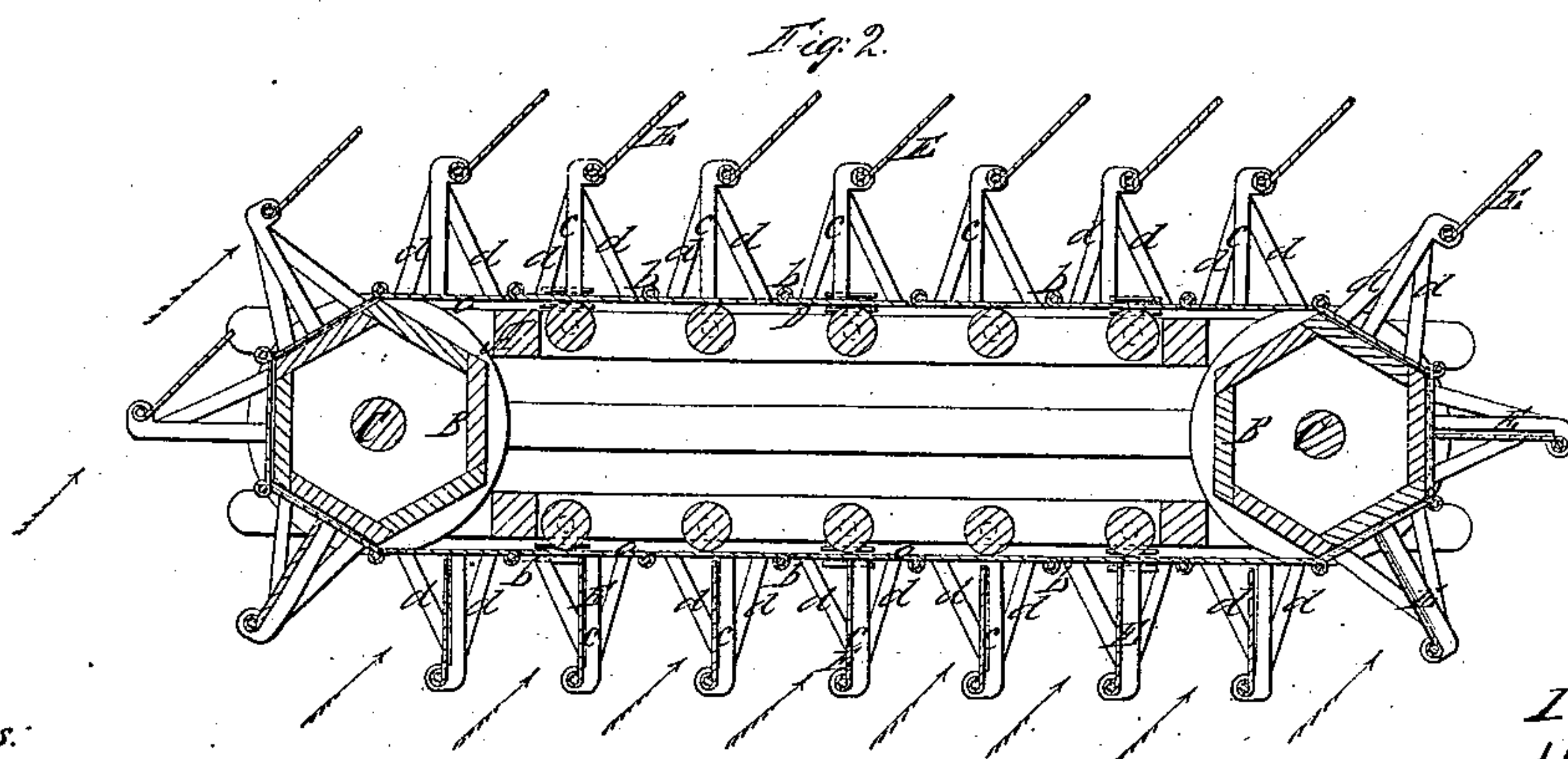
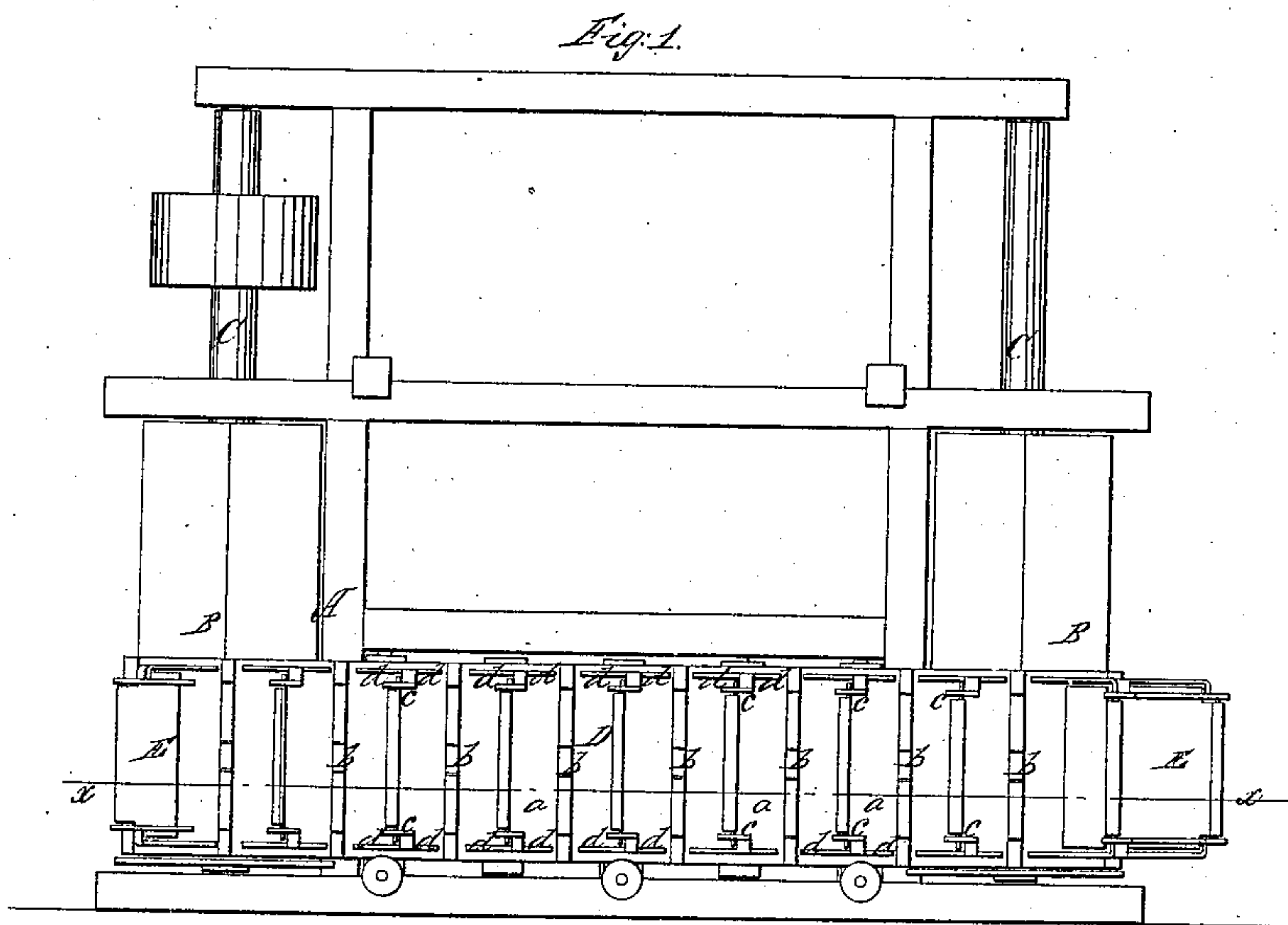


