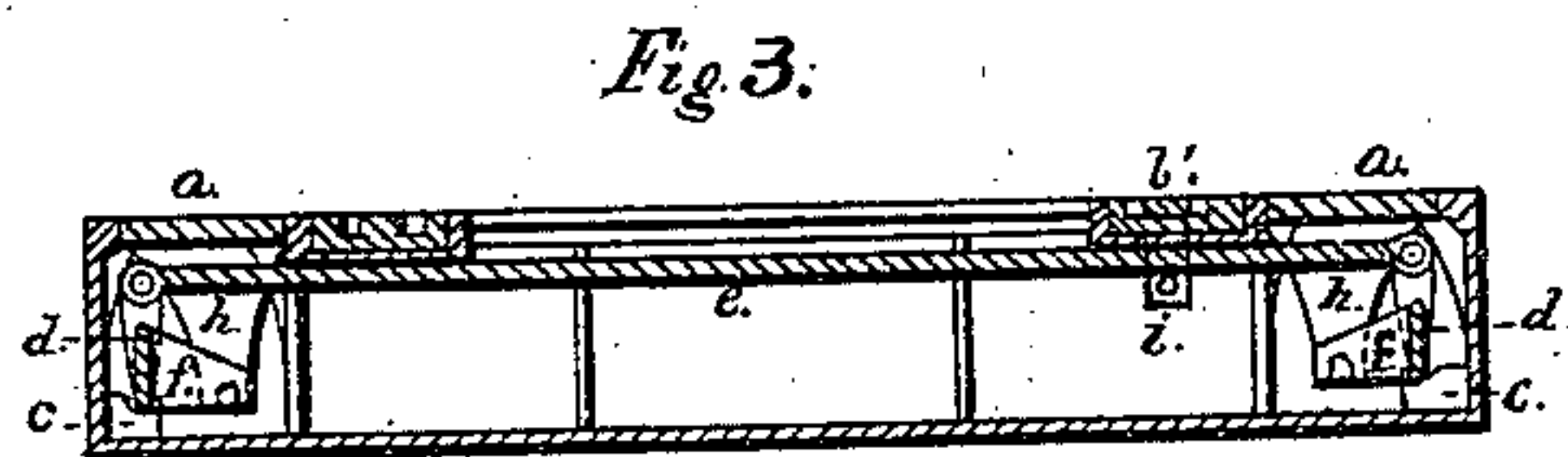
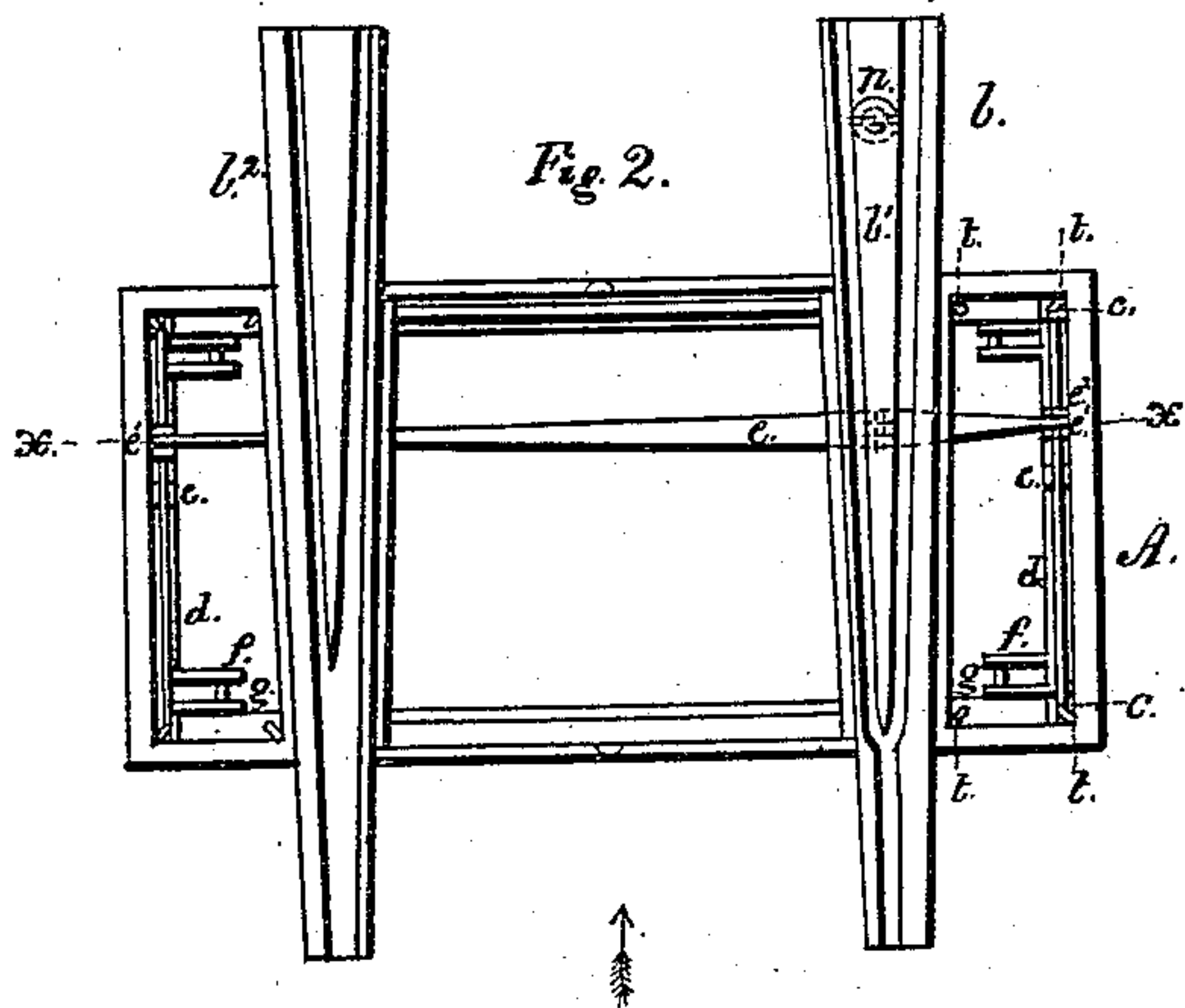
