

MACHINE FOR TREATING FLAX AND OTHER FIBER YIELDING PLANTS.

APPLICATION FILED JUNE 15, 1903.

Patented Apr. 27, 1909.

Fig. 1.

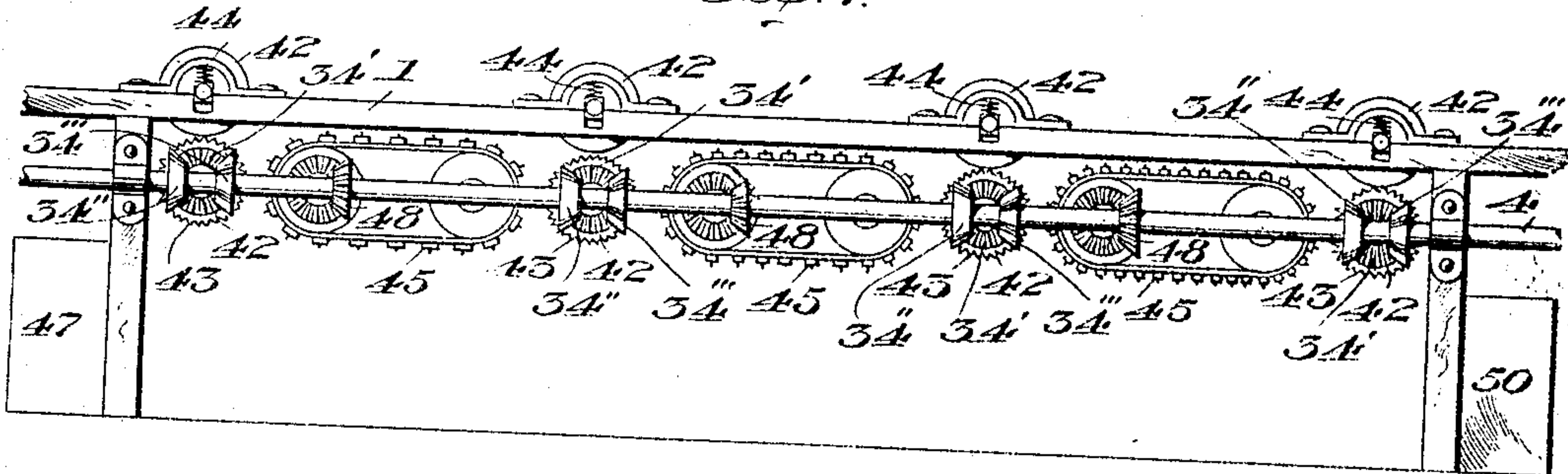
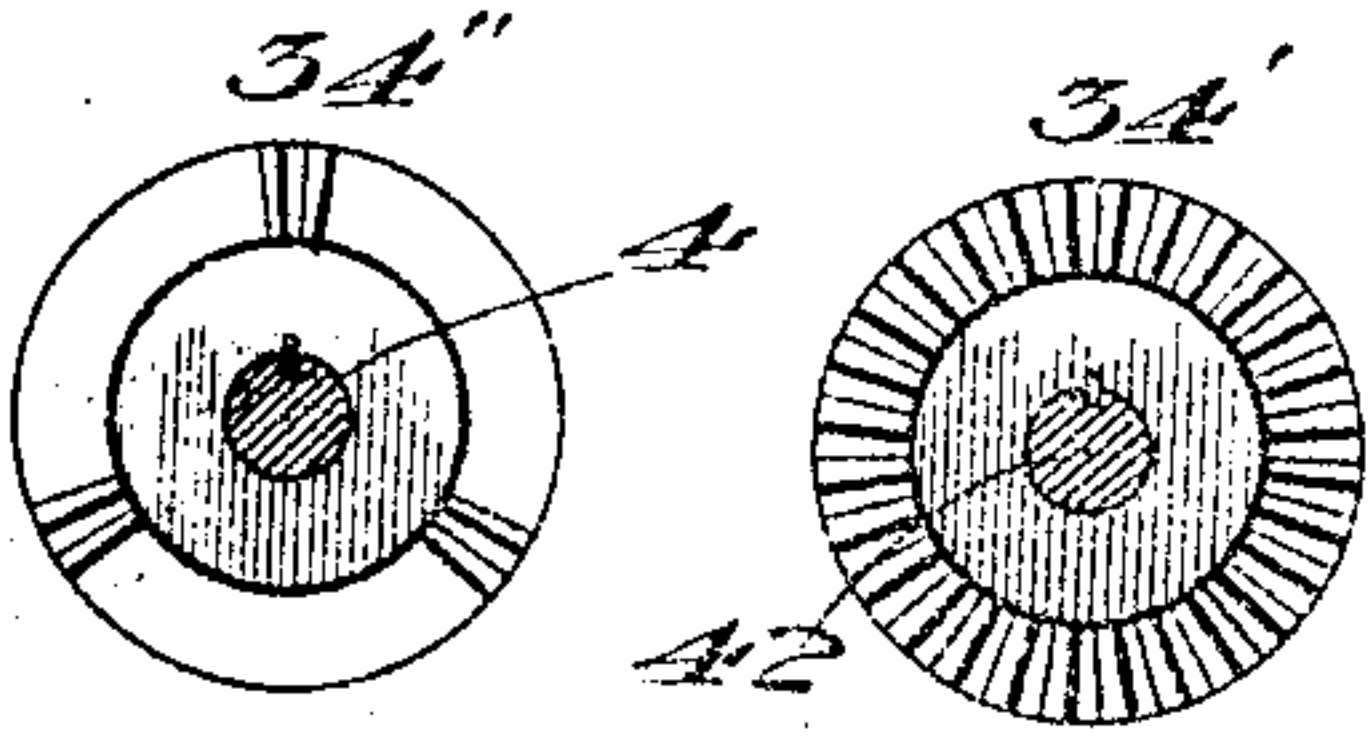


