

(No Model.)

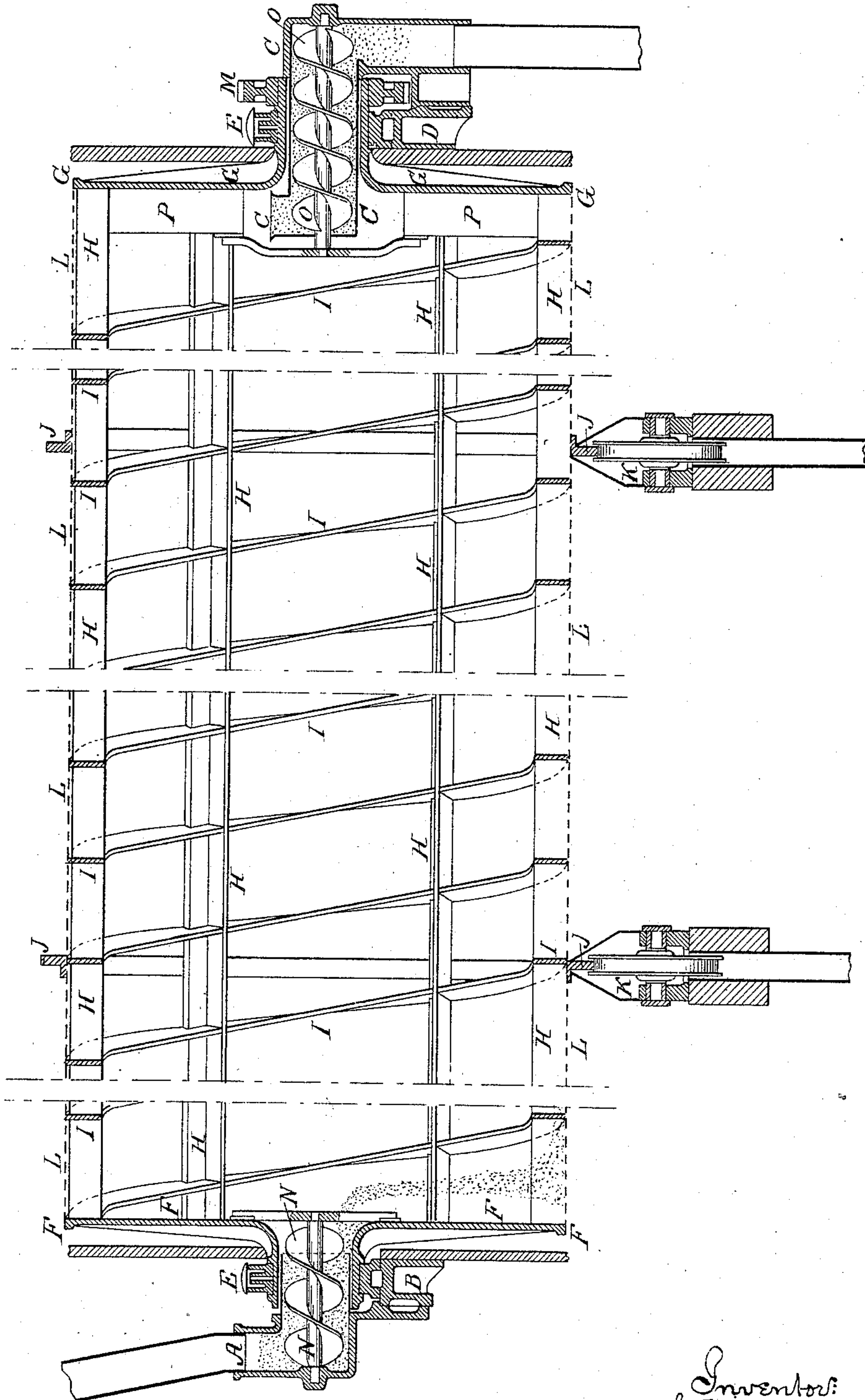
H. F. SAINT REQUIER.
BOLTING REEL.

