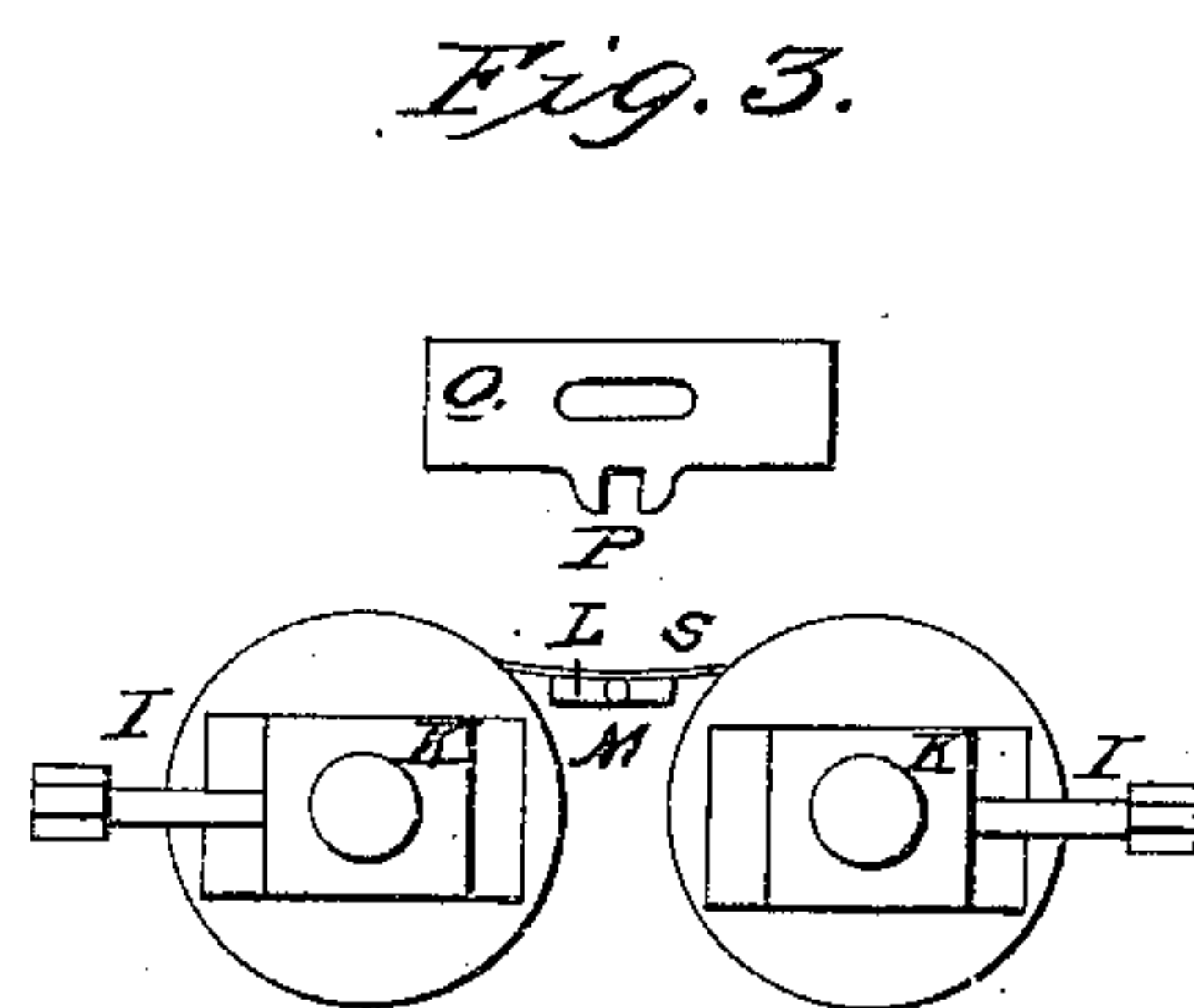
