

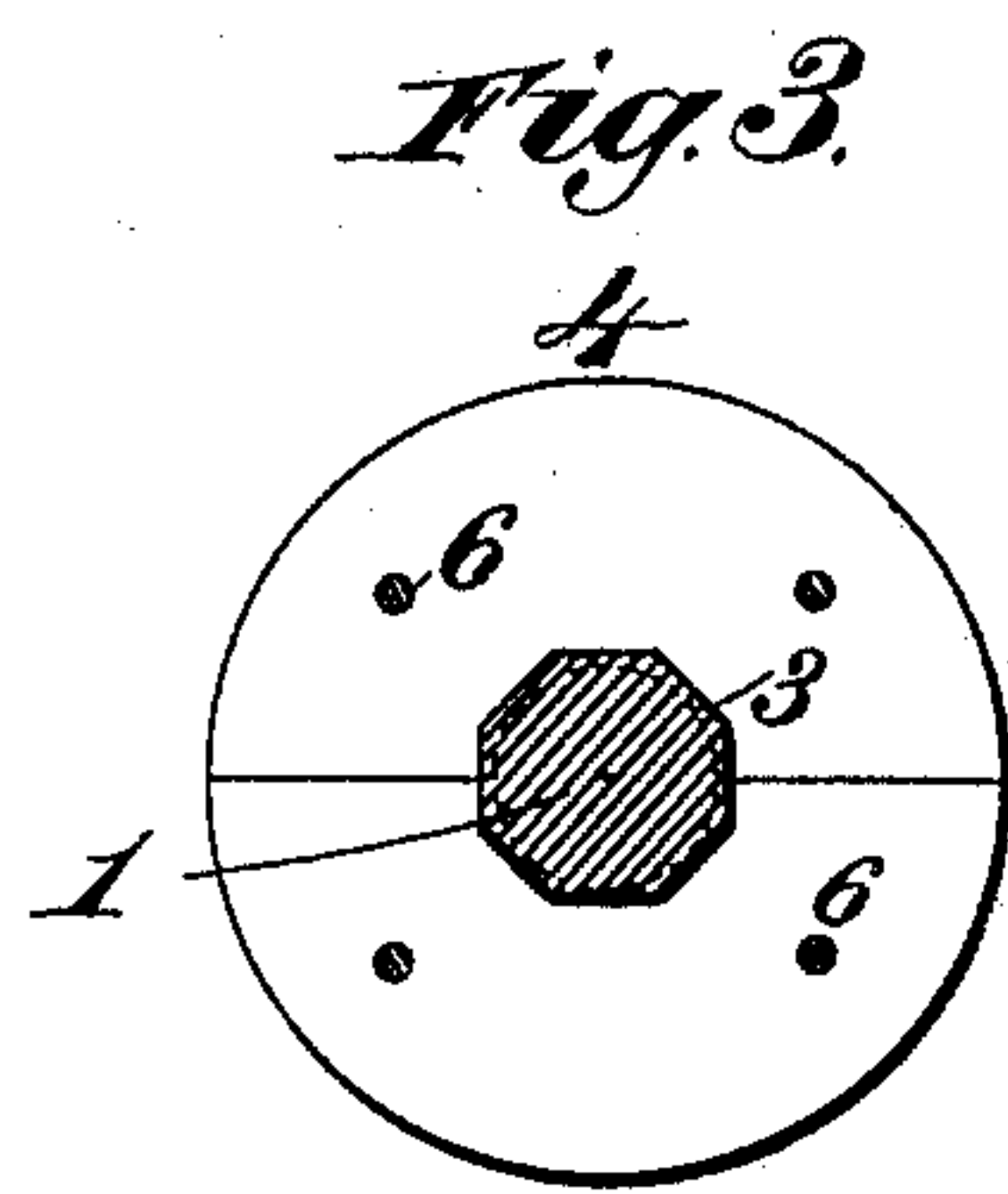
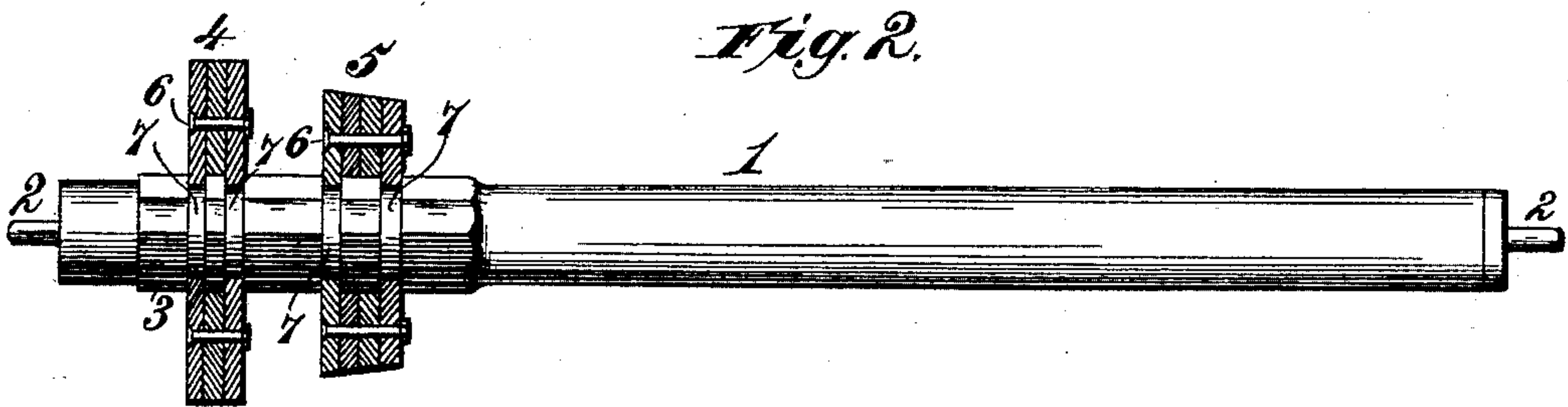