2 Sheets—Sheet 1.

No. 324,595.

Patented Aug. 18, 1885.

FIG. 1.



Witnesses:
Henry Bossert,
Harry Drury

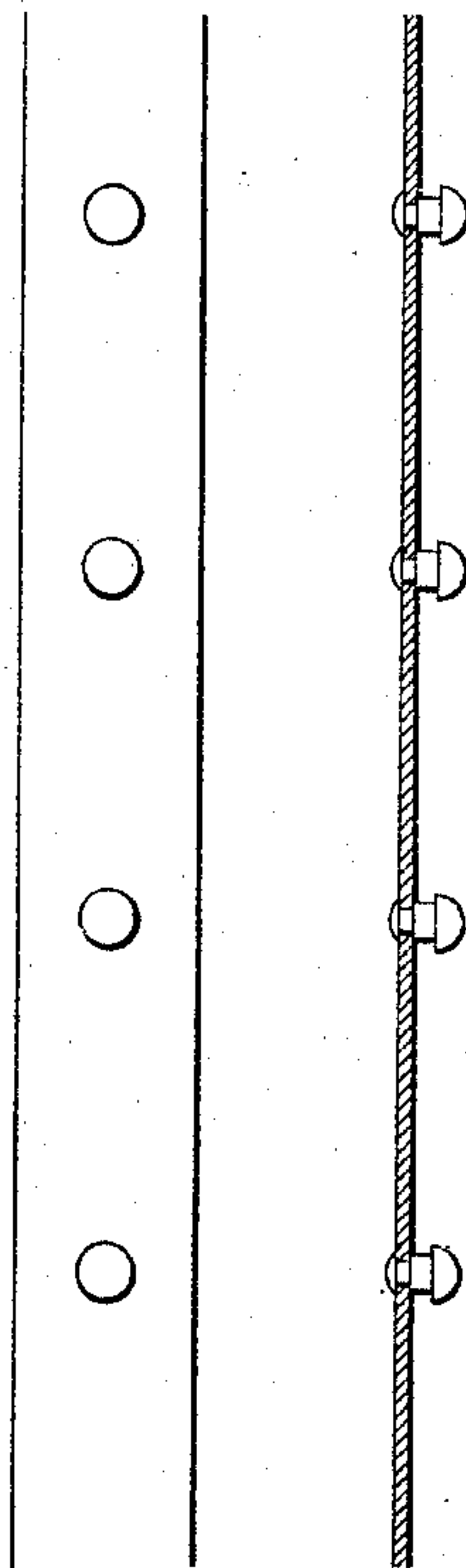
Inventor:
H. F. Saint Requier
by his Attorneys
Howson & Son

(No Model.)

2 Sheets—Sheet 2.

H. F. SAINT REQUIER.
BOLTING REEL.

No. 324,595.
FIG. 3.



Patented Aug. 18, 1885.
FIG. 2.

