

No. 697,151.

Patented Apr. 8, 1902.

W. B. LANTZ.
SEINE PURSING MACHINE.

(Application filed Dec. 28, 1900.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

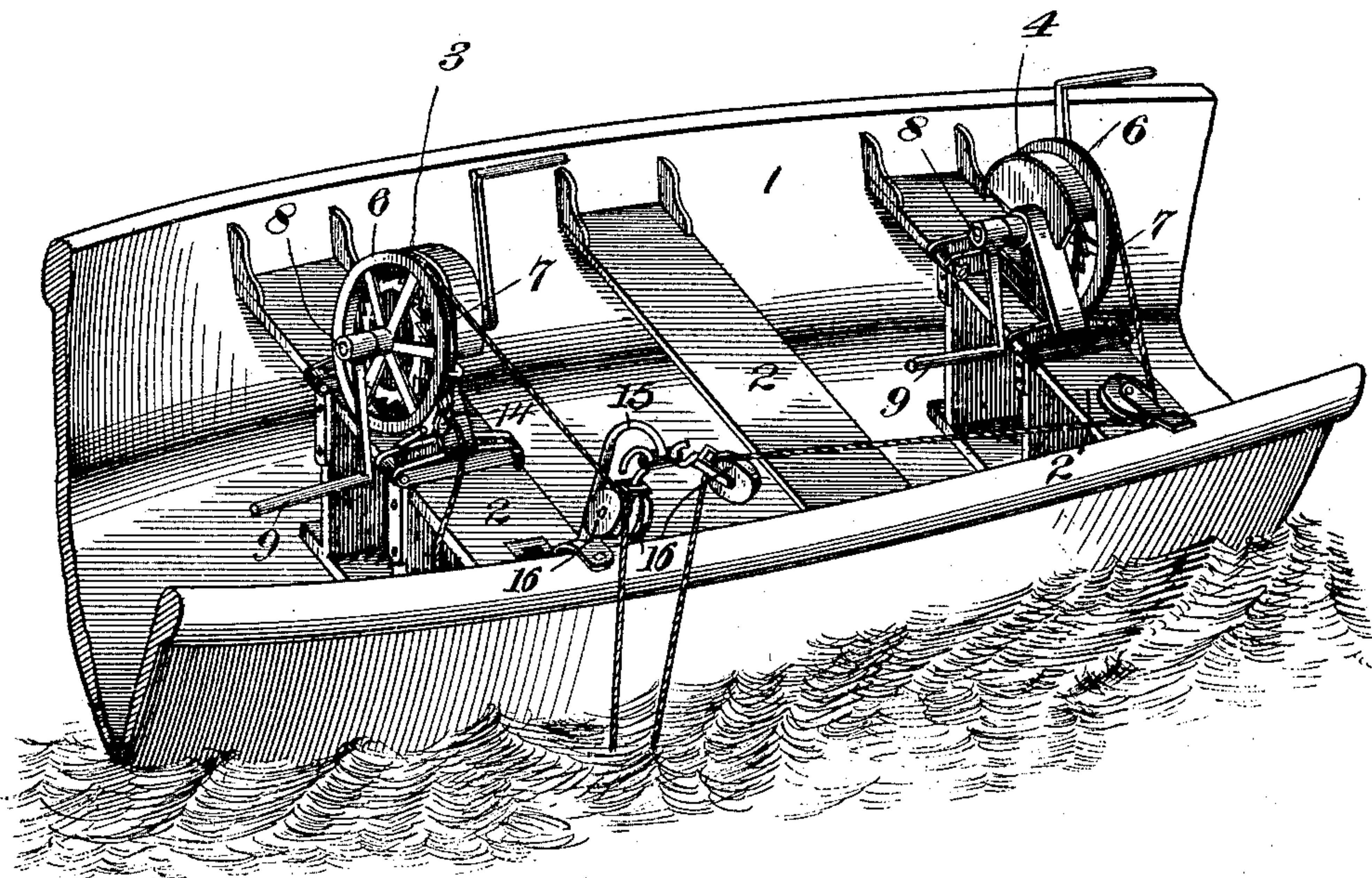
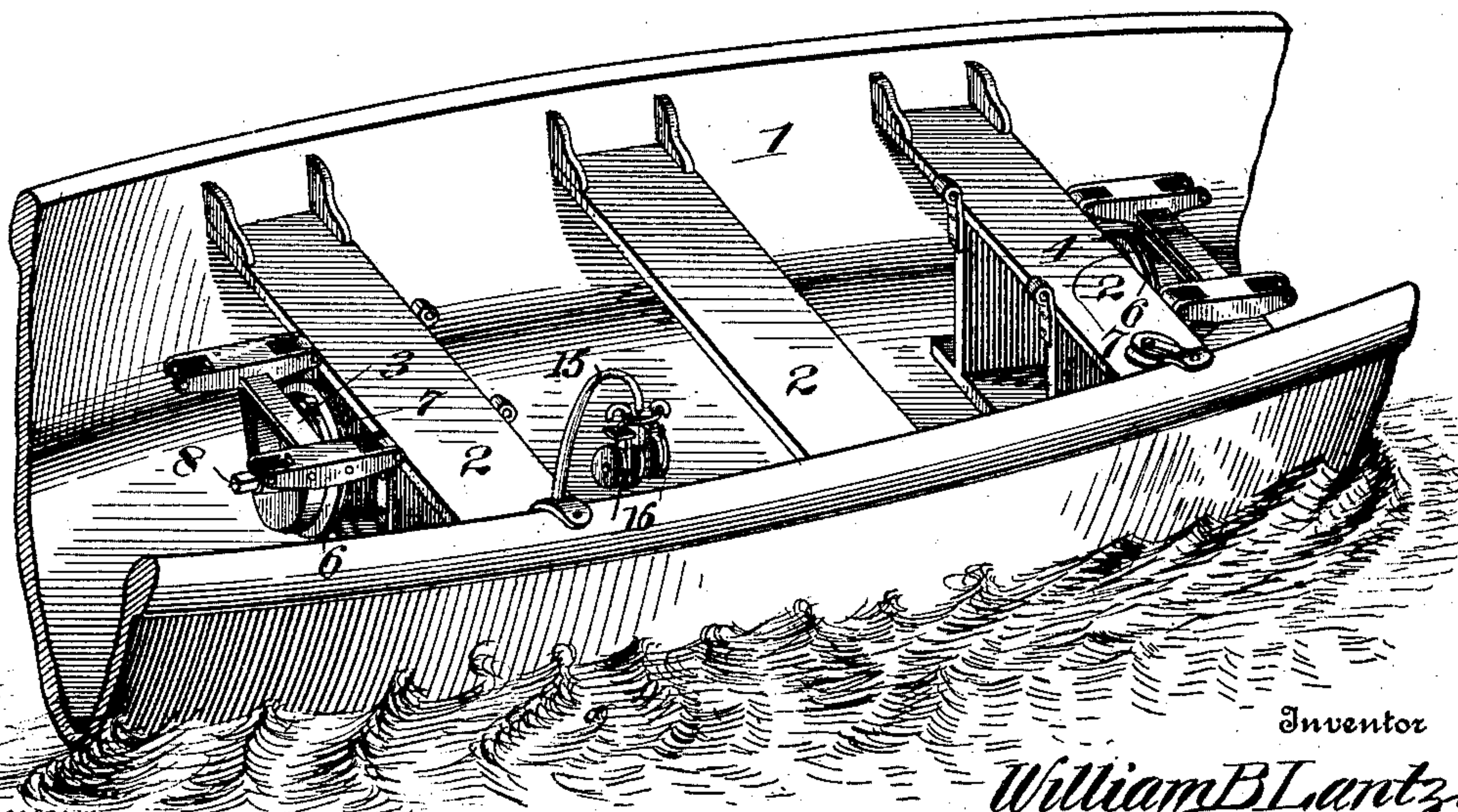


