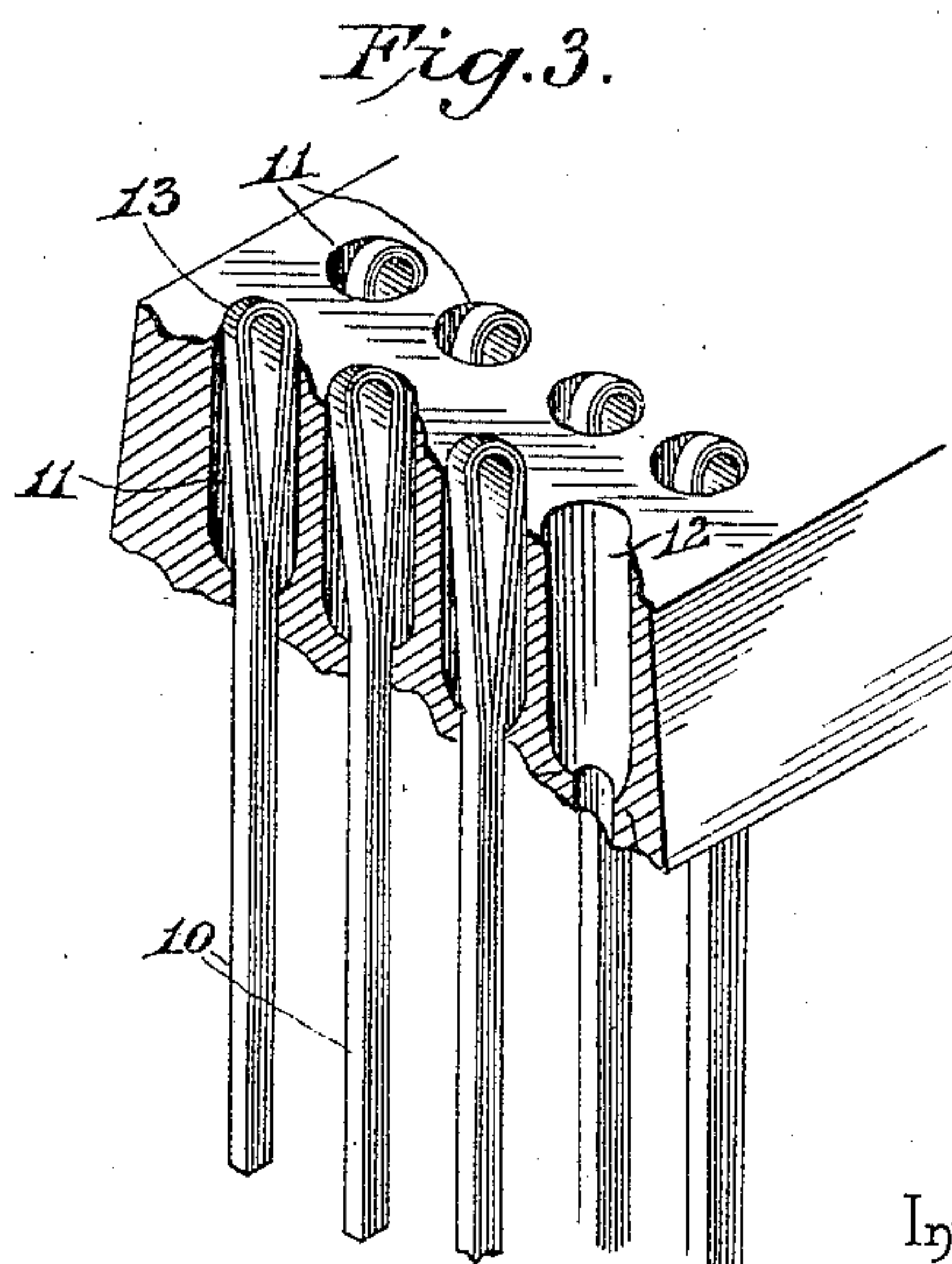