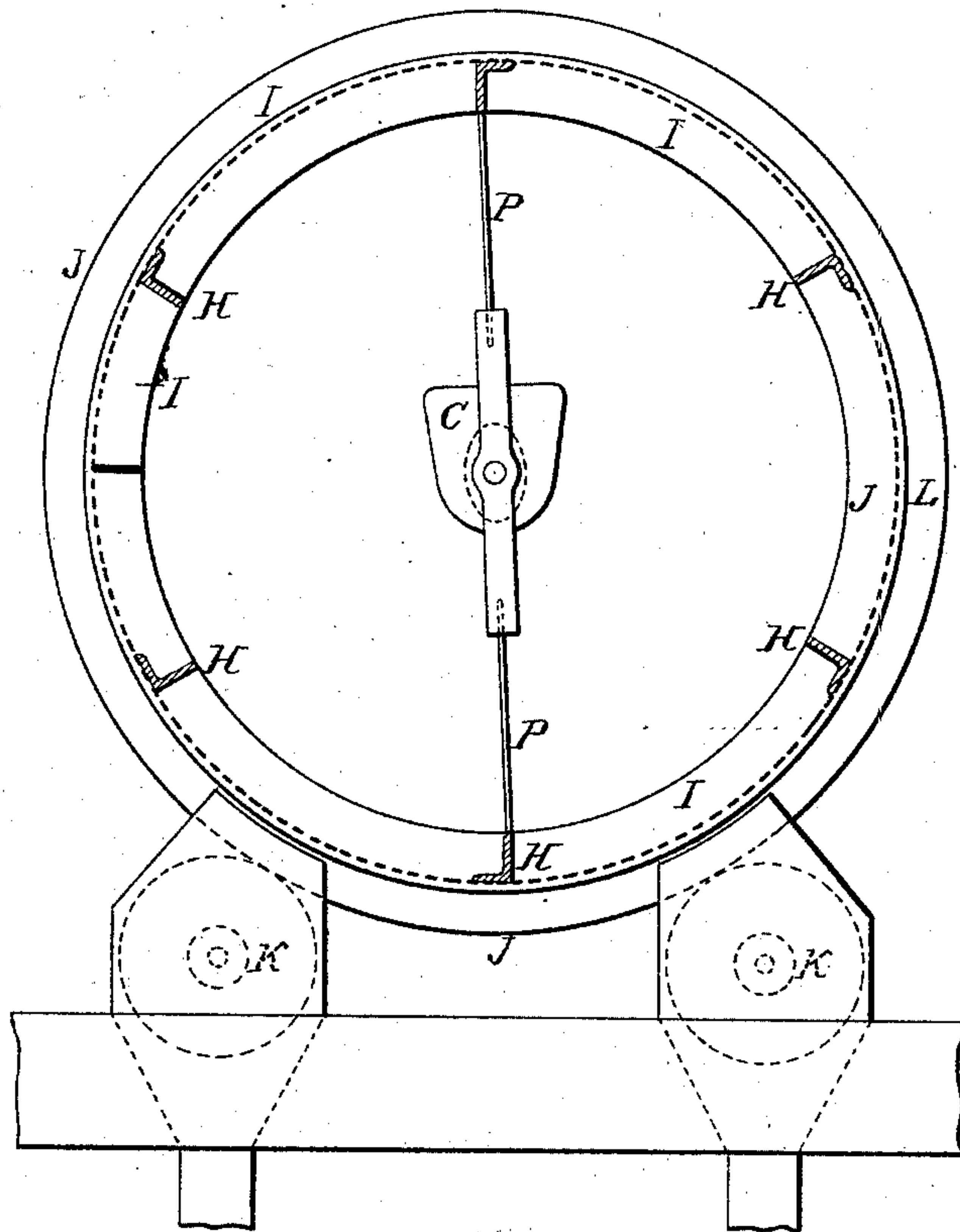


FIG. 4.



FIG. 5.

