(No Model.)

R. H. TWEDDELL, J. PLATT & J. FIELDING.

RIVETING MACHINE.

No. 307,354. Patented Oct. 28, 1884.

Fig. 1.

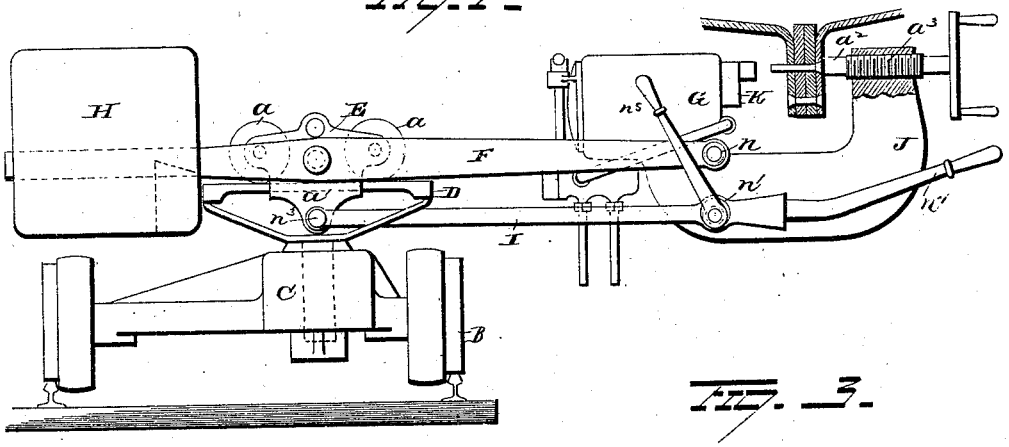


Fig. 3.

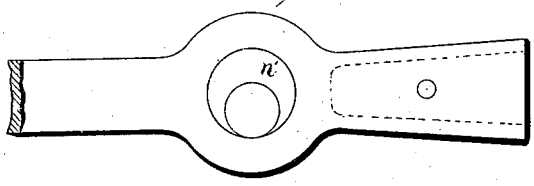
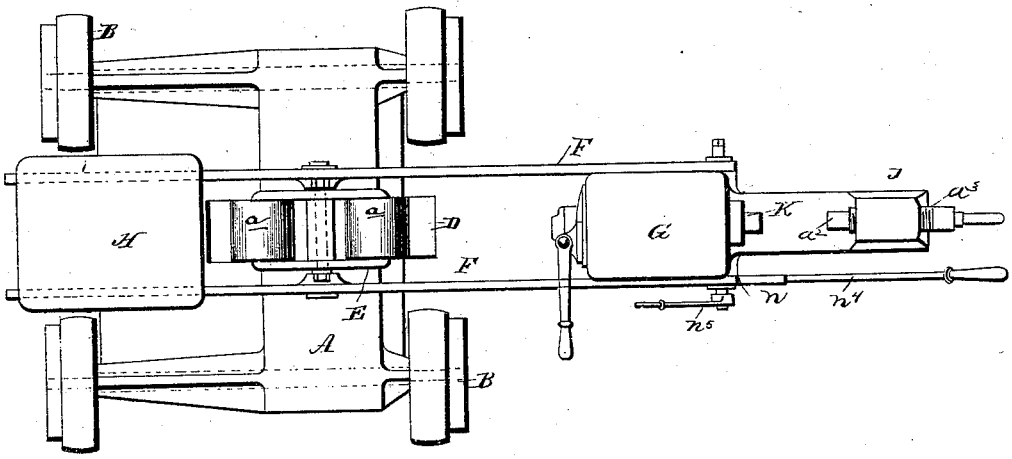


Fig. 2.



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UNITED STATES PATENT OFFICE.

RALPH HART TWEDDELL, OF WESTMINSTER, COUNTY OF MIDDLESEX, AND JAMES PLATT AND JOHN FIELDING, OF GLOUCESTER, COUNTY OF GLOUCESTER, ENGLAND.

RIVETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 307,354, dated October 28, 1884.

Application filed April 19, 1884. (No model.) Patented in England November 10, 1880, No. 4,609.