M Devoe,
Water Wheel.

N^o 54,128.

Patented Apr. 24, 1866.



Witnesses:
Thos. Cusack
Wm. Brewin

Inventor:
M. Devoe
By J. H. Smith

UNITED STATES PATENT OFFICE.

MATTHIAS DEVOE, OF BIG SANDY P. O., NEBRASKA TERRITORY.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 54,128, dated April 24, 1866.

To all whom it may concern:

Be it known that I, MATTHIAS DEVOE, of Big Sandy P. O., in the county of Jones and Territory of Nebraska, have invented a new and Improved Water-Wheel; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, a horizontal section of the same, taken in the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved water-wheel of that class which are designed for obtaining power from the current of a stream, and where it is impracticable to build dams for the purpose of obtaining power by means of a head and fall. These devices, which are commonly termed "current-wheels," are extremely useful in those cases where there are strong currents, as machinery may be driven without the expense of constructing dams, and they also may be advantageously used in tide-mills.

My invention consists in attaching a series of swinging buckets to an endless belt composed of plates connected together by joints or hinges and fitted on polygonal rollers, the whole being arranged in or on a suitable framing and in such a manner as to obtain a large percentage of the power of the water.

A represents a framing, which may be constructed of wood, and in a strong substantial manner, to support the working parts. B B are two polygonal rollers, which are fitted in said framing, parallel with each other, and upon vertical shafts C, from either or both of which the power is taken to drive the machinery.

D represents an endless chain of plates. These plates are designated by *a*, and they may be of either wood or metal, and are connected together by joints or hinges *b*, the length of the plates being equal to the width of the sides of the polygonal rollers B B.

Every alternate plate *a* has two bars, *cc*, projecting from its outer surface, one at each side at right angles. These bars *c* are braced by bars *d d*, and between the outer parts of the bars *c* buckets E are suspended and allowed to swing freely, said buckets being a trifle wider than the bars *c c*, so that they cannot swing between them.

The framing A is placed upon any suitable supports in the stream, and in such a manner as to have an oblique position relatively with the current, so that the latter can act favorably against all of the buckets at one side of the chain of plates D, as indicated by the arrows in Fig. 2. The buckets at the side of the chain D thus acted upon are retained by the bars *c*, but at the opposite side of the chain they swing outward, so as not to present any appreciable degree of resistance to the current. The chain rests upon friction-rollers *d*, attached to the framing, and upright friction-rollers *e* are also placed in the framing to form a bearing-surface for the chain, as shown clearly in Fig. 2.

The buckets, it will be seen, swing or work automatically under the action of the current, and without any violent slamming, which would have a tendency to wear and derange them.

The buckets may be constructed of either metal or wood. The device is extremely simple and efficient, may be constructed at a moderate cost, and there are no parts liable to get out of repair.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The endless chain of plates D, provided with swinging buckets E, and placed around polygonal rollers B B, fitted in a suitable framing, A, all arranged to operate substantially in the manner as and for the purpose herein set forth.

MATTHIAS DEVOE.

Witnesses:

PETER HAMMA,
R. E. AUTREY.