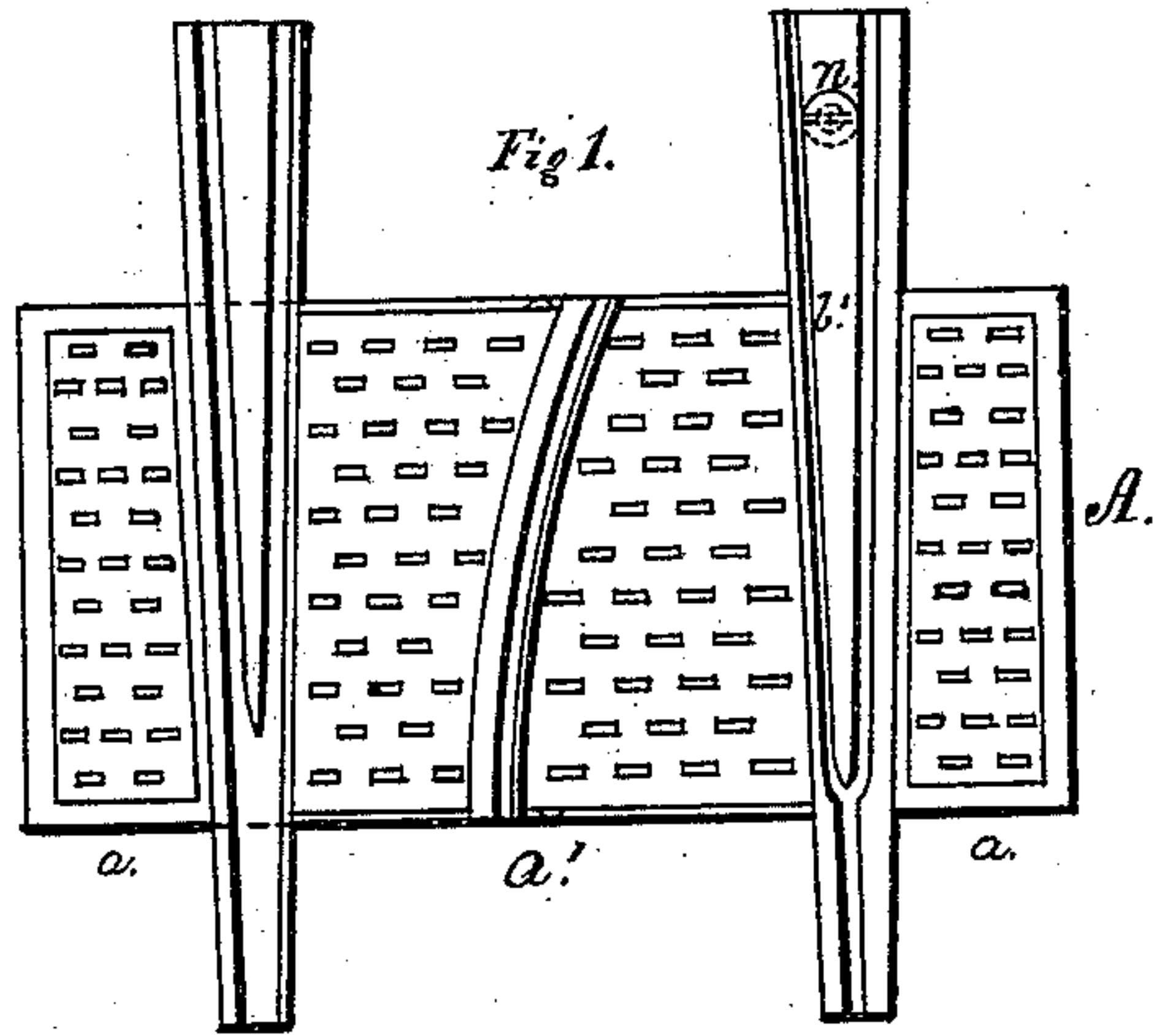


