

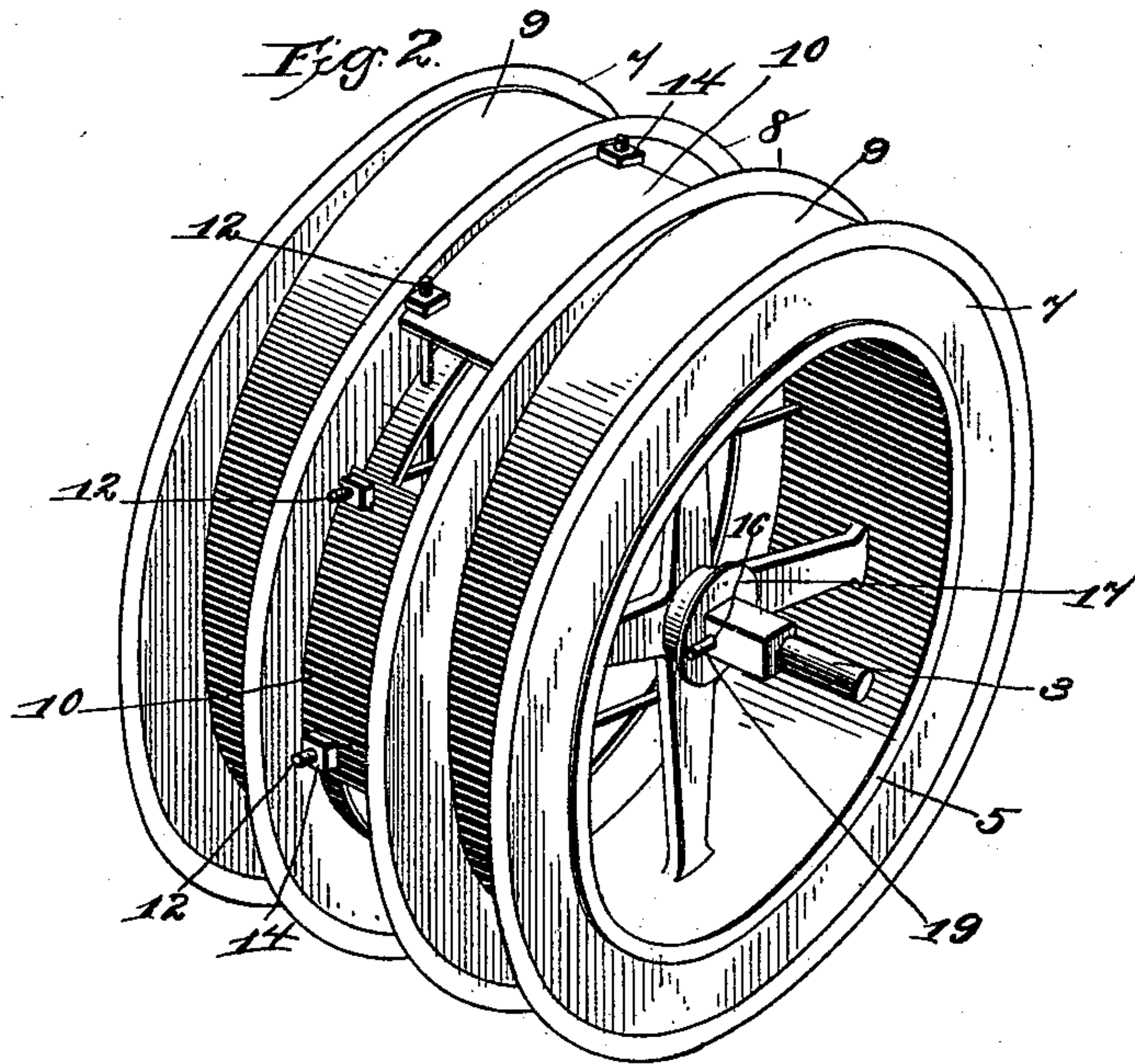
