

(No Model.)

3 Sheets—Sheet 1.

F. G. TALLMAN.
DEVICE FOR COILING METAL RODS.

No. 412,565.

Patented Oct. 8, 1889.

Fig. 1—

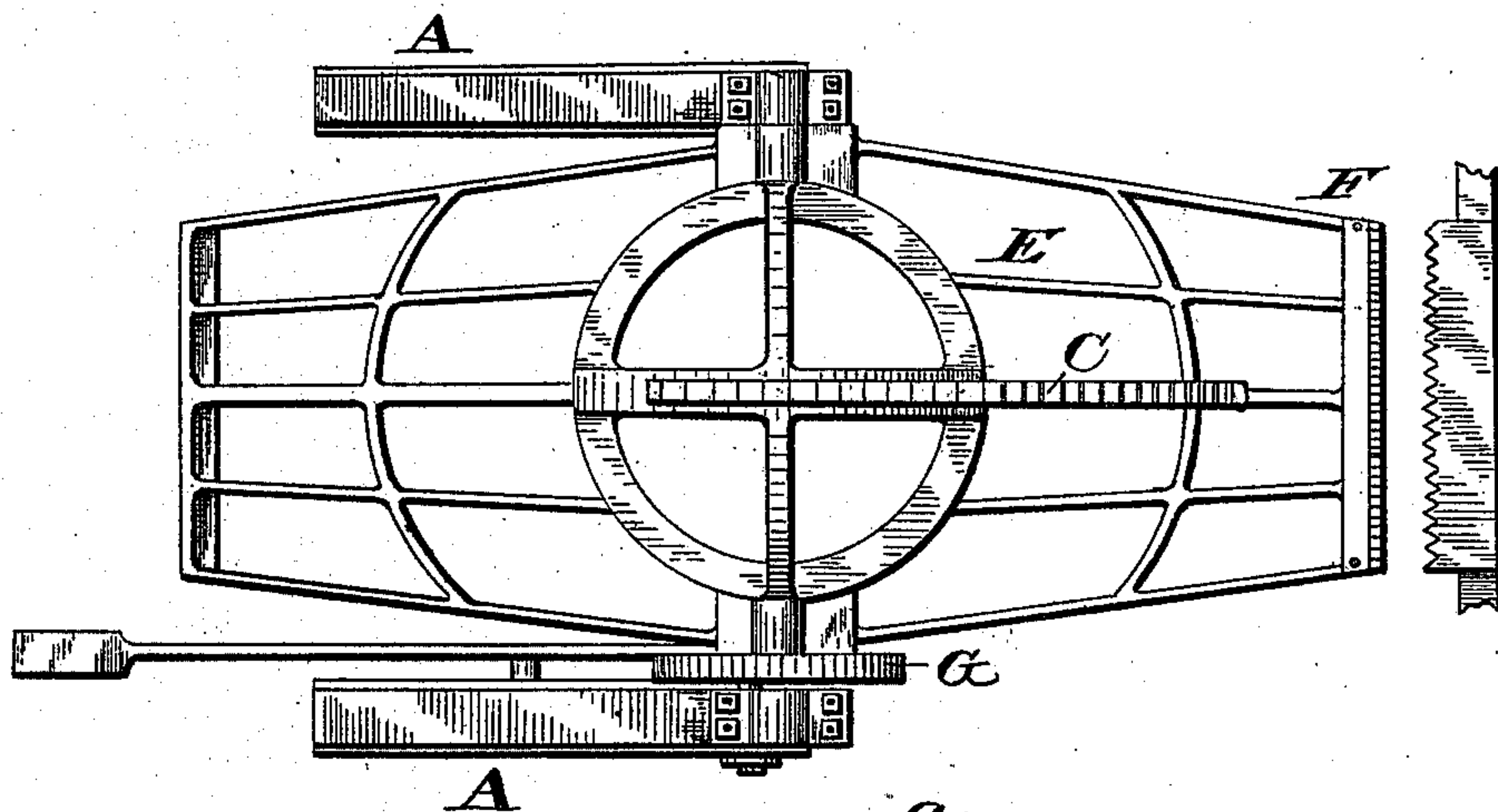
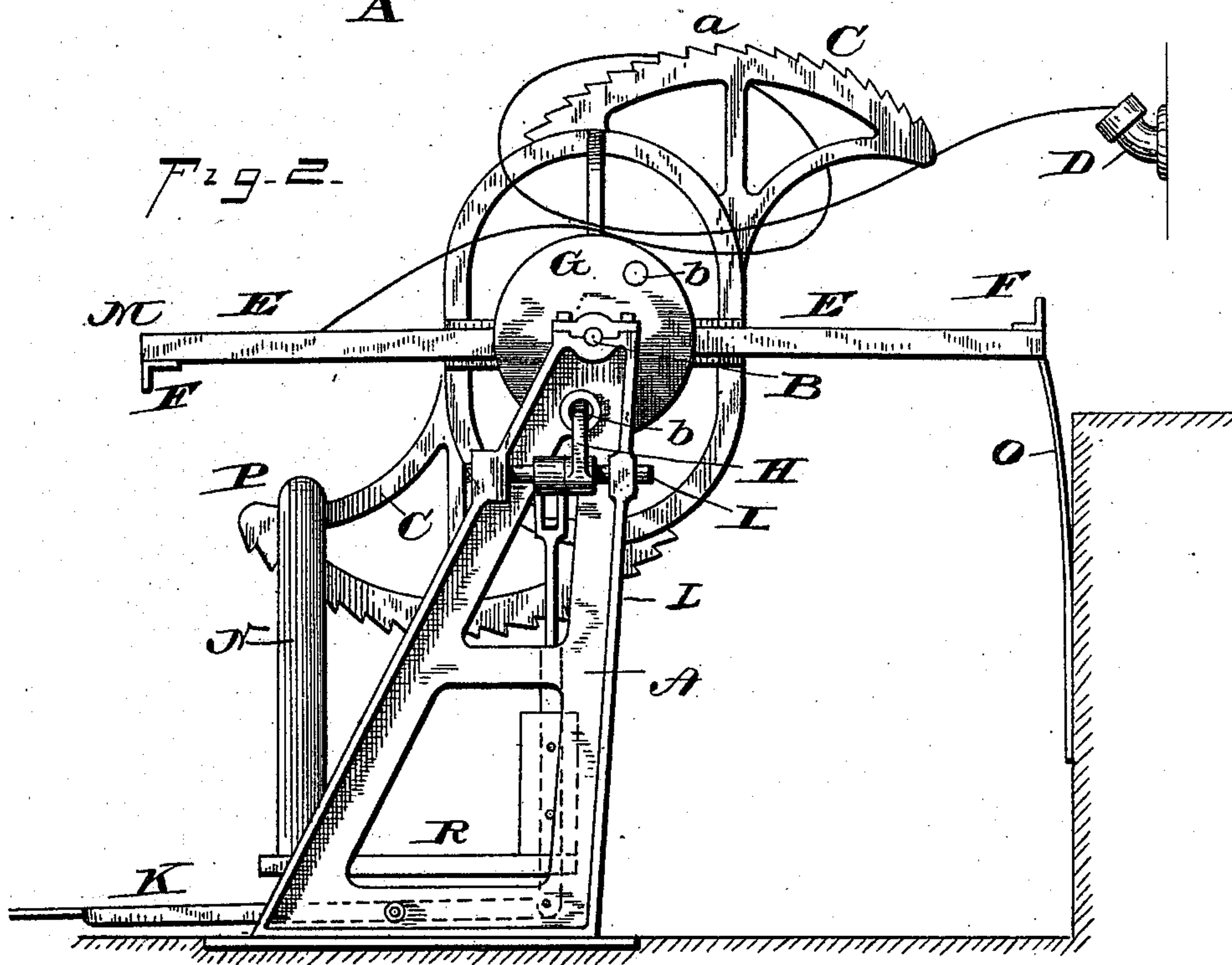


