A. A. FRÉCOT.

Safety-Brake for Machinery.

No. 198,799. **Patented Jan. 1, 1878.**

FIG. I

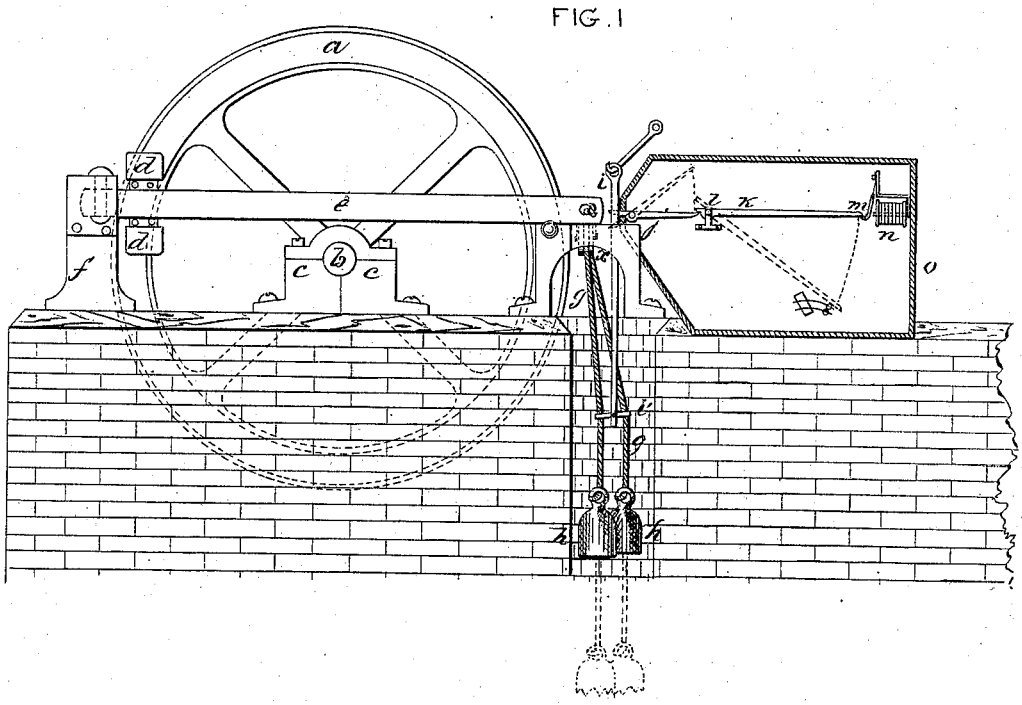
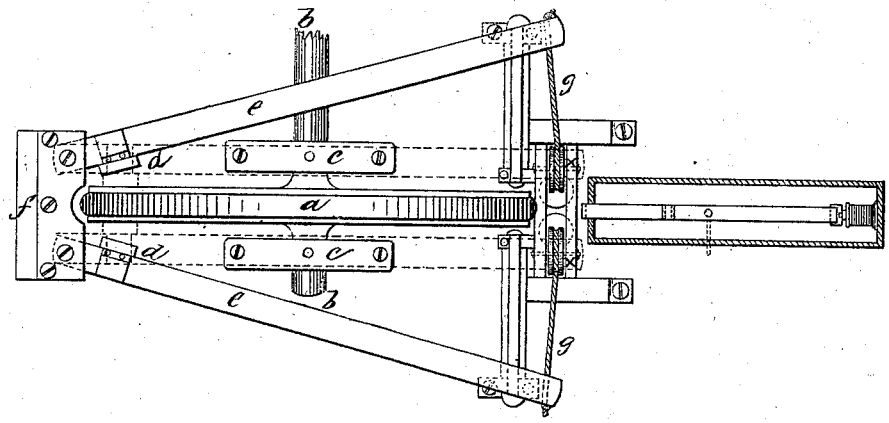


FIG. II



Witnesses:
f. Mennons Jr.
Felix Nava
Clerks to Messrs. Mennons & Co
Paris

Inventor
A. A. Frécot
by his Attorney
Wm. Clemmons

UNITED STATES PATENT OFFICE.

