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GEORGE WESTINGHOUSE.

Improvement in Threshing Machines.

No. 122,420.

Patented Jan. 2, 1872.

Fig: 1.

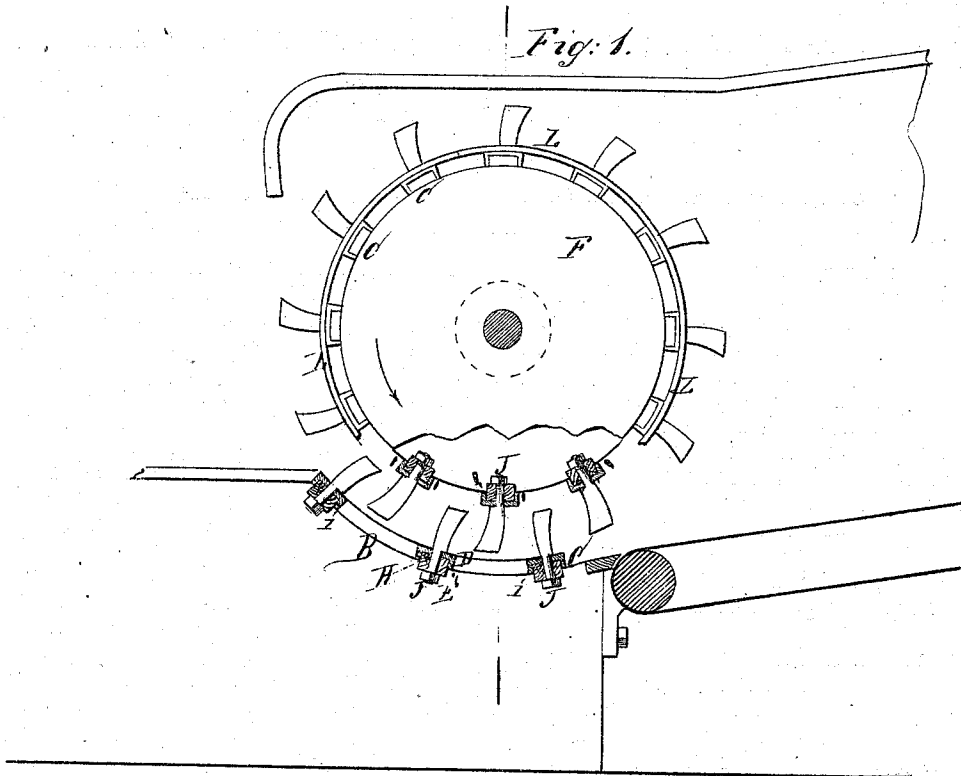
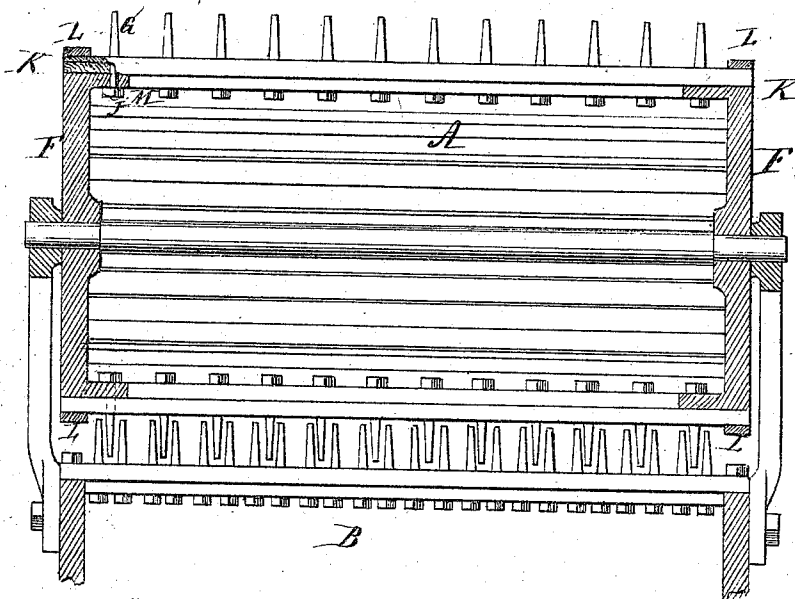


Fig: 2.



Witnesses.
C. Mahler.
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UNITED STATES PATENT OFFICE

GEORGE WESTINGHOUSE, OF SCHENECTADY, NEW YORK.

IMPROVEMENT IN THRASHING-MACHINES.

