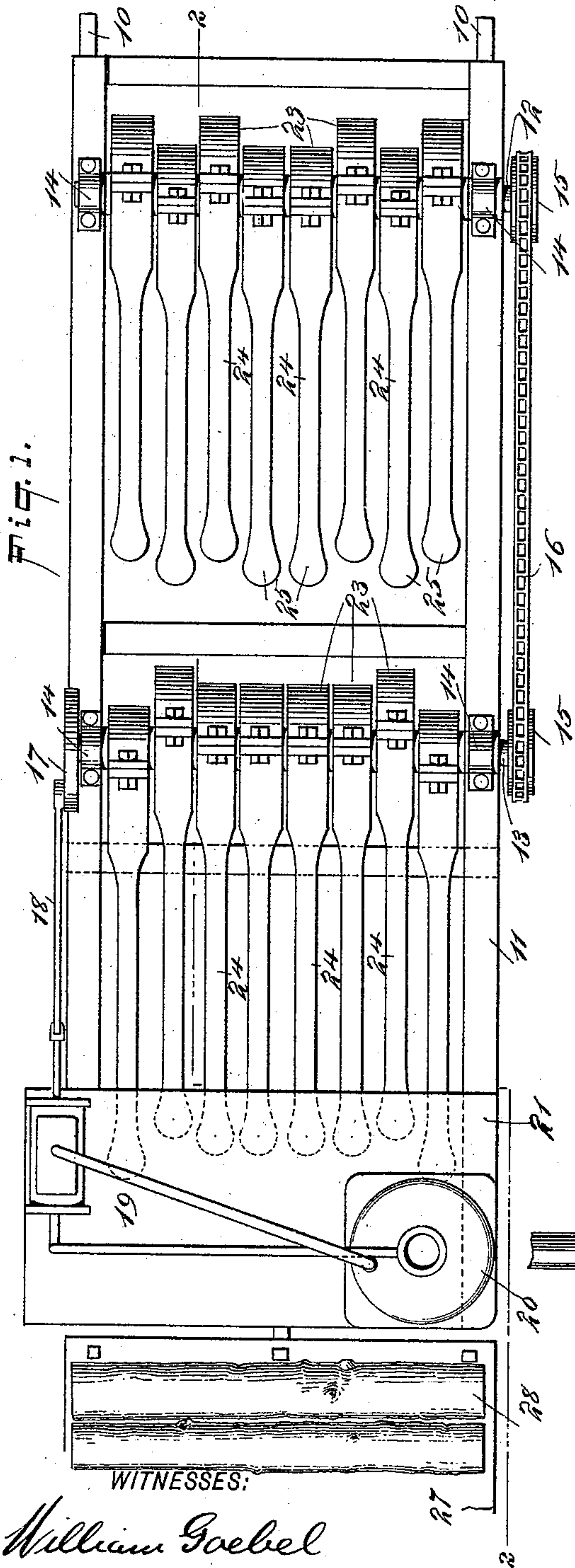


(No Model.)

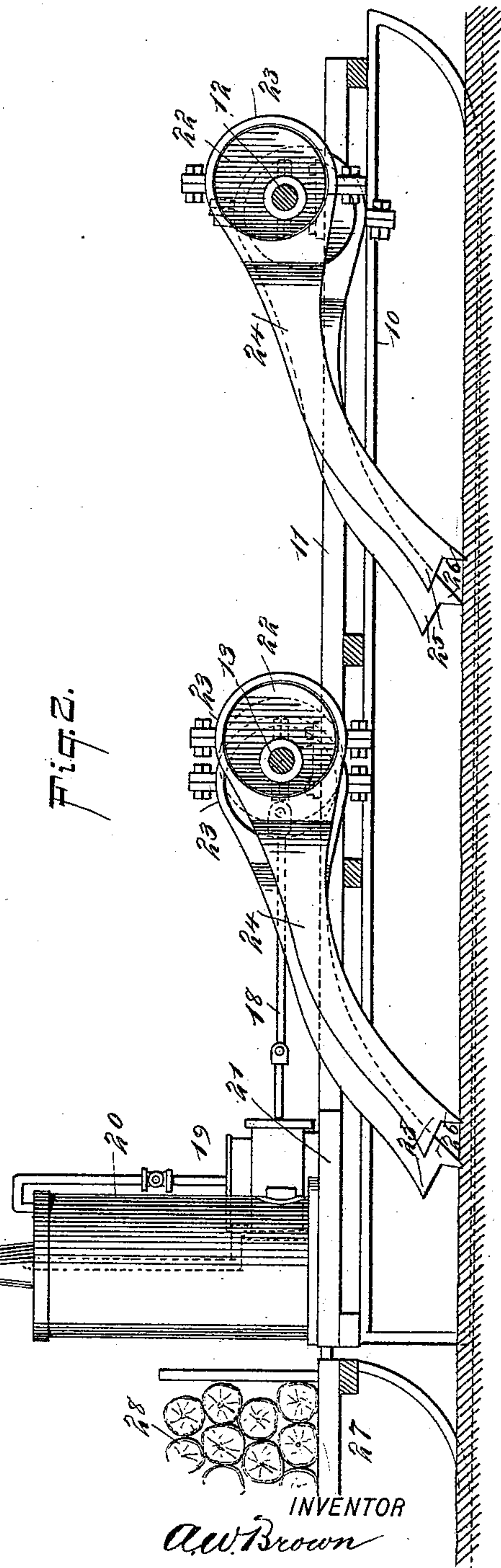
A. W. BROWN.  
LOGGING APPARATUS.

