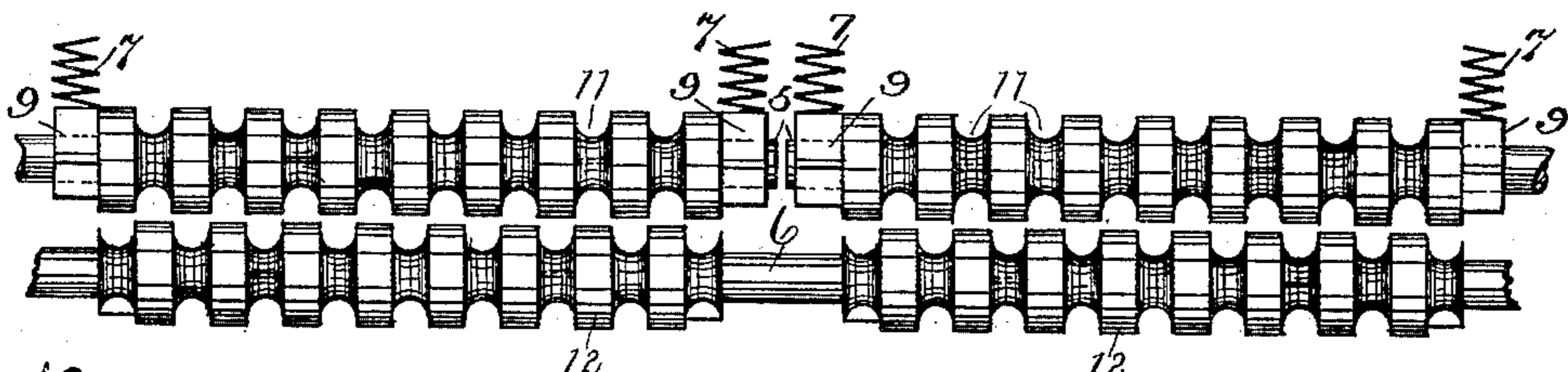


Fig. 6.

