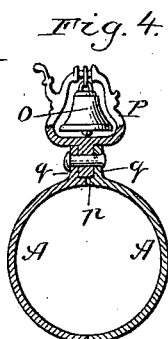
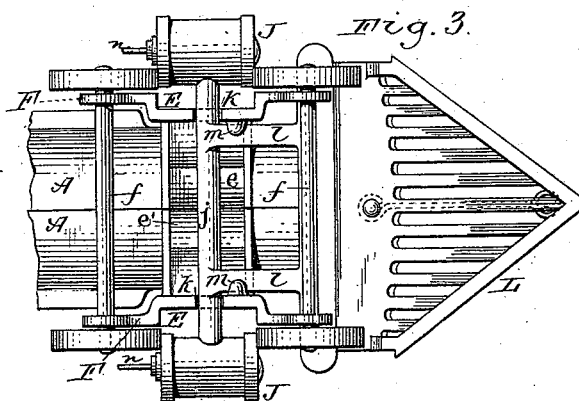
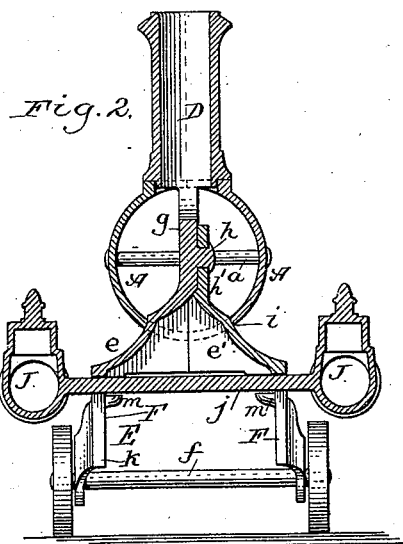
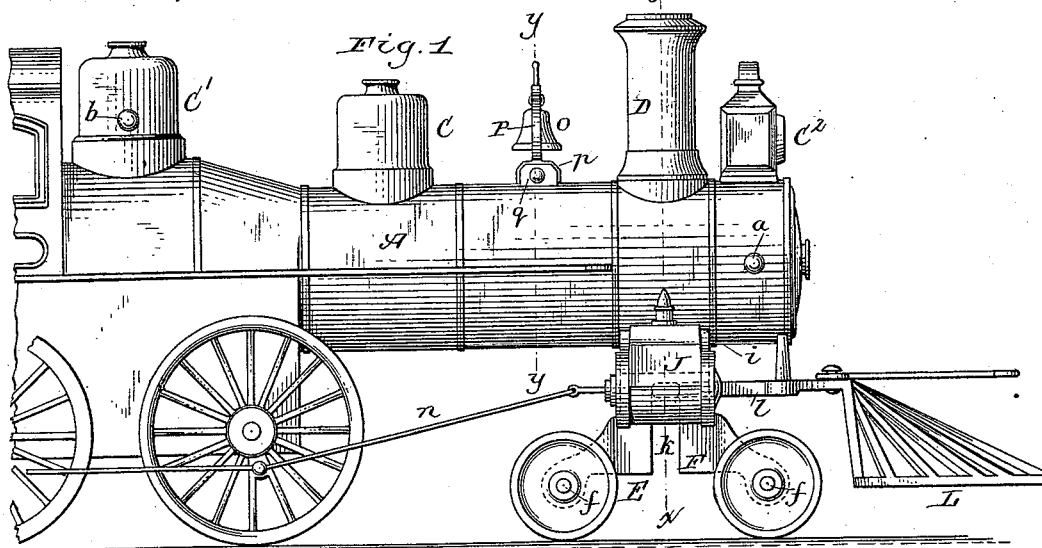


G. S. CROSBY.
TOY LOCOMOTIVE.

Patented Feb. 18, 1890.



Chas. J. Buchheit
Emil. Neuhart. } witnesses

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UNITED STATES PATENT OFFICE.

GEORGE S. CROSBY, OF BUFFALO, NEW YORK, ASSIGNOR TO PRATT & LETCHWORTH, OF SAME PLACE.