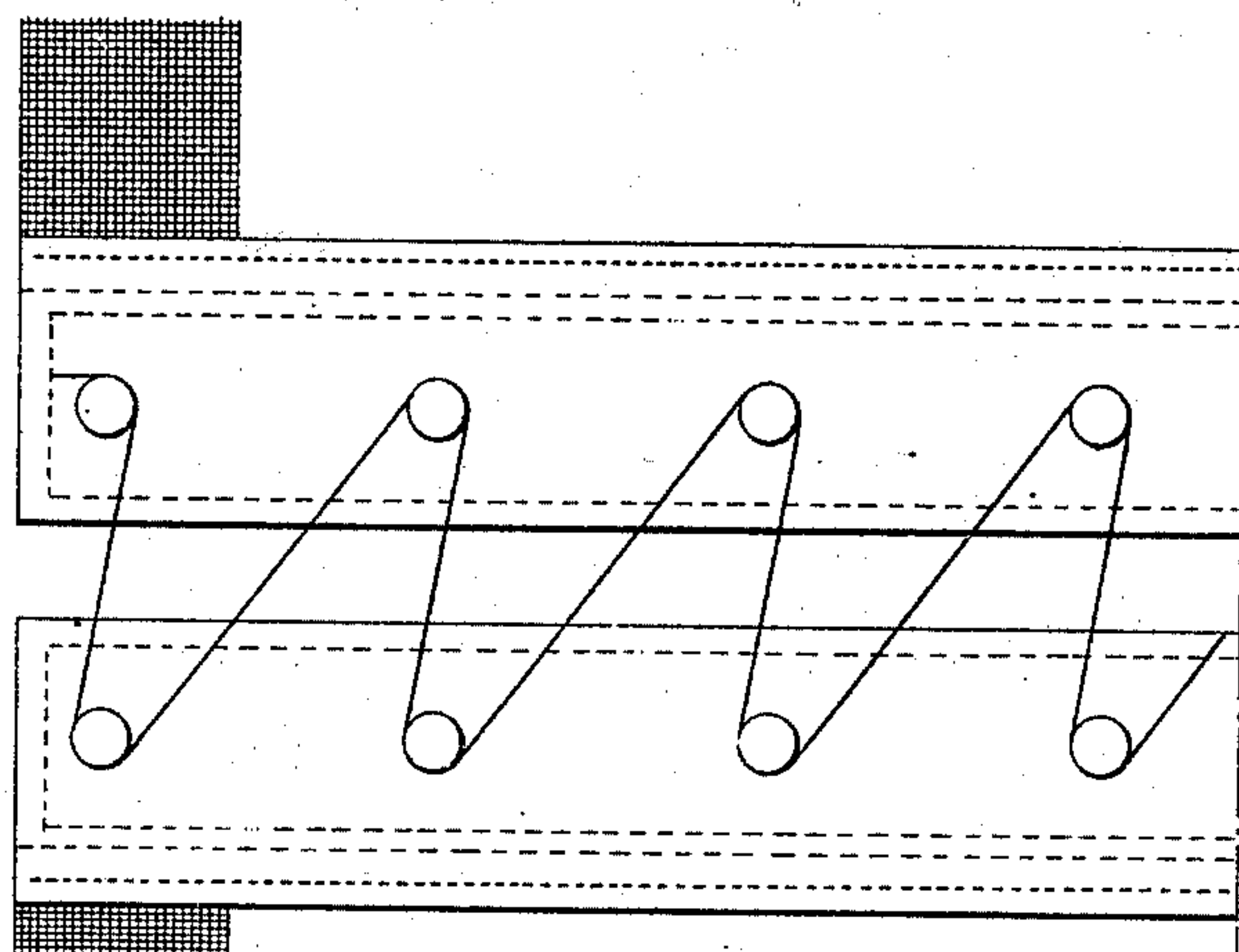
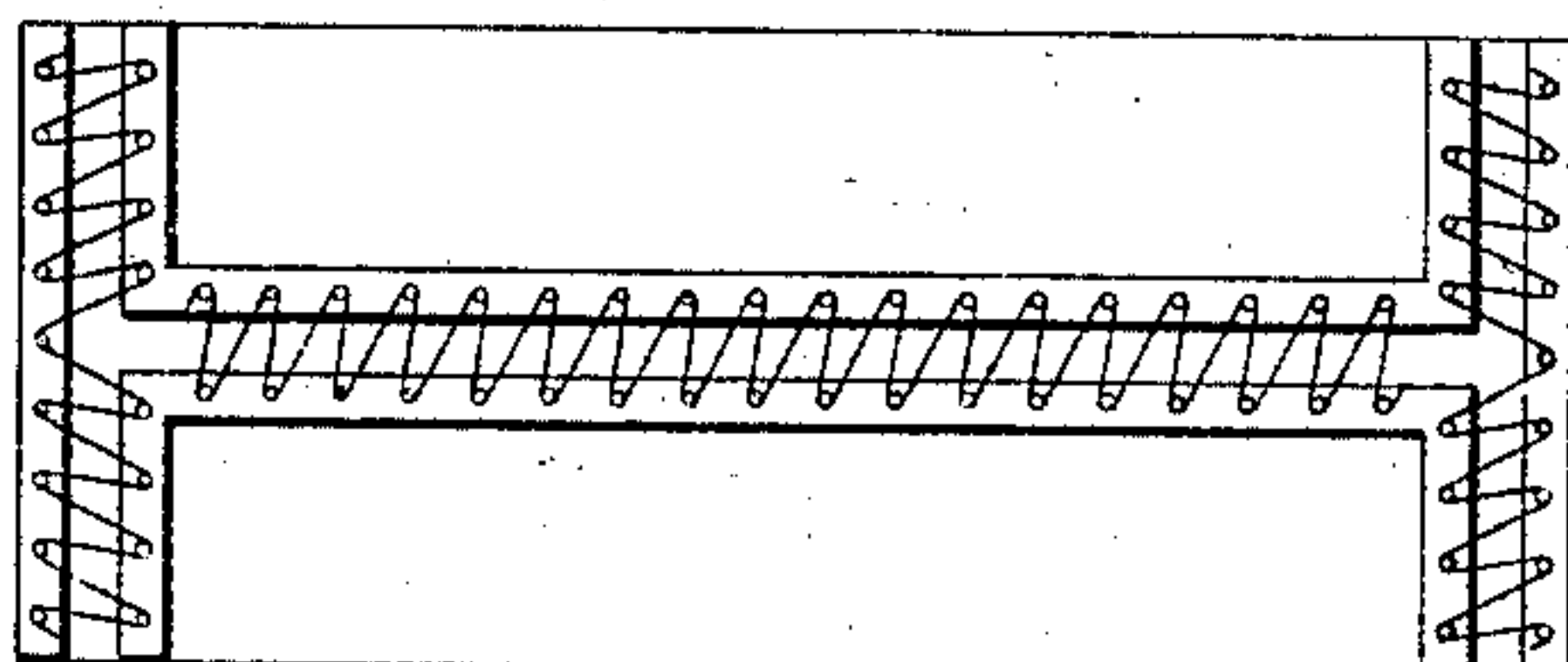