Fig. 3.



№ 4.

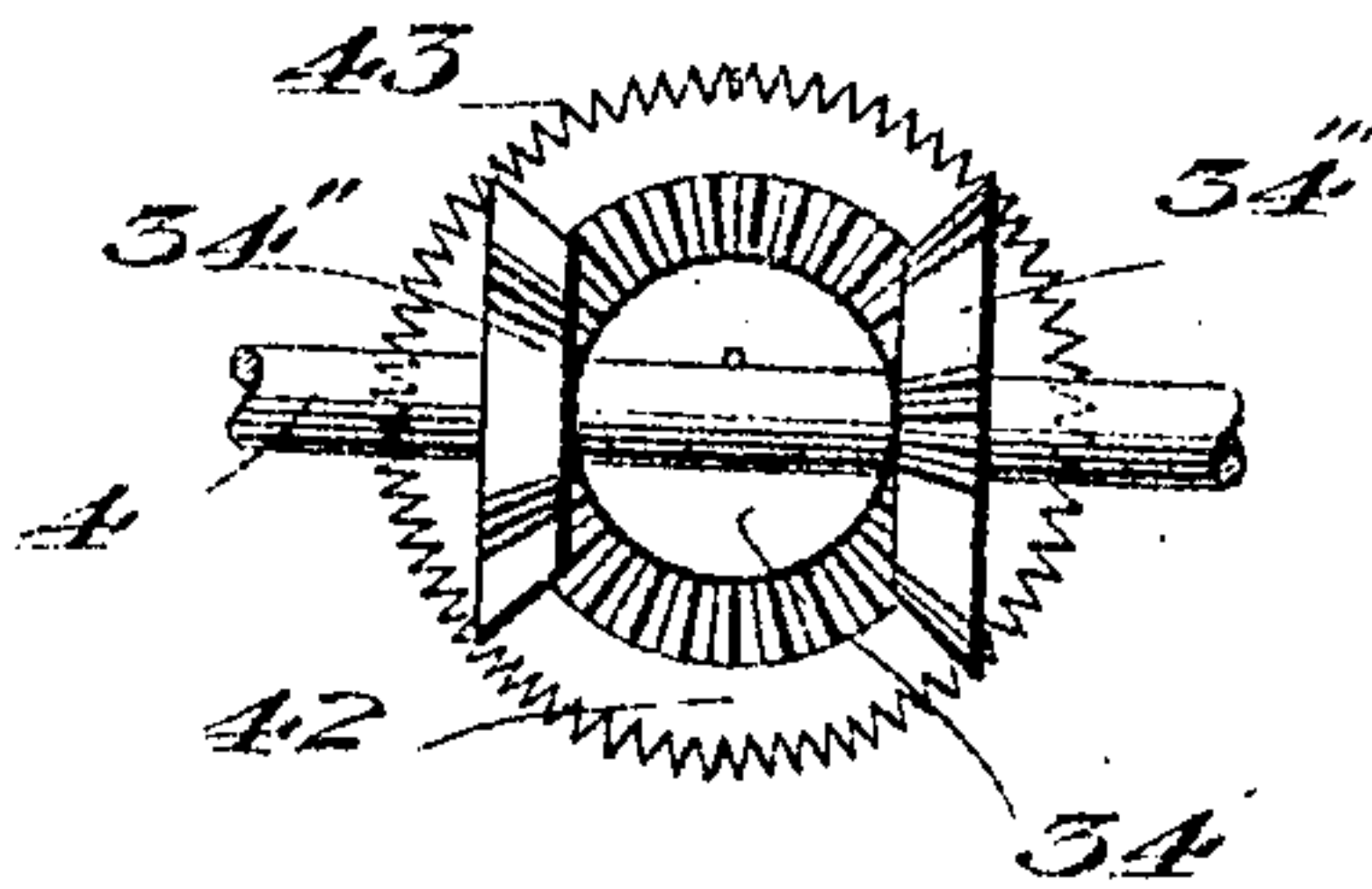
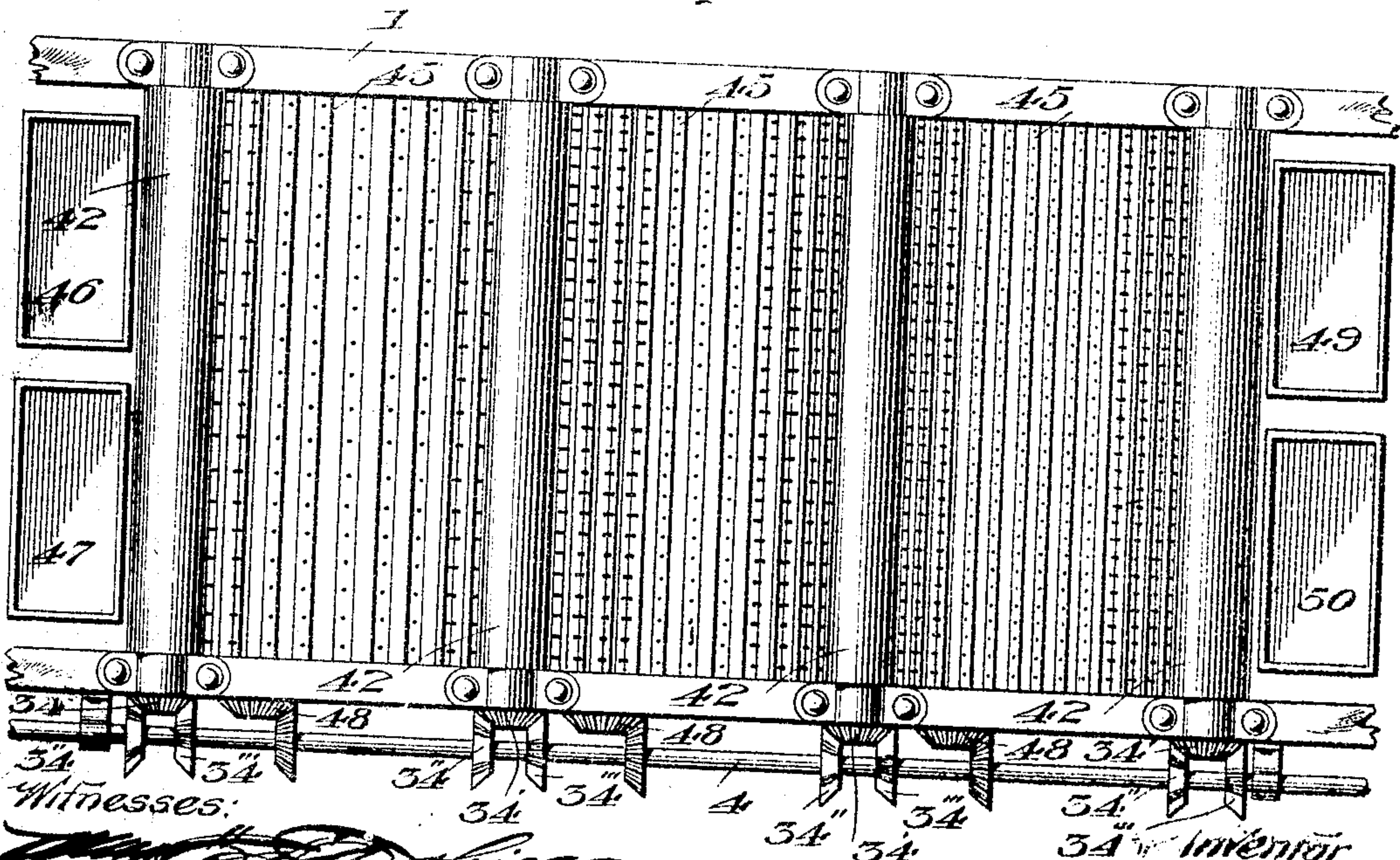


Fig. 2.



Witnesses:

*G. V. Lickwood*

34<sup>th</sup> Inventor  
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# UNITED STATES PATENT OFFICE.

EUGENE BOSSE, OF SALEM, OREGON.

MACHINE FOR TREATING FLAX AND OTHER FIBER-YIELDING PLANTS.