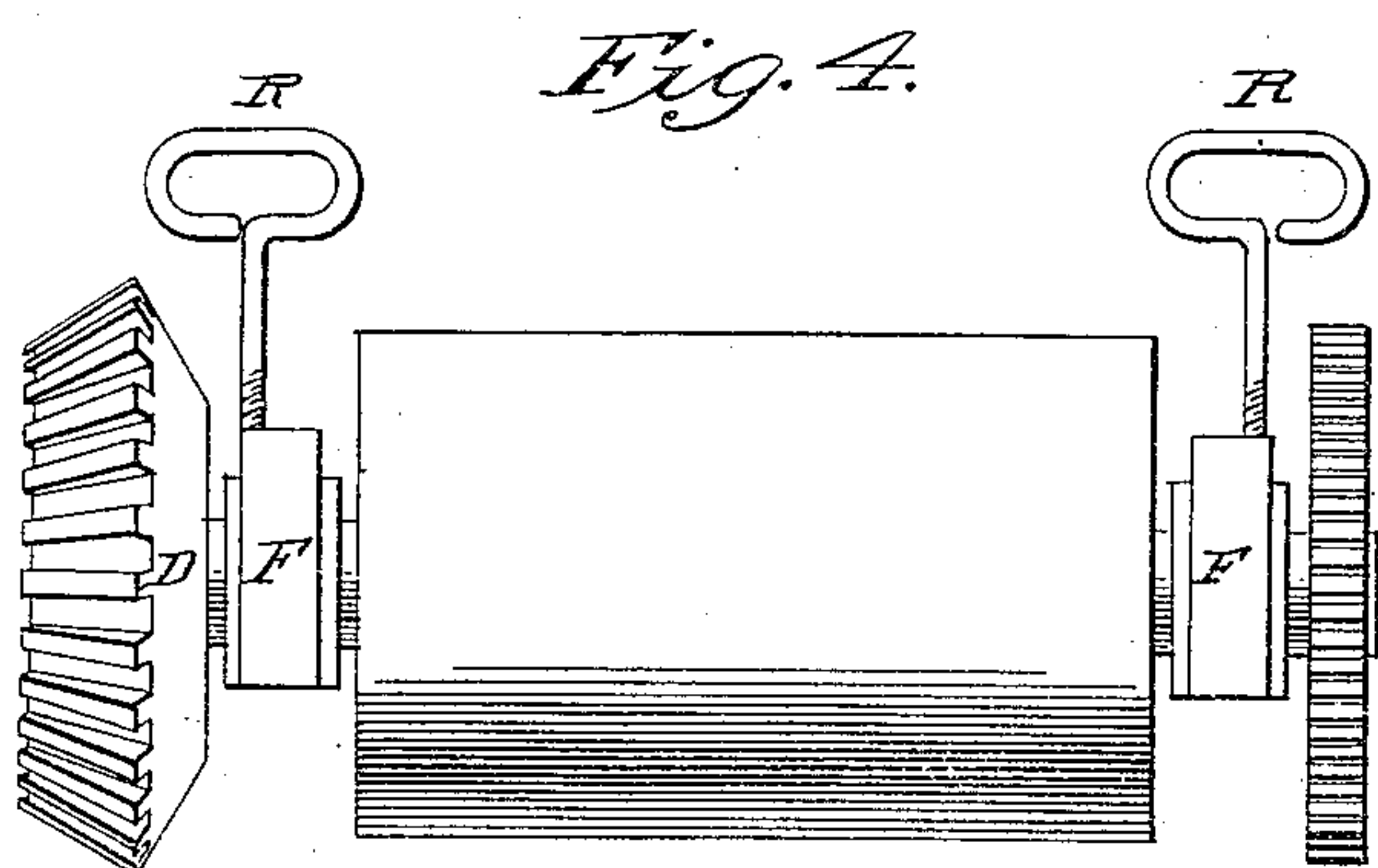
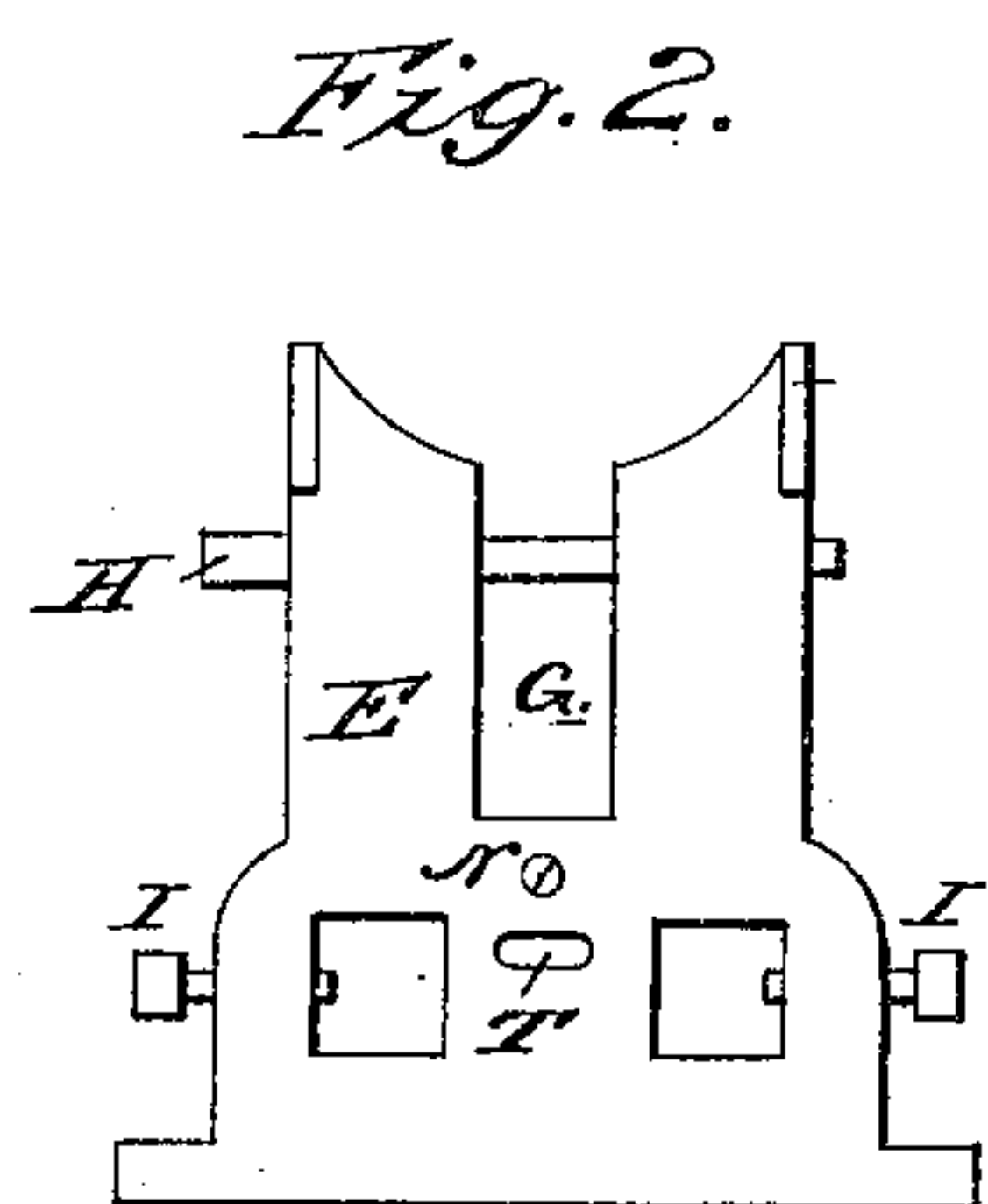