FIG. 6.



Witnesses:
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by his Attys.

Howman & Co.

UNITED STATES PATENT OFFICE.

HENRY F. SAINT REQUIER, OF ASNIÈRES, ASSIGNOR TO LA SOCIÉTÉ ANONYME POUR LES PROCÉDÉS BREVETÉS DE FARINERIE SAINT REQUIER, OF PARIS, FRANCE.

BOLTING-REEL.

SPECIFICATION forming part of Letters Patent No. 324,595, dated August 18, 1885.

Application filed July 2, 1884. (No model.) Patented in France July 21, 1882, No. 150,233; in Belgium July 22, 1882, No. 58,543; in England July 28, 1882, No. 3,593; in Austria October 13, 1882, No. 26,931; in Germany March 2, 1884, No. 29,053; in Italy March 4, 1884, No. 16,533, and in Spain June 9, 1884, No. 5,668.

To all whom it may concern:

Be it known that I, HENRY FERDINAND SAINT REQUIER, a citizen of the Republic of France, and residing in Asnières, France, engineer, have invented an Improved Bolting-Reel to be Used in the Treatment of Grain and Flour, of which the following is a specification.

The object of this invention is to provide an apparatus which will admit of being used by a slight modification, either sifting or assorting grain and bolting meal.

In the accompanying drawings, Figure 1 shows in longitudinal section the improved apparatus contracted in length for the convenience of illustration, and Fig. 2 is a cross-section of the same. Fig. 3 represents a front view and longitudinal section, drawn to an enlarged scale, of a portion of a metallic hoop for the cylinder-cover. Fig. 4 is a sectional view, and Fig. 5 a front view, of a portion of the adjoining edges of the cylinder-cover; and Fig. 6 is a diagram illustrating the method of lacing the cover of the cylinder.

It consists, mainly, of a skeleton cylinder of iron mounted horizontally upon hollow trunnions and covered with wire-gauze or silk, according to the use to which the apparatus is to be applied.