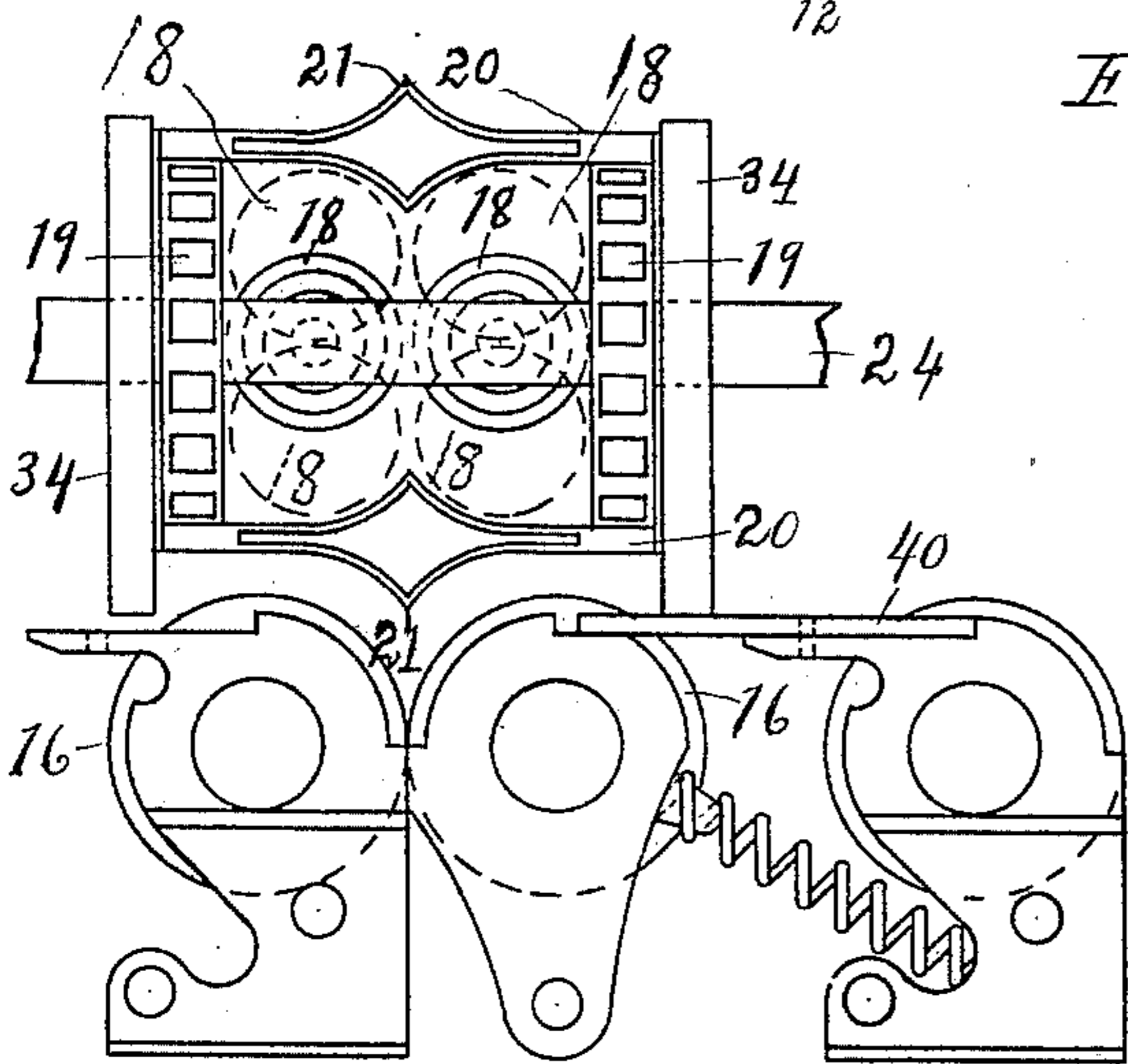


Fig. 5.