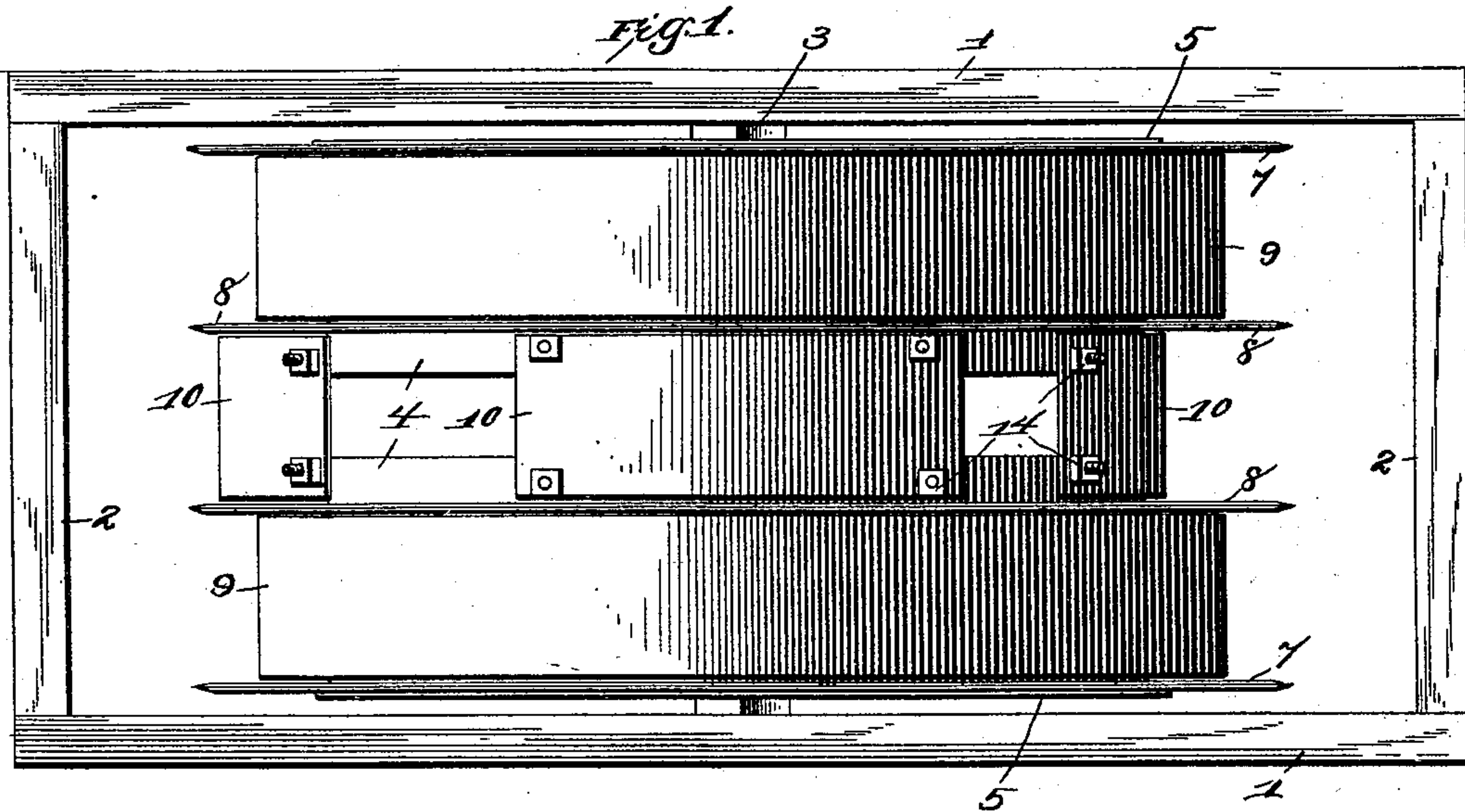
(No Model.)

