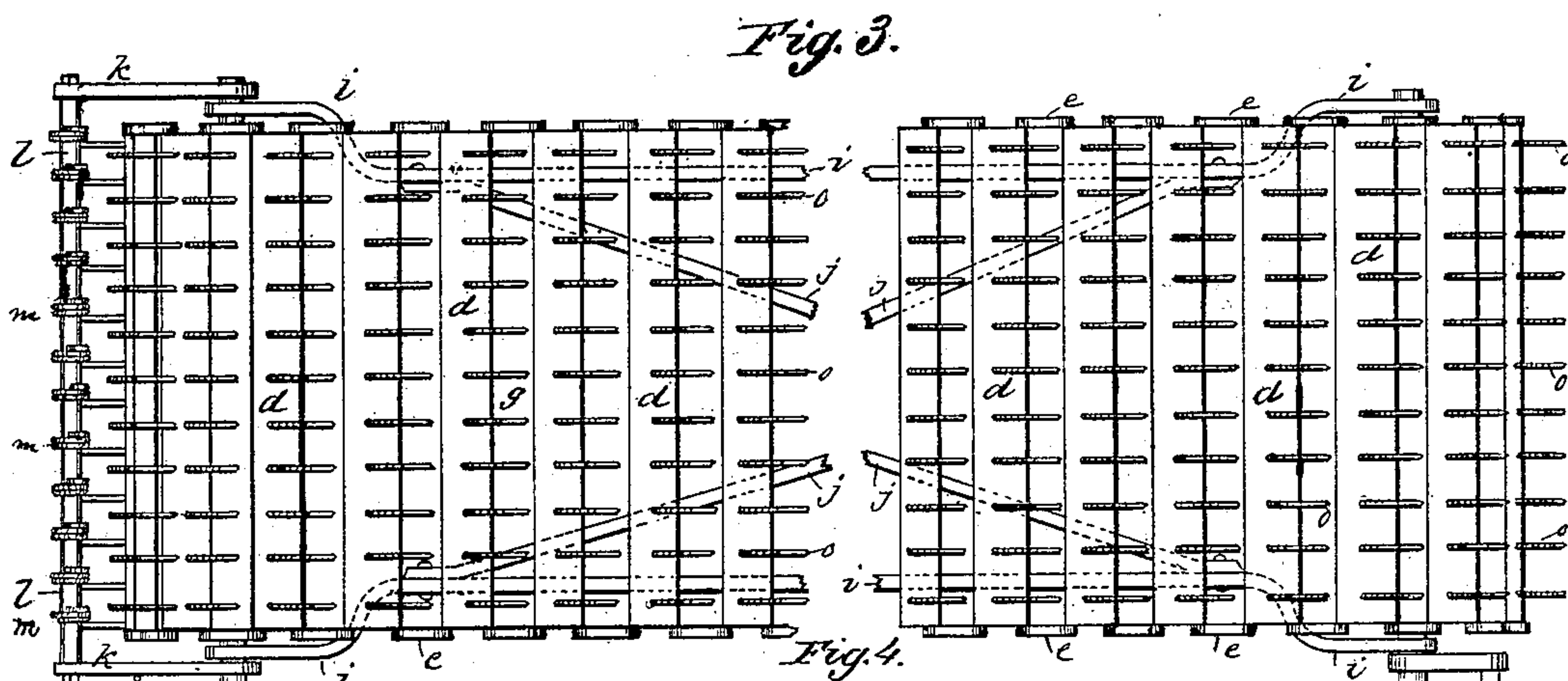
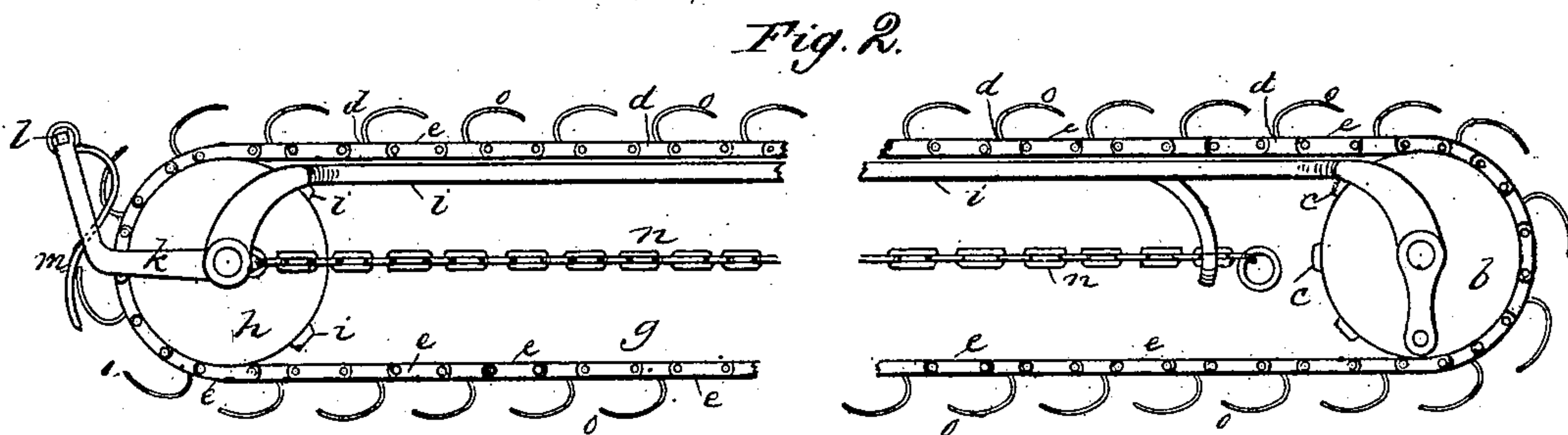
