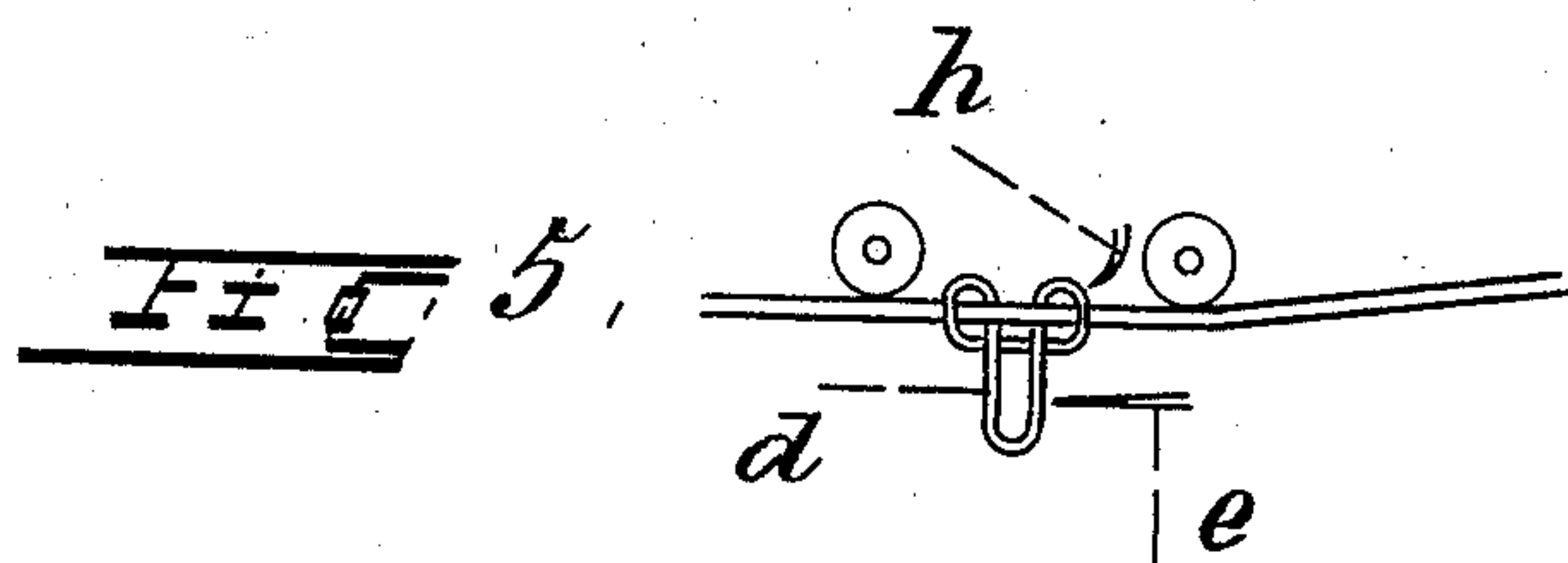