Specification forming part of Letters Patent No. 122,420, dated January 2, 1872.

To all whom it may concern:

Be it known that I, GEORGE WESTINGHOUSE, of Schenectady, in the county of Schenectady and State of New York, have invented a new and useful Improvement in Thrashing-Machines; and I do hereby declare the following to be 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 drawing forming a part of this specification, in which drawing—

Figure 1 is an end view of a cylinder and concave of a thrashing-machine, which shows my invention. Fig. 2 is an axial section of the same.

Similar letters indicate corresponding parts.

My invention relates to the cylinder and concave of thrashing-machines; and consists in a compound tooth-bar composed of channel-iron, so called, combined with a backing of wood or equivalent material in such a manner that the channel-iron and backing are held together by the teeth, whose shanks penetrate both, and are properly fastened by nuts or other means at the rear of the backing. The teeth also, by this construction, are held firmly in place, being supported on all sides by the sides of the holes in the compound bar.

The drawing represents end and side views of my compound-bar applied both to a cylinder and concave of a thrashing-cylinder, the cylinder being marked A and the concave B. The letter C designates my compound tooth-bar, which consists of a continuous bar, D, of channel-iron, extending the whole length of the cylinder and concave, respectively, with flanges 1 1 turned inward. E is a bar, of wood or equivalent elastic material, one end of which is fitted snugly in the channel between the flanges 1 1, as shown in Fig. 1, where a portion of the disk or end plate F of the cylinder is broken away to show more clearly cross-sections of some of the bars of the cylinder. The bars of the concave are also seen in Fig. 1 in cross-section. The letter G designates teeth, whose shanks H extend through holes made for them through the face of the channel-iron and through the backing E, the bases of the teeth having shoulders I, which bear against the face of the channel-iron, while their shanks have screw-threads cut on them at their ends

to receive fastening-nuts J outside of the backing E. By means of this construction a compound tooth-bar is produced whose parts are firmly secured to each other, the backing being partly embraced by the flanges of the channel-iron, and both fastened to each other by means of the teeth, while the teeth also are firmly held and supported on all sides and securely fastened to the bar, each tooth being mounted independently of the other, so that it can be removed for repair or be changed without affecting other teeth or deranging the tooth-bar. The tooth-bar is fitted to the cylinder by means of a rabbet and shoulder, K, formed on the backing E at the ends of the compound-bar, as is shown in Fig. 2, where a flange, 1, at one end of the bar is broken away to expose the shoulder to view. The shoulder K bears against the inner face of the end-plate, and the rabbeted or reduced end of the bar rests in a recess made for it in the edge of said plate, and is held in place by a band, L, and also by the shank of the last tooth of the bar, which passes through the bar and through an inside flange, M, that projects from the inner side of the end plate under the compound bar beneath its shoulder K. Each end of the compound bar is supported and secured in a similar manner. The bar is surrounded also between its ends by one or more bands, L, and, if desired, is supported from within by a disk or disks similar to the end plates or by radial arms. The holes through the channel-iron for the teeth have square sides, to correspond with the shape of that part of their shanks, so as to prevent the teeth from turning. The tooth-bars of the concave are confined and supported in the usual manner in grooves in the frame beneath the cylinder.

My tooth-bar combines simplicity and economy of construction with great strength and elasticity. The teeth are supported independently of each other and can be changed separately; and while they are firmly supported by the wooden backing E yet the elastic character of the backing is imparted to the teeth and to the whole bar, so that the teeth and the bar are not so liable to be broken or the fastenings of the teeth get loose by the resistance to which they are subjected in the operation of the machine. Another advantage of my in-

vention consists in the fact that the teeth and their shanks can be of uniform length, so that the trouble which comes from having them of different lengths, as has been heretofore common, is avoided. Another advantage of my invention consists in the preservation of the wood backing from cracking or splitting from the strain on the teeth or other cause, the backing being supported and strengthened by the flanges of the channel-iron so that no additional devices are required for that purpose.

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

1. The compound tooth-bar C, consisting of the channel-iron D provided with inward-turned flanges 1 1, in combination with the

backing E, teeth G, and nuts or fastenings J, arranged substantially as and for the purpose set forth.

2. The end-plates F of the cylinder A formed with the inside flange, in combination with the shoulder K, compound bar C, backing E, and tooth G, all constructed and arranged and united together for operation substantially as described.

This specification signed by me this 24th day of October, 1871.

GEORGE WESTINGHOUSE.

Witnesses:

J. VAN SANTVOORD,
CHARLES WAHLERS.

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