H. DOUGLASS. Railroad Switch.

No. 213,325

Patented Mar. 18, 1879.



Witnesses
John Inglis
Max Stern

Inventor
Henry Douglass.
John Inglis atty

UNITED STATES PATENT OFFICE

HENRY DOUGLASS, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. **213,325**, dated March 18, 1879; application filed August 23, 1878.

To all whom it may concern:

Be it known that I, HENRY DOUGLASS, of the city of Paterson, county of Passaic, and State of New Jersey, have invented a new and useful Improvement in Switches for Horse-Railroads, of which the following is a specification:

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a plan view of my invention. Fig. 2 is also a plan view, the platforms being removed. Fig. 3 is a central section through the line *x x*, Fig. 2.

The object of my invention is to provide easy and reliable means of operating switches in horse or street railroads; and consists in an arrangement of devices, as follows:

A represents an iron frame, near one end of which is arranged the switch *b*¹. Near the other end is arranged a dummy, *b*². These devices rest on and are secured to the iron frame A, and are supported by arches, which rest on the bottom flange of the iron frame A. In this flange are arranged bearings *c c c*, in which bearings work rocking bars *d d*, which are connected at the top to connecting-bar *e* by means of lug *e*¹ and pins *e*², as seen in Fig. 2. The ends of the rocking bars *d d* are supplied with arms *f f*, between which are arranged bearings *g g*, as shown in Fig. 2. Between the arms *f f*, and resting on the bearings *g g*, are brackets *h h*, as shown in Fig. 3, which brackets are secured to and support the balancing-platforms *a a*. The movable tongue or switch *b*¹, on its under side, is supplied with a lug, *i*, which passes through a slot in the casting, also through the connecting-bar *e*, and is secured thereto by a pin, as shown in Fig. 3.

When a car approaches the platforms in the direction of the arrow, the animal is driven on the balancing-platforms *a* to the right, which depresses the platforms, thereby throwing the rocking bars *d d* to the left, which shifts the tongue or switch *b*¹ to the left of the track, thereby switching the car to the right. The switch may remain in this position to accommodate any number of cars traveling in the same direction without driving the horses to the right or left.

Should a car approach the switch to be

switched to the left, the animal is simply driven on the left platform, when the platform is depressed and the rocking bars thrown to the right, when the movable tongue or switch *b*¹ is shifted to the right and the car switched to the left.

In the angles under the balancing-platforms *a a* are arranged stops *t t t t*, which stop the platforms *a a* at that point of depression where they have moved the tongue or switch *b*¹ to the position desired.

The center platform, *a'*, remains stationary, resting on the flanges between the tracks, but may be removed when desired.

All the platforms are supplied with toe-pieces, as shown in Fig. 1, the object of which is to prevent the animals from slipping. The bolt *n*, passing through the movable tongue, is made larger on the top than at the bottom, so that the shoulder of the same may rest on the casting, to prevent the tongue or switch from being drawn too tight. By this method the tongue is always free.

Heretofore much difficulty has attended the switching of cars on street or horse railroads. The first switches required a switch-tender, who, by the use of a lever to which was attached an iron rod, which rod was also attached to the switch-tongue, operated the switch from the position he occupied, which was sometimes on the sidewalk. This method was both expensive and inconvenient. Then was introduced the tip-table switch, operated by driving the draft-animal on a platform. These switches were arranged with wooden frames.

One of the advantages of my balance-switch over all the switches now in use is, that it has an iron frame or curb, which is durable, permanent, and convenient for attaching the other parts of the switch.

In operating the switches heretofore—that is to say, tip-table switches—it was of the first importance that the draft-animals should step on the end of the platform opposite to where it was hinged or hung. This is the case in operating the switch of July 1, 1873, No. 140,433, whereas the animal stepping on any part of the side plates in my balance-switch will move or change the tongue. The sliding bar in the switch patented July 1, 1873, 140,433, is placed in a groove, whereas the connection in my balance-

switch is above the bottom of the pit, out of the reach of all such obstructions as accumulated ice, gravel, &c.

Another decided advantage of my balance-switch is, that when the side plates are depressed they have six points or bearings to support them, so that a heavy truck or load may pass over them without injury to the switch.

What I claim as new, and desire to obtain by Letters Patent, is—

1. An automatic balance-switch consisting of the following devices: iron frame *A*, tracks *b b*, stops *t t*, bearings *c c c*, rocking bars *d d*,

arms *f f*, bearings *g g*, connecting-bar *e*, lugs *e*¹, pins *e*², balancing-platforms *a a*, and brackets *h h*, as shown and set forth.

2. The rocking bars *d d*, provided with arms *f f*, bearings *g g*, connecting-bar *e*, connected to rocking bars *d d* by lugs *e*¹ and pins *e*², as a mechanism for connecting the treadles with switch, as and for the purpose shown and set forth.

HENRY DOUGLASS.

Witnesses:

JOHN INGLIS,
MAX JEHU.