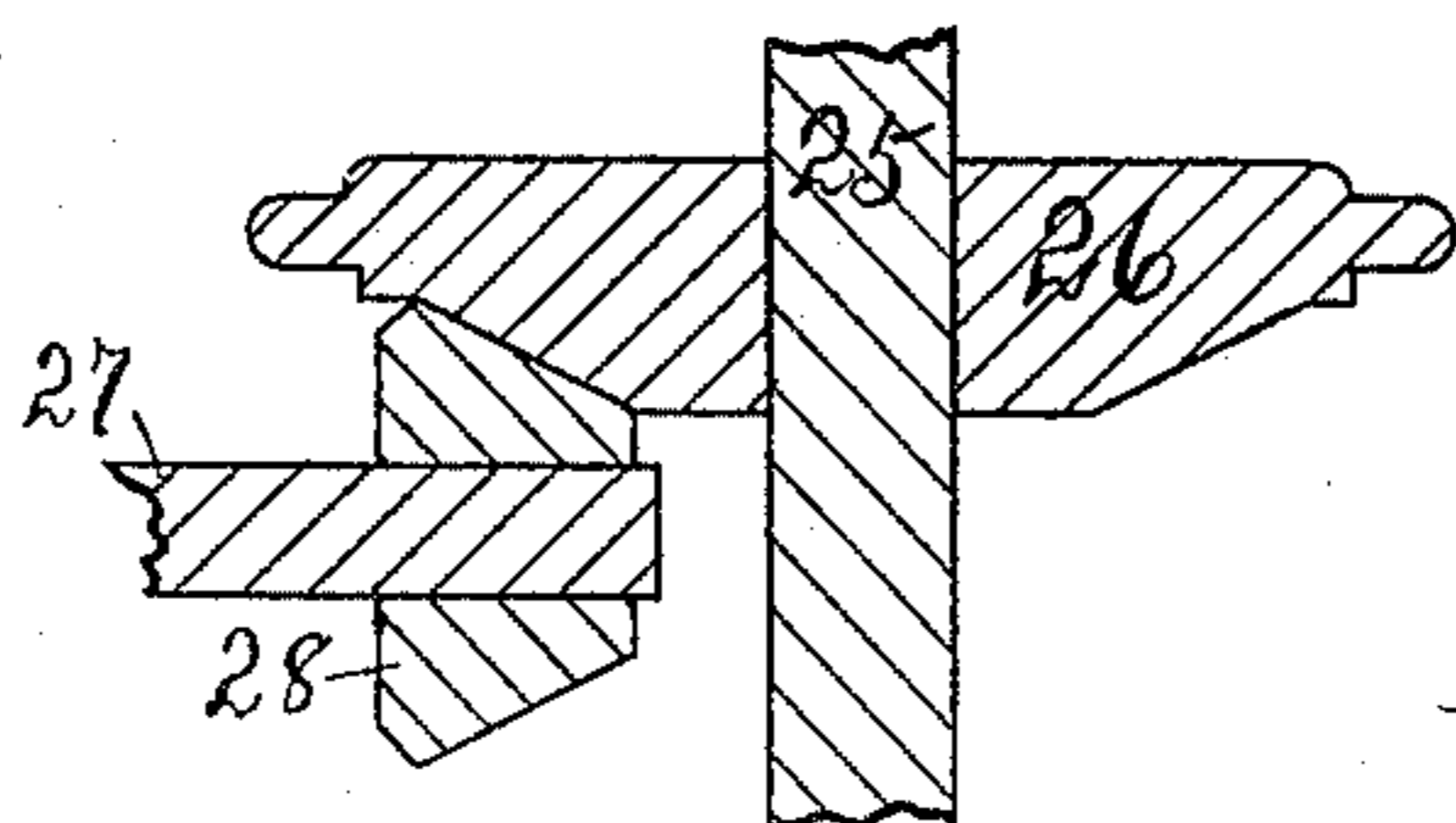


Fig. 4.

WITNESSES:

L. L. Allen.
A. J. Fanning.

G. S. Gundersen.

INVENTOR:

By R. J. McCarty.
his ATTORNEY:

(No Model.)

G. S. GUNDERSEN.
CORN HUSKER

4 Sheets—Sheet 4.

No. 604,528.

Patented May 24, 1898.