Fig. 2—



WITNESSES
F. L. Curand
C. B. O'Rourke

INVENTOR
F. G. Tallman
BY
S. M. Gussabach
Attorney

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Fig 3

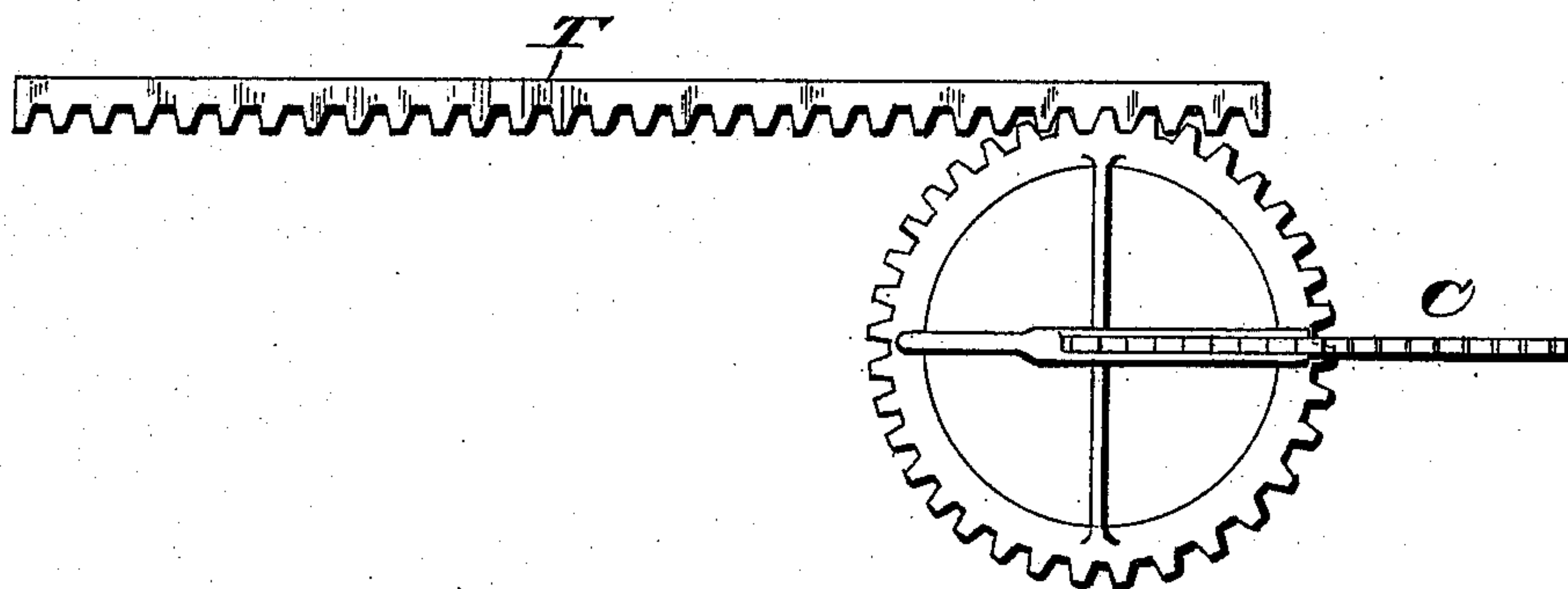


Fig 4.