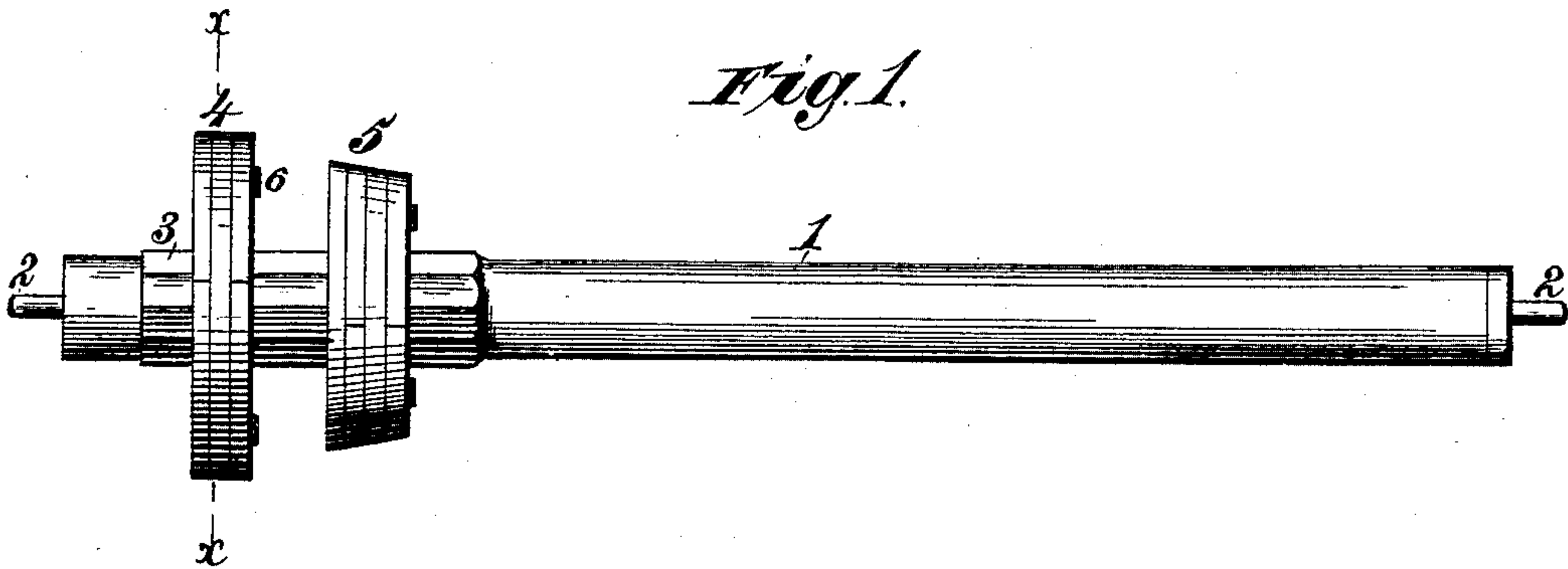
(No Model.)