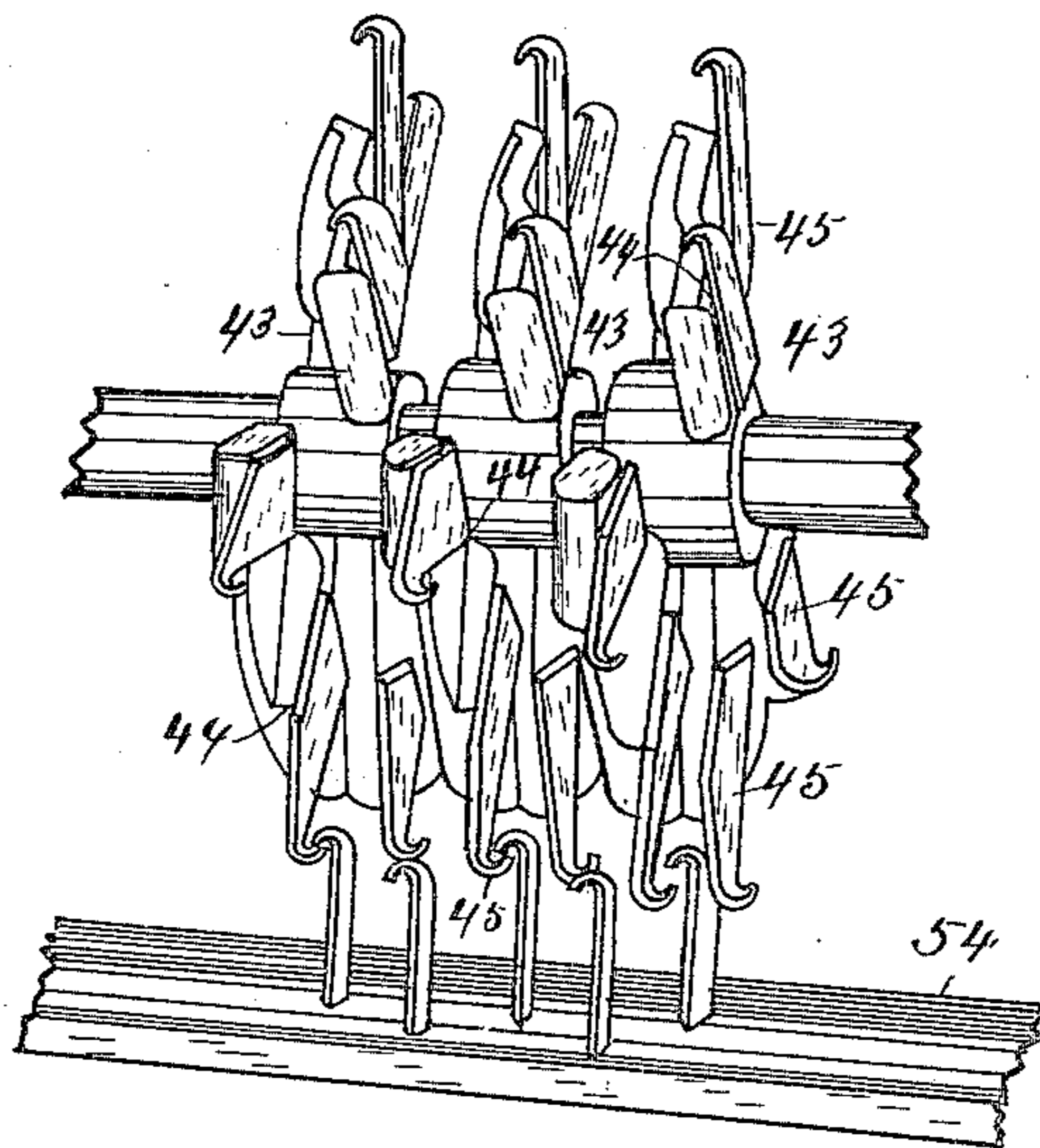


Fig 7.