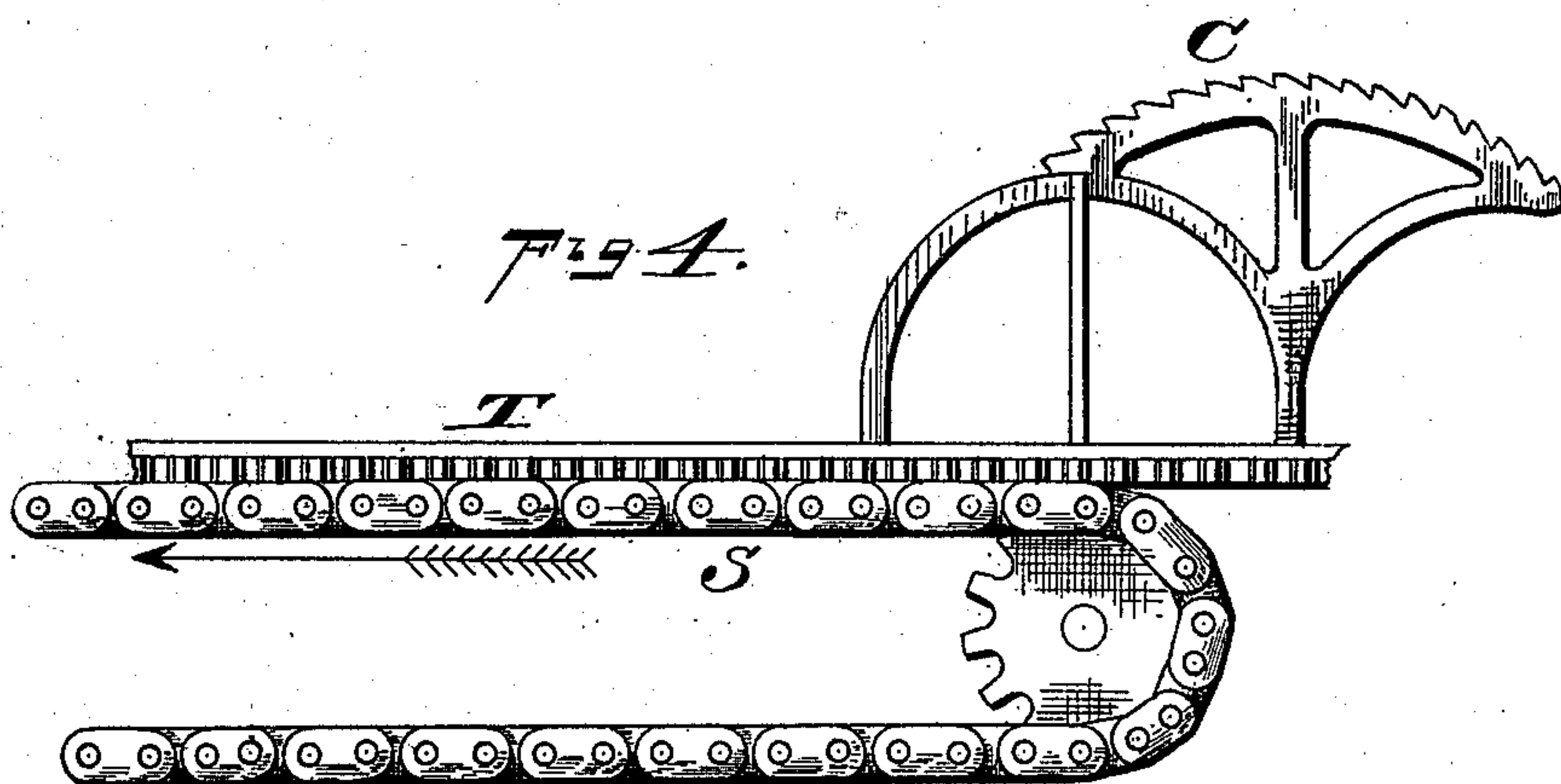
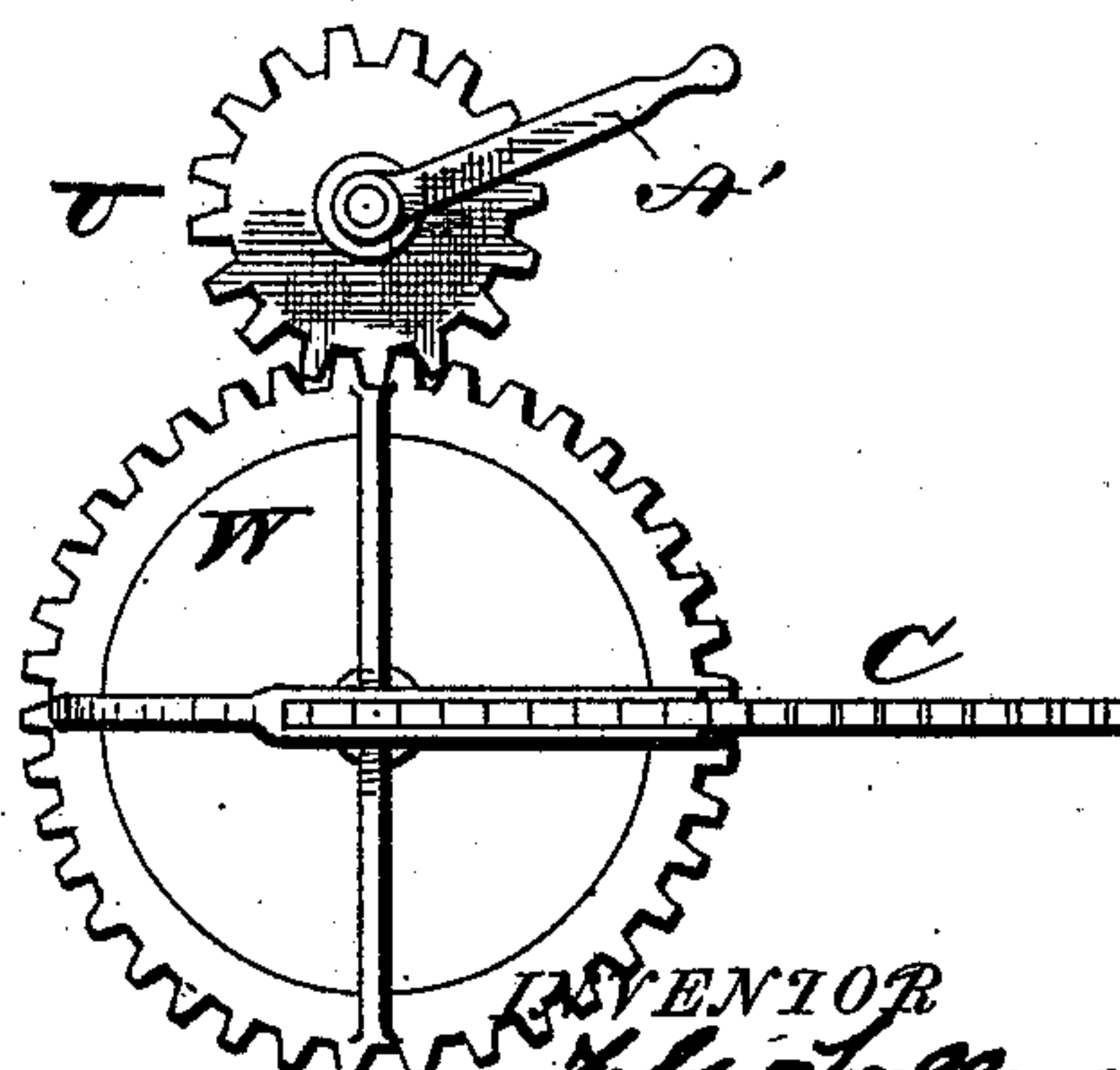