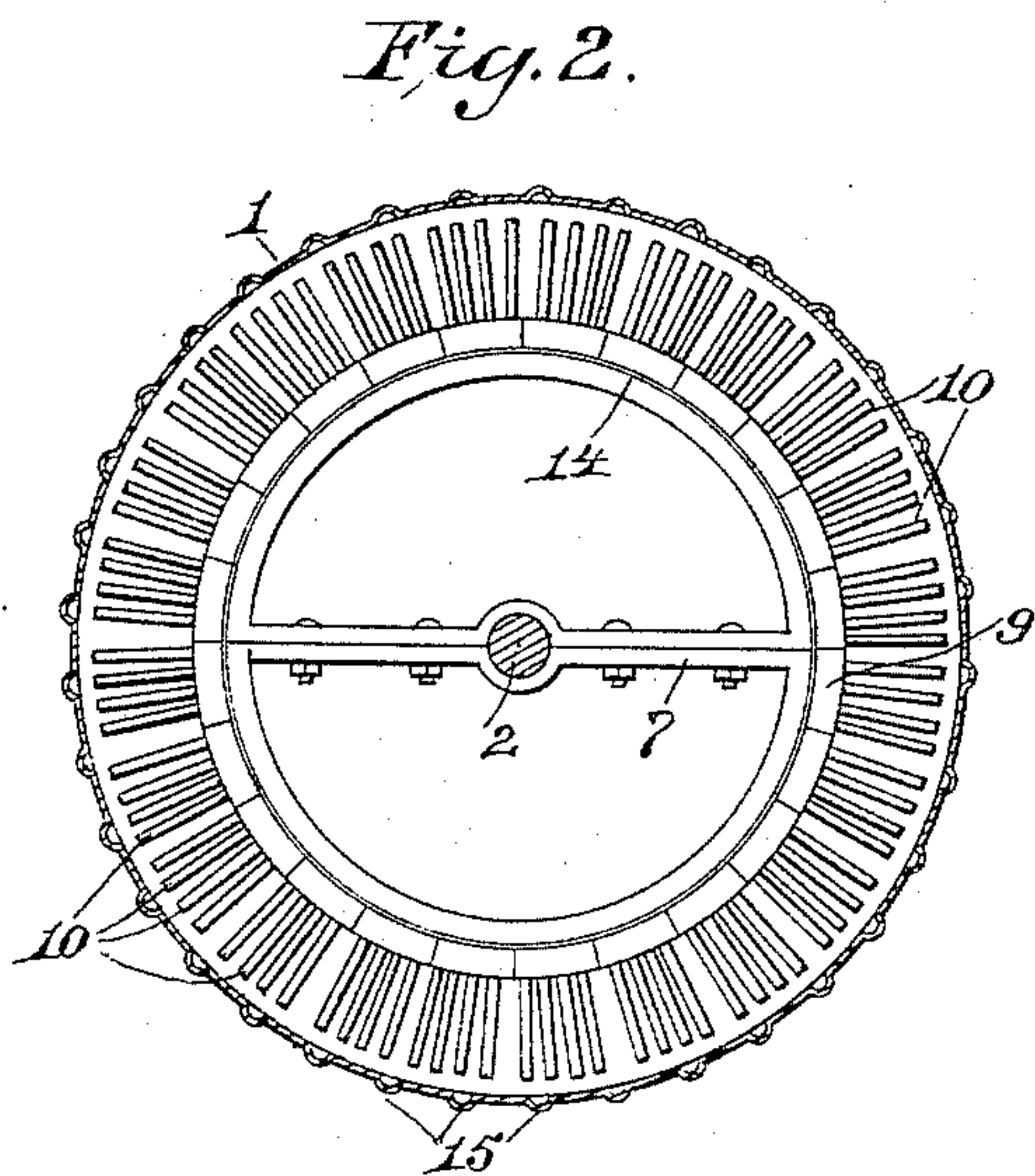