No. 525,944.

Patented Sept. 11, 1894.



WITNESSES:  
*William Goebel*  
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INVENTOR  
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# UNITED STATES PATENT OFFICE.

ANDERSON W. BROWN, OF RHINELANDER, WISCONSIN.

## LOGGING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 525,944, dated September 11, 1894.

Application filed November 9, 1893. Serial No. 490,428. (No model.)

*To all whom it may concern:*

Be it known that I, ANDERSON W. BROWN, of Rhineland, in the county of Oneida and State of Wisconsin, have invented a new and  
5 Improved Logging Apparatus, of which the following is a full, clear, and exact description.

My invention relates to improvements in an apparatus which is primarily designed for drawing logs over icy roads, although it may  
10 be used for drawing other material. In logging countries where my apparatus is to be used, the road is made icy by sprinkling water on it and permitting the water to freeze, after which ruts are cut in which the runners  
15 of the sleighs may run.

The object of my invention is to produce a simple apparatus which is adapted to run on roads of this kind and draw after it heavy loads, and which is provided with a series of  
20 legs operated by a motor on the apparatus and adapted to engage the ice in the road and push the apparatus forward, the legs being arranged so that some of them will always be pushing and so that they will push  
25 evenly and cause the apparatus to go straight ahead.

To these ends my invention consists of certain features of construction and combinations of parts, as will be hereinafter described  
30 and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both the views.

35 Figure 1 is a plan view of the apparatus embodying my invention; and Fig. 2 is a longitudinal section on the line 2—2 of Fig. 1.

The apparatus is provided with a sleigh 10 which may be of any ordinary construction,  
40 either after the form of common bob-sleighs or single sleighs, and on the sleigh is a bed frame 11 which carries transverse shafts 12 and 13, these being mounted in suitable bearings 14 and these shafts are provided with  
45 sprocket wheels 15 which are connected by a chain 16, and one of the shafts is provided with a crank wheel 17 which connects by means of a pitman 18 with an engine 19 which may be of any approved form and  
50 which, together with its boiler 20, is mounted on a platform 21 carried by the bed frame 11.

Each shaft 12 and 13 is provided with a series of eccentrics 22, these being differently arranged on the shafts, as shown in the drawings, and the eccentrics are encircled by the  
55 usual eccentric straps 23, which are formed on rearwardly projecting legs 24, each leg terminating at its rear end in a foot 25 which is somewhat larger in cross section than the  
60 body portion of the leg to prevent it from clogging; and each foot is provided with a swallow-tail cut which forms a toe 26 adapted to engage the ice in the road, and this toe may be a part of the leg or may be inserted or ad-  
65 justable and fastened to the leg. This arrangement of the foot causes it to readily dig into the ice and it provides for clearance, so that the foot cannot become clogged and inoperative.

The eccentrics are arranged in pairs, that  
70 is, so that two eccentrics at equal distances from the center of the shaft will, at the same time, actuate the legs connected with them so as to cause two feet, at equal distances  
75 from the center of the sleigh, to simultaneously engage the ice and thus prevent the sleigh from slewing. The eccentrics on the two shafts are also arranged with relation to each other, so that at all times two feet will  
80 be pushing on the ice, and the angles of the legs are such that the legs will not shift on their shafts to any appreciable extent, but will have a tendency to throw the sleigh  
forward.

The sleigh 27 or a train of sleighs may be  
85 coupled to the rear end of the sleigh 10 and loaded with logs 28, so that when the sleigh 10 is propelled a large quantity of logs may be drawn after it.

It will be seen that when the engine is set  
90 in motion the legs 24 will operate in pairs, one pair after the other, so that the whole apparatus will be propelled, and it will be understood that the apparatus may be pushed  
95 over any ordinary winter road, that the sleigh and the bed frame may be of any approved construction, that any suitable motor may be used for working the legs, and that the load  
100 may be attached to the sleigh 10 in any convenient manner without affecting the principle of my invention.

Having thus fully described my invention, I

claim as new and desire to secure by Letters Patent—

1. The combination with a sled, and motor  
mounted thereon, of two shafts mounted on  
5 the sled, each shaft being provided with a  
sprocket wheel at one end, and one of them  
with a crank, a chain passing around the  
sprocket wheels, a pitman connecting the  
crank with the motor, eccentrics arranged in  
10 pairs on each shaft, and legs having straps  
at their upper ends encircling the eccentrics  
and provided with feet at their lower ends,  
substantially as described.

2. The combination with a sled, an engine  
15 mounted thereon, two shafts mounted on the

sled, each shaft being provided with a  
sprocket wheel and one of them with a crank,  
a chain passing around the sprocket wheels,  
and a pitman connecting the crank with the  
engine, of eccentrics arranged in pairs on 20  
the shaft and legs having straps at their up-  
per ends encircling the eccentrics and pro-  
vided with feet at their lower ends, each foot  
being provided with swallow-tail cut forming  
a toe, substantially as herein shown and de- 25  
scribed.

ANDERSON W. BROWN.

Witnesses:

GEO. R. REED,

E. O. BROWN.