Fig 5



WITNESSES
F. L. Ourand
C. E. O'Connell

INVENTOR
F. G. Tallman
By
S. M. Gussabaugh
Attorney

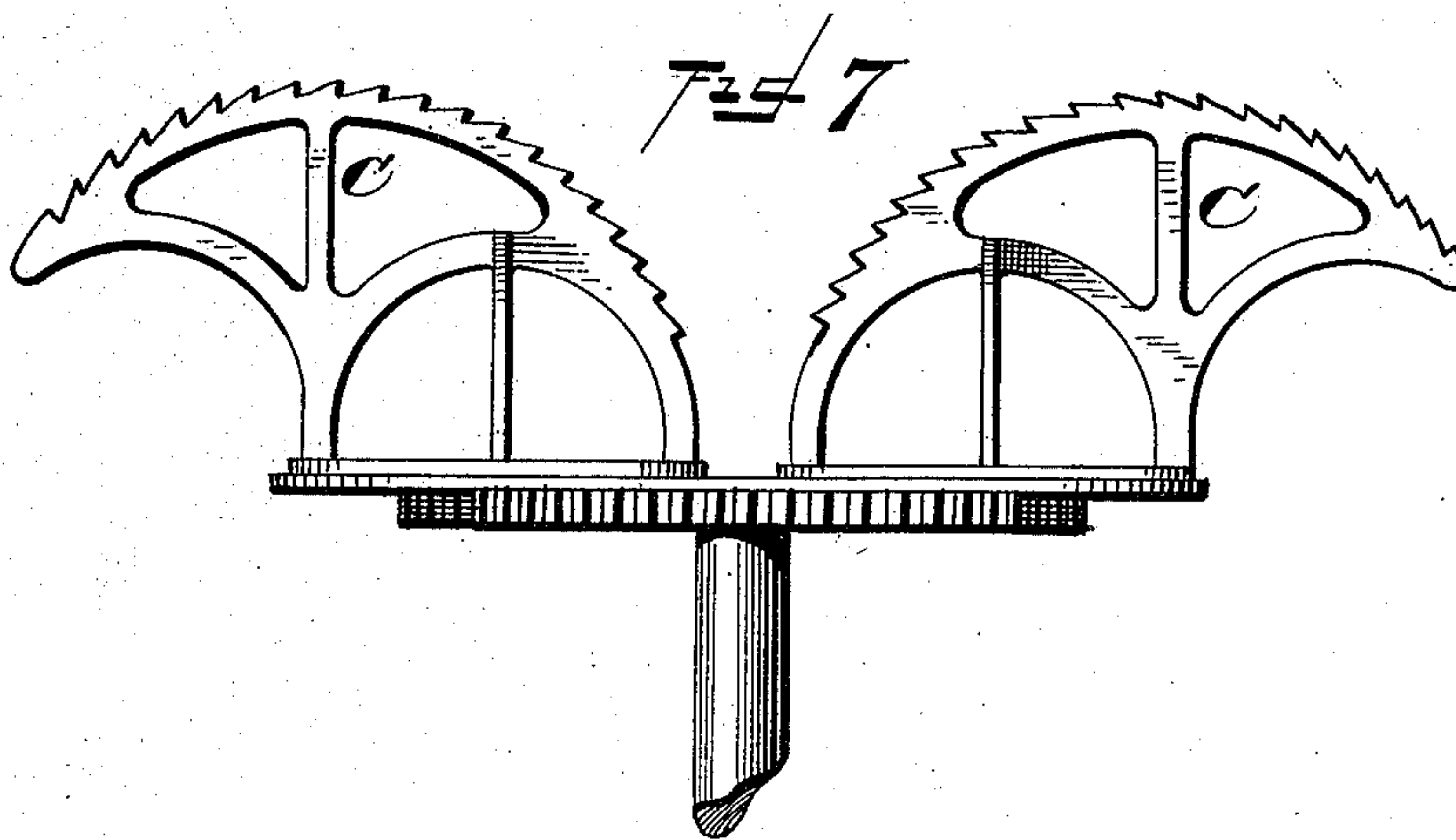