Fig. 2.



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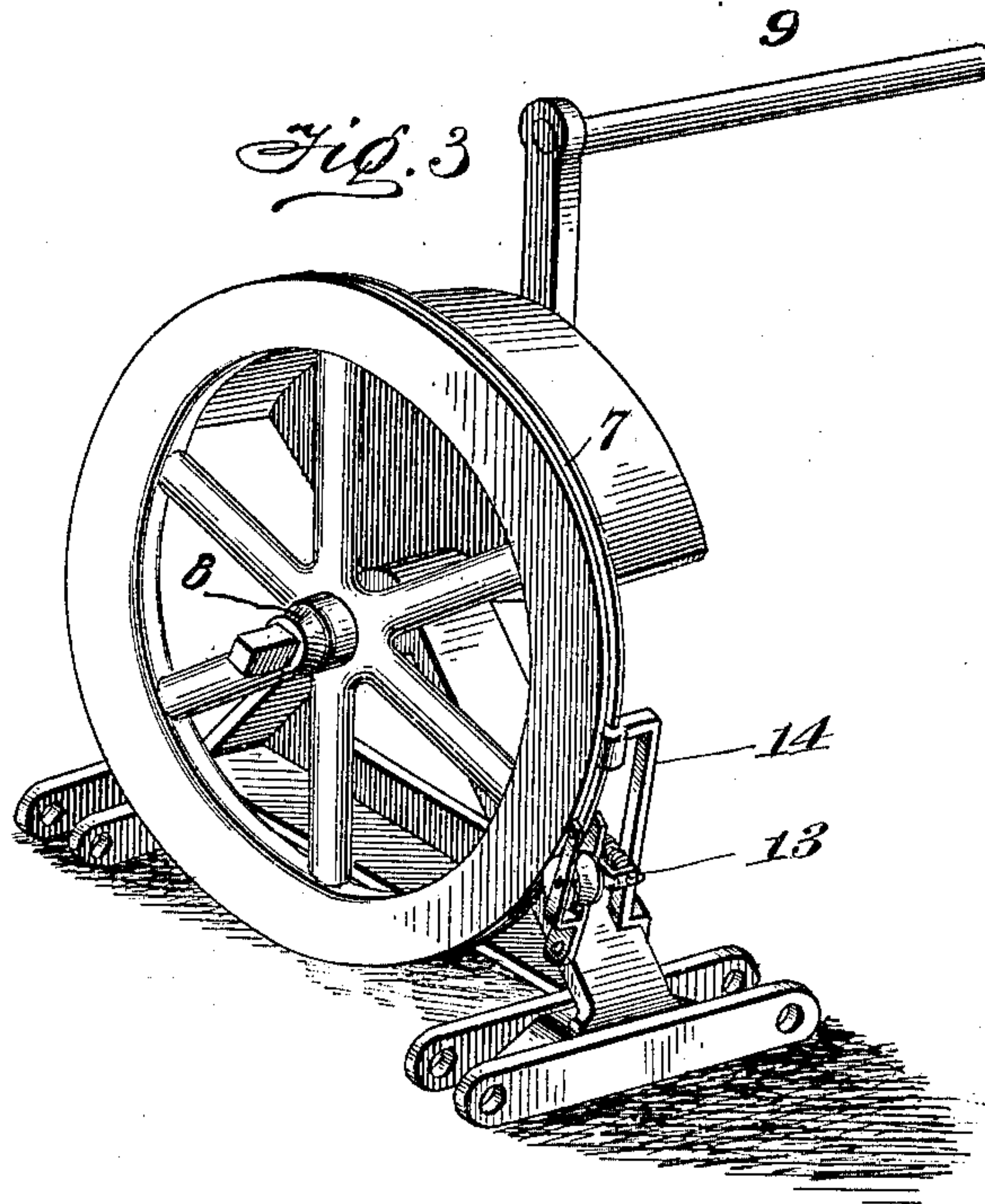