2 Sheets—Sheet 1.

W. A. NEVEL.
COTTON CHOPPER.

No. 487,935.

Patented Dec. 13, 1892.



Witnesses

Inventor

E. C. Mendenham
John H. Diggers,

By *his* Attorneys,

Wm. A. Nevel
C. A. Snow & Co.

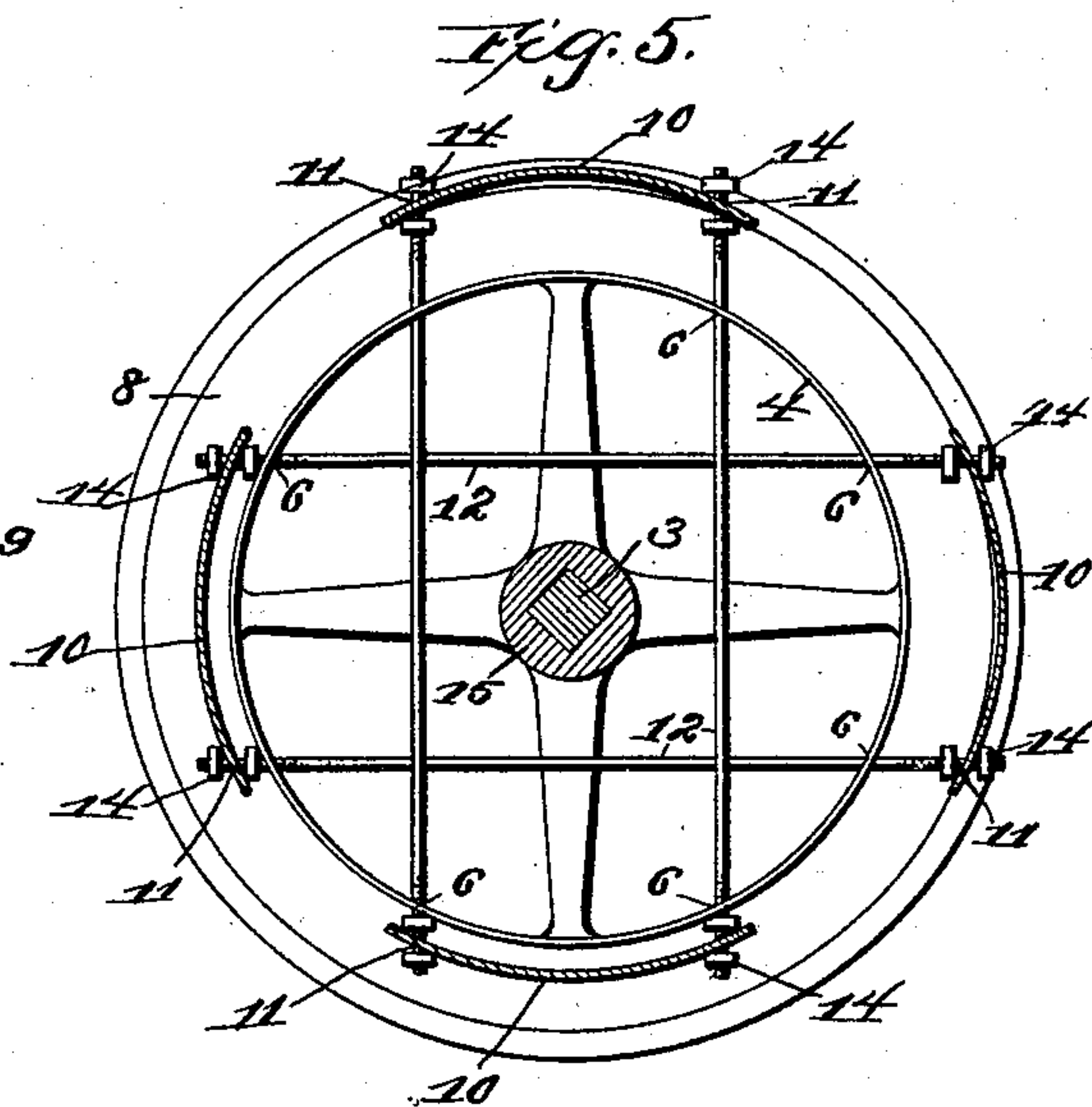
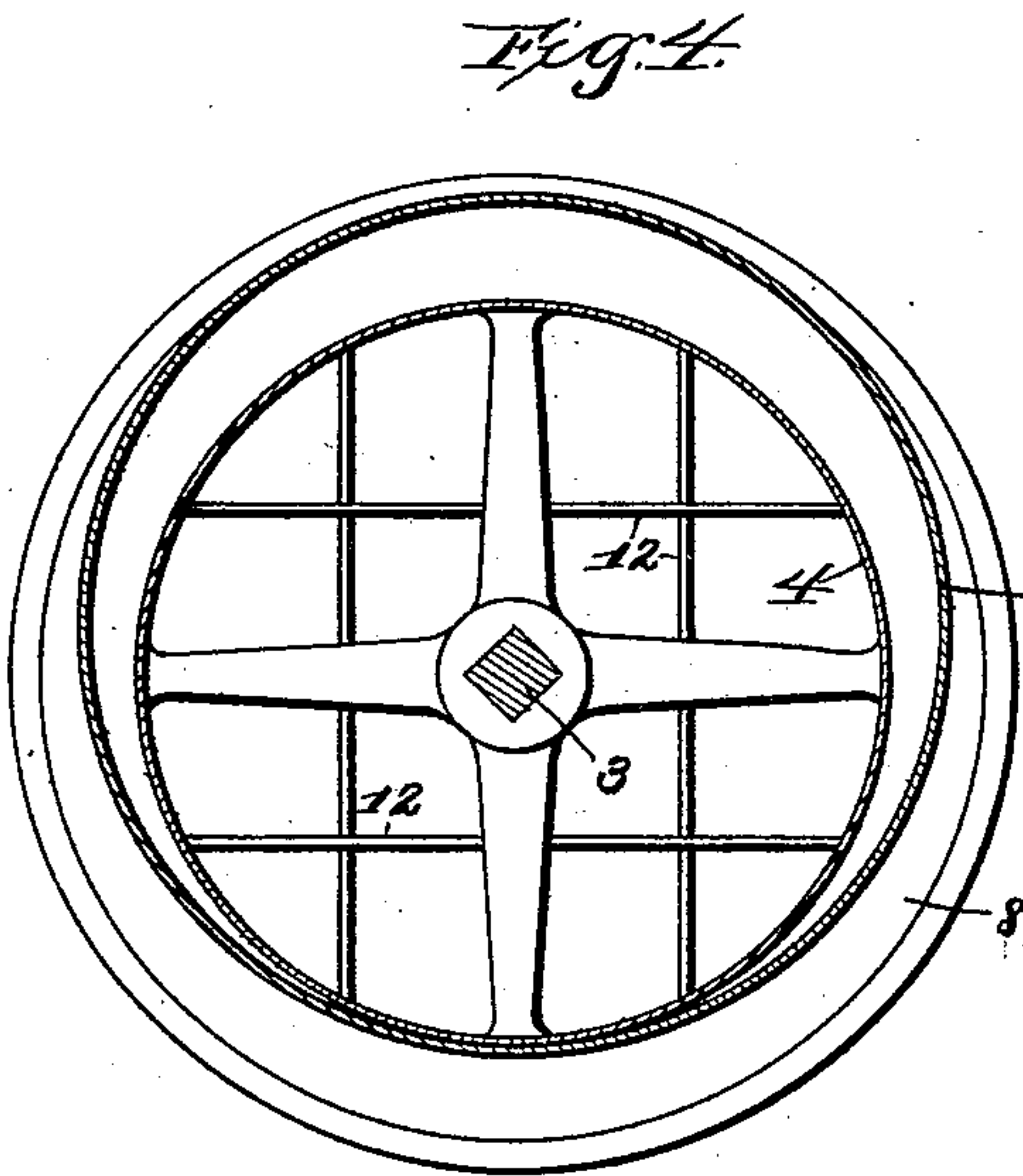