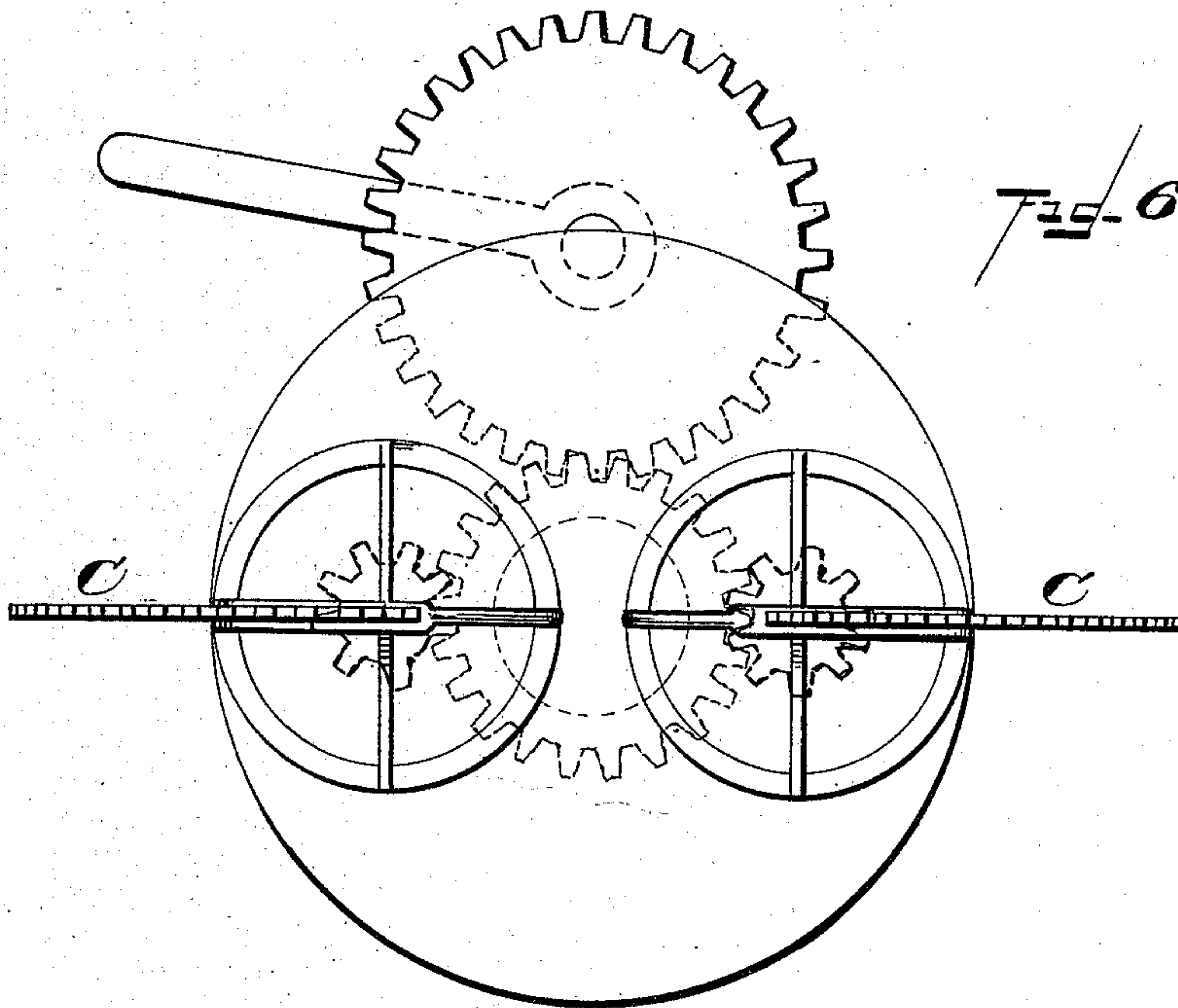
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WITNESSES
F. L. Ourand
L. E. O'Connor