The grain or meal to be treated is delivered to the cylinder through one of the hollow trunnions from a fixed hopper or supply tube, A, and the residue from the assorted or sifted grain or meal is delivered to a fixed discharge hopper or tube, C, connected with the hollow trunnion at the opposite end of the machine.

B is a transverse girder, of cast-iron, which supports the feeding end of the cylinder, and to it the hopper A is secured. D is a similar girder, which supports the delivery end of the cylinder and also the discharge hopper or tube C. These girders carry plummer-blocks E, in which the hollow trunnions of the cylinders are free to turn.

F and G are circular end plates, of cast-iron, made fast to or cast in one with their respect-

ive trunnions, and connected together by parallel bars of angle-iron H, which form the skeleton periphery of the cylinder.

I are bars of iron coiled helically from end to end of the cylinder, and completing with the parallel bars H, the skeleton cylindrical framing.

J are rings formed of angle-iron, and surrounding the cylinder for the purpose of stiffening the cylinder and preventing the flexure of the parallel bars H. These rings bear upon anti-friction pulleys K, mounted in fixed boxes below the cylinder. The cylinder is covered by wire-gauze or silk L, and it is driven through a spur-wheel, M, keyed onto one of the trunnions. The grain or meal is admitted to the cylinder by the aid of an Archimedean screw, N, which rotates with the cylinder, it being situated within a horizontal portion or continuation of the fixed delivery-tube A. A similar arrangement is provided for facilitating the discharge of the residuum of the assorted grain or sifted meal, an Archimedean screw, O, attached to the delivery end, being situated in the horizontal portion or continuation of the tube C.

The cylinder is fitted at its discharge end with radial blades P, for lifting the residuum of the operations and discharging the same into the fixed hopper or discharge tube C. These blades are preferably carried by the end plate, G, at the extremity of the cylinder, and as they are intended to conduct the residuum which enters the chamber into the discharge-hoppers C, they are made sufficiently short to clear the hopper in their revolution.

In order to provide for the facile attachment and detachment of the wire-gauze or silk covering of the cylinder, metallic hoops fitted with studs, as shown at Fig. 3, are attached to the cylinder, and the wire-gauze or silk covering-pieces are similarly fitted at their edges with strips of metal carrying studs, as illustrated at Fig. 4.

When these pieces are laid around the cylinder, they may be secured in place and drawn to the desired tension by means of lacing-cords

passed from side to side around the studs of the adjacent hoops and strips. This mode of lacing is shown in Figs. 4, 5, and 6.

The action of this apparatus is as follows:
5 Supposing the cylinder to be provided with a silk covering suitable for bolting or sifting the fine flour from the meal, meal is delivered to the cylinder by the Archimedean screw N, which rotates with the rotation of the cylin-
10 der. The meal as it enters the rotating cylinder falls to the bottom, and is retained in the cells formed in its inner periphery by the intersection of the horizontal bars H with the helical bars I. As the cylinder rotates on its
15 axis these cells carry the meal toward the top and discharge it in a shower upon the lower part of the cylinder and into the cells next in advance. By these means the meal is slowly traversed forward, and at the same time every
20 atom is brought into contact with the covering of the cylinder without any tendency to slide forward in a mass over the covering. The absence also of a shaft extending through the cylinder leaves a free course for the fall-
25 ing meal when emptied from the raised cells.

It will be understood that, by graduating

the coarseness or fineness of the covering of the cylinder, the material under treatment will, with the act of bolting or sifting, be separated according to the fineness or coarseness 30 of the granules or grains.

I claim—

1. A rotary bolting-cylinder consisting of opposite end frames, longitudinal angle-bars connecting the two helical bars, a covering, and 35 outer stiffening-rings, J, in combination with bearing-rollers on which the said rings are adapted to travel, substantially as set forth.

2. The combination of the rotary bolt having radial delivery-blades at the outlet end, 40 with the discharge-hopper C, projecting within the bolt, and having a feed-screw, O, to turn with the bolt, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two sub- 45 scribing witnesses.

H. F. SAINT REQUIER.

Witnesses:

Z. FLAMENT,
ALFRED CORIN.