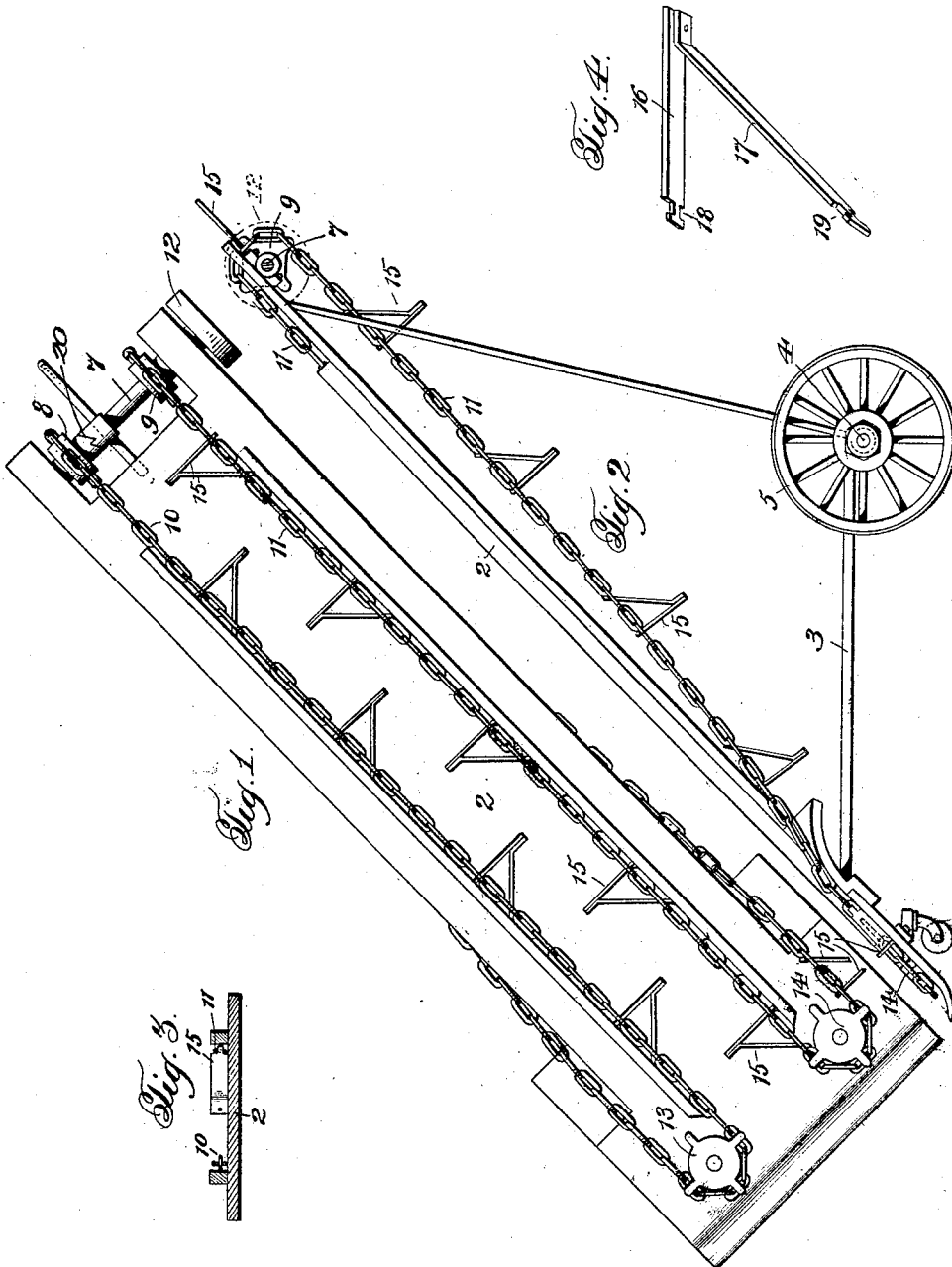


J. R. ZYGALINSKI.
MECHANICAL SHOVEL.
APPLICATION FILED FEB. 18, 1914.

1,109,194.

Patented Sept. 1, 1914.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN R. ZYGALINSKI, OF WALLINGFORD, CONNECTICUT.

MECHANICAL SHOVEL.

1,109,194.

Specification of Letters Patent.

Patented Sept. 1, 1914.

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To all whom it may concern:

Be it known that I, JOHN R. ZYGALINSKI, a citizen of the United States, residing at Wallingford, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Mechanical Shovels; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1 a top or plan view of a mechanical shovel constructed in accordance with my invention. Fig. 2 a side view of the same. Fig. 3 a sectional view on the line *a-b* of Fig. 1. Fig. 4 is a perspective view of one of the buckets, detached.

This invention relates to an improvement in mechanical shovels, such as are particularly adapted for loading coal from a pile into a cart, the object of the invention being to provide a simple device whereby the buckets or carriers will successively be presented in proper position for carrying the material from the bottom of a chute to the top; and the invention consists in the construction hereinafter described and particularly recited in the claims.

In carrying out my invention, I employ a chute 2 of suitable length which is mounted upon a frame 3 so as to stand in an inclined position, and this frame is preferably mounted upon an axle 4 having wheels 5 so that the device may be readily moved. At the lower end of the chute are small rollers or casters which assist in readily moving the device. At the upper end is a horizontal shaft 7 upon which are fixed sprocket or chain engaging wheels 8 and 9 over which chains 10 and 11 pass and so as to engage therewith. Any suitable means may be provided for turning the shaft 7, as, for instance, through a driving pulley 12. At the lower end of the chute are two sprocket or chain engaging wheels 13 and 14 which turn on axles arranged substantially ver-

tically or at right angles to the sprockets 8 and 9, and the chains 10 and 11 pass around these sprockets 13 and 14. At predetermined intervals the chains are provided with buckets 15 consisting of carrying-arms 16 and braces 17. The ends of these arms and braces are respectively formed with T-ends 18 and 19 which engage with links of the chains 10 and 11, and so that they may be readily replaced or changed in position when desired. As the shaft 7 is driven the chains are drawn over the sprockets 8 and 9 and the buckets gradually drawn up the chutes so as to carry with them any material into which the lower end of the chute projects, as for instance, a pile of coal. As the buckets pass the sprockets 8 and 9, they will naturally drop downward as shown in Fig. 2 of the drawings. Then as the buckets are drawn around the sprockets 13 and 14, they are brought into proper position to catch into the substances to be raised, and rest flat upon the surface of the chute so as to carry the material upward. If desired, a clutch 20 might be arranged on the shaft 7 so that the sprocket wheel 8 might be thrown out of action in case it was desired to use only one chain.

I claim:—

A mechanical shovel comprising a chute, a frame adapted to support the chute in an inclined position, a horizontally arranged driving shaft at the upper end of the chute, two chain engaging wheels on said driving shaft, chain engaging wheels at the lower end of said chute turning on axles at right angles to the driving shaft, chains passing over said wheels, and buckets carried by said chains the buckets on one chain extending toward the buckets carried by the other chain.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

JOHN R. ZYGALINSKI.

Witnesses:

H. W. DAVIS,
MICHAEL T. DOWNES.