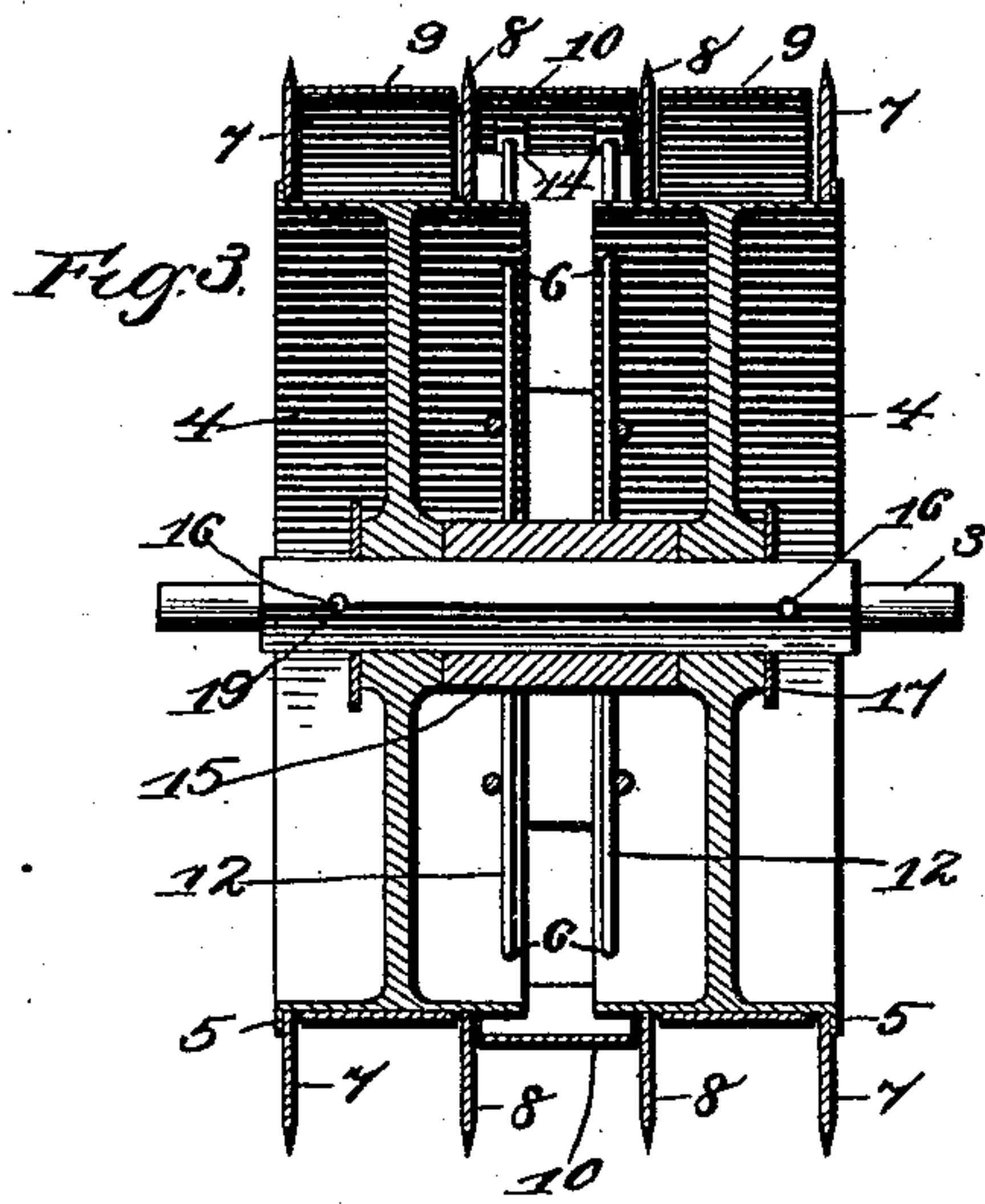
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2 Sheets—Sheet 2.

