

C. D. HALL & E. BADGER.

Pile-Drivers.

No. 133,936.

Patented Dec. 17, 1872.

Fig. 1.

Fig. 2.

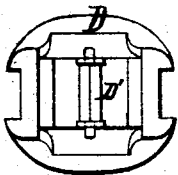
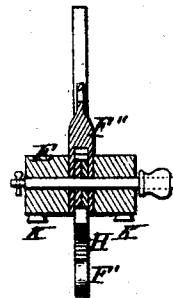


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES D. HALL, OF NEW HAVEN, CONNECTICUT, AND EBEN BADGER,
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IMPROVEMENT IN PILE-DRIVERS.

Specification forming part of Letters Patent No. **133,936**, dated December 17, 1872; antedated December 11, 1872.

To all whom it may concern:

Be it known that we, CHAS. D. HALL, of New Haven, in the county of New Haven and State of Connecticut, and EBEN BADGER, of Waukegan, Lake county, State of Illinois, have invented a new and valuable Improvement in Pile-Drivers; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical transverse section of our invention. Figure 2 is a top view of the hammer. Fig. 3 is a cross-section of the jaws.

This invention has relation to certain improvements in pile-drivers. The machine to which these improvements are applicable is provided with a pair of pivoted jaws, which are suspended on the end of the hammer-rope, and adapted to automatic operation, so as to seize the hammer and cause it to be raised and release it when it has been brought to the proper elevation. The novelty of this invention consists in providing means whereby the beveled pin on the hammer is turned to the proper position for the grasp of the jaws; also in the application and arrangement of springs for closing the jaws, the application and arrangement of cushions between the jaw-block and hammer, and in the arrangement and mode of operating the tripping devices which operate to open the jaws and release the hammer.

In the accompanying drawing illustrating this invention, A represents the base, and B the upright leaders, of a pile-driver. C designates the hammer-rope. D designates the hammer, recessed from the top and furnished with a turning-block or handle, D', of a triangular form, with rounded journals. E represents the block, which holds the jaws or nippers F F', pivoted within a longitudinal vertical slot cut therein. F'' represents a link, by means of which the jaws and block are attached to the rope C. G are springs, arranged to close the beveled ends of the jaws F F' over the triangular block or pin D' when they are lowered for that purpose. H represents a beveled notch cut in the inner edge

of one of the jaws and designed for the purpose of turning the triangular block to the proper position for receiving the grasp of the jaws whenever it requires such movement, as is often the case. I represents the trippers, which open the jaws in order to release the hammer and let it fall. They consist of bent metallic spring rods, arranged within recesses cut in the leaders B, and project in between them in such a manner that the upper and diverging arms of the jaws must come in contact with them when being raised past them. J represents cords attached to the upper ends of the trippers and thence brought downward, after being passed through apertures in the leaders, to within reach of an attendant, who may draw back these trippers so as to allow the hammer to be raised to any desired height. The jaws may be opened when above the trippers by a man at the top of the leaders using a bar. When one jaw is released the other releases itself. K represents small rubber blocks inserted in recesses formed on the under side of the block E and intended to break the descent of said block and save the hammer from injury.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The jaw or nipper F', constructed with the beveled notch H and adapted to regulate the position of the block D', substantially as specified.

2. The springs G G, applied to close the jaws F F', substantially as and for the purpose set forth.

3. The spring-trippers I and cords J, as described, in combination with the jaws F F' and hammer D.

4. The application of the cushions K, substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

CHAS. D. HALL.
EBEN BADGER.

Witnesses to CHAS. D. HALL:

SYLVANUS BUTLER,
GEORGE O. STEVENS.

Witnesses to EBEN BADGER:

OLIVER S. LINCOLN,
FRANCIS E. CLARKE.