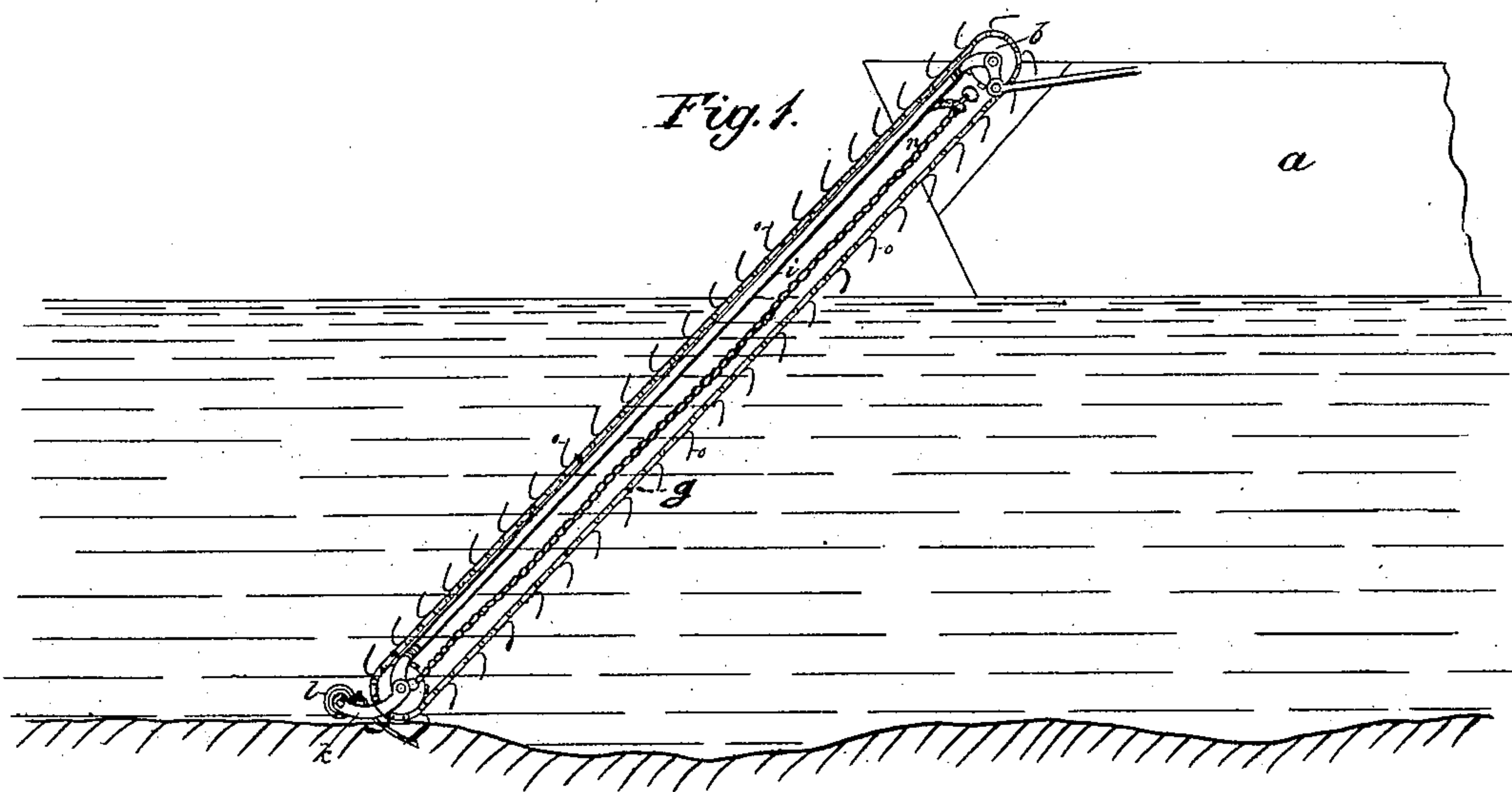