INVENTOR
F. G. Tallman
By
S. W. Gussalaugh
Attorney

UNITED STATES PATENT OFFICE.

FRANK G. TALLMAN, OF BEAVER FALLS, PENNSYLVANIA.

DEVICE FOR COILING METAL RODS.

SPECIFICATION forming part of Letters Patent No. 412,565, dated October 8, 1889.

Application filed July 8, 1889. Serial No. 316,793. (No model.)

To all whom it may concern:

Be it known that I, FRANK G. TALLMAN, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented new and useful Improvements in Devices for Coiling Metal Rods; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in devices for coiling metal rods as they emerge from the rolls.

In applications filed by me March 5, 1889, Serial Nos. 301,908 and 301,909, I have claimed the method of and apparatus for coiling metal rods as they emerge from the rolls, said method and apparatus consisting, broadly, in passing the rods on their emergence from the rolls through a bent rotating guide-tube, which forms the rods into loops or spirals, and in then arresting said loops on a suitable standard in the form of coils.

This invention is designed as an improvement on the mechanism shown and described in the applications above referred to.

The points of improvements will be fully described, and specifically pointed out in the claims.

Referring to the drawings, Figure 1 is a top or plan view of my device. Fig. 2 is a side elevation of my device, and also the rotating tube, which guides the rods and causes them to assume a spiral form. Fig. 3 is a top or plan view of another form of device for turning the catcher or carrier around in a horizontal plane, so as to draw the rear end of the rod from the guide-tube. Fig. 4 is a side view of the device shown in Fig. 3, mounted on an endless carrier. Fig. 5 is a top or plan view of the catcher adapted to be turned around by hand. Fig. 6 is a top or plan view of the catchers or carriers arranged to be turned by hand in a horizontal plane. Fig. 7 is a side view of the devices shown in Fig. 6.

A indicates the side frames of the machine, in the top of which is mounted in suitable bearings the shaft B.

C C are catchers or standards secured to the shaft B and adapted to rotate with it, said

catchers or standards being designed to receive the coils of wire as they are formed and thrown from the revolving guide-tube D. I have found in practice that when the rear end of the rod has emerged from the rolls the power of the rolls which has heretofore been exerted to force the rod through the guide-tube D ceases, and that a few feet of the rod remains in the guide-tube, and it is with a view to withdraw this end from the guide-tube that I have devised the following.

E is a metal or other suitable frame, which is also secured to the shaft B and adapted to rotate with it, said frame being provided at each end and on opposite sides with toothed or serrated bars F, the office or function of which is to pull or assist in pulling the rear end of the rod out of the guide-tube. In this connection it may be proper to state that the serrated back *a* of the standard C also serves to pull the end of the rods of the guide-tube when the coil has been wound thereon and the standards caused to partially rotate with the shaft B.

