

Eugene Beggs. Imp^t in Toy Locomotives.

119,006.

Fig. 1.

Patented Sep. 19, 1871.

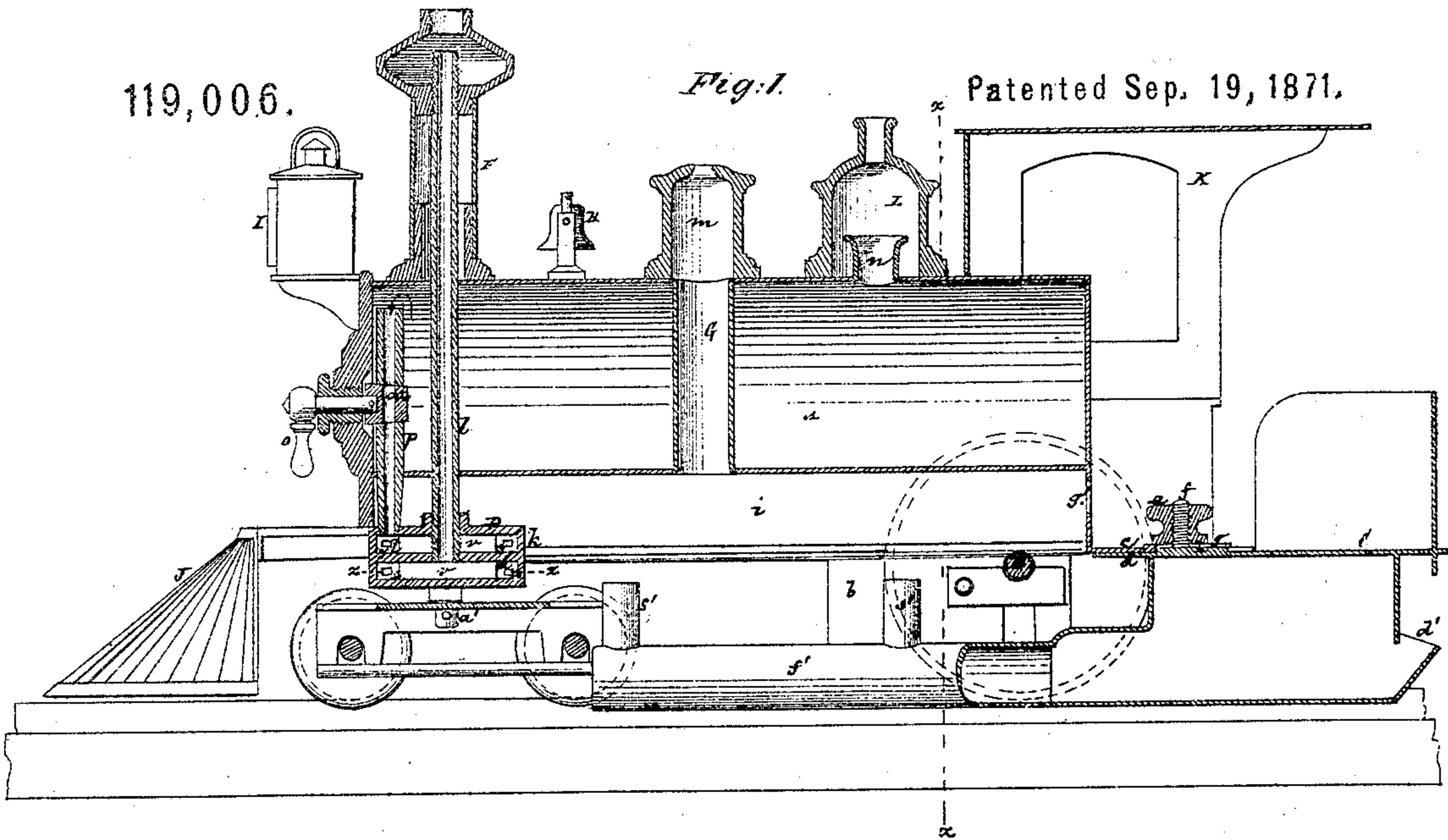


Fig. 2.

