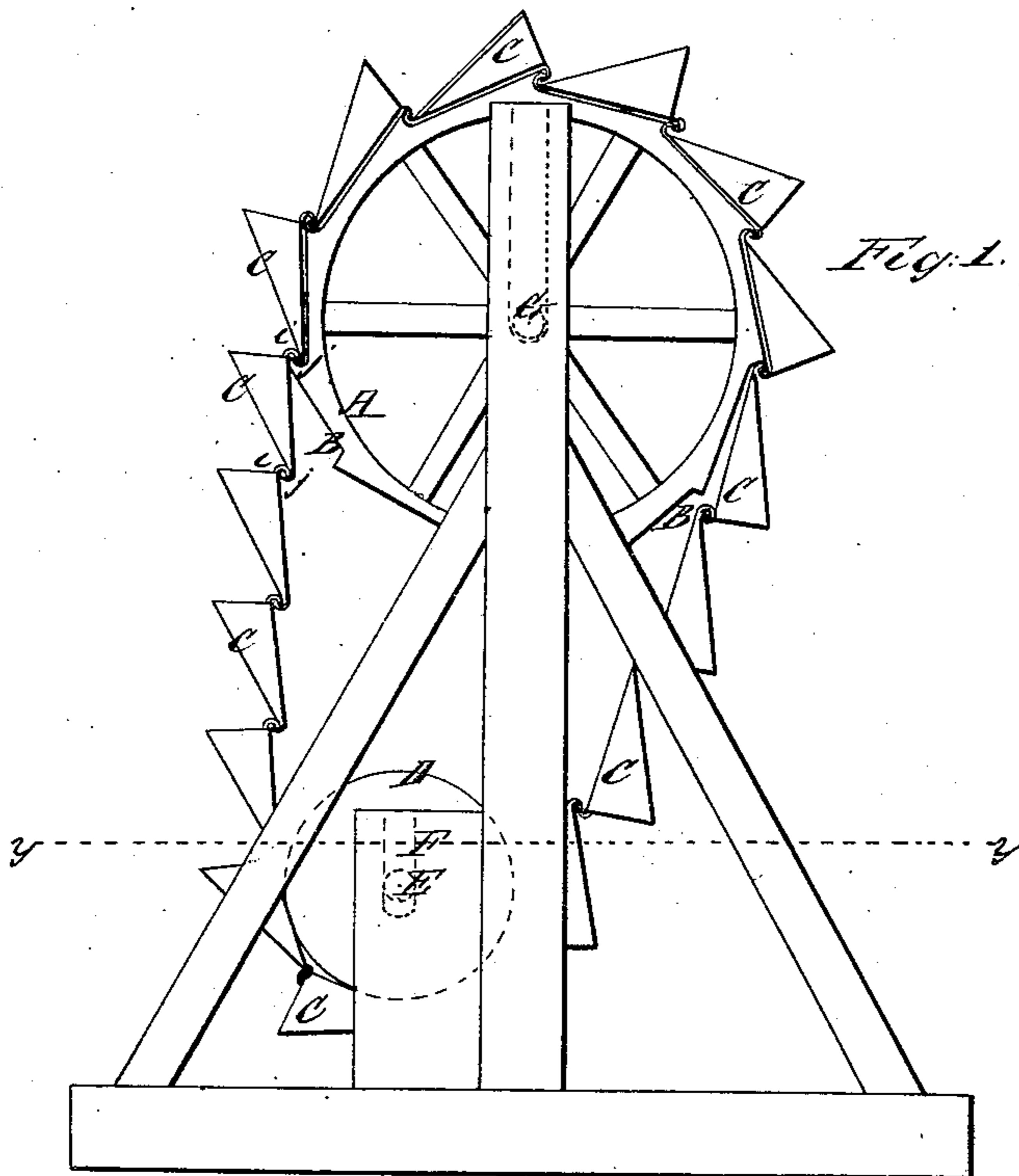


# *J. Blocher,* *Water Wheel,*

*Nº 29,457.*

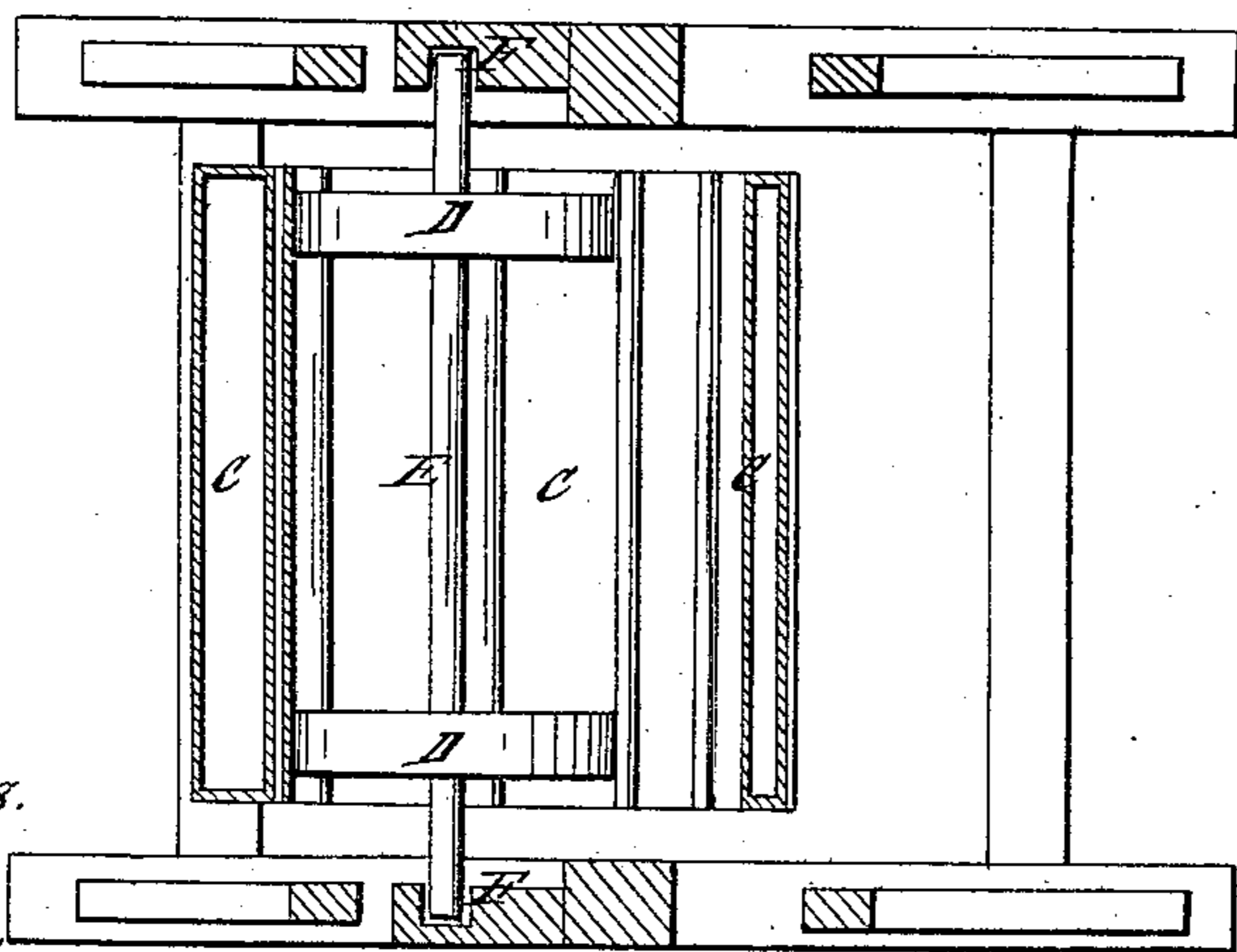
*Patented Aug. 7, 1860*



*Fig. 1.*



*Fig. 3.*



*Fig. 2.*

*Witnesses.*

*Edward A. Allen*

*Wm. H. H. H. H.*

*Wm. H. H. H.*

*Inventor*

*John Blocher*

# UNITED STATES PATENT OFFICE.

JOHN BLOCHER, OF WILLIAMSVILLE, NEW YORK.