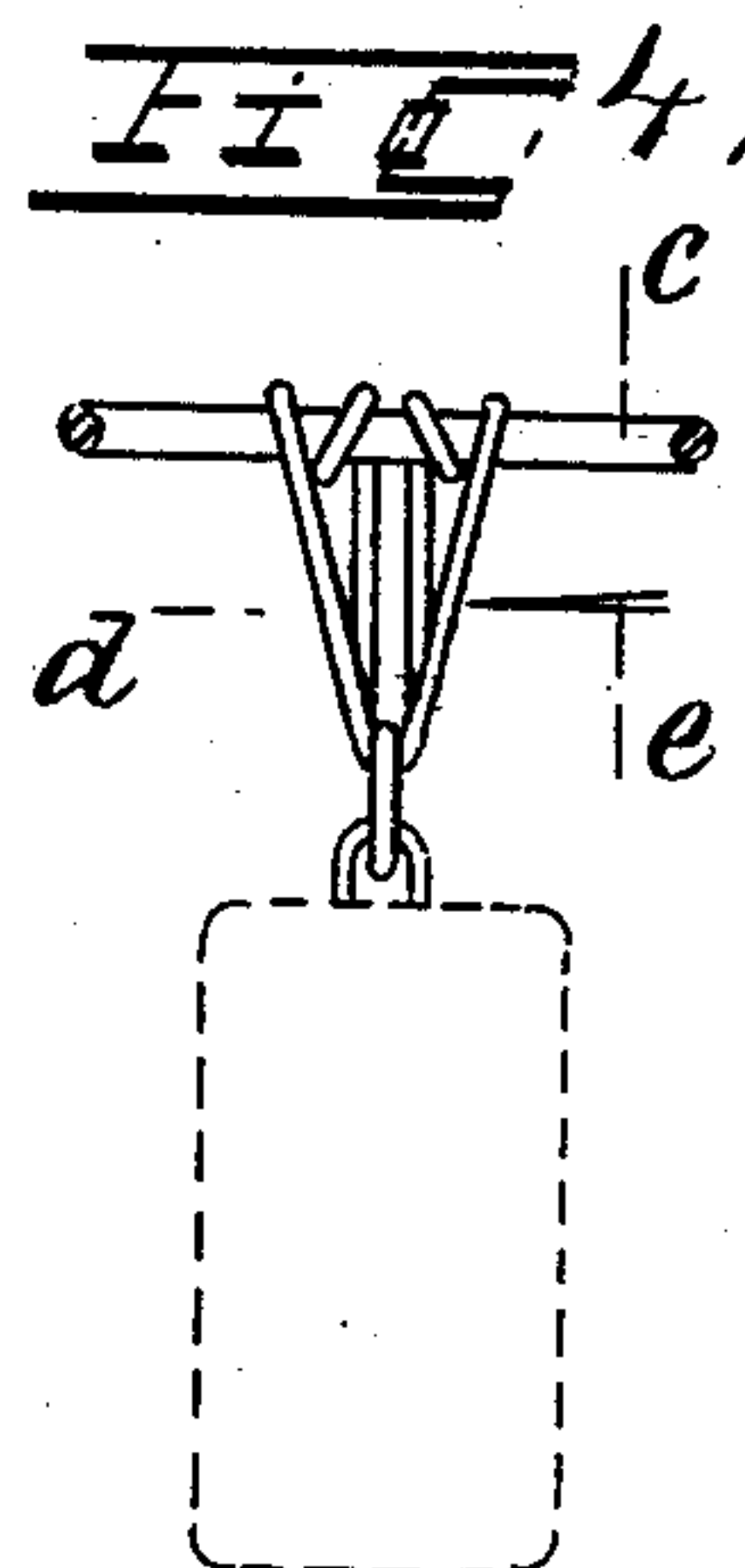
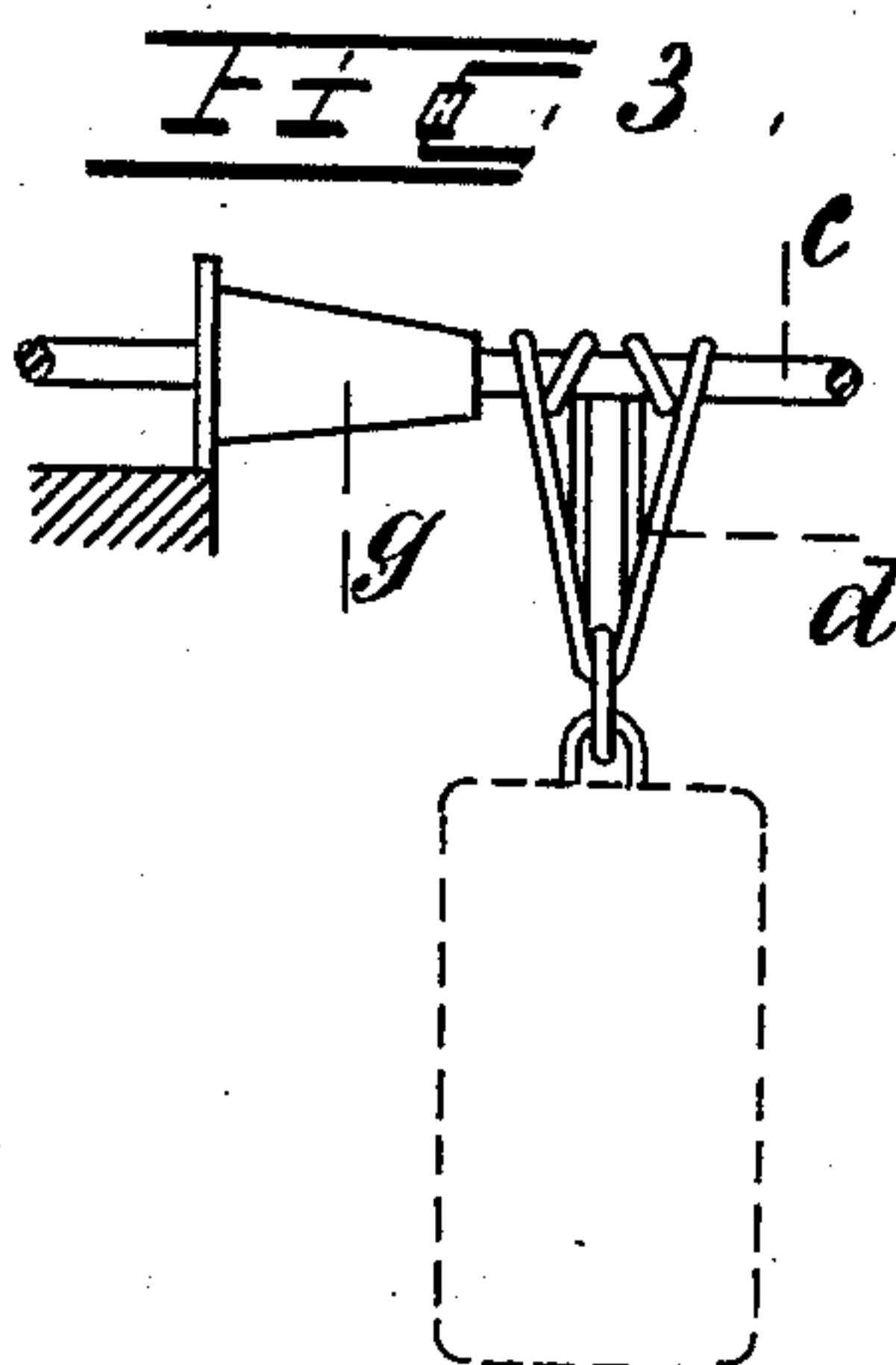