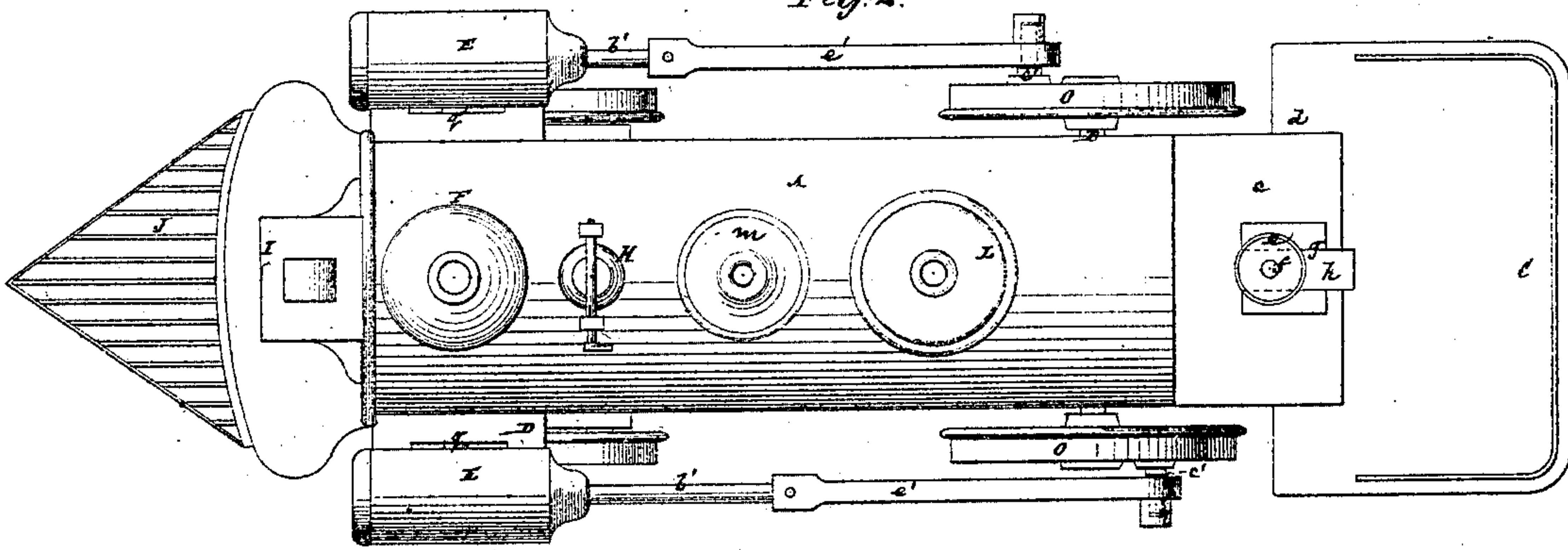


Fig. 3.