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COTTON CHOPPER.

No. 487,935.

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Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM ANDREW NEVEL, OF WILL'S POINT, ASSIGNOR OF ONE-HALF TO
GRANVILLE GARNETT KEMPER, OF LEONARD, TEXAS.

COTTON-CHOPPER.

SPECIFICATION forming part of Letters Patent No. 487,935, dated December 13, 1892.

Application filed May 25, 1892. Serial No. 434,315. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ANDREW NEVEL, a citizen of the United States, residing at Will's Point, in the county of Van Zandt and State of Texas, have invented a new and useful Cotton-Chopper, of which the following is a specification.

My invention relates to cotton-choppers, and the objects in view are to provide a chopper adapted to operate lengthwise and crosswise a field of cotton, chopping the plants to a stand, the rows and stands being at predetermined distances apart, for which the machine is made adjustable, and to construct said machine so as to adapt it for automatically ridding itself of soil naturally adhering thereto, or, in other words, to be self-cleaning, and, furthermore, to be capable of being readily transformed into an efficient stalk-chopper.

With these objects in view the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a plan of the machine embodying my invention. Fig. 2 is a detail in perspective of the chopping-shaft and drums. Fig. 3 is a transverse section through the center. Fig. 4 is a longitudinal section of the drums. Fig. 5 is a longitudinal section between the drums.

Like numerals of reference indicate like parts in all the figures of the drawings.

Any suitable framework may be employed, and in this instance the same consists in a pair of opposite side bars 1 and front and rear transverse connecting-bars 2. The frame is provided with proper draft mechanism, and the side bars 1 have bearings for a transverse axle 3. Upon the axle 3, which is squared between its ends, there is mounted in this instance a pair of circular drums 4, which drums have their outer edges provided with peripheral flanges 5 and their inner edges provided with perforations 6, the perforations occurring opposite each other in the two drums, so that they are arranged in transversely-opposite pairs, as will be readily understood. Upon each drum there is mounted a circular knife or hoe 7, which loosely embraces the drum and lies adjacent or against the inner side of

the flange 5 thereof. Similar knives or hoes 8 loosely embrace the drum and are located near the inner edges of the two drums, so that a series of four knives or hoes are employed upon the two drums. Between the two inner knives or hoes occur the perforations heretofore mentioned.

9 designates a metal band, there being two employed in this instance, one between each outer pair of circular knives or hoes. These bands considerably exceed in diameter the drums which they embrace, and consequently are very loose upon the same, and when contacting at one side with the surface of a drum their opposite sides are projected from the drums until they nearly or quite reach the outer peripheries of the knives or hoes, all for a purpose hereinafter apparent. These bands also serve to space the knives or hoes apart.

10 designates a series of curved plates, said plates being curved concentrically with or upon the same radius as the drums. These plates are of a width adapting them to fit slidably between the two inner knives or hoes and are arranged at intervals apart and in diametrically-opposite pairs. To agree with the perforations formed in the drums, the plates likewise are perforated at 11, and each diametrically-opposite pair of plates is connected by a series of four rods 12. These rods 12 pass through the perforations in the drums and through those in the plates and have their extremities threaded above and below the plates, and each of their extremities is provided with a pair of clamping-nuts 14, which embrace the plates at their inner and outer sides. The rods are greater in length than the diameter of the drum, so that when one of the plates is in contact with the surface of the drum its companion will be forced away from the opposite surface nearly if not quite to the outer peripheries of the knives or hoes. The drums being spaced apart by means of washers 15, mounted on the axle between the hubs of the drums, it will be seen that their inner edges will combine with the sliding plates to form cotton-stand openings. By adding more plates and sliding them closer together the openings will be decreased in size and increased in number, or by adding

larger plates in lieu of those shown the distance between the openings will be increased.

