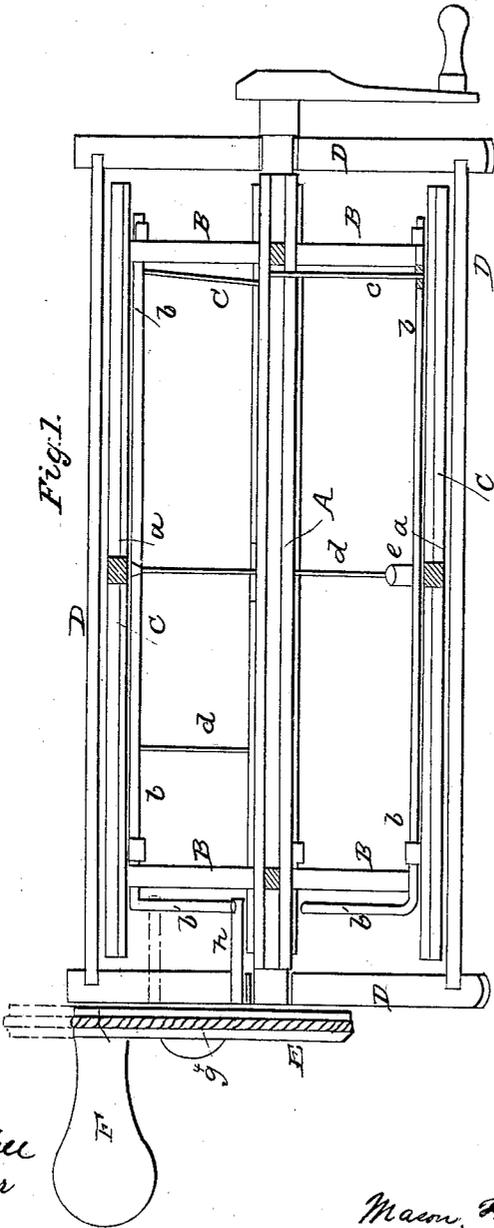


S. LEWIS.

Flour Bolt.

No. 50,371.

Patented Oct. 10, 1865.



WITNESSES
R. Campbell
Oliver Schafer

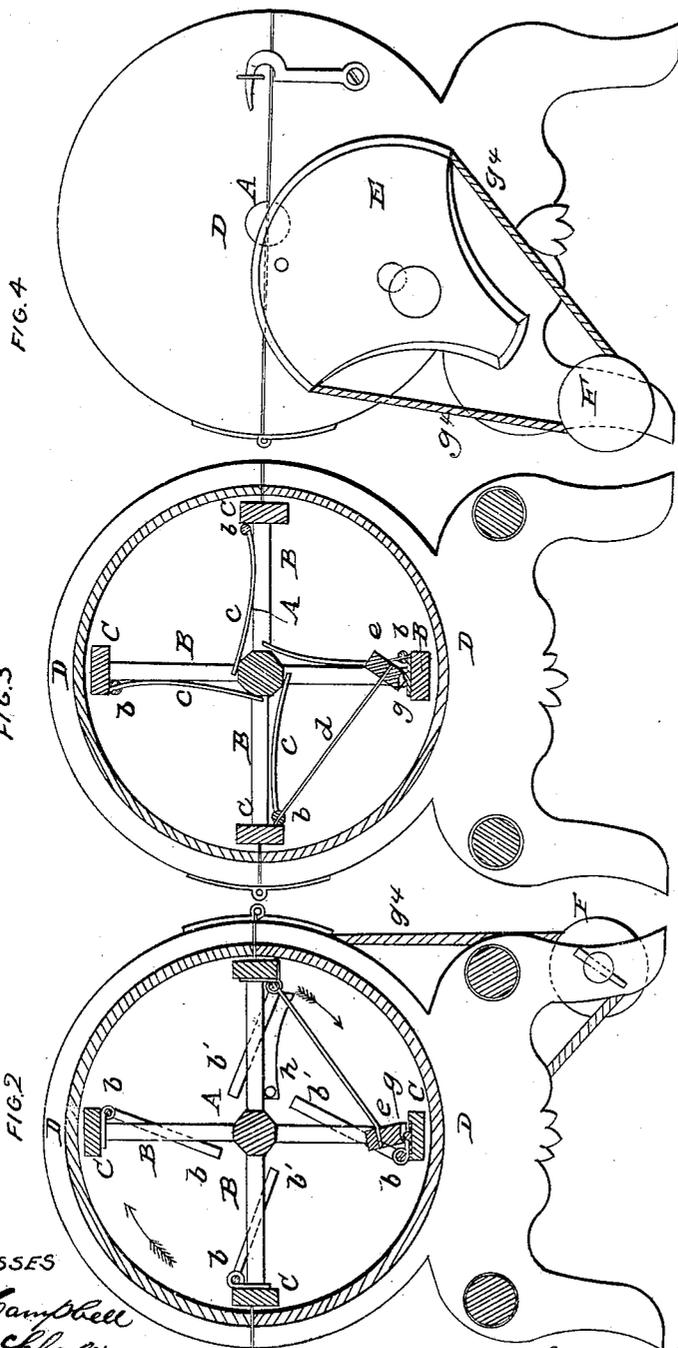
INVENTOR
S. Lewis
 by his Atty
Macon, Fenwick & Lawrence

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UNITED STATES PATENT OFFICE.