(No Model.)

W. B. COLLIER.  
OYSTER DREDGING MACHINE.

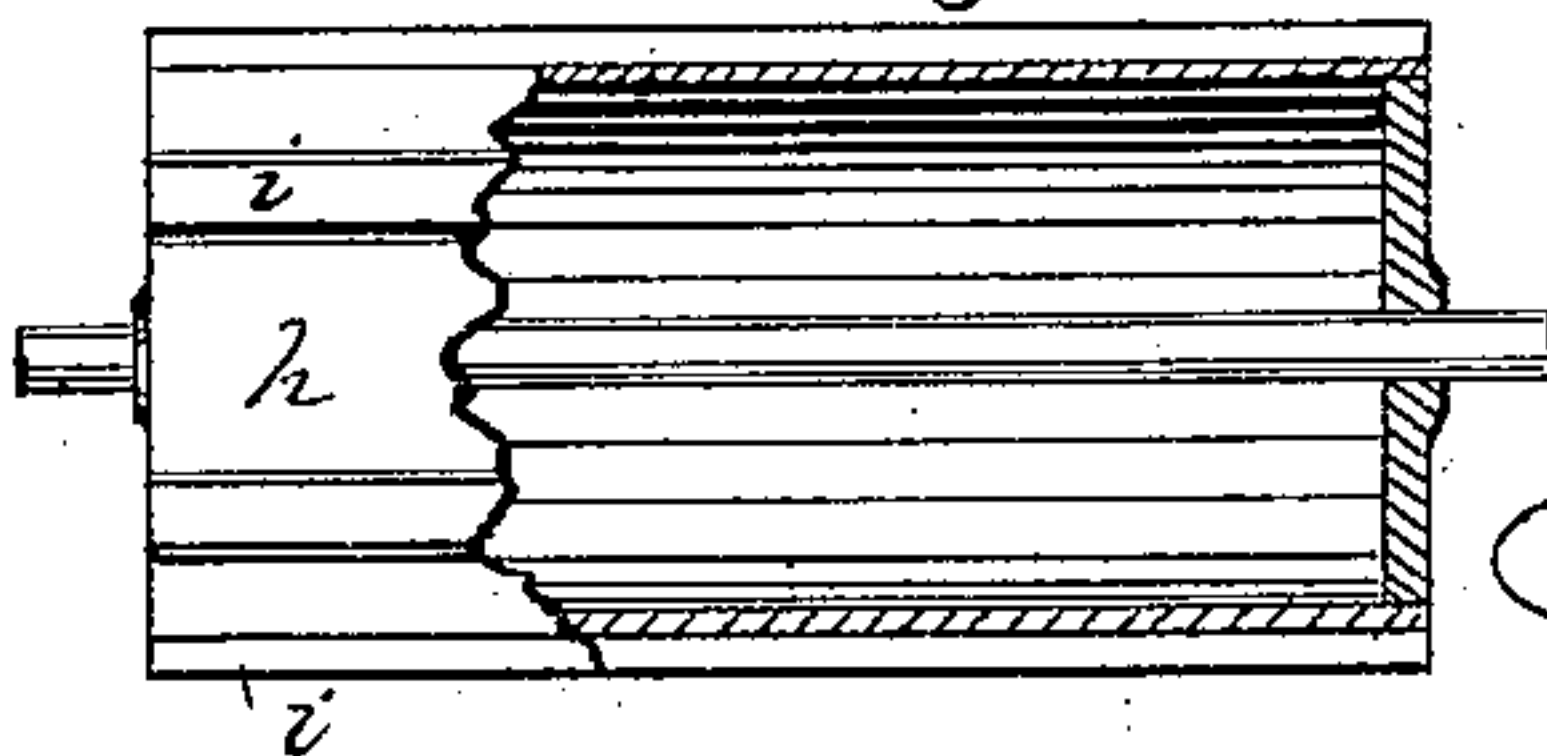
No. 246,726.