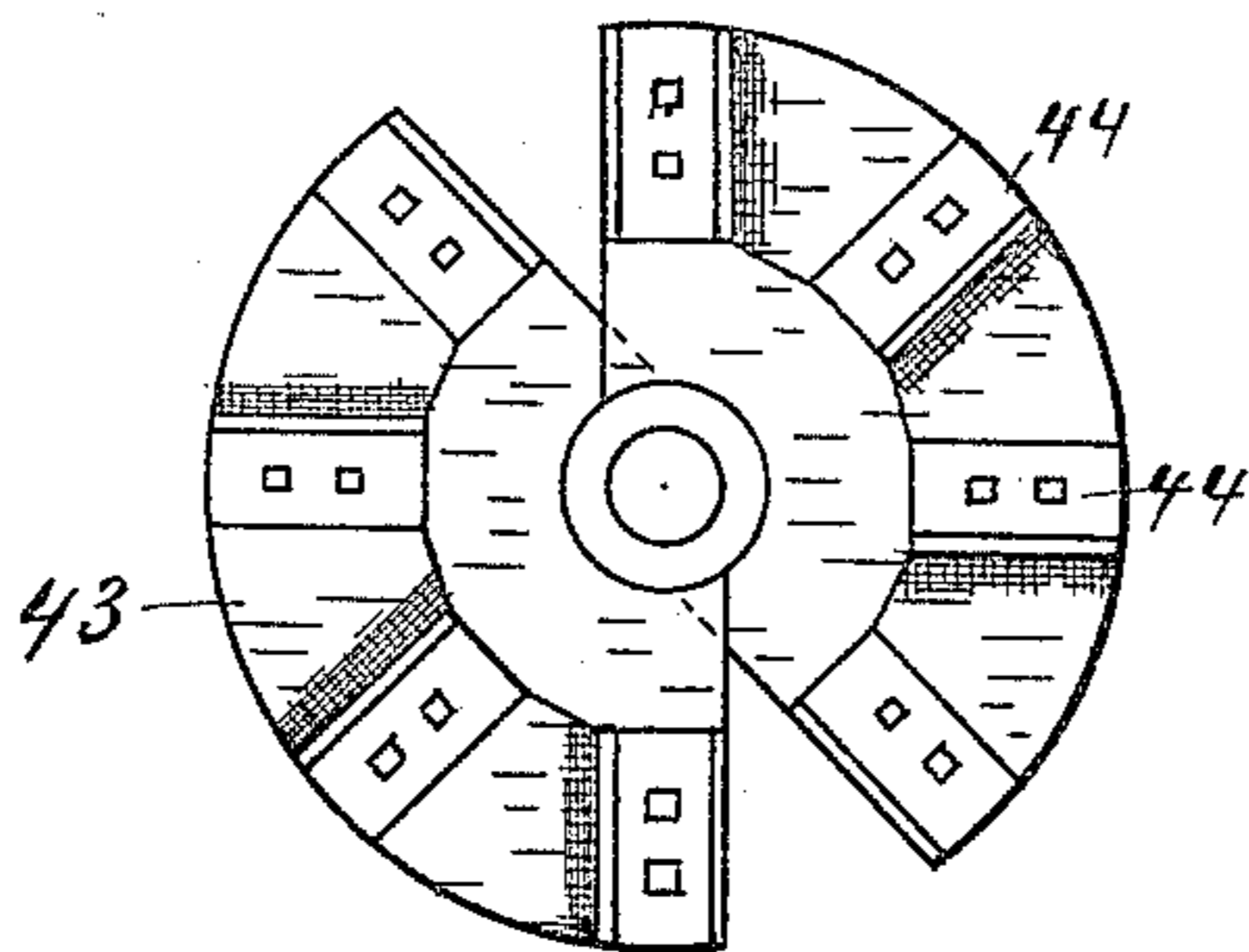


Fig 8.

WITNESSES:

L. L. Allen
O. McCarty

G. S. Gundersen

INVENTOR:

By R. J. M. Carty
his ATTORNEY:

UNITED STATES PATENT OFFICE.

GILBERT S. GUNDERSEN, OF DAYTON, OHIO.

CORN-HUSKER.

SPECIFICATION forming part of Letters Patent No. 604,528, dated May 24, 1898.

Application filed August 17, 1896. Serial No. 602,975. (No model.)

To all whom it may concern:

Be it known that I, GILBERT S. GUNDERSEN, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Corn-Huskers; and I do declare the following to be a full, clear, and exact description of the invention, such as it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to new and useful improvements in corn husking and shredding machines.

As is commonly known among those who are familiar with the use of corn-husking machines as they are generally constructed, there is more or less danger attending the feeding of the stalks to the snapping-rollers, as the great number of one-armed men to be found in the rural districts will attest. It is therefore one of the objects of the present invention to avoid the necessity of the feeder pushing the stalks into the snapping-rollers. To this end I provide means for applying a yielding or flexible pressure to the stalks as they enter the snapping-rollers.

A further object of the invention is to provide the snapping-rolls with a desired yielding nature.

The present invention also relates to a rotating beater to direct the stalks to a butting-apron and the snapping-rolls and to other features hereinafter more fully described in the specification and pointed out in the claims.

In the accompanying drawings, which illustrate the several features comprising the invention, Figure 1 is a side elevation of a corn husker and shredder made in accordance with my invention. The side boards upon which the bearings for the several shafts are removed. Fig. 2 is a rear elevation of the machine, parts being broken away, and the husk-loosening devices are removed from half of the husking-rollers. Fig. 3 is an enlarged top view of the carrier and husk-loosening rolls which operate over each two of the husking-rollers. Fig. 4 is an enlarged sectional

view of the gears that drive the husk-loosening rolls. Fig. 5 is an end elevation of Fig. 3. Fig. 6 is an enlarged view of the snapping-rollers. Fig. 7 is a perspective view of a portion of the shredding-cylinder and concave. Fig. 8 is a side elevation of one of the disks removed to which the shredding-teeth are attached. The said teeth are removed from the disk in this view. Fig. 9 is a detached view of one of the side brackets through the agency of which the spring adjustment of the husk-loosening rolls is obtained.

