

(No Model.)

T. SWEET.
CAR COUPLING.

No. 503,999.

Patented Aug. 29, 1893.

Fig. 1.

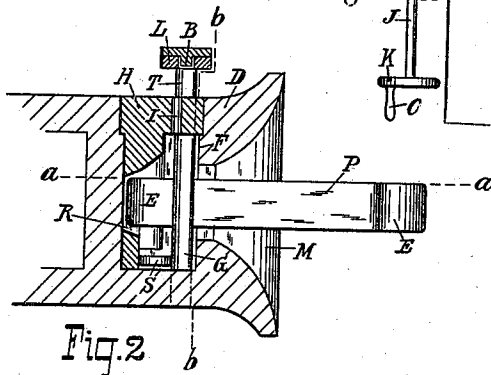
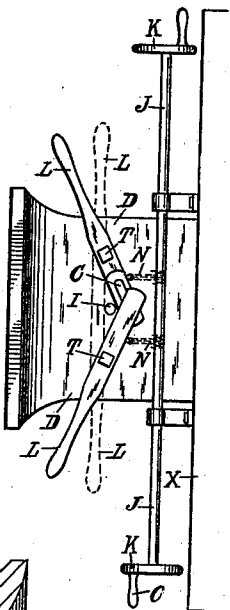


Fig. 2

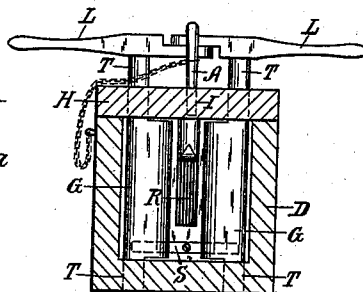


Fig. 3

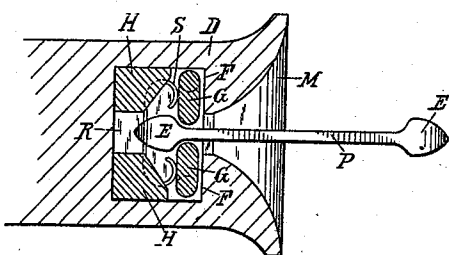


Fig. 4

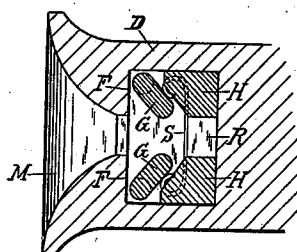


Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS SWEET, OF FLORENCE, CANADA, ASSIGNOR OF ONE-HALF TO
JOSEPH C. ELLISON, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 503,999, dated August 29, 1893.

Application filed July 9, 1892. Serial No. 439,552. (No model.)

To all whom it may concern:

Be it known that I, THOMAS SWEET, a subject of the Queen of Great Britain, and a resident of Florence, in the Province of Ontario, Canada, have invented a certain new and useful Automatic Safety Car-Coupling, of which the following is a full, clear, and exact description.

This invention relates to a device for coupling railroad or other cars together, and it consists of the improved construction and combination of parts of the same, as will be hereinafter first fully set forth, and then pointed out in the claims.

Reference is had to the accompanying drawings, wherein—

Figure 1. is a plan view of the draw head of a draw bar, illustrating my invention, showing the levers adjusted to uncouple said draw head. Fig. 2. is a vertical, central longitudinal, sectional view of a draw head, illustrating my invention, showing the tug pin coupled, and locked in the draw head. Fig. 3. is a sectional view on the line, *b, b*, of Fig. 2. showing the draw head uncoupled, and the locking pin inserted in position to hold the gates open, and the draw heads uncoupled. Fig. 4. is a sectional view on the line, *a, a*, of Fig. 2. showing the tug pin coupled and locked in the draw head. Fig. 5. is another sectional view on the line, *a, a*, of Fig. 2. showing the gates open, and the draw bars uncoupled and the position the gates are in, when the levers are adjusted to the position shown in Fig. 1.

D, designates a draw head, which may be secured to, or formed integral with any draw bar, and this draw head is formed with the flaring mouth, M, and with the shoulders, F.

H, is a gate holder, secured to the draw head, in which and the draw head, D, the gates, G, are pivotally secured, and the face of this gate holder, H, is inclined from the outer and upper edges to the center, in order to conduct the tug pin, P, to the recess, R, therein.

T, T, are trunnions, on which the gates, G, are pivoted, at the inner edge of the opening of the flaring mouth, M.

S, is a curved, or other suitable spring, which abuts against the back of the gates, G, as shown particularly in Fig. 4. to close, and

retain said gates closed on the enlarged end, E, of the tug pin, P, when the draw heads are coupled together.

P, is a tug pin, formed with the enlarged or knobbed ends, E.

L, L, are levers, rigidly secured to the extended upper trunnions, T. These levers are for operating the gates to uncouple the draw heads. On one of these levers, L, a tongue, B, is formed, and in the other, an elongated groove or recess, C, is formed, and the tongue, B, is fitted to, and engages with this groove, C, so that, when either lever is adjusted, both of these levers, as well as the gates, G, G, connected therewith, will also be adjusted and simultaneously the same proportionate distance.