C. G. COSS.

SAND REEL FOR ARTESIAN WELLS.

No. 353,205.

Patented Nov. 23, 1886.



Witnesses.
Robert Everett.
Geo. W. Rea

Inventor.
Charles G. Coss.
By *James L. Norris.*
Atty.

UNITED STATES PATENT OFFICE.

CHARLES G. COSS, OF LIMA, OHIO.

SAND-REEL FOR ARTESIAN WELLS.

SPECIFICATION forming part of Letters Patent No. 353,205, dated November 23, 1886.

Application filed June 21, 1886. Serial No. 205,799. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. COSS, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have
5 invented new and useful Improvements in Sand-Reels for Artesian Wells, of which the following is a specification.

Sand-reels for winding and unwinding a rope or cable to raise and lower the bailers or
10 sand-pumps for Artesian wells are usually composed of a wooden shaft having iron gudgeons at its ends journaled in bearings, and provided near one end with two wooden
15 wheels, which are used as friction-wheels, so that one by contact with a suitable stationary "back brake" retards the bailer as it descends into the well, and the other by contact with a friction-pulley on a secondary
20 shaft raises the bailer out of the well. It is very difficult to so rigidly attach these wheels to the wooden shaft that they will not become loose and soon hammer or wear to pieces. To avoid these objections and provide novel
25 and efficient means whereby the wheels are so attached that they will not become loose and wear into pieces are the objects of my invention, which I accomplish in the manner and by the means hereinafter described and claimed, reference being made to the accompanying
30 drawings, illustrating my invention, in which—

Figure 1 is a side elevation of a sand-reel made in accordance with my invention; Fig. 2, a longitudinal central sectional view of the
35 same; and Fig. 3, a cross-sectional view, taken on the line *x x* of Fig. 1.

In the drawings, the numeral 1 indicates the wooden shaft, having at each end a metal gudgeon, 2, by which to journal it in suitable
40 bearings, as usual. The shaft is at one end octagonal or polygonal in cross-section, as at 3, and carries at this end two separated solid wooden wheels, 4 and 5, each of which in
45 practice will bear frictionally against a friction-pulley on a secondary shaft, as usual, so that I do not deem it necessary to illustrate the secondary shaft and its pulleys.

The shaft is made from a green stick of timber and provided with a portion at one end
50 which is polygonal in cross-section, and each wheel is built up in solid form of flat pieces of wood directly from the polygonal surface to the periphery of the wheel, to form a series of sectional wooden disks, said sectional disks
55 bearing against each other and being confined

in a compact body by transverse spikes, bolts, or screws 6. The outer disk of each wheel is fitted at its central bore into an annular groove,
7, formed in the shaft, so that the wheels are held against any movement lengthwise of the 60 shaft.

As the green wooden shaft shrinks, there will arise a space between it and the inner edges of the bores of the wheels, which in ordinary
sand-reels having the reel-wheels built on a 65 round or square shaft permits a little play that soon hammers the wheels to pieces; but with a polygonal or hexagonal shaft and the solidly-built-up wheels, as in my invention, as the shaft shrinks the wheel turns just suffi-
70 cient on the shaft that the larger diameter across the octagonal points crowds against the octagonal faces of bores in the wheels, and, as bores formed by such faces are of a less diame-
75 ter than the described larger diameter of the shaft, the wheels are constantly tightened to the shaft.

The draft or pull exerted on the reel-wheels is always in one direction, and consequently there is no reverse strain to turn the wheels 80 backward and loosen them.

By my invention the wheels are constantly tightened upon the shaft, and all liability of becoming loose and hammering to pieces is avoided. 85

I am aware that a cam-wheel has been composed of radial arms secured to the faces of a shaft which is octagonal in cross-section; but such is not my invention.

I do not broadly claim a solid spokeless 90 wheel in a sand-reel for wells; nor do I broadly claim an octagonal shaft, as such features of themselves are not my invention.

Having thus described my invention, what I claim is— 95

The sand-reel for wells, consisting of a wooden shaft having the polygonal end 3 and annular grooves 7, and the reel-wheels, each comprising a series of sectional wooden disks secured together side by side with their bores 100 fitting the polygonal shaft, and having one of said disks of each wheel engaged in the annular grooves of the shaft, substantially as and for the purpose described.

In testimony whereof I affix my signature in 105 presence of two witnesses.

CHARLES G. COSS.

Witnesses:

W. L. MACKENZIE,
H. M. ERNST.