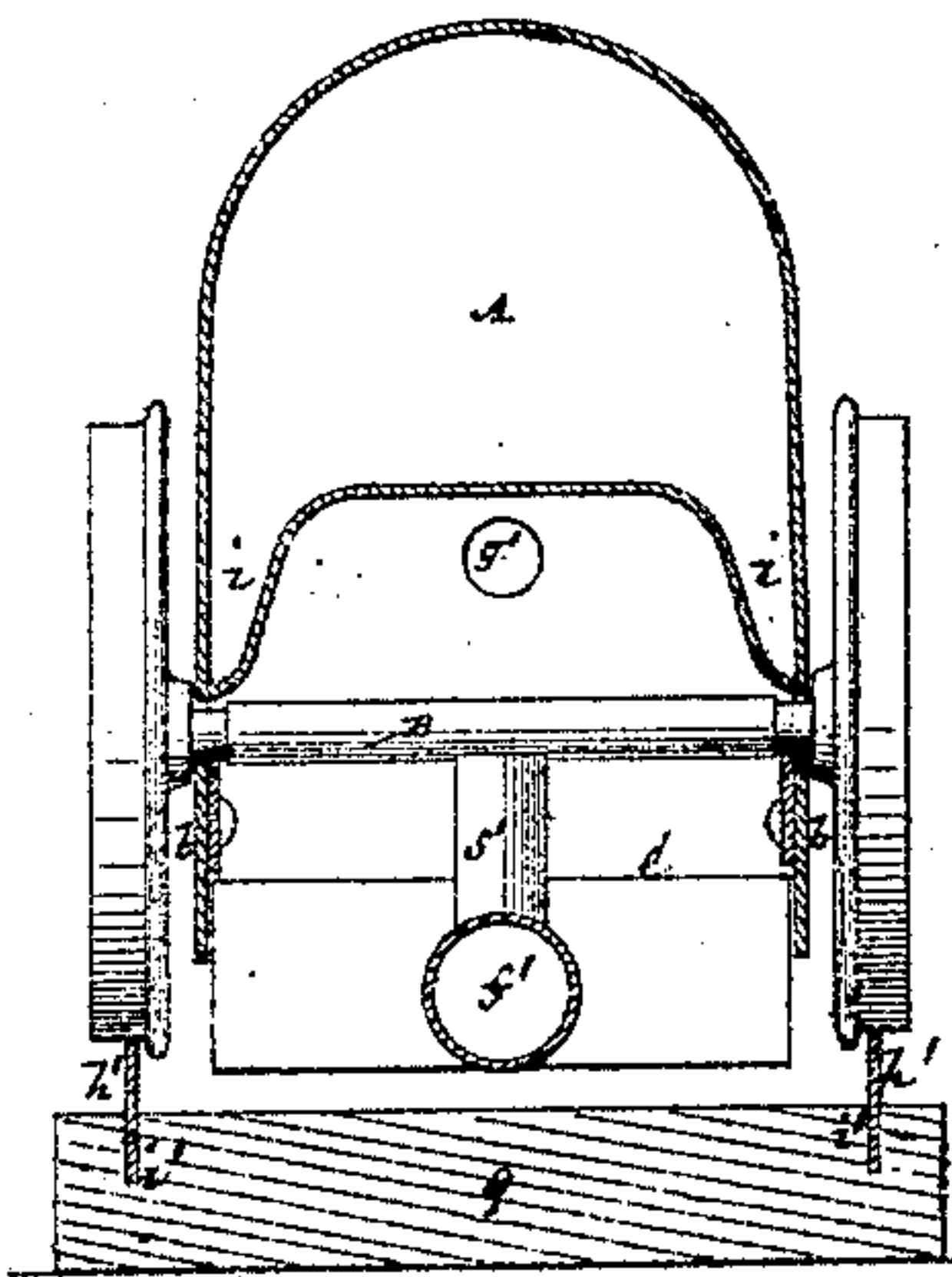