TOY LOCOMOTIVE.

SPECIFICATION forming part of Letters Patent No. 421,676, dated February 18, 1890.

Application filed June 15, 1889. Serial No. 314,403. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. CROSBY, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Toy Locomotives, of which the following is a specification.

This invention relates to that class of toy locomotives which consist of hollow cast-metal sections secured together by rivets or other means.

The object of my invention is to construct a toy locomotive in such manner that the parts thereof can be cast in close resemblance to those of a full-sized locomotive and so that the parts may be readily assembled.

The invention has the further object to so construct the bell-supporting frame that it may be attached to the locomotive after the parts thereof have been secured together, so that the bell and bell-frame may be plated or polished, if desired, before attaching it to the locomotive.

The invention consists, to these ends, of the improvements, which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a fragmentary side elevation of my improved toy locomotive. Fig. 2 is a transverse section thereof in line *x x*, Fig. 1. Fig. 3 is a bottom plan view of the front portion of the locomotive. Fig. 4 is a cross-section in line *y y*, Fig. 1, showing the bell and a portion of its frame in elevation.

Like letters of reference refer to like parts in the several figures.

The boiler or body of the locomotive is divided vertically lengthwise through its center into two hollow sections *A A*, which are secured together by transverse rivets or bolts *a b*.

C-C' *C*² represent, respectively, the sand-box, the steam-dome, and the head-light, which are also divided vertically, like the body, and are cast partly on one body-section *A* and partly on the other in the usual manner.

D is the smoke-stack, which is cast complete in one piece and secured with its lower portion between the body-sections of the locomotive, said sections being formed in their adjacent upper portions with an opening in

which the lower shouldered end of the smoke-stack is seated, as represented in Fig. 2.

The body of the locomotive is preferably cast of gray iron and the smoke-stack of malleable iron. As the smoke-stack is slender and projects some distance beyond the body, it is more liable to be broken than the body. By constructing the stack separate from the body it may be cast of stronger metal than the body—such as malleable iron—whereby the liability of breaking the stack is lessened.

E represents the truck-frame, upon which the front portion of the locomotive is supported and in which the front wheels are journaled.

ff are the axles of the front wheels, which are arranged in suitable bearings formed in the lower portions of the side plates *F F* of the truck-frame. The truck-frame is preferably divided vertically lengthwise of the locomotive, as shown in Figs. 2 and 3, and one portion *e* thereof is formed integral with a downward extension *g* of the smoke-stack and the other part *e'* is secured to said extension, as clearly shown in Fig. 2.

The extension of the smoke-stack is provided with a horizontal fastening-rivet *h*, which passes through an opening formed in an upwardly-projecting lug or flange *h'* on the separate section *e'* of the truck-frame. The smoke-stack extension *g* is arranged within the body *A A*, and the latter is provided in its bottom with an opening *i*, through which the upper portion of the truck-frame passes. The upper side of the truck-frame bears against the under side of the boiler *A*, and as the truck-frame and smoke-stack are secured together the stack is tightly held against the upper side of the boiler and the upper portion of the truck-frame is firmly held in the opening in the under side of the boiler. This forms a very simple and cheap construction, as but a single rivet is required for securing the smoke-stack and truck-frame to each other and to the boiler or body of the locomotive.

By constructing the stack in one piece it is rendered stronger than a divided stack and the formation of a joint or seam in the stack is avoided, whereby the appearance of the stack is improved.

The body of the locomotive is preferably cast of gray iron and the smoke-stack and truck-frame of malleable iron.

J J represent the steam-cylinders, arranged on opposite sides of the boiler. These cylinders are formed in a single piece separate from the other parts of the locomotive and are connected by a transverse bar *j*. This bar is arranged in vertical slots *k*, formed in the side plates of the truck-frame.

