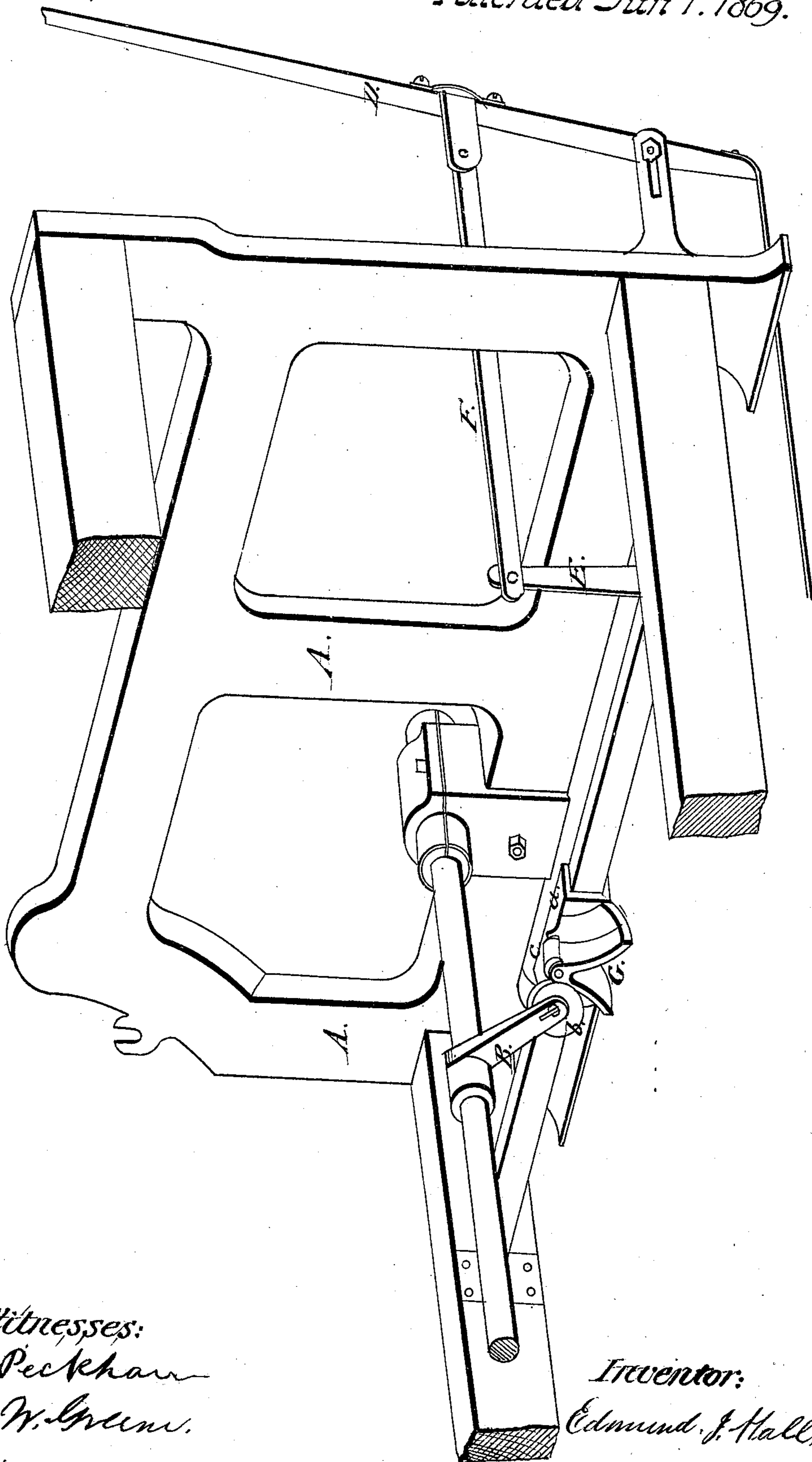


*E. J. Hall,
Picker-Shoe.*

No 90,838.

Patented Jun 1. 1869.



*Witnesses:
Cyrille Peckham
Chas. W. Green.*

*Inventor:
Edmund J. Hall.*

United States Patent Office.

