

UNITED STATES PATENT OFFICE.

JOHN WOOD AND ALFRED STORM, OF MIDDLETOWN, NEW YORK.

IMPROVEMENT IN FULLING-MILLS.

Specification forming part of Letters Patent No. **212,640**, dated February 25, 1879; application filed December 11, 1876.

To all whom it may concern:

Be it known that we, JOHN WOOD and ALFRED STORM, of Middletown, in the county of Orange and State of New York, have invented certain new and useful Improvements in Fulling-Mills; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

Our invention relates to that class of fulling-mills in which the hammers are connected to pivoted levers, and, after being raised, fall of their own gravity; and the nature of our invention consists in the construction and arrangement of devices, as will be hereinafter more fully set forth, and pointed out in the claims.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and which represents a perspective view of our invention.

D represents the fulling-mill, with the levers or handles P P pivoted in the upper portion of a frame connected to said mill.

C C are the hammers, which are placed on the handles or levers P, and may be adjustable thereon and fastened by any suitable or convenient means. The lower ends of the handles project beyond the hammers, and upon their extreme ends are arranged rollers B B.

One or more of these rollers, which may be of wood, rubber, or other suitable material, are journaled in side plates attached to the front end of each handle.

E represents a horizontal shaft, mounted in suitable bearings, and to which the power is applied in any convenient manner. Upon the shaft E are secured the lifting-arms F F, which are curved substantially in the manner shown in the drawing. Each arm F is provided with a smaller or auxiliary arm, F¹, which stands nearly at right angles with the main arm.

In fulling-mills with fulling-hammers as usually operated, where the hammers are lifted

by tappets, it is practically impossible to run the mill as fast as may be desired, because of the severe blow or impact of the tappet on the handle or arm of the hammer. The hammers in all fulling-mills stop at different heights—that is, one blow or fall of the hammer may go to the bottom of the mills, and perhaps the next fall of the same hammer will stop twelve or eighteen inches higher, varying in distance as to the time the goods happen to be in the mill. Now, in the ordinary tappets, if arranged to take the hammers easily at their lowest fall, they will strike a more severe blow when they are at a higher point; consequently they cannot be run as fast as desired because of the severe pounding.

By our invention the mill may be run with less power, less pounding, and greater speed.

The hammer, in whatever position it may be, is picked up and started in a comparatively slow motion by the short arm F¹, and then just about as it is leaving the short arm, without any fall, it is taken by the long arm F, and rapidly pushed up to its full height and allowed to fall.

The extreme end of the long arm F is curved, as shown, forming a shoe or guard, F², which retains the hammer-handle P in an elevated position for a certain length of time, and then allows it to drop suddenly.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a fulling-mill, the curved lifting-arm F, provided with the shoe or guard F² and the short or auxiliary arm F¹, substantially as and for the purposes herein set forth.

2. The combination of the hammers C, handles P, with or without the rollers B, and the curved lifting-arms F, provided with the shoes or guards F² and the short or auxiliary arms F¹, substantially as and for the purposes herein set forth.

JOHN WOOD.
ALFRED STORM.

Witnesses:

ROBT. CARVER,
GEORGE HIRST.