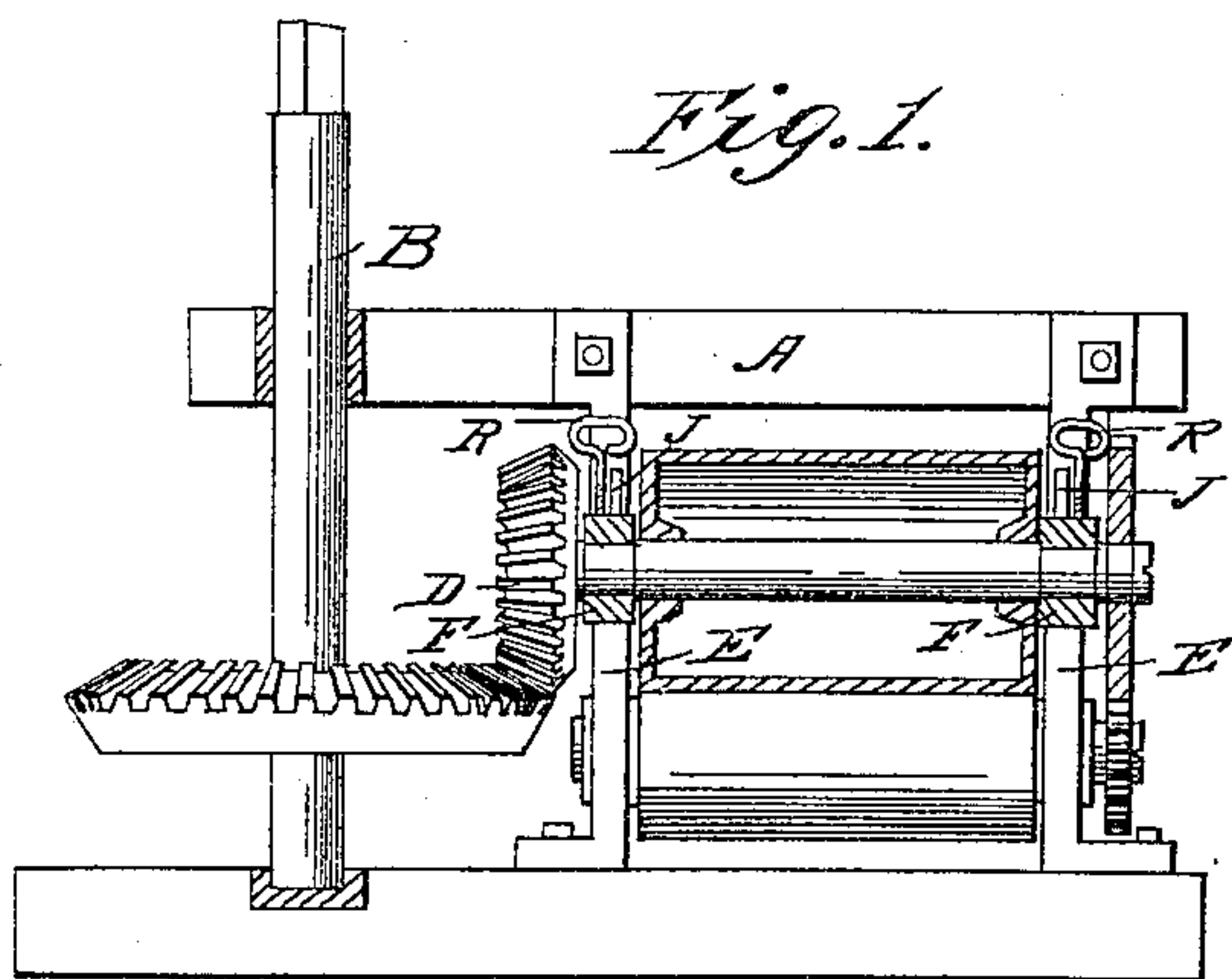