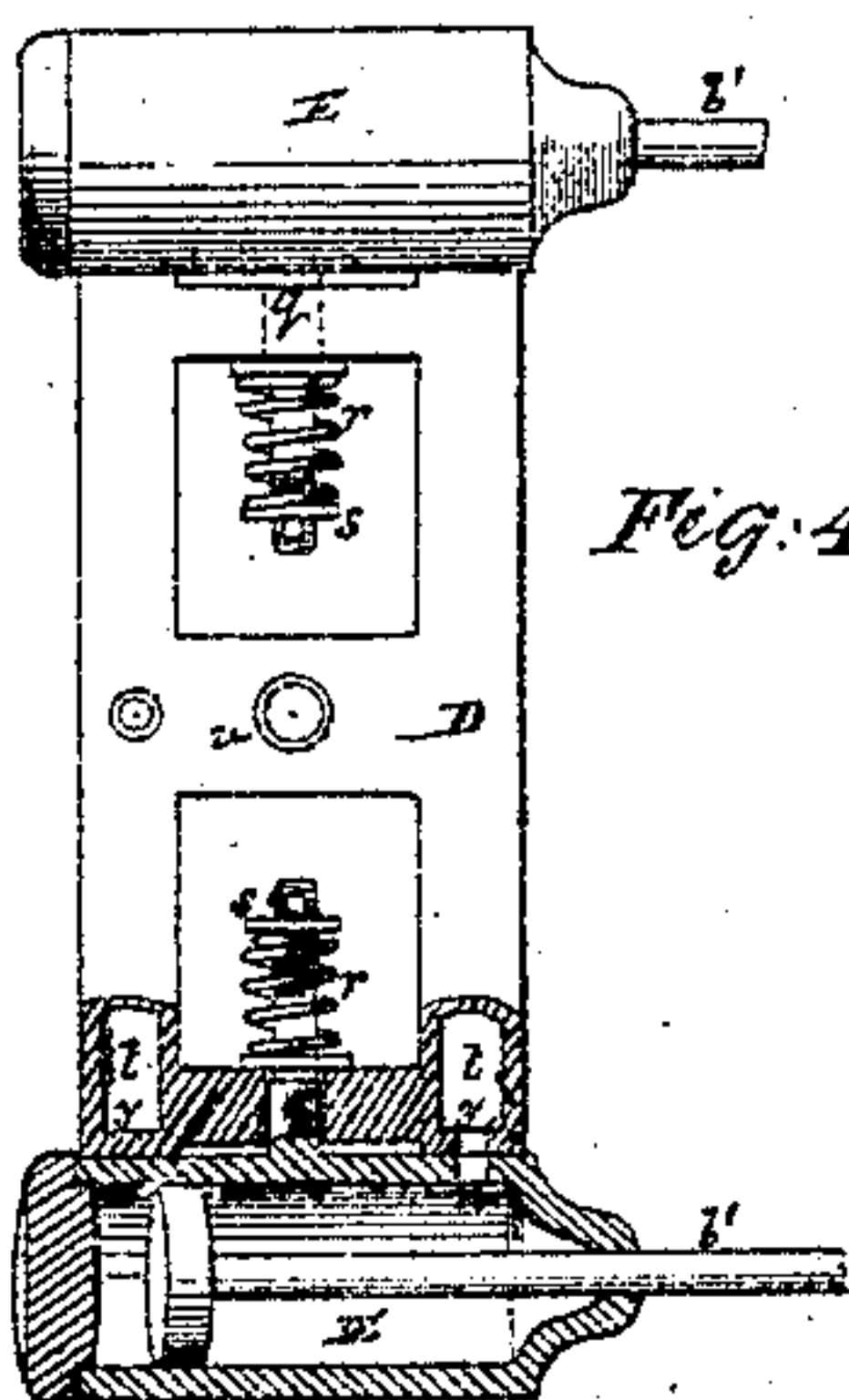