There are many well known devices, which would suggest themselves to the skilled mechanic, by which these levers and gates could be operated simultaneously, and the same proportionate distance, for instance, cogged segments on the adjacent ends of the levers, and meshing with one another, would answer the purpose, but so far, the device shown, has given the best results.

A, is a locking pin or bolt, which when inserted in the pin hole, I, in the gate holder, H, as shown in Fig. 3, projects upward beyond the levers, L, and holds said levers and the gates connected therewith, open, to prevent the draw heads from coupling when they come together. This locking pin or bolt, A, may be secured to draw head, D, by a chain or other suitable pliable connection, to prevent it from being lost or accidentally mislaid, and these draw heads, D, are formed with the shoulders, F against which the gates, G, impinge, when closed. This not only completely prevents them from turning outward, but forms a very strong and durable hold for the tug pin, P, the gates being simply interposed between the enlarged heads, E, of said pin and the shoulders, F.

J, designates a rod or bar, revolving perfectly free in, and held in place in bearings secured to each end of each car, X.

K, K, designate wheels, one on each end of the rod, J, and each of these wheels, K, is provided with a handle, O.

N, N, designate chains or pliable bands, which connect the rod, J, with the arms or levers, L, secured to the trunnions, T. This rod, J, permits the wheels, K, to be operated
 5 at the sides of the cars, to adjust the gates, G, to uncouple said cars without going in between them, thus all danger arising from going in between the cars is completely prevented.

10 The operation is as follows:—When wishing to uncouple the draw heads, D, of the draw bars, all that is necessary to do, is to operate the wheels, K, or adjust the levers, L, to the position shown by solid lines in Fig. 1. This
 15 adjusts the gate, G, and compresses the spring, S, to the position shown in Fig. 5, and permits the enlarged or knobbed end, E, of the tug pin, T, to be withdrawn from the draw head; if it is required to hold the gates open,
 20 so that the cars may come together, and part again without coupling, all that is necessary to do, is to operate the wheels, K, or adjust the levers, L, and locking bolt, A, to the position shown by solid lines in Figs. 1, and 3.
 25 This holds the gates in an open position, and compresses the spring, S, as shown in Fig. 5, and prevents the spring, S, from acting on said gates to close them; and again, the draw heads are adjusted to be automatically coupled
 30 together, by removing the locking pin or bolt, A. This permits the expansion of the spring, S, which adjusts the levers to the position shown by dotted line in Fig. 1. and the gates to the position shown in Fig. 4. so that when the
 35 draw heads come together, and the tug pin, P, enters the flaring mouth, M, the enlarged end, E, forces itself between the gates, G, and compresses the spring, S, but before said head can be withdrawn, the expansion of the spring,
 40 S, closes the gates, G, and prevents said enlarged head, E, from being withdrawn from the draw head. This securely couples the draw heads together.

45 Into the recess, R, in the gate holder, H, the end of the tug pin, P, is projected, when the cars come together. This not only prevents the draw bars from injuring said tug pin, but the inserting of the inner end of said tug pin, in this recess together with the frictional contact of the gates thereon, caused by
 50 the springs, S, brings and holds the outer end of said tug pin in an almost horizontal position.

Having thus described my invention, I claim—

55 1. A tug pin, P, formed with the enlarged or knobbed ends, E, in combination with a draw head, D, formed with the flaring mouth, M, and shoulders, F, the gate holder, H, formed with the recess, R, the gates, G, G, formed
 60 with the trunnions, T, the levers, L, L, and the spring, S, substantially as shown and described, and for the purpose specified.

2. A tug pin, P, formed with the enlarged or knobbed ends, E, in combination with the
 65 draw head, D, formed with the flaring mouth, M, and shoulders, F, the gate holder, H, formed with the recess, R, and pin hole, I, the gates, G, G, formed with the trunnions, T, the levers, L, L, the locking bolt or pin, A, and
 70 springs, S, substantially as shown and described, and for the purpose specified.

3. A tug pin, P, formed with the enlarged or knobbed ends, E, in combination with the
 75 draw head, D, formed with the flaring mouth, M, and shoulders, F, the gate holder, H, formed with the recess, R, the gates, G, G, formed with the trunnions, T, the levers, L, L, one formed with a tongue, B, and the other, with
 80 an elongated groove or recess, C, and the springs, S, substantially as shown and described, and for the purpose specified.

4. A tug pin, P, formed with the enlarged or knobbed ends, E, in combination with the
 85 draw head, D, formed with the flaring mouth, M, and shoulders, F, the gate holder, H, formed with the recess, R, and pin hole, I, the gates, G, G, formed with the trunnions, T, the levers, L, L, one formed with a tongue, B, and
 90 the other, with an elongated groove or recess, C, the locking bolt or pin, A, and the springs, S, substantially as shown and described, and for the purpose specified.

5. The rod, J, wheels, K, provided with the handles, O, and the chains, N, in combination
 95 with the arms or levers, L, gates, G, formed with the trunnions, T, the gate holder, H, and the draw head, D, substantially as shown and described, and for the purpose specified.

100 In testimony whereof I affix my signature in the presence of the two undersigned witnesses.

THOMAS SWEET.

Witnesses:

P. J. EDMUNDS,
 J. W. CUTHBERTSON.