No. 638,213. Patented Dec. 5, 1899.

C. E. CLARK.

BUFFER FOR SAWMILL CARRIAGES.

(No Model.) (Application filed Mar. 11, 1899.)

Fig. 1.

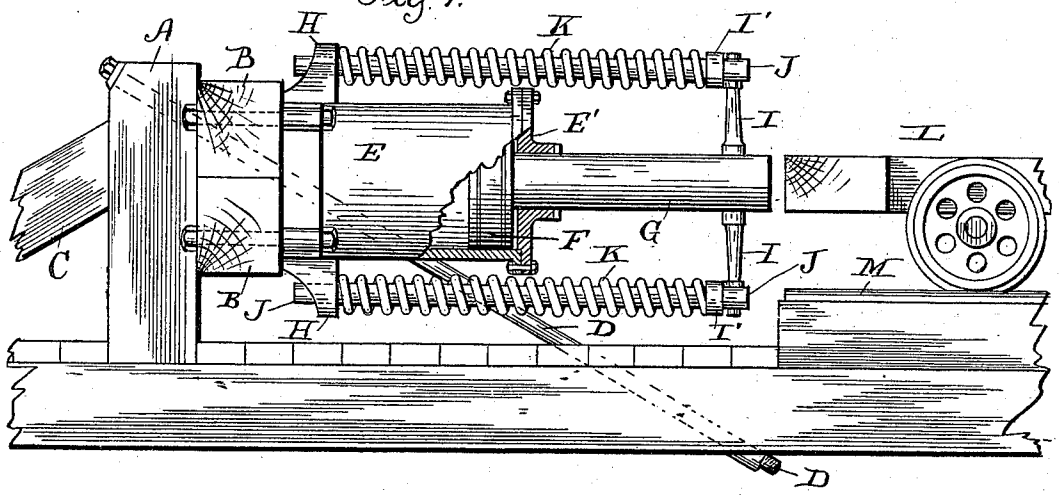
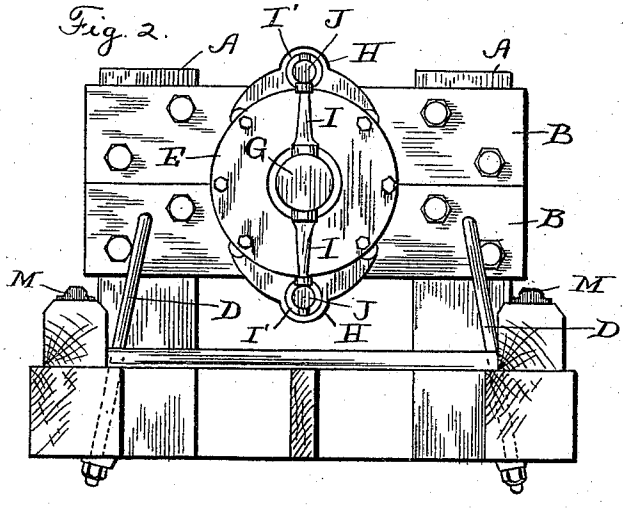


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES ETHAN CLARK, OF BELMONT, NEW YORK.

BUFFER FOR SAWMILL-CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 638,213, dated December 5, 1899.

Application filed March 11, 1899. Serial No. 708,731. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ETHAN CLARK, a citizen of the United States, residing at Belmont, in the county of Allegany and State of New York, have invented a certain new and useful Improvement in Buffers for Sawmill-Carriages, of which the following is a specification, reference being had to the accompanying drawings.

This improvement relates to that class of buffers for sawmill-carriages in which an air-cylinder and springs are used to receive the impact of the carriage; and the object of the invention is to render the device free from the objections found in the present styles of such buffers.

With this object in view my invention consists in the peculiar construction, arrangement, and combinations of parts hereinafter more particularly described and then definitely claimed.

In the accompanying drawings, Figure 1 represents the preferable form of my improvement in side elevation, but with parts broken away. Fig. 2 shows an end view of the same.

Referring now to the details of the drawings by letters, A represents the uprights, B the horizontal beams, and C the inclined brace, of the buffer-frame, suitably secured to the bed by the truss-rods D.

Bolted to the horizontal beams B, just mentioned, is the air-cylinder E, in which operates the piston F, the rod G of which works through the cylinder-head E′ in the usual manner. Projecting from the rear end of said cylinder are the stationary guiding-pieces H, and secured to the outer end of the piston-rod G is the cross-arm I, between which guiding-pieces and cross-arm are situated the guide-bars J, over which are placed the compression-springs K, the latter resting against the guiding-pieces at one end and abutting against collars I′ at the opposite ends.

The carriage is represented at L as running on the tracks M.

The operation of my buffer is as follows: When the carriage L strikes the piston-rod G, it pushes the rod and its piston back, which compresses the air inside the cylinder and simultaneously compresses the springs K until their combined resistance equals the moving force of the carriage, when the latter comes to rest. If the carriage were allowed to stand or to be held in position where it comes to rest, the resistance due to the compressed air would disappear, owing to leakage, and consequently when the carriage moves away the force stored in the compression-springs must be sufficient to restore the piston to its original position or otherwise the piston might not automatically return to be in the proper position to receive the next impact.

I am aware that buffers have heretofore been made in which both air and springs were used, but generally conical springs have been placed behind the piston, inside of the cylinder, where they were inaccessible and objectionable both on account of position and style; but by placing the springs outside of the cylinder both of these objections are overcome.

What I claim as new is—

The combination in a sawmill-buffer, of the cylinder E, having guides H at its rear and the piston F working in said cylinder, the piston-rod G, the cross-head I carried by said piston-rod, the guide-bars J connected to the cross-head and working through the guides H, and springs set between the guides H and the cross-head, on each side of the cylinder, and bearing against said guides, all substantially as described and shown.

In testimony whereof I affix my signature, in the presence of two witnesses, this 10th day of March, 1899.

CHARLES ETHAN CLARK.

Witnesses:
G. B. PRITCHARD,
J. S. REID.