Fig. 8.

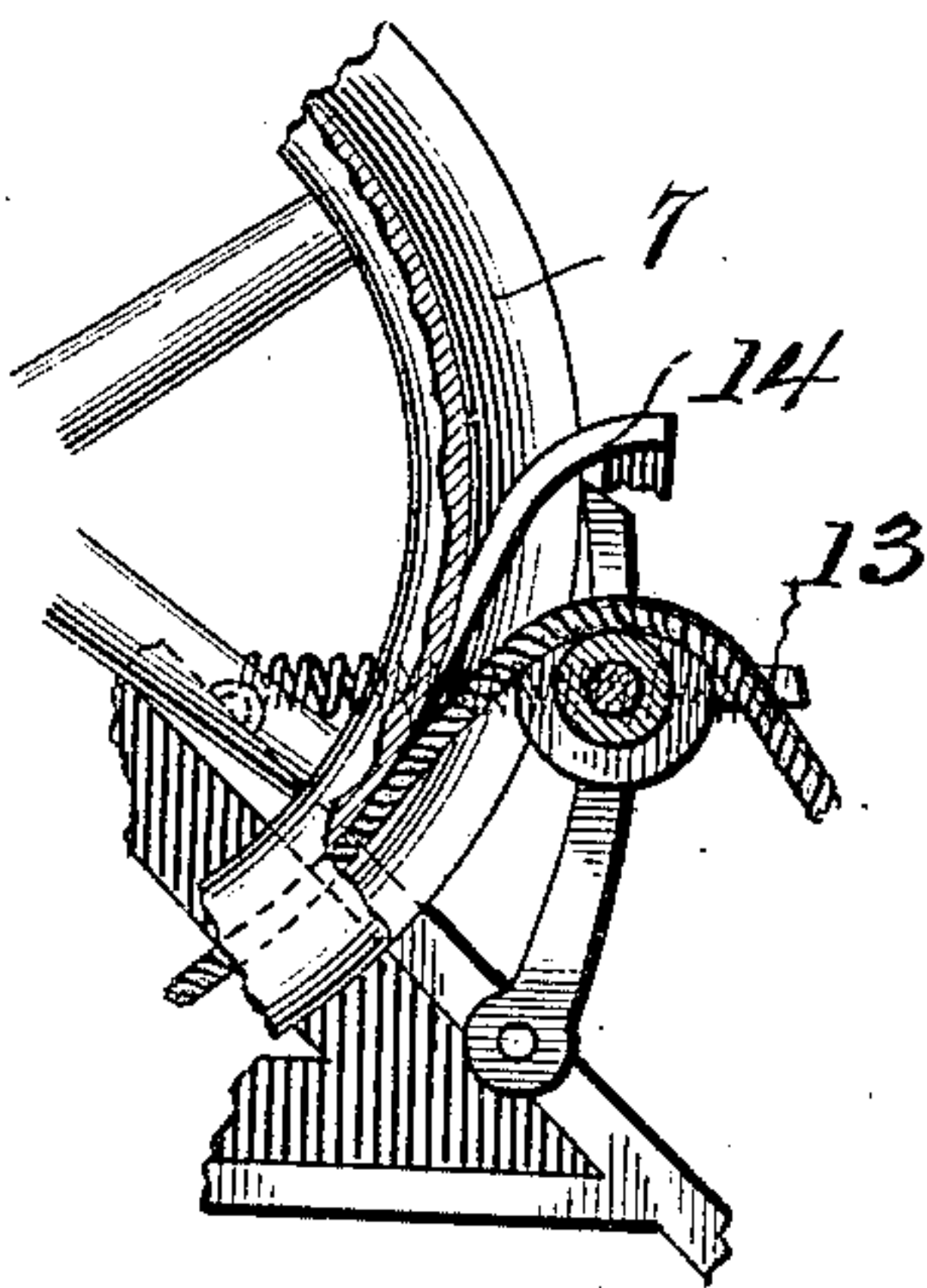


Fig. 4