Throughout the specification similar reference characters indicate corresponding parts.

The parts 1, constituting the frame of the machine, are of sufficient strength, and when the machine is in a complete operating condition its sides are walled up in order to conceal the mechanism and afford suitable bearings for the several shafts.

2 designates an elevated feed-table that projects on both sides of the machine, and 3 is a feeder's platform mounted across the machine below and in advance of the said feed-table.

4 designates a run-board down which the stalks are fed, and 5 and 6 designate snapping-rollers which are mounted in parallel and transverse positions. The latter roller is preferably one continuous roller, approximating in length the other two. The former rollers lie the full width of the machine and have their outer journals controlled by springs 7, each of which is inclosed between a yoke 8 and a block 9, that bears on the journal or roller. The rollers 5 are of the same construction and have their inner ends mounted in brackets 10. (See Fig. 2.) The grooves 11 and rings 12 when the rollers 5 and 6 are placed in parallel positions alternate, substantially as shown and described in my pending application, Serial No. 590,206, filed May 4, 1896. The advantages obtained in thus dividing said rollers 5 are the increased capacity for severing the ears of corn and a prolongation of the life of the machine by obtaining a greater amount of flexibility between the rollers. In other words, by two short rollers co-acting with a long roller double the amount of flexibility is had and the rollers engage more readily with the stalks. The space between

the run-board 4 and the snapping-rollers is occupied by a rotating beater consisting of a series of radial vanes or flanges 13, that project from a common shaft and occupy a transverse position adjacent to the lower end of the run-board. This beater insures the direct passage of the stalks to the butting-apron 14, and thence to the snapping-rollers under a yielding pressure, which pressure is an important feature of this invention. The shaft of the rotating beater is mounted in boxes on the sides of the machine and is driven by a belt from shaft 15 of the butting-apron. This butting-apron has its lower end essentially free to yield or apply a flexible pressure to the stalks, which takes the place of the manual or hand pressure that is necessary in machines that are now commonly in use and which makes the work of the feeder so hazardous. The dotted lines in Fig. 1 indicate the movement of the apron when in contact with the stalks as they pass into the snapping-rollers, the movement of said stalks in the direction of the snapping-rollers giving the apron a tendency to climb upward, as shown by the dotted curve, during which time pressure is applied to the stalks to compel their entry to the said snapping-rollers.

16 designates a series of husking-rollers mounted on an incline and at right angles to the snapping-rollers in position to receive the ears as they drop from the latter rollers. These husking-rollers are driven in a well-known manner by spur-gears, and each of said rollers is provided with a longitudinal groove 17, which assists in the removal of the husks from the corn. Other means are also provided for loosening the husks, and consist of husk-loosening rolls 18, which are substantially the same as shown and described in my former application hereinbefore referred to; but in order to prevent the corn from stopping and clogging up at any point on the husking-rollers or between the said rollers and the husk-loosening rolls I provide means consisting of sprocket chains or belts 19, to which are attached in cross positions a series of traveling bars 20, having points 21, that project into the space between each two of the husking-rollers, as shown in Fig. 5, and as they are moved along by the chains they dislodge all corn or other matter that has a tendency to clog up or fill the space. The chains pass over sprocket-wheels 22 and 23, the former of which are rigidly mounted on a shaft 24 and the latter on a short shaft 25. The sprocket-wheels 23 are integral with the bevel-gears 26, that drive the shafts 27 of the husk-loosening rolls 18 through bevel-pinions 28. Shaft 24 is driven by a chain from a carrier-shaft 29. Shaft 25 is rigidly mounted and provides a bearing for the journals of the husk-loosening shafts 27. The gears 26 run loose on shaft 25. On the lower end of the husk-loosening rolls variable pressure is applied by means of a plate-spring 30, one end of which is secured