No. 919,532.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed June 15, 1903. Serial No. 161,555.

*To all whom it may concern:*

Be it known that I, EUGENE BOSSE, a citizen of the United States, residing at Salem, county of Marion, and State of Oregon, have invented certain new and useful Improvements in Machines for Treating Flax and other Fiber-Yielding Plants, of which the following is a specification.

My invention relates to machines for refining or hackling flax or other fiber yielding plants.

The object of the present invention is the provision of a machine of the class set forth having an improved and novel arrangement of rollers, moving gills, and gearing for operating said rollers and gills, whereby the slivers of flax or other fiber yielding plant undergoing treatment will be acted upon in such manner that a superior product is obtained.

The invention comprises a plurality of pairs of rollers, with intermediate "gills" which may be of either the rotary or endless chain type, in connection with gearing of novel arrangement and construction, which imparts to the rollers an intermittent forward rotation alternating with a backward rotation of less extent or amplitude, and to the gills a continuously forward movement. The invention is set forth in detail hereinafter and the novel features are embodied in the claims.

In the accompanying drawings:—Figure 1 is a side elevation of my improved refining or hackling mechanism; Fig. 2, a plan view thereof; Fig. 3, a face view of the mutilated gears when placed side by side; and Fig. 4, a detail of said gears and the lower roller driven thereby.

On the frame 1 of the machine are mounted a plurality of pairs, four in the present instance, of rotary rollers 42, the lower roller of each pair having fine corrugations 43 and the upper rollers being smooth and held down on the lower rollers by heavy springs 44 to prevent slipping of the fiber when drawn back on the gills 45, which are interposed between the sets of rollers. The gills 45 may be either rotary or of the endless chain type, the latter being the kind shown in the present instance. The second set of gills is finer than the first set and the third set is finer than the second set. The distance from the centers of one pair of

rollers 42 to a succeeding pair 42 should not be more than eight inches in order to prevent breaking of the filament of flax.

Journalled in suitable bearings on the side of the frame 1 is the drive shaft 4, which may be driven from any source. On shaft 4, adjacent each set of rollers 42, are secured mutilated bevel gears 34'' and 34'''', each having three gear segments, but each gear segment of gear 34''' has double the number of teeth or cogs of any gear segment of gear 34'', and the gear segments of gears 34'' and 34''' are each set opposite the mutilated parts of the other gear. Secured on each of the lower rollers 42 is a bevel gear 34' adapted to mesh with and be turned by the mutilated gears 34'' and 34''''. When gear 34'' is in mesh with bevel gear 34', gear 34''' is out of mesh with gear 34' and vice versa. The mutilated gears 34'' and 34''' are so placed that the rollers are given an oscillatory movement, but their forward movement is twice as great as their backward movement, so that they are intermittently advancing all the time. The gills are driven continuously forward at the same rate as the forward movement of the rollers 42 by gearing 48. The rollers 42 are driven sufficiently fast to absorb the product of the machinery which may be used for treating the flax prior to hackling or refining and, in order to do this, it is desirable to feed the fiber in two slivers from boxes 46 and 47, as by the oscillatory movement of the rollers 42, one half of the general forward advance of the fiber prior to treatment in the present machine is lost. As fast as either box 46 or 47 is emptied, it is removed and replaced by a filled box. The two slivers of the hackled fiber issuing from the last pair of rollers 42 deposit into boxes 49 and 50.

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

1. In a machine for treating flax and other fiber yielding plants, refining or hackling mechanism consisting of rollers to feed the sliver of flax, mutilated gearing for imparting to said rollers an intermittent forward rotation or movement, and gills disposed adjacent said rollers and adapted for the passage of the sliver of flax thereover and for hackling said sliver.

2. In a machine for treating flax and other fiber yielding plants, refining or hackling mechanism consisting of rollers to feed the sliver of flax, mutilated gearing for imparting to said rollers alternate forward and retrograde rotations or movements, the forward movement being greater than the retrograde movement, and continuously advancing gills disposed adjacent said rollers and adapted for advancing the sliver of flax and for hackling said sliver by reason of the retrograde rotation of the rollers.

3. In a machine for treating flax and other fiber yielding plants, refining or hackling mechanism comprising successive sets of rollers, sets of mutilated gears for the respective sets of rollers which impart to said sets

of rollers alternative forward and retrograde rotations or movements, the forward movement being greater than the retrograde movement, and endless continuously advancing gills disposed intermediate succeeding sets of the said rollers, each succeeding gill being finer than the preceding gill, said gills being adapted to advance the sliver of flax and to hackle said sliver by reason of the retrograde rotation of the rollers.

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

EUGENE BOSSE.

Witnesses:

CONRAD KREBS,

T. B. DAVIS.