To all whom it may concern:

Be it known that we, RALPH HART TWEDDELL, of Westminster, in the county of Middlesex, and JAMES PLATT and JOHN FIELDING, of Gloucester, in the county of Gloucester, and country of England, have invented certain new and useful Improvements in Machines for Riveting Rows of Rivets along the Keels of a Vessel, &c.; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to a machine for riveting rows of rivets along the keels of a vessel or a girder or other similar structure; and it consists, essentially, of a truck adapted to run on a track and provided with a vertical pin, which latter holds a turn-table in position. This turn-table is provided with a carriage, on which is pivoted a beam carrying at one end a hydraulic riveter and at the other end a suitable counter-weight. The hydraulic riveter is jointed to beams, and is also connected by a link to the carriage on which said beams are mounted, so that if, by moving the beams upward or downward, the riveter be raised or lowered it is made to move parallel to itself, and thus the axis of the riveter is retained in a horizontal position. By means of an eccentric in one joint of said link the riveter can be adjusted a little out of the horizontal line to suit inequalities in the work; also, the holding-up tool is provided with an adjustable screw, so that it can be set up against one side of the work to steady the riveter until its plunger makes its strokes.

In the accompanying drawings, Figure 1 represents our improved machine in side elevation. Fig. 2 is a plan view of the same, and Fig. 3 is an enlarged detached view of a portion of the link and the eccentric.

A represents a truck provided with wheels B, which latter are adapted to travel on rails laid parallel to the keel or girder. On this truck A we mount by a vertical shaft or pin, C, a horizontal turn-table, D, on which is placed a carriage, E, carrying the pivoted beams F, which latter are provided at one end with a hydraulic riveter, G, and at their opposite ends with a counterbalance-weight, H. The carriage E is supported on the rollers *a*, and is prevented from lateral displacement by the depending sides *a'*, which latter extend below the side edges of the turn-table. The carriage is adapted to move back and forth on the turn-table, so as to enable the hydraulic riveter to be adjusted to accommodate it to the work.

The riveting-machine G is jointed at *n* to the beams F, and is connected at *n'* by a link, I, to a stud or pin, n^3, of the carriage E, so that by vertically adjusting the riveter by means of the handle n^4 upward or downward it is made to move parallel to itself, and thus the axis of the cylinder is retained in a horizontal position. The handle n^4 is simply a continuation of the link I, and is for the purpose of elevating and depressing the riveter.

By means of an eccentric at the joint *n'*, as shown in Fig. 3, and the lever n^5 the riveter can be adjusted a little out of the horizontal line to suit inequalities of the work. The riveter G is provided with the outwardly and upwardly projecting extension J, which latter is provided at its upper end with a screw-threaded opening situated directly opposite the plunger of the riveter. This opening is adapted for the passage of the holding-up tool a^2, which latter is provided with a screw, a^3, so that it can be set up against one side of the keel or girder to steady the riveter until its plunger K makes its stroke.

By means of the beams F the riveter can be raised or lowered; by moving the carriage E along the turn-plate it can be advanced or retracted; by turning the turn-plate around its vertical axis the direction of the riveter may be varied, and by moving the truck A along the rails the riveter can be brought to act on the successive rivets of the row.

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

1. The combination, with a truck mounted on wheels and a turn-plate journaled to the truck, of a carriage adapted to move on the turn-plate, beams pivoted to the carriage, and

a riveting-machine directly connected to the outer ends of the beams.

2. The combination, with a truck and a turn-plate pivoted thereto, of a carriage mounted on the plate, two beams pivotally secured to the carriage, a riveting-machine pivotally secured to one end of the beams, a counterbalance-weight secured to the opposite ends thereof, and the link I, one end of which is secured to the carriage, while the opposite end thereof is pivoted to the riveter, substantially as set forth.

3. The combination of a truck, a turn-plate mounted thereon, a carriage adapted to move on the turn-plate, beams pivoted to the carriage and provided at one end with a riveter and at their opposite ends with a counter-balance, the link I, the eccentric, and lever n^5, substantially as set forth.

4. The combination of a truck, a turn-plate, a carriage mounted on the plate and provided with depending sides, which latter overlap the sides of the plate, beams pivoted to the carriage, a riveter pivoted to the beams at one end, a counterbalance-weight pivoted to the opposite ends of said beams, the link I, the eccentric, and lever n^5, substantially as set forth.

5. The combination of a truck, a turn-plate, a carriage mounted on the turn-plate, the beams F, counterbalance-weight, the riveter provided with the extension J, and the screw a^2, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

RALPH HART TWEDDELL.

Witnesses:
H. G. SCOTT,
WM. BAILEY.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

JAMES PLATT.
JOHN FIELDING.

Witnesses:
JOHN A. POPE,
H. CADENNE.