Patented Sept. 6, 1881.



WITNESSES:

*W. W. Hollingsworth*  
*W. Read*



INVENTOR:

*W. B. Collier*  
BY *Wm. L.*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

WILLIAM B. COLLIER, OF ELLICOTT CITY, MARYLAND.

## OYSTER-DREDGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 246,726, dated September 6, 1881.

Application filed July 14, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM B. COLLIER, of Ellicott City, in the county of Howard and State of Maryland, have invented a new and useful Improvement in Dredging-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of my improved dredging-machine, shown attached to the stern of a boat. Fig. 2 is an edge view. Fig. 3 is a plan view. Fig. 4 is a detail sectional view of one of the drums.

My invention relates to improvements in machines for dredging oysters or other shell-fish; and it consists of an inclined endless rake provided with tines, operated by suitable mechanism, and secured to a vessel at one end and having its opposite end resting on the water-bed to be dredged.

My invention further consists in certain details of construction, hereinafter more fully set forth.

In the accompanying drawings, *a* represents a vessel, to the stern of which is journaled in suitable bearings a cylinder, *b*, provided with longitudinal teeth *c* along its periphery.

*d d* represent a series of transverse slats connected together at their opposite ends by the links *e e*, thus forming an endless chain, *g*.

*h* represents a hollow water-tight cylinder, provided with longitudinal teeth *i* along its periphery.

The endless chain *g* passes around the cylinders *b h*, and power applied to the cylinder *b* will impart a revolving movement to the endless chain, the teeth in both cylinders engaging in the openings between the slats of the endless chain in its revolution. Each slat *d* of the endless chain is provided with a series of parallel curved tines or teeth, *o*, adapted in the revolving movement of the endless rake, having its lower end resting on the bottom, to raise the oysters or other shell-fish from the bottom of the stream and carry them into the vessel.

The lower cylinder, *h*, is made water-tight, in order to render the dredge more buoyant, and to relieve it of a part of its weight and prevent it from sinking in the mud. The up-

per cylinder, *b*, may also, if it be desired, be made hollow for the introduction of steam in winter, to remove ice from the periphery of the cylinder and its teeth, and also from the endless chain. Power is applied to the shaft of the upper cylinder in any suitable manner. The cylinders *b h* are secured together and held apart by means of the braces *i i*, secured to the shafts of both cylinders and the diagonal braces *j j*.

*k k* represent arms secured to the axle of the lower cylinder, *h*, at its opposite ends.

*l* represents a rake-head, preferably made of wood, so that, if broken, it may readily be replaced, and journaled in the outer ends of the arms *k*.

*m m* represent rake-teeth, each formed of an elastic piece of metal wound around the rake-head, and adapted to yield when meeting a heavy obstruction—as a rock, &c.—and at the same time adapted in the forward movement of the vessel to rake oysters or other shell-fish and deliver them to the curved teeth of the endless rake, the latter also conveying oysters to the vessel independently of the stationary rake. The teeth of the stationary and endless rakes break joints with each other. The teeth of the endless rake are preferably spring-teeth.

*n* represents a cable, by means of which the dredge is hauled on board the vessel when desired.

I am aware that excavators and dredging-machines have heretofore been provided with an endless belt having curved buckets secured thereto, which, in the revolution of the belt, are adapted to excavate and raise the excavated soil, and I therefore lay no claim to such construction, which differs from my invention in that I employ a series of curved tines or teeth, instead of buckets, on my endless belt, which do not raise the mud at the bottom of the stream dredged, as in the inventions disclaimed, but separate the mud from the oysters and raise only the oysters, the mud passing between the tines or teeth.

I claim as my invention—

1. The combination, with a vessel, of an inclined endless oyster-rake having hooked tines, substantially as described, and for the purpose set forth.

2. The combination, with a vessel and an inclined endless rake having hooked tines, of

a stationary rake provided with tines and secured to the lower end of the endless rake, substantially as described.

3. The combination, with the vessel *a*, endless rake *g*, armed with teeth, and cylinder *b*, of the hollow water-tight cylinder *h*, substantially as described.

4. The combination, with the vessel *a*, endless rake *g*, having curved tines *o*, and hollow

cylinders *b h*, of the arms *k k*, rake-head *l*, and spring rake-teeth *m*, substantially as described, and for the purpose set forth.

The above specification of my invention signed by me this 12th day of July, A. D. 1881.

W. B. COLLIER.

Witnesses:

SOLON C. KEMON,

CHARLES W. PETTIT.