Fig. 4.



Witnesses:
Fred. Humes
R. R. Raben

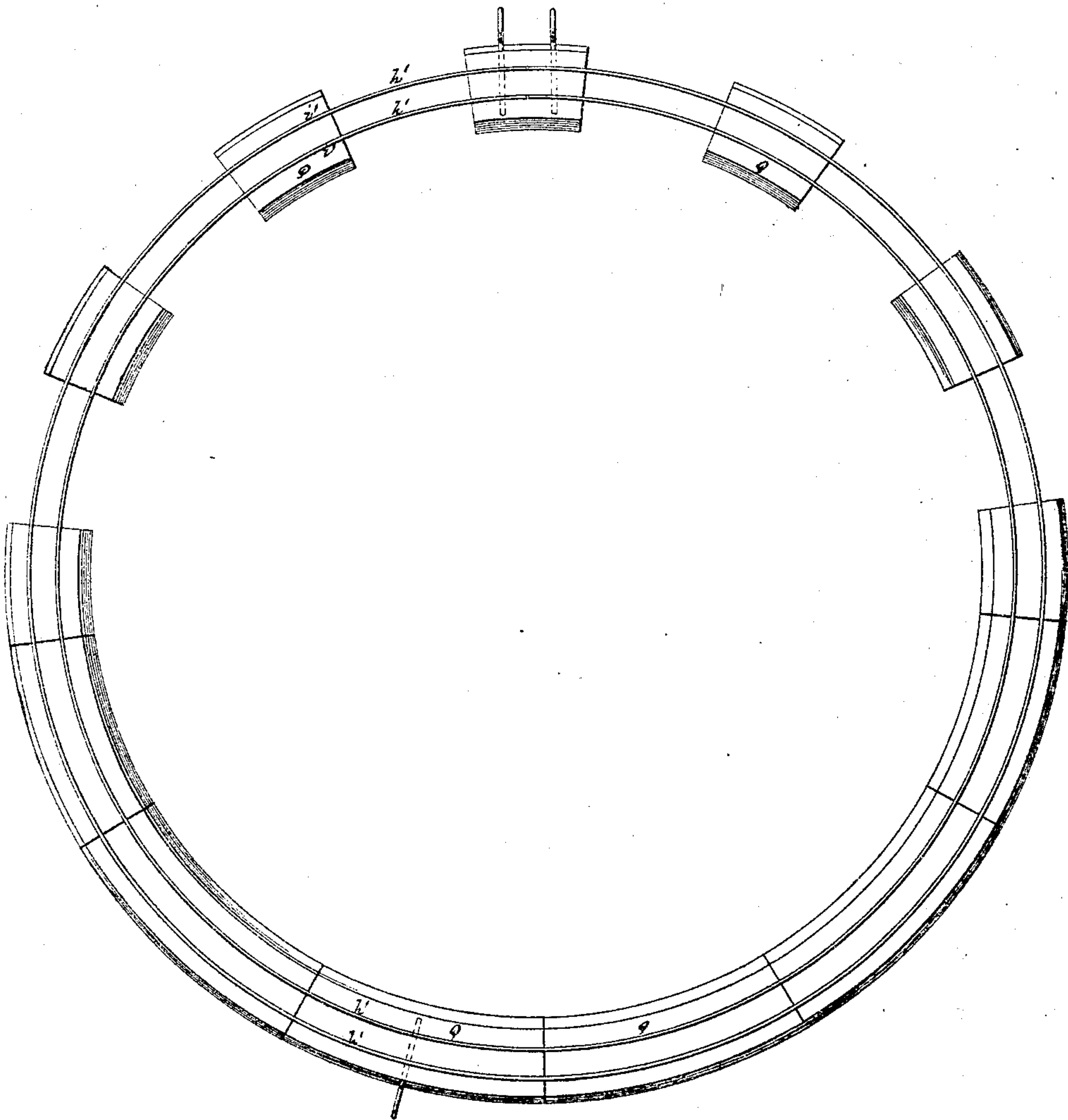
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Fig. 5.



Witnesses:

Thos. H. Hume
R. R. Robinson

Eugene Beggs

UNITED STATES PATENT OFFICE.

EUGENE BEGGS, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN TOY-LOCOMOTIVES AND TRACKS.

Specification forming part of Letters Patent No. 119,006, dated September 19, 1871.

To all whom it may concern:

Be it known that I, EUGENE BEGGS, of Paterson, in the county of Passaic and State of New Jersey, have invented a new and Improved Toy-Locomotive and Track; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a longitudinal sectional elevation of a toy-locomotive constructed in accordance with my improvement. Fig. 2 is a plan of the same; Fig. 3, a transverse section through the line *xx* in Fig. 1; Fig. 4, a partly-sectional plan of the two cylinders with connecting-yoke. Fig. 5 is a plan, upon a reduced scale, of the track on which the locomotive runs.