G is a disk rigidly secured on the shaft B, said disk being provided with holes *b b*, to receive a pin or bolt H, which holds the catchers or standards C and frame E rigidly in position while the rods are being coiled onto the catchers. The other end of the pin or bolt H is bent to form a right angle and is rigidly secured to the shaft I, which is mounted in the frame A, said shaft being connected to the foot-lever K by means of the bar L, and by means of which the bolt or pin H is disengaged from the hole *b* and then allowed to make a half-revolution. A suitable spring may be used to force the bolt forward into engagement with the holes *b* to stop the catchers or standards in their proper position. For example, when a rod is coiled on the top catcher or standard the attendant steps on the foot-lever K, thereby disengaging the pin or bolt from the hole in the disk G. He then pulls down on the end of the table or frame E at M until the weight of the descending coil is sufficient to pull the catcher over into the reversed position, when the coil will remain suspended on the horn of the catcher, as shown at N, Fig. 2, until it is removed. When this large mass of metal is in motion, it is more or less difficult to stop it, and it jars the

machinery and brings quite a heavy strain on the pin or bolt H. To obviate this I have arranged a spring O, so it will come in contact with one end of the frame E, acting as a
 5 brake to retard the motion of the frame. The spring O has such a tension that the weight of the coil pulling down at the point P when in motion is just strong enough to carry the inner end of the frame past the end
 10 of the spring, when it stops and is locked in position with but little strain to the pin or bolt H. I have found in practice that the coils being so hot and hanging on the hook at P, when the attendant removes them they
 15 have assumed an oval or horse-collar shape. This makes the bundles look badly, and to obviate it I have the coil as it tips over to rest on the plate R, supported on the frames A. The hot bundle or coil while resting on
 20 the plate will assume an oval form with its longest axis horizontal. Then the weight of the coil while being carried away on the hook counteracts this oval shape, so that the bundles or coils will be practically round by the
 25 time they are carried to the place of deposit.

In Figs. 3, 4, 5, 6, and 7 I have shown other means of operating the standards or catchers in order to pull the rear end of the rod from the guide-tube, and instead of turning the
 30 catchers or standards in a vertical plane, as shown in Figs. 1 and 2, I turn them around in a horizontal plane.

In Figs. 3 and 4 the catchers are mounted on an endless traveling belt S. The base of
 35 the catchers or standards are provided with teeth which engage the teeth of the stationary rack-bar T, secured to the frame of the machine, which imparts to the catchers a horizontal rotary motion after the rod has
 40 been coiled thereon, so as to draw the rear end of the rod from the guide-tube and wind it in with the coil or bundle, and after having become disengaged from the rack-bar the catcher is carried around by the endless belt
 45 and the coil or bundle taken therefrom, it

being understood that several of the catchers or standards are arranged on the endless carrier S.

In Fig. 5 I have shown a single catcher or standard adapted to be rotated to draw the
 50 rear end of the rod from the guide-tube. In this instance the catcher is rotated in a horizontal plane by means of the spur-gear V, meshing with the annular gear W of the catcher, said spur-gear being operated by the
 55 crank-arm A', and in Figs. 6 and 7 the same devices are employed as adapted to a horizontal turn-table, on which are mounted two or more catchers or standards.

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

1. In a device for coiling metal rods as they emerge from the rolls, the horn-shaped revoluble catchers or holders, provided with a serrated back, in combination with a revoluble frame for drawing the rear end of
 65 the rod from the guide-tube, as set forth.

2. In a device for coiling metal rods as they emerge from the rolls, the catchers or standards C, and frame E, mounted on a suitable shaft, in combination with the disk, bolt,
 70 bar, and treadle, as set forth.

3. In a device for coiling metal rods as they emerge from the rolls, the frame, and catchers or standards revolubly mounted in
 75 the supports A, and a spring-brake adapted to impinge against the end of the frame to arrest its motion, as set forth.

4. In a device for coiling metal rods as they emerge from the rolls, the horn-shaped
 80 standards or catchers C C, mounted on a central axis and adapted to be rotated around the same, in combination with the resting or stop plate.

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

F. G. TALLMAN.

Witnesses:

J. CHAS. IRWIN,
 O. B. BRADFORD.