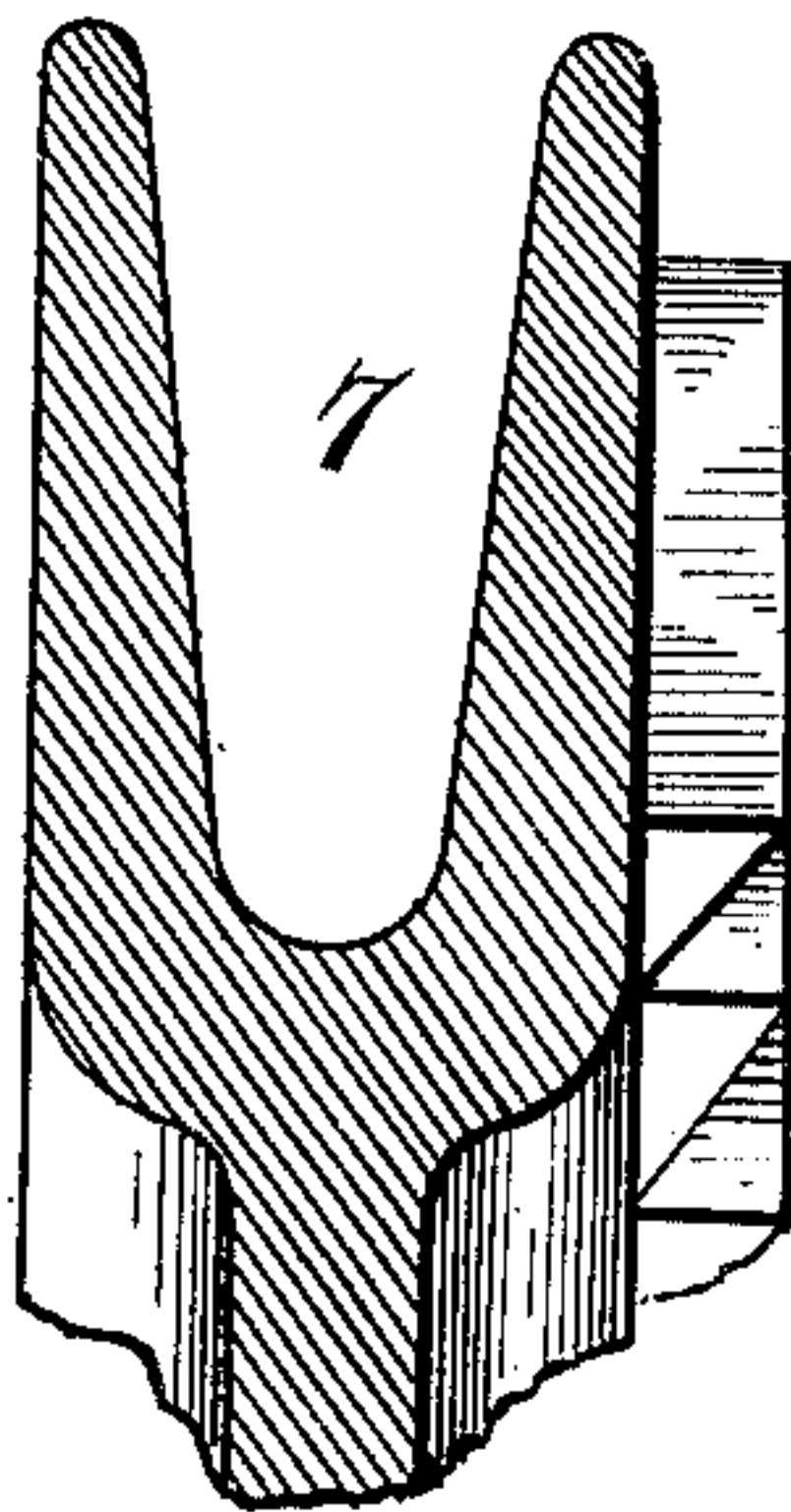
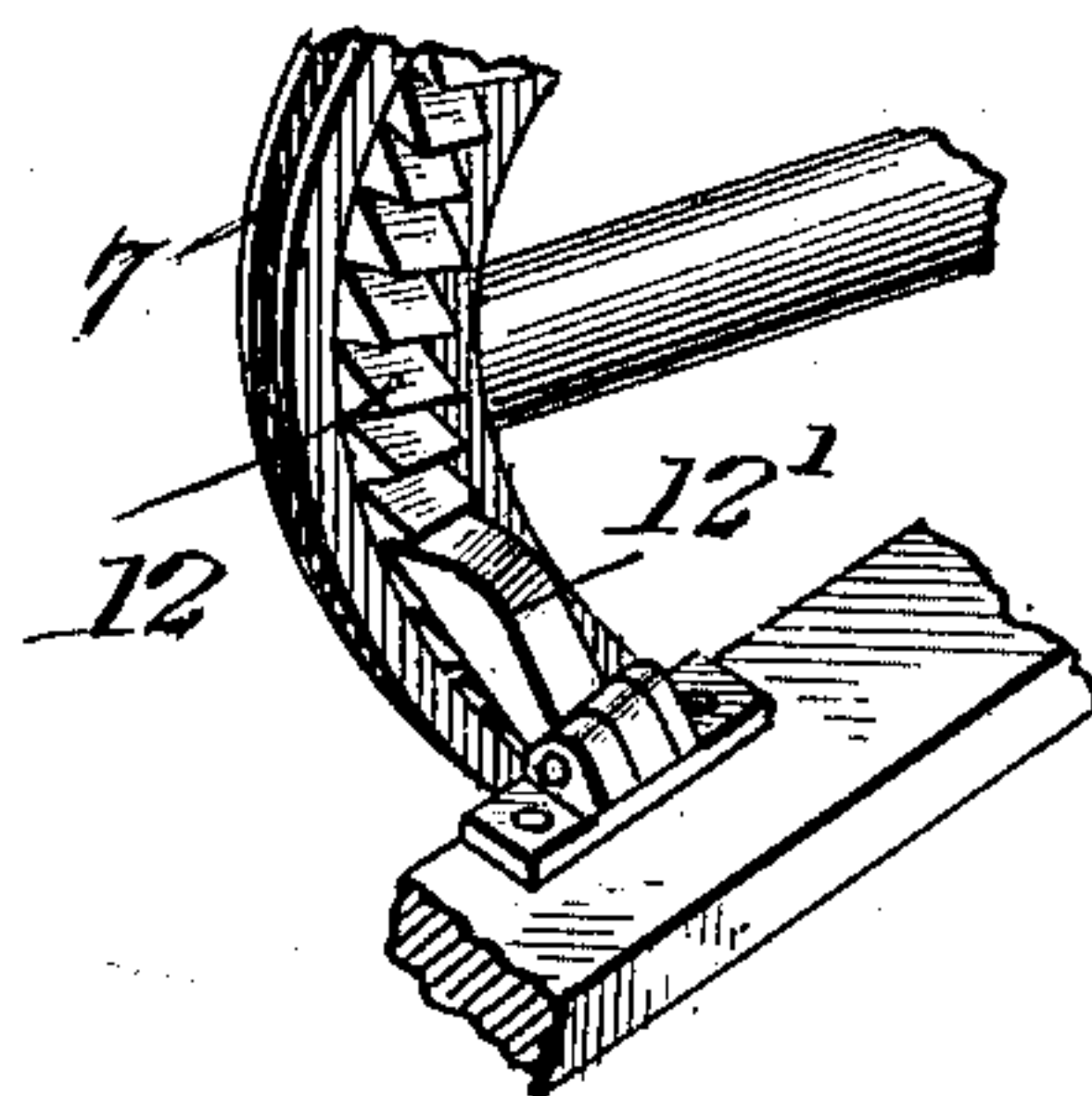