EDMUND J. HALL, OF CAMBRIDGE, MASSACHUSETTS, ASSIGNOR TO ORVILLE PECKHAM, TRUSTEE, AND SAID TRUSTEE ASSIGNS TO EDMUND J. HALL AND EDWIN A. HALL.

Letters Patent No. 90,838, dated June 1, 1869.

IMPROVEMENT IN LOOM-PICKER SHOE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, EDMUND J. HALL, of Cambridge, in the county of Middlesex, and State of Massachusetts, have invented a new and useful Improvement in Shoes for Looms; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

The drawing represents, in perspective, so much of a cassimere-weaving loom as is necessary to show the improvement.

For the purpose of giving motion to the picker-staff, which impels the shuttle, it has long been customary, in looms for weaving cassimeres and broad-cloths, to employ a revolving wiper or arm, keyed to a revolving shaft, the end of which wiper, furnished with a friction (usually called a "truck") roller, causes, at each revolution, a sudden rocking motion to be given to a shaft, which motion, so obtained, being communicated to the picker-staff, causes the latter to throw the shuttle, carrying the filling, with great force, through the shed formed by the warp-threads.

The device attached to the rocking-shaft, and which is to receive, in the first instance, the blow from the revolving wiper, is called the shoe, and is simply a short arm, of cast-iron, projecting from the shaft, and adjusted thereon, the cross-section of which is in nearly the form of the letter A.

The great shock which this shoe is required to sustain is necessarily very destructive to it; but more than this, the harshness with which the motion is obtained affects injuriously the whole mechanism of the loom, besides being the cause of frequently breaking the filling-thread given off by the shuttle.

My invention, while it proposes to preserve this necessary means of communicating motion, where a great extent of throw to the shuttle is required, proposes to reduce its destructive tendency by mollifying its action, make its face receiving the blow of the truck-roller capable of self-lubrication, which has hitherto not been done, and enable the shoe itself to continue in service for a very long period of time, instead of being knocked up after a few hours or days' use, as not unfrequently happens.

In the drawings, A is the side frame of a loom, B is the revolving wiper, C the rocking-shoe shaft operating the picker-staff D, through the arm E and link-rod F, all as usually found in looms of this class.

G is the shoe, of the general saddle-tree shape heretofore used, and attached to a box-shaped sleeve, a,

which enables it to be set at the proper point on the shoe-shaft, where it is held by a clamp-screw.

The first improvement consists in mounting in bearings, at the angle formed by two faces of the shoe, a friction-roller, c, such roller thereby constituting the apex of the shoe.

Underneath this roller, a semi-cylindrical cavity is formed in the casting, corresponding with the surface of the roller, but deeper than required for the roller's accommodation, which trough, so formed, is to be used as a reservoir for oil or other lubricant.

It is manifest that the effect of this friction-roller c will be to diminish the harshness of action which attends the working of the old form of shoe, by the revolving wiper, while upon each blow of the wiper the truck-roller b, and face of the shoe, will receive fresh lubrication from the oil which is taken up from the reservoir upon the revolving surface of the friction-roller c, and be, therefore, self-lubricating.

The action of the wiper B is to tilt the shoe-shaft C. Consequently, the friction-roller c should be placed sufficiently far back from the front edge of the shoe to make allowance for the angular position in which the shoe will be when the truck-roller is in contact with its apex, and enable the truck-roller b to find the friction-roller c at the end of the curvilinear path, which such truck-roller necessarily wears upon the surface of the shoe, by reason of the latter tilting at right angles with the line of movement of the former.

A shoe made as above described possesses, in addition to the advantages before mentioned, the capacity to endure for a long time.

When the roller c is too much worn, it can readily be replaced, and this enables the shoe itself to be reversed in position and used, if one of its faces has become worn out, which, in the ordinary shoe, is not practicable, for the reason that the unworn face cannot be made of service if the apex is too much worn away, and this part is necessarily less enduring than the face.

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

The loom-shoe G a, having the friction-roller c placed in a lubricating-reservoir, all constructed and operating substantially as herein described, for the purposes specified.

EDMUND J. HALL.

Witnesses:

ORVILLE PECKHAM,
CHAS. W. GREENE.