Similar letters of reference indicate corresponding parts throughout the several figures.

My invention consists in a novel construction and arrangement or combination of certain parts in a toy-locomotive to be run by steam, including also the tender which is constructed to form a lamp for the raising of the steam in the boiler, whereby the symmetry of the locomotive and its resemblance in most particulars to a full-sized locomotive is preserved, every facility for putting together and taking apart its details is obtained, and great efficiency secured in the working of the engine, together with cheapness in the construction of the locomotive, which is preferably arranged to run upon a circular track.

Referring to the accompanying drawing, A represents the boiler of the locomotive, which is made of sheet metal, with its sides in the rear extended, as at *b b*, to form bearings for the driving-axle B, and also with its back end bent or extended in the rear, as at *c*, to establish connection of the tender C with the engine, by the sliding of the top plate *d* of the tender under the bent portion *c* of the end plate of the boiler, and securing such connection by a thumb-nut, *e*, arranged to fit a screw-stud, *f*, on the plate *d*, the portion *c* being slotted, as at *g*, to embrace said stud. The slot *g* may be made to fit a guide or longitudinal swell, *h*, on the plate *d* to direct the fit of the tender to the engine and to retain it in position. By slackening the nut *e* the tender may at any time be slid out and detached from the engine. The boiler A is furthermore constructed with water-legs *i i* on either side, which not only contribute to the heat-

ing-surface, but which are cut away or made to form a jog, *k*, near the forward end of the boiler to establish a rest or shoulder for the yoke D, on either end of which the cylinders E E of the engine are arranged. F is the chimney, into which the exhaust steam is passed by a pipe, *l*, but which is not used for the draught or to carry off the products of combustion, and only serves as an outlet for the escaping steam that, thus not being heated at its point of escape by the heated gases or products of combustion, forms a cloud by condensation on its discharge from the chimney. The products of combustion escape as by a pipe, G, run up through the boiler and mounted by an imitation "sand-box," *m*. H is the bell of the locomotive; I, its head-light or lamp; J, the cow-catcher; K, the cab; and L, a removable imitation steam-dome, which serves as an inclosure of a filling-nozzle, *n*, for supplying the boiler with water, and that may be plugged by a cork or stopper. M is a throttle-valve or cock operated by a handle, *o*, for regulating the supply of steam to the inlet-pipe *p* from the boiler. The yoke D, which extends transversely under the boiler at or near its forward end, butting against the jogs *k*, formed by the side water-legs *i* of the boiler, is made to serve various purposes or uses. Thus, it carries the cylinders E E, which are hung to oscillate, as by trunnions *q q*, subject to the control of springs *r r* and nuts *s s* to hold the cylinders steady up to their bearing against the ends of the yoke, and to form a safety-valve arrangement by allowing steam to blow off, in case of excessive pressure, at the bearing-portions of the cylinders over the holes or ports in the yoke that convey the steam to the cylinders. Said yoke D also forms live and exhaust-steam chambers *t u* by means of a horizontal partition or division, as shown in Fig. 1, the one *t* of said chambers or passages containing the live steam which is admitted to it by the pipe *p* from the boiler, and the other chamber or passage *u* receiving the exhaust steam which passes off up the pipe *l*. These chambers or passages *t* and *u* may either be arranged along both edges or sides of the yoke with connecting cross-passages *v*, or be restricted to only one side or edge of the yoke, accordingly as the cylinders are required to take steam at both or only one of their ends, the engines here being shown as double-acting or having ports *w* at opposite ends of their cylinders, said ports commu-