Fig. 7.



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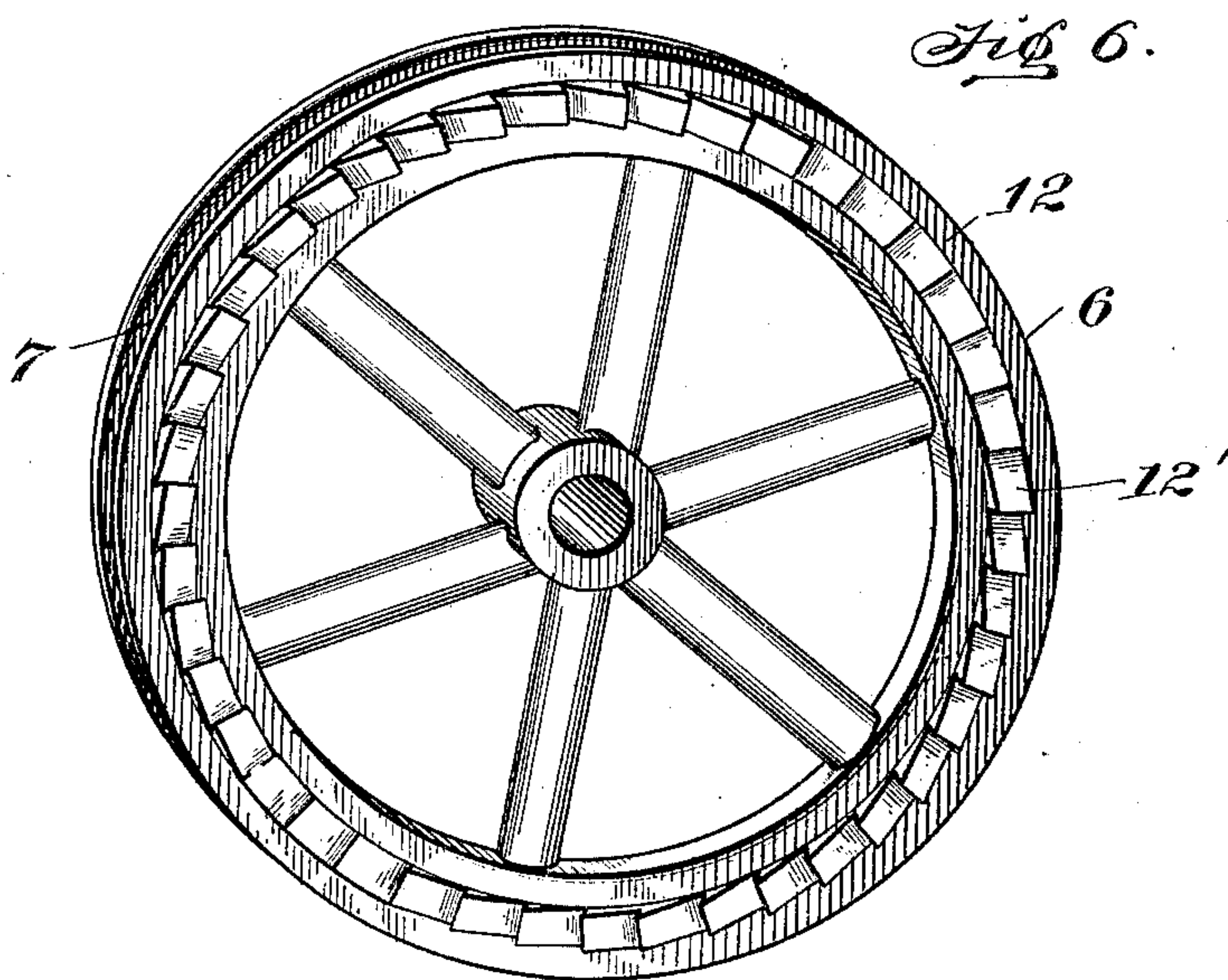
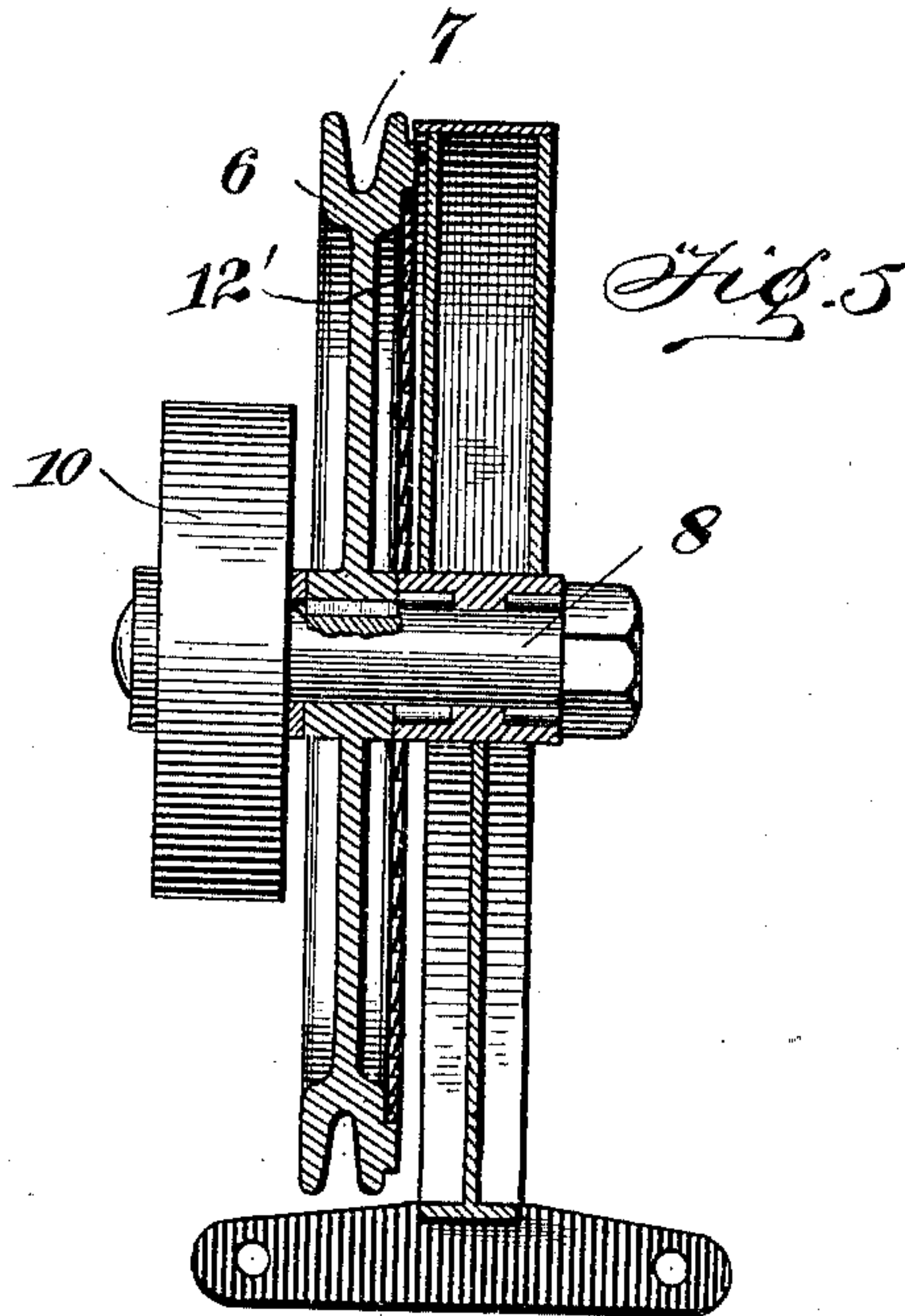
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

WILLIAM B. LANTZ, OF GLOUCESTER, MASSACHUSETTS.

SEINE-PURSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 697,151, dated April 8, 1902.

Application filed December 28, 1900. Serial No. 41,403. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. LANTZ, a citizen of the United States, residing at Gloucester, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Seine-Pursing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in machines for pursing seines, the machines being located in a boat; and it consists, first, of a speed seine-pursing machine, comprising in its construction a suitable frame, a shaft mounted in said frame, a single wheel or drum mounted on said shaft, said wheel or drum having a single groove for receiving the purse-line of a seine.