T. L. ROBERTS.
MILL FOR GRINDING SUGAR CANE.

No. 52,207.

Patented Jan. 23, 1866.



Witnesses:
J. B. Root
John H. Redstone

Inventor
T. L. Roberts

UNITED STATES PATENT OFFICE.

THOMAS L. ROBERTS, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN MILLS FOR GRINDING SUGAR-CANE.

Specification forming part of Letters Patent No. 52,207, dated January 23, 1866.

To all whom it may concern:

Be it known that I, THOMAS L. ROBERTS, of Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Sugar-Mills, of which the following is a full and exact description, reference being had to the accompanying drawings and the letters marked thereon.

Figure 1 is a longitudinal section showing the mill cut vertically through the center, except the gearing and upright and large roller-shaft, which are shown in full. Fig. 2 is an elevation showing the end plate or roll-frame. Fig. 3 is an end view showing the rolls and scraper with set-plate for adjusting the same. Fig. 4 is a side view of the top roll as it appears when lifted out of the frame.

A is the frame which supports the main shaft B, to which the master-wheel C, which gears with the pinion D. The end plates, E, support the rolls, and are so constructed as to receive the journal-boxes F through the top opening, G. The boxes F are held in place by the keys H, which operate through the key-ways J. The handles R are screwed or attached to the boxes F, and are used to lift the top roll out of the frame when necessary. I are set-screws, designed to hold the bottom rolls in contact with the middle or top roll, operating against the boxes K, which are allowed to slide laterally in the end plates, E. The scraper S is constructed with bed-plate L, which has the journals M to extend through the end plates, E, and operate in the notch P of the set-plate O. The set-plate O is held in place by means of the set-screw N, which attaches it at the required position, holding it firmly to the end plate, E, while the journals operate through the slot T.

The following is the operation of the mill: The master-wheel C being revolved gives motion to the pinion D, which, being attached to the top roll-shaft, gives motion to the mill in the usual manner. When anything occurs to cause an examination of the interior of the mill necessary for the purpose of cleaning or otherwise, the keys H are taken out from the

slot or key-seats J. The top roll is then lifted out by means of the handles R, along with the gearing which is attached. By this arrangement the machine is much more portable than other machines. The master-wheel may also be removed by simply removing the box V, when the mill-frame and the two remaining rolls may be handled with comparative ease and without deranging the frame of the machine. The scraper S is adjusted to fit and thoroughly scrape the roll, and as it wears it is moved over to the roll by means of the set-plate, which, as it is moved over, carries the journal M of the scraper S in the notch P. The set-screw N, passing through the slot in the set-plate O, holds it firmly against the end plates, E.

The advantages of the mill being so constructed that the top roll may be lifted out and access had to the space between the rolls will be readily understood from the fact that a substance is allowed to accumulate while the cane is being ground, which, if allowed to remain, will sour and rust the mill, besides the fact of cleanliness, which it is important to consider.

The advantages of the scraper consist in its durability and the simplicity and readiness with which it is adjusted to fit the rolls as it wears and the elasticity of its bearing upon the roll.

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

1. So constructing a sugar-mill that the top roll may be lifted out with the journal-boxes by means of the handle R, the journal-boxes operating in the opening G of the frame E, substantially in the manner and for the purposes set forth.

2. The adjustment of the scraper L M S, when operated in the slot T by means of the set-plate O and set-screw N, substantially as set forth.

THOMAS L. ROBERTS.

Witnesses:

JOHN H. REDSTONE,
WM. SULLIVAN.