nicating alternately, as the cylinders oscillate, with ports y and z in the live and spent-steam chambers or passages $t u$. The yoke D is held to its place and made to hold the chimney F to its place by means of the exhaust-steam pipe l , which screws at its lower end into the yoke, passing through the steam-chamber or passage t , and projecting at its upper end through the body of the chimney that may be formed in sections, and said pipe being secured above by the cap of the chimney, which is constructed to form a nut that fits a thread on the upper end of the pipe. The yoke D also carries the pivot a' , on which the truck N that carries the forward end of the locomotive works. The piston-rods b' are preferably connected with the wrist-pins c' of the driving-wheels O by supplementary rods e' , cast with a socket and hole at their one end to connect with the rods b' and a socketed swell at their opposite end to fit the wrist-pins of the wheels they drive, and each resembling, as an entirety, the connecting-rod of an ordinary locomotive. The tender C has its body, below the floor d , constructed to form a reservoir for alcohol or burning-fluid, which may be supplied by a mouth, d' , in its rear, and which is fed to the burners s' by a forwardly-projecting tubular arm, f' . Air to keep up combustion is not only taken in, at or from under the sides of the locomotive, but also in a direct manner at the rear by an opening, g' , in the back-end plate of the boiler, immediately under the bottom of the body of the latter. This arrangement of an air-supply opening or openings I find produces a more equable or steady and thorough distribution of the flame or flames over the heating-surfaces of the boiler when the locomotive is running.

To run this toy to advantage it is desirable to set it on a circular track. This track, which may be twenty feet in diameter, more or less, I make in sections for the convenience of packing when not in use, and so that, if desired, it may be all stowed away in the same box that the locomotive is packed in and yet this box be restricted to moderate dimensions. To this end the track is made up of a series of short blocks, Q, which, when the track is built, may either be arranged at a distance apart or be made to come in contact at their ends, so as to form a ring of the requisite diameter. These blocks are retained in position by the rails $h' h'$, which are thin strips or bands of sheet metal, preferably steel, and which are arranged to fit or enter curved grooves $i' i'$ in the upper faces of the blocks. To take the track apart for packing, the strips $h' h'$ are taken out of

the grooves in the blocks and rolled up, and the blocks afterward piled or packed away separately. It may be found convenient to make the rails or strips $h' h'$ in sections, preferably of equal length, each section fitting a limited series of blocks, which constitutes a section of the whole track, and the rail sections preferably being arranged to break joint with the blocks, so that when only putting the track away temporarily, as, for instance, against the side of a room, it will only be necessary, instead of stripping all the blocks from the rails, to disconnect the two, three, four, or more sections of blocks, with their rail sections in place within them, whereby the track may readily be put in working position again by simply arranging said sections of blocks in their places and connecting them by the rail sections.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The boiler A, formed with water-legs i at its sides, constructed to form jogs or shoulders k at or near the forward end of the boiler, in combination with the yoke D which carries the cylinders, substantially as specified.

2. The combination, with the yoke D and steam-exhaust pipe l , of the chimney F, having its cap constructed to form a nut on the upper end of the pipe, whereby the chimney and yoke carrying the cylinders are mutually supported, substantially as herein set forth.

3. The yoke D, constructed and arranged, substantially as described, to form live and spent-steam chambers $t u$ for operation by suitable ports with the cylinders of the engine.

4. The arrangement of the live and spent-steam chambers or passages $t u$ in the yoke D with the inlet-pipe p and outlet-pipe l , substantially as specified.

5. The tender C, having its body or lower portion constructed to form a reservoir for the fluid by which the boiler is heated, and provided with a forwardly-projecting tube or passage, f' , to convey said fluid to the burners beneath the boiler with which said tender is connected, substantially as specified.

6. The track, composed of curvilinearly-grooved blocks Q Q and strips $h' h'$, combined and arranged substantially as herein described, and for use with a toy-locomotive or cars, as set forth.

EUGENE BEGGS.

Witnesses:

FRED HAYNES,
R. E. RABEAU.