to a bearing-piece 31, into which the journals of the husk-loosening rolls project, and the other end of which is secured to a transverse shaft 32 at the lower end of the machine. This shaft 32 is square in cross-section and is loosely mounted on a rod 33, that projects into openings in the frame 34. (See Fig. 3.) Means for obtaining an arc adjustment of shaft 32 consists of bracket 35, the ends 36 of which are rigidly attached to said shaft 32 and the slotted portion 37 of which is secured to the side pieces or frame 34 by means of bolts which penetrate said side pieces and enter the segmental slots 38 in said brackets. By loosening the said bolts the position of the brackets 35 may be shifted, and therewith the shaft 32, and the pressure of the spring 30 on the husk-loosening rolls varied as desired. It will be understood that the devices shown in Fig. 3 are located over each pair of the husking-rollers. Projecting from the lower box-bearing of each adjacent husking-roller there is an arm 40, which supports the lower end of the frame 34. The upper end of the said frame has a flexible mounting and is controlled by a helical or coil spring 41 or a counterbalance-weight which may be adjustably attached to the run-board 4 and to a yoke 42, which is connectible to said frame.

The shredding mechanism consists of a series of disks 43, assembled on a shaft above the concave 54. Each of said disks has an offset providing a seat 44 for the attachment of curved teeth 45, which may be easily removed from the disk for the purposes of sharpening. As shown in Fig. 8, the said disks are divided into two halves or sections integral with the hub. The raised distance between the offsets in which the teeth are mounted is about half an inch, so that there is a corresponding distance between the teeth. On the shaft of the shredding-disks there are mounted two gears 46 and 47, a main drive-pulley 48, and a balance-wheel 49. The gears 46 and 47 mesh with gears 50, that drive the husk-loosening rolls and snapping-rollers by chains. The balance-wheel and main drive-pulley are one solid piece with two tapering friction-blocks 51 and 52, which are held together by bolts and are keyed to the shredding-shaft. The strain may be governed by the tension of these bolts, which allows the main drive-belt and balance-wheel to slip when the machine has more work than it can do, and therefore it is a preventative against the breakage of the machine.

The driving mechanism in this machine is similar to that shown and described in the application hereinbefore referred to.

The carrier is essentially constructed of a series of cross-slats, which permit the dirt from the stalks to pass through, and performs the same function as do the shakers shown in my patent of February 4, 1896.

54 designates a concave below the shredding-disks, having teeth 55, that cooperate

with the teeth on the shredding-disks in cutting or shredding the stock.

I claim—

5 1. In a corn-husking machine, the combination with a continuous snapping-roll having grooves and rings throughout its length, of two short rolls of similar construction mounted parallel therewith in positions to bring the grooves of one roll in line with the
10 rings of the other, the said short rolls being provided with yielding bearings, substantially as shown and described.

15 2. The combination with snapping-rollers, of a rotating beater to advance the stalks to the snapping-rollers, and apply pressure thereto; a butting-apron mounted above said snapping-rollers, and beater, and having its lower end, essentially free, and projected between the snapping-rollers and beater, so that
20 a yielding pressure is immediately applied to the stalks to crowd them into the snapping-rollers as said stalks are directed past the beater; whereby the necessity of applying

manual pressure to said stalks at a point adjacent to said snapping-rollers, is dispensed 25 with, substantially as described.

3. In a corn-husking machine having side feed-tables and a feeder's footboard, the combination with snapping-rollers, and a shredding-cylinder, of a rotating beater to advance 30 the stalks to the snapping-rollers and to apply pressure thereto, and a butting-apron mounted above said snapping-rollers and beater, the said butting-apron having its lower end essentially free and disconnected from 35 other supports so as to apply variable pressure at all times to the stalks to crowd them into the snapping-rollers as said stalks are advanced by the rotating beater, substantially 40 as shown and described.

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

GILBERT S. GUNDERSEN.

Witnesses:

R. J. MCCARTY,
L. L. ALLEN.