It consists, second, of a boat, a single seine-pursing machine mounted on one portion of the boat, and another single seine-pursing machine mounted on another portion of the boat, a crane and tackle for directing and guiding the respective ends of the purse-line of a seine to each respective machine, each machine comprising a suitable frame, a shaft mounted in said frame, a single grooved wheel or drum mounted on said shaft, means for operating the grooved wheel or drum, and means for automatically removing the rope from the groove, the construction and arrangement being such that the two ends of a purse-line can be hauled in simultaneously and the strain be divided between the two machines.

The invention further consists in certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter more fully described and claimed.

In seine-pursing machines heretofore devised by me and upon which I have secured several Letters Patent of the United States I have provided for employing both speed and power interchangeably in one machine, which is very desirable and necessary in handling seines under certain conditions—as, for instance, very large seines. With this type of machine I am enabled to at first operate very rapidly when the slack rope is being drawn in, there not being as much strain on the purse-line as when a little later the seine is

being closed and the fish are being inclosed, at which time the strain is very great and when power is needed. When the fish are encircled by the seine, it is very important to operate rapidly, so as to lose as few fish as possible, and, secondly, it is very important to have a machine which can be operated very rapidly, even more rapidly than with my former machines, to haul in the purse-line to close the seine. One feature of my present invention is to provide means whereby the purse-line may be even more quickly hauled in by reason of the provision of facilities for the employment of a larger number of men in operating the apparatus than was heretofore possible with my former machines. Where only one double machine is employed—that is, a machine having a drum provided with two grooves or two wheels or drums each provided with a single groove—only five to six men can be employed at the machine—that is, two men at one handle and two or three at the other handle or crank. With my present invention instead of employing one double machine I employ two single machines—that is, two machines, each provided with a single drum or wheel and each drum or wheel provided with a single groove—and place each machine on a different portion of the boat and provide each machine with separate operating means and connect an end of the purse-line with each respective machine, whereby from five to six men can be employed at each machine, thus enabling twice as many men to be employed in hauling in the purse-line as where one double machine—that is, a machine having two grooved wheels or drums—is employed. A further object of this construction and arrangement is that the construction of the machines and their operation may be greatly simplified, as all gearing for increasing or multiplying the power may be dispensed with, and such machines, while power-machines, might be termed “speed-machines” only, as contradistinguished from combined “speed and power machines” or machines which can have their power increased by the sacrifice of speed. I shall hereinafter refer to such machines as “speed-machines” and to those machines which are provided with gearing for increasing the power as “combined speed and power machines.” This part of my inven-

tion—namely, the placing of one machine in one portion of a boat and hauling in one end of a purse-line and placing another machine in another portion of the boat and hauling in the other end of the purse-line—I do not wish to limit the same to a speed-machine, speed only, as I may employ a machine which is a combined speed and power machine; but in both instances both machines will be single machines—that is, each machine will be provided with a single wheel or drum and each wheel or drum having a single groove, the groove being preferably constructed in such manner that the purse-line will be tightly gripped thereby, thus obviating the employment of any auxiliary or supplemental gripping mechanism. I also make provision for the employment of means whereby as fast as the rope is hauled in by the grooved wheel it will be automatically cleared therefrom at the proper point on the wheel or drum.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a boat, showing two single machines in position upon two seats or supports thereof and a suitable crane and tackle for guiding and directing the respective ends of a purse-line to its respective machine. Fig. 2 is a similar view showing the machines in a lowered condition. Fig. 3 is a perspective view of a single speed-machine, speed only. Fig. 4 is a detail sectional view showing the construction of the groove in the wheel or drum. Fig. 5 is a vertical transverse section through a single speed-machine, speed only, and showing a pulley for the application of a belt for operating the same. Fig. 6 is a perspective view of a single speed-wheel, showing more clearly the construction and arrangement of the arch for preventing the accidental reversal of the wheel. Fig. 7 is a detail perspective view showing a ratchet mechanism for controlling the movement of the drum or pulley; and Fig. 8 is a detail view, in section, of a portion of the rim of the said drum, showing the means for lifting the purse-line out of the groove of the drum.

1 in the drawings represents a boat of suitable construction and such as is employed by sailors, and which is provided with a suitable number of seats 2. In boats of this character all available room is utilized by the rowers, seiners, and the seine, as well as the purse-line and other tackle, such as purse-weights and cranes for supporting the oars, and the like, and for this reason I prefer to hinge the machines 3 4 to the seats or supports, though they may be secured in any other suitable manner, as the same forms no part of my present invention, and, in fact, the machine need not necessarily be located upon the seat, though this is the preferable place for the same, the invention being to provide two single machines—that is, two machines each having a single wheel or drum 6, and each wheel or drum provided with a single groove, and to locate the same on suit-