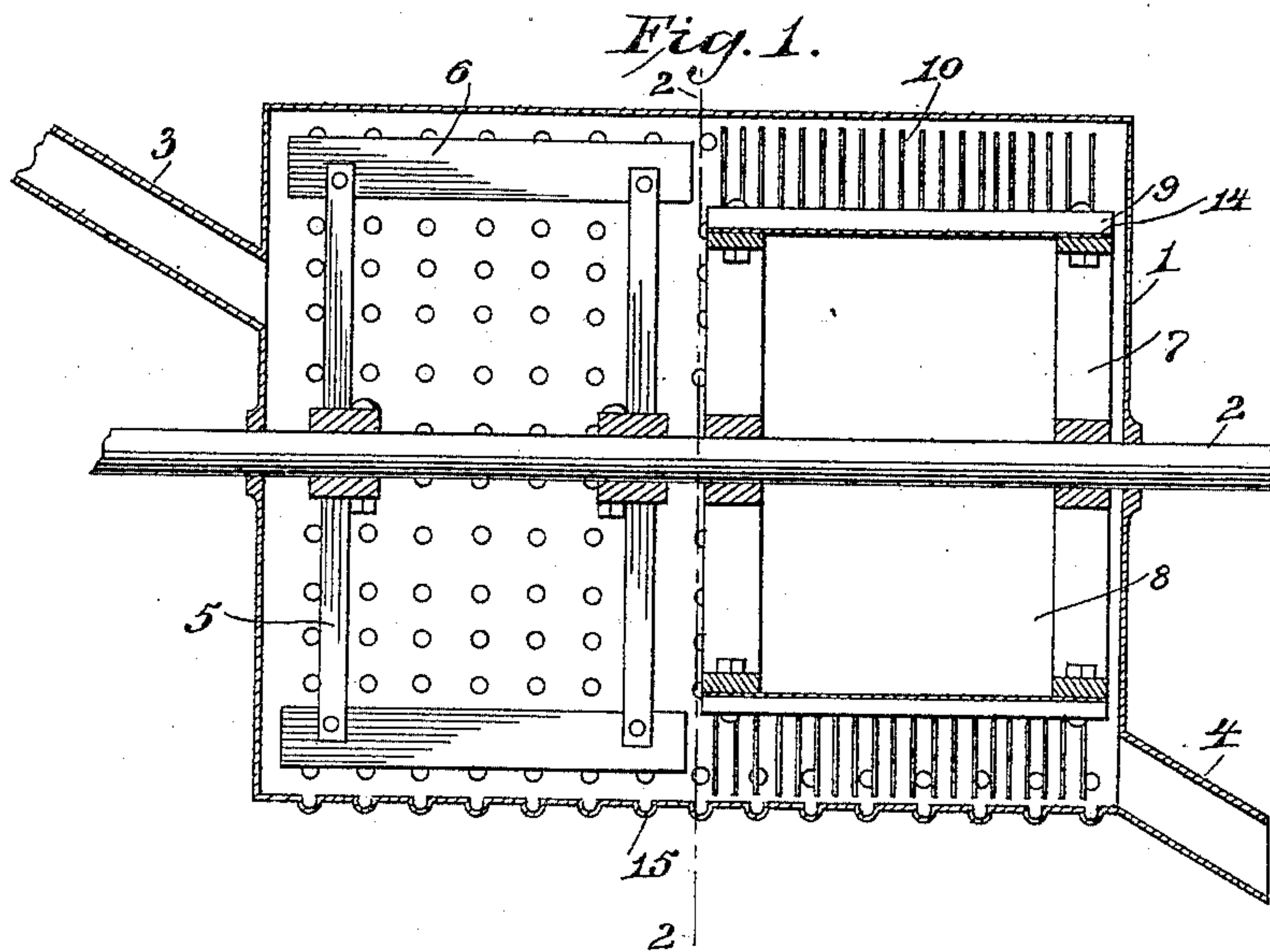