ALEXANDRE ATHÉNODORE FRÉCOT, OF PARIS, FRANCE.

IMPROVEMENT IN SAFETY-BRAKES FOR MACHINERY.

Specification forming part of Letters Patent No. **198,799**, dated January 1, 1878; application filed April 25, 1876.

To all whom it may concern:

Be it known that I, ALEXANDRE ATHÉNODORE FRÉCOT, of Paris, in the French Republic, have invented an Improved Safety-Brake for Machinery, of which the following is a specification:

This invention consists in an improved safety-brake arrangement, by means of which the motion of steam and other machinery may, on an emergency, be arrested in the shortest possible space of time.

Figure 1 of the accompanying drawing represents this arrangement applied to the fly-wheel of a steam-engine. Fig. 2 is a top view of the same.

In these figures, *a* is the fly-wheel, and *b* the driving-shaft in its bearings *c c*. *e e* are two levers, set one on each side of the fly-wheel, and hinged at their outer ends to the pedestal *f*. *d d* are brake-blocks, mounted on the inner sides of the levers *e e* and facing the rim of the fly-wheel. *g g* are cords or chains, secured by one end to the free extremities of the levers *e e*, and which, after passing over the grooved pulleys *x x*, are terminated by the counterpoises *h h*. *i* is a metallic rod, sustained by the trigger, and connected at *i'* with the cords or chains *g g*. *k* is a lever, the back end of which, near the pivot *l*, maintains the point of the trigger *j*. The opposite extremity of this lever *k* enters a notch formed on the keeper *m* of the electro-magnet *n*, which is connected with a voltaic battery placed in any suitable position. *o* is a case inclosing the disengaging-gear.

When required to set in action the apparatus, arranged as above, the circuit is completed by means of any suitable contact mechanism, and the keeper *m*, being attracted by the electro-magnet *n*, sets free the lever *k*, the trigger *j*, and the rod *i*, to which are suspended the counterpoises *h h*. The latter, in their fall, draw together the free extremities of the levers *e e*, causing the brake-blocks *d d* at the opposite ends to grasp the rim of the fly-wheel, and to exercise thereon a pressure corresponding with the weight of the counterpoises and the length of the levers on which they act.

It will be understood that the disengaging-gear inclosed in the case *o* may be of very small dimensions as compared with those of the brake to which it is applied; and that, if so desired, the electro-magnetic attachment may be replaced by a suitable mechanical equivalent—such, for instance, as by pull or push pieces, distributed in any required number over the establishment in which the apparatus is used.

When the machinery to be acted on is such as cannot be stopped by brake-power alone, I include in the circuit an auxiliary apparatus similar to the disengaging-gear above described, for the purpose of cutting off the steam or other motive fluid immediately before the operation of the brake. This auxiliary apparatus, which forms part of a fire-alarm and gas intercepter, described in my separate application for a patent of same date as the present, is composed of a weighted pulley set on the key of the inlet-cock of the engine, which pulley, when liberated by its disengaging-gear, carries the key to the closed position simultaneously, or nearly so, with the action of the main apparatus on the brake-levers.

If so desired, the fire-alarm above referred to may also be included in the combination.

What I claim is—

1. The levers *e e*, hinged in pedestal *f*, with brake-blocks *d d* and counterpoises *h h*, by the fall of which the free ends of said levers are brought toward each other, causing the blocks to grasp the rim of the fly-wheel, or its equivalent, the whole constructed, combined, and operated in manner and for the purpose substantially as herein set forth, and shown by the accompanying drawing.

2. The disengaging-gear as described and shown, by means of which the counterpoises *h h* can be instantaneously set free.

A. A. FRÉCOT.

Witnesses:

F. MENNONS, Jr.,

JULES FONTENELLE,

Clerks to Messrs. Mennons & Co., Patent Solicitors, Paris.