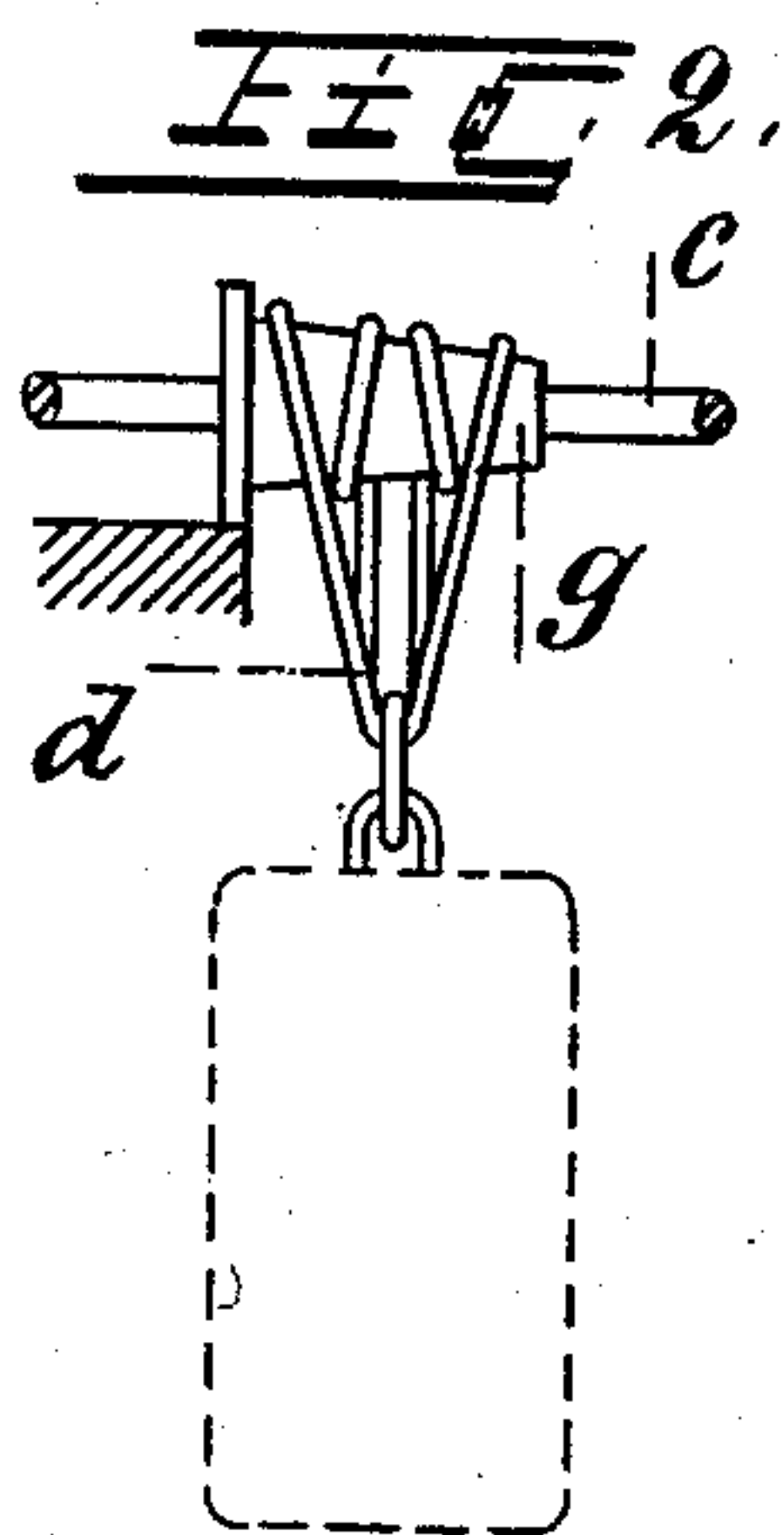