(No Model.)

W. MORGAN.
GRAIN SCOURING MACHINE.

No. 444,763.

Patented Jan. 13, 1891.



Witnesses

E. M. Hallahan

By *C. Bowen*

By his Attorneys,

C. Snow & Co.

Inventor

Wesley Morgan

UNITED STATES PATENT OFFICE.

WESLEY MORGAN, OF CHICAGO, ILLINOIS.

GRAIN-SCOURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 444,763, dated January 13, 1891.

Application filed November 7, 1890. Serial No. 370,645. (No model.)

To all whom it may concern:

Be it known that I, WESLEY MORGAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Grain-Scouring Machine, of which the following is a specification.

This invention relates to grain-scouring machines; and it has for its object to construct a device of this class which shall be simple in construction, and by means of which the grain which is operated upon shall be subjected to the action of the scouring mechanism in a thorough and effective manner.

The invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a longitudinal vertical sectional view of a grain-scouring machine constructed in accordance with my invention. Fig. 2 is a vertical transverse sectional view taken on the line 2 2 in Fig. 1. Fig. 3 is a perspective detail view of a portion of the scouring-cylinder, showing the construction of the same.

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

1 designates a cylindrical casing, which may be constructed of sheet metal, and the ends of which are provided with bearings for a longitudinal shaft 2. The casing 1 is provided at one end with an inlet 3 for the admission of grain and at the opposite end with a spout 4, which forms the outlet.

Suitably mounted upon the shaft 2 in the end of the casing which is nearest the inlet are a series of radial arms 5, carrying cross-bars or beaters 6, which serve to agitate the grain as it enters the casing. Upon the end of the shaft which is nearest the outlet are mounted radial arms 7, carrying a cylinder 8, which I term the "scrubbing-cylinder." The body of this cylinder is made, preferably, of segments 9 of wood provided with radially-extending teeth 10, which are made of flat steel wire. In the construction of the cylinder the segments 9 are provided with perforations 11, the inner ends of which are enlarged, as shown at 12. The strips of steel

ribbon or wire from which the teeth 10 are constructed are bent or doubled, singly or in pairs, and are inserted from the inner sides of the segments through the perforations 11, the looped or doubled portions 13 being accommodated in the enlargements 12 at the inner ends of said perforations. The teeth are so arranged that their edges shall be presented to the work, the sides of said teeth being located in planes at right angles to the axis of the scouring-cylinder. By this arrangement of the teeth it will be seen that they will be held very stiffly and rigidly and prevented from yielding, except laterally, when the machine is in operation. To retain the teeth in position in the perforations of the segments of the cylinder, a lining of sheet metal or other suitable material is secured in any suitable manner to the inner sides of the segments, as shown at 14. The segmental strips of which the cylinder is composed may be connected in any suitable manner—for instance, by hoops or bands encircling the cylinder. They may, if preferred, be secured by screws or bolts to a suitably-constructed frame-work. The cylindrical metallic casing of the machine is provided throughout with cup-shaped depressions 15, which serve to engage the kernels of grain, which are thereby constantly turned and agitated, so that all sides of the kernels shall be exposed to the action of the scouring mechanism.

The operation of my invention and its advantages will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. The grain which is to be scoured is fed into the machine through the inlet 3, and is first acted upon by the beaters or agitators 6, mounted upon the radial arms 5. By the action of these agitators the grain is thrown into contact with the shell or casing and eventually reaches the scouring-cylinder, by the centrifugal action of which the grain is whirled around in the casing and subjected to the scouring action of the radial teeth 10, the kernels being meanwhile constantly turned around by the action of the cup-shaped depressions 15, so that the entire surface of each kernel shall be operated upon by the teeth of the scouring-cylinder. The grain eventually escapes through

the spout or outlet 4, and may finally be separated from the dust by means of mechanism of any suitable construction, which, however, forms no part of my present invention.

5 Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a machine for scouring grain, the combination of a cylindrical casing and an interior revolving cylinder provided with radially-
10 extending teeth constructed of flat steel wire, the sides of which are located in planes at right angles to the axis of the cylinder, substantially as set forth.

15 2. In a machine for scouring grain, the combination of a cylindrical casing provided at opposite ends with openings for the admission and escape of grain, a longitudinal shaft journaled in the ends of said casing, radial
20 arms mounted upon said shaft at the end of the casing having the inlet and provided with beaters or agitators, and a cylinder mounted upon the opposite end of the shaft and having radially-extending teeth constructed of
25 flat steel ribbon or wire with their edges presented in the direction of the rotation of the cylinder, substantially as set forth.

3. In a machine for scouring grain, the combination of a cylindrical casing provided with
30 interior cup-shaped depressions, a longitudinal

shaft mounted in said casing, radial arms extending from said shaft and carrying beaters or agitators, a cylinder mounted upon the opposite end of said shaft and having radially-extending teeth formed of flat wire with their
35 edges presented in the direction of the rotation of the cylinder, and the openings at the ends of the casing for the admission and escape of the grain, substantially as and for the purpose set forth.

4. In a machine of the class described, the herein-described scouring-cylinder, composed of a series of segments having perforations enlarged at their inner ends, the teeth mounted
40 in said perforations and composed of strips of flat steel wire or ribbon bent or doubled, as shown, and mounted with the sides of said teeth in planes at right angles to the axis of the cylinder, and the sheet-metal lining secured upon the inside of said segments, sub-
45 stantially as and for the purpose herein set forth.

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

WESLEY MORGAN.

Witnesses:

DAN. E. RICHARDSON,
THOS. W. EDWARDS.