able portions of the boat, so that each machine can be employed simultaneously in hauling in the respective ends of the purse-line, or in the event of one of the ends of the purse-line fouling the other machine will not be interfered with, but may be continued to be operated to draw in the line. Where the machine is a single speed-machine—speed only—as distinguished from a single combined speed and power machine, it consists, essentially, of a suitable shaft 8, a single wheel or drum 6, mounted on said shaft provided with a single deep rope-gripping groove 7 7, means for operating the said wheel or drum, as a crank 9, applied to the end of the shaft 8 on both ends thereof or a pulley, as 10, by means of which power may be transmitted to said shaft or drum from a suitable source of power, as a dynamo or engine. (Not shown.) Where cranks, as 9, are provided on each end of the shaft, they are preferably made removable, so that they will not interfere with the turning down of the machine into the bottom of the boat, and so as not to project above the machine when the latter is in a lowered condition. When the machine is provided with cranks on both ends of the shaft, a number of men—say three at each crank—may be conveniently accommodated, and thus six men employed in operating said machine. By employing two single machines in a boat, each machine engaged in hauling in the end of the purse-line and each machine being operated by six men, we have twelve men engaged in hauling in the purse-line of a single seine, whereas when only one double machine is employed only half that number of men can be conveniently accommodated, by reason of which fact I am enabled by my new construction and arrangement to haul in the purse-line a great deal faster, which is important in saving the fish; but particularly is the construction advantageous after the slack rope has been hauled in and the seine is being closed, at which time the strain is great, as we have the power of twelve men, while heretofore with one double machine we only had the power of, say, six men. By employing two single machines, which are employed in hauling in the respective ends of a purse-line, I am enabled to purse the seine much more rapidly, and thus save the fish, which of course is important, as mackerel are exceedingly lively and scary fish and have to be rapidly handled.

As heretofore stated, I prefer to construct the groove in the drum or wheel in such manner that the purse-line when it enters such groove will be firmly and tightly gripped therein without the necessity of employing cumbersome and intricate supplemental and auxiliary mechanisms. While this groove may be made of any suitable shape to secure the sought-for result, I have found that for many purposes it is preferable to form it substantially U-shaped and have the sides thereof taper gradually outward from the bottom

of the groove, so that the rope in a wet swollen condition can enter the groove, and as it passes around such groove, the tension being very great, it will be squeezed or forced down toward the contracted portion of such groove and securely gripped. With the employment of such a structure is also the provision of means by which the line as fast as it is hauled in is cleared from the groove, thus greatly expediting and facilitating the seining operation.

By employing a deep gripping-groove I am enabled to purse a seine with a very simple machine freed from all gearing for increasing the power, which greatly reduces the cost of the machine, and its weight facilitates handling and avoids the necessity of operating unnecessary parts, as would be the case where a combined speed and power machine is employed, which is just for speed only, in which construction the gearing for increasing the power would simply be operated or carried around without performing any work.

To prevent the drum or wheel from accidentally reversing in the event of the operators ceasing work temporarily and hold the seine up after it has been pursed, the drum or wheel is provided on its inner face with ratchet-teeth, which are engaged by a pawl 12', which permits the wheel to turn in one direction and which prevents its turning in the opposite direction unless the pawl is thrown out of engagement therewith.

With my construction of machine having a deep biting-groove it is not necessary, as heretofore stated, to provide means for forcing the rope into the groove and holding it in such position; but to facilitate the guiding and directing of the rope away from the groove after it has been removed therefrom by the clearer I provide a spring-pressed sheave 13, which works in connection with the clearer 14, as clearly shown in Fig. 3 of the drawings. In this figure I show the clearer made separate from the spring-pressed sheave and made stationary and fixed to the frame of the machine in any suitable manner, and the clearer and guiding-sheaves so located and arranged with respect to each other that as fast as the rope or line is removed from the groove by the clearer it will be guided away from the machine by the sheave.

In connection with the two single machines, each located upon different portions of the boat, I employ a suitable crane, as 15, and sheave-blocks 16 16, by means of which portions of the purse-line in the boat can be kept close together while being pursed and one of the ends directed to one of the machines and the other end directed to the other machine.

While I have shown and described two seats or supports in a single boat, with a machine upon each seat or support, and while this is the preferable construction, yet I desire my invention to cover the employment of two boats with a single machine in each boat, both

machines of course being engaged in hauling in the same purse-line—that is, each machine being engaged in hauling in a respective end of a purse-line.

Having now described my invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A seine-pursing mechanism comprising a boat, supports in said boat arranged at a distance from each other, a purse-line threaded through a seine, each end of the said line entering the boat, a purse-line-hauling mechanism engaging each end of the purse-line and located upon each of the said supports so that they may be conveniently operated without interfering with each other, and means for drawing the purse-lines close together where they pass over the edge of the boat, the said lines separating again within the boat and passing to the purse-line-hauling mechanisms, substantially as described.

2. A mechanism for handling and pursing a seine, comprising a boat, seats secured in the boat at suitable distances from each other, a winding-drum on each seat, mechanism for operating the said drums, a purse-line threaded through the seine and having its ends brought over the side of the boat, one being secured to each of said winding-drums, and means for mounting the purse-lines at a proper distance from each other as they pass over the edge of the boat, the structure being such that two gangs of men can be used in pursing the seine without interfering with each other, substantially as described.

3. A seine-pursing mechanism, comprising a boat, seats in said boat, a line-hauling mechanism mounted on each seat, comprising a drum, a shaft for turning the same, a ratchet for preventing a reverse movement of the drum, means for holding the purse-lines in engagement with the peripheries of the drums so that the said lines will not become tangled or disengaged from the drums, a purse-line threaded through the seine and having its ends projecting into the boat, one end being secured to one drum, the other end to the other drum, a block-supporting crane in the said boat, pulleys carried by the said crane for drawing the purse-lines comparatively close together as they pass over the said boat and then permitting them to separate again and pass to each of said drums, the structure being such that separate gangs of men can be employed for drawing in the end of the purse-lines, the said gangs working in unison when desired or alternately, according as one side or the other of the seine needs to be pursed, substantially as described.

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

WILLIAM B. LANTZ.

Witnesses:

E. T. FENWICK,
GEO. P. KINGSBURY.