In operation the machine is employed, as illustrated, Figs. 1 and 2, in forming the rows or operating longitudinally over the field, and the knives or hoes being sunken into the ground the peripheries of the drums will roll upon the ground, thus mashing into the ground all growth of cotton, weeds, &c., that lie in the paths of the drums, with the exception of those portions of the cotton which pass through the openings between the sliding plates and drums, which thus constitute the stands, the distance between which may be regulated in the manner hereinbefore described. It is well-known by cotton-planters that the cotton will grow more rapidly and take root more quickly by pressing the soil snugly down about the same, and this, it will be seen, I accomplish very effectively, pressing the soil close to the stand. In crosswise operation the sliding plates may be removed and the drums slid together, the intermediate washer being also removed to permit of the bringing together of the drums. The axle is perforated at intervals at 16 and circular disks 17 applied to the outer faces of the drums, pins 19 being passed through the perforations in the axle beyond the plates, whereby the drums are held in close relation. If desired, another drum may be added to the series, so that the path cleared by the chopper is widened or increased. The operation is the same as before described, except that the entire path traversed by the chopper is cleaned of cotton, weeds, and grass. After the chopper has been operated it may be followed by an ordinary plow, which will turn all the grass and weeds under, thus destroying them and preventing them from again springing up.

By the construction of chopper hereinbefore described it will be seen that I avoid all clogging of the soil, grass, or old stalks between the circular knives or hoes, in that as the chopper revolves upon the ground and the cutters or hoes sink into the ground the circular bands are pressed from their lower sides upward, and consequently their upper sides or portions are forced outward, thus ejecting or pushing from between the hoes any adhering soil or other débris that may have become wedged between the hoes. Thus at all times are the hoes kept perfectly clean and capable of performing their functions and sinking into the ground at a proper depth. The sliding plates operate in a similar manner to clean the hoes, in that as the lower plate is pressed upward against the periphery of the drums the upper companion plate is pushed out-

wardly or upwardly from the upper side of the drums and the débris discharged or ejected from between the hoes.

Having described my invention, what I claim is—

1. In a cotton-chopper, the combination, with a pair of drums spaced apart and an axle for the same, of a series of pairs of diametrically-opposite plates opposite the space between the drums, rods extending through and connecting the diametrically-opposite plates in pairs and greater in length than the diameter of the drums, and circular hoes mounted upon the drums at opposite sides of the plates, substantially as specified.

2. In a cotton-chopper, the combination, with the axle and the pair of drums mounted upon the axle and spaced apart and provided at their inner edges with pairs of opposite perforations, of diametrically-opposite pairs of plates mounted over the space between the drums, rods passed through the perforations in the plates and drums and threaded at their extremities, nuts mounted on the rods at the inner and outer sides of the plates, and pairs of circular hoes mounted on the drums, each pair being spaced apart and the inner pair loosely embracing said plates, substantially as specified.

3. In a cotton-chopper, the combination, with the axle, the pair of drums located a slight distance apart, and the pairs of circular knives or hoes encircling the peripheries of the drums, the inner pair being raised near the inner peripheries of the drums, which inner peripheries are provided with perforations, of curved plates mounted between the inner hoes, rods exceeding in length the diameters of the drums, connecting the plates, and circular bands greater in diameter than the drums and located between the outer pairs of hoes, substantially as specified.

4. In a cotton-chopper, the combination, with the axle and the opposite drums, the outer edges of the rims of which are provided with outwardly-disposed flanges, of the series of removable circular knives or hoes encircling the peripheries of the drums, the outer knives or hoes resting against the flanges, and spacing devices between the pairs of knives or hoes, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM ANDREW NEVEL.

Witnesses:

E. E. WRIGHT,

JOHN JACKSON McCULLOR.