L represents the cow-catcher at the front of the locomotive, which is preferably formed in one piece, with the steam-cylinders and the transverse connecting-bar *j*, and connected to the latter by longitudinal bars *l l*, extending rearwardly from the cow-catcher, as represented in Fig. 3. The transverse connecting-bar *j* is held in place in the vertical slots *k* by laterally-projecting lugs *m m*, formed on the inner side of the side plates of the truck-frame, and upon which the longitudinal connecting-bars *l l* rest, as clearly illustrated in Figs. 2 and 3. The longitudinal bars *l* are passed by these lugs in attaching them to the truck-frame by separating the sections of the truck-frame sufficiently before securing the sections together.

By constructing the cylinders separate from the boiler and truck-frame the same can be readily cast to form entire cylinders which more closely resemble those of large full-sized locomotives than cylinders which are cast on the boiler-sections and consist merely of semi-cylindrical projections, as heretofore constructed.

n represents the connecting rods or wires, extending from the steam-cylinder to the drivers of the locomotive.

O is the bell, and P the supporting-frame in which the bell is suspended. This supporting-frame consists of an open yoke provided at its lower end with a lug *p*, which is secured between two lugs or ears *q q*, formed on the upper adjacent portions of the boiler-sections A A by a rivet passing through said lugs, as represented in Figs. 1 and 4. The lugs or ears on the boiler-sections are arranged a short distance from the edges of the sections, so as to leave a space between the same for the reception of the lug on the bell-frame when the meeting edges of the boiler-sections are in contact, as represented in Fig. 4. This construction permits the bell-frame to be attached to the boiler after the parts of the latter have been secured together, which enables the bell and bell-frame to be conveniently tinned, nickel-plated, or polished, if desired, before attaching it to the boiler. The bell-frame and steam-cylinders are also preferably cast of malleable iron.

In assembling the parts of my improved toy locomotive the cylinder and cow-catcher are first adjusted in the truck-frame and the separate part of the truck-frame is secured to the smoke-stack extension. The boiler-sections are then applied to opposite sides of the smoke-stack and truck and secured to-

gether, and the bell-frame attached to the boiler.

By dividing the locomotive into sections in the manner described the various parts of the locomotive can be conveniently cast in very close resemblance to a large locomotive, the parts are readily assembled, and a simple construction is produced, which enables the toy to be manufactured at small cost.

I claim as my invention—

1. In a toy locomotive, the combination, with the divided body, of a separate smoke-stack formed of a single piece, and a divided truck-frame having one of its sections formed integral with the smoke-stack and its other section secured to the section formed with the smoke-stack, substantially as set forth.

2. In a toy locomotive, the combination, with the divided body provided in its upper and lower sides with openings, of a separate smoke-stack formed of a single piece seated in the upper opening of the body and provided with a downward extension, and a divided truck-frame seated with its upper portion in the lower opening of the body and having one of its sections formed in one piece with the smoke-stack extension and its other section secured to said extension, substantially as set forth.

3. In a toy locomotive, the combination, with the body and the truck-frame, of a pair of separate cylinders and a transverse bar connecting the cylinders and attached to the truck-frame, substantially as set forth.

4. In a toy locomotive, the combination, with the body and the divided truck-frame provided in its sides with upright slots or recesses, of a pair of separate cylinders, a transverse bar connecting said cylinders and arranged in the slots of the truck-frame, and lugs or projections whereby the bar is retained in said slots, substantially as set forth.

5. In a toy locomotive, the combination, with the body divided lengthwise and composed of cast-metal sections, of a truck-frame clamped between the body-sections, a pair of separate connected cylinders attached to the truck-frame, and a cow-catcher formed in one piece with said cylinders, substantially as set forth.

6. In a toy locomotive, the combination, with the body and the divided truck-frame provided in its sides with upright slots, of a pair of cylinders connected by a transverse bar arranged in said slots, a cow-catcher, longitudinal bars connecting the cow-catcher to said transverse bar, and lugs or projections arranged on the truck-frame engaging under said longitudinal connecting-bars, whereby the cylinders and cow-catcher are held in the truck-frame, substantially as set forth.

Witness my hand this 4th day of June, 1889.

GEORGE S. CROSBY.

Witnesses:

W. M. EDWARDS,
J. W. MOODIE.