S. LEWIS, OF TIFFIN, OHIO.

IMPROVEMENT IN FLOUR-BOLTS.

Specification forming part of Letters Patent No. 50,371, dated October 10, 1865.

To all whom it may concern:

Be it known that I, S. LEWIS, of Tiffin, in the county of Seneca and State of Ohio, have invented a new and useful Improvement in Mill-Bolts; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view, showing my invention applied to the reel of a mill-bolt, the cloth being removed. Fig. 2 is a vertical section looking toward one end of the reel. Fig. 3 is a vertical section looking toward the opposite end of the reel. Fig. 4 is an elevation of one end of the case of the bolt, showing the contrivance for adjusting the tripping-pin of the hammers.

This invention relates to an improved arrangement and mode of operating hammers which are applied within the bolting-cloth of a bolting-mill so as to turn with the reel, whereby a person can regulate the force of the blows of these hammers or stop their operation at pleasure without stopping the motion of the reel, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the reel-shaft, which has its bearings in the ends of a casing, which may be constructed in any of the well-known ways. From this shaft project radial arms B B, to the ends of which longitudinal strips C C are secured, which may be braced by a hoop, *a*, in the center, so as to maintain their parallelism to the central shaft, A. Over this reel, which may be constructed and arranged in any suitable manner, the bolting-cloth is stretched, (which is left off in the drawings for the purpose of exhibiting the hammers that are arranged within the reel.) On the inside of each one of the longitudinal strips or stretchers C a rod, *b*, is pivoted, which has one end bent at right angles to itself, as indicated at *b'*, Figs. 1 and 2. This rod *b* has a spring-arm affixed to it, as shown at *c*, Figs. 1 and 3, which spring presses upon the shaft A. Two or more hammer-rods, *d d*, also project from the rod *b*, and carry on one end the hammers *e e*, which have depressions formed in their ends that receive pins or an-

vils *g g*, that are affixed to plates on the rod or strip which is next the one to which the hammers are pivoted. These hammers are held in contact with their respective anvils by means of the spring *c*, so that the reel may be rotated without actuating them—*i. e.*, causing them to strike. When the hammers of the several rods *b* are held in contact with their anvils, as shown in the drawings, Figs. 2 and 3, the angular arms *b'* all point inward toward the central shaft, A, so as to successively come in contact with a pin, *h*, that projects through one of the heads of the case D, as shown in Figs. 1 and 2. This pin operates to trip the arms *b'* and to move the hammers back a greater or less distance from their anvils and then release them, so that the springs *c* will return them forcibly against their anvils, thus giving the desired concussion or jar to the bolting-cloth. The pin *h* passes freely through a curved slot which is made through one of the heads of the case D, and is secured to a segment, E, that is pivoted concentrically to said slot outside of said casing, as shown in Fig. 4. Below the pivoted segment E is a handle, F, which is free to rotate, and which receives a band, *g'*, that passes over the segment. By turning said handle slightly the pin *h* may be moved toward or from the axis of the reel, and thus the length of stroke of the hammers can be increased or diminished at pleasure, whether the reel be in motion or at rest. By moving the pin *h* so near the shaft A that the arms *b'* will not impinge upon it when the reel revolves, the hammers will not be lifted from their anvils, and of course the reel-bolt or bolting-cloth will receive no jar.

I do not confine my invention to any particular arrangement of the hammers, nor to the device for adjusting the tripping-pin *h*, although I have described the most preferable plans, as it is obvious that the hammers or rappers may be arranged in many different ways, and the force of their blows regulated by a device operating substantially as described and arranged outside of the reel.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. Applying and actuating hammers or rappers which are arranged within the reel of a bolting-mill in such manner that the force of

the blows of said hammers can be increased or diminished at pleasure, whether the reel be in motion or at rest, substantially as described.

2. The employment of springs applied to hammers which are arranged within the reel of a bolting-mill for the purpose of increasing the force of the blows of said hammers, substantially as described.

3. The combination of spring-hammers with

a bolting-reel and a device which is arranged outside of said reel for regulating the force of the blows of the hammers, as well as stopping their operation altogether, substantially as described.

S. LEWIS.

Witnesses:

A. H. BYERS,

A. N. TANNER.