## WATER-WHEEL.

Specification of Letters Patent No. 29,457, dated August 7, 1860.

*To all whom it may concern:*

Be it known that I, JOHN BLOCHER, of  
Williamsville, in the county of Erie and  
State of New York, have invented a new  
5 and useful Improvement in Water-Wheels;  
and I do hereby declare that the following  
is a full, clear, and exact description of the  
same, reference being had to the accompany-  
ing drawings, forming a part of this speci-  
10 fication, in which—

Figure 1 represents a side view. Fig. 2,  
a horizontal section, and Fig. 3, a section of  
a detached portion of the machine.

Similar letters of reference, in each of  
15 the several figures indicate corresponding  
parts.

The nature of my invention consists in  
the combination of a number of ratchet  
toothed wheels arranged upon one shaft, a  
20 chain of buckets hinged together by knife  
edged joints formed of curved flanges at  
top and bottom of the buckets and self-ad-  
justing bearings of a guide roller shaft for  
the purposes hereinafter to be described.

25 To enable others skilled in the art, to  
make and use my invention, I will proceed  
to describe its construction and operation.

A chain of buckets C, is supported upon  
two or more wheels A, of a horizontal shaft  
30 G, and its lower part is guided by rollers D,  
upon a shaft E, near the surface of the es-  
cape water. The shaft E, has its bearings  
in vertical slots F, in the frame of the ma-  
chine and the weight of the shaft and rollers  
35 E, D, keep them down so that the surface of  
the rollers bears against and serves as a  
guide for the buckets forming the chain.

The wheels A, have ratchet tooth shaped  
serrations around their circumference, the  
40 recesses serving as bearings for the lower  
ends of the buckets, while the straight sur-  
faces extending each from the top of one re-  
cess to the bottom of the next recess, serve  
to support the backs of the buckets. The  
45 length of the straight surface between each  
two recesses is equal to the length of one  
bucket.

The top of the back part of each bucket  
is provided with a curved flange *j*, and its  
50 lower edge is also formed into a similar

curved flange *j*, only that the upper flange  
is curved backward and downward, while  
the bottom flange is curved forward and  
upward. The top flange of one bucket is  
hung into the bottom flange of the bucket 55  
above it, and so forth, whereby a continuous  
chain of buckets is formed. The joint be-  
tween each pair of buckets being similar to  
a scale beam or knife edge joint. This form  
of joint obviates friction and dispenses with 60  
an axial rod.

At times of high or low water, the chain  
may be shortened or lengthened by taking  
out or inserting a number of buckets and  
hooking the ends of the chain together. It 65  
will be seen that this can be done without  
difficulty by just unhooking the buckets  
which it is desired to remove, and without  
the necessity of removing any other portion  
of the machine except these buckets. 70

The rollers D, will adapt themselves to  
any length of chain as the slot F, forming  
the bearing of the roller shaft E, allows  
the latter to descend or rise in conformity  
to the length of chain. Thus it will be seen 75  
the lower part of the chain can always and  
with great ease and rapidity be adjusted so  
as to suit the higher or lower level of the  
escape water.

Another great advantage of this arrange- 80  
ment is that any defective bucket may be  
removed and another one inserted without  
stopping the machine any longer than the  
time necessary to remove one bucket and in-  
sert another one, and without the necessity 85  
of waiting until the defective bucket has  
been repaired.

What I claim as my invention, and desire  
to secure by Letters Patent, is—

The combination of a number of ratchet 90  
toothed wheels arranged upon one shaft, a  
chain of buckets hung together by knife edge  
joints formed of curved flanges at top and  
bottom of the buckets and self adjusting  
bearings of a guide roller shaft, substantially 95  
as and for the purposes set forth.

JOHN BLOCHER.

Witnesses:

R. W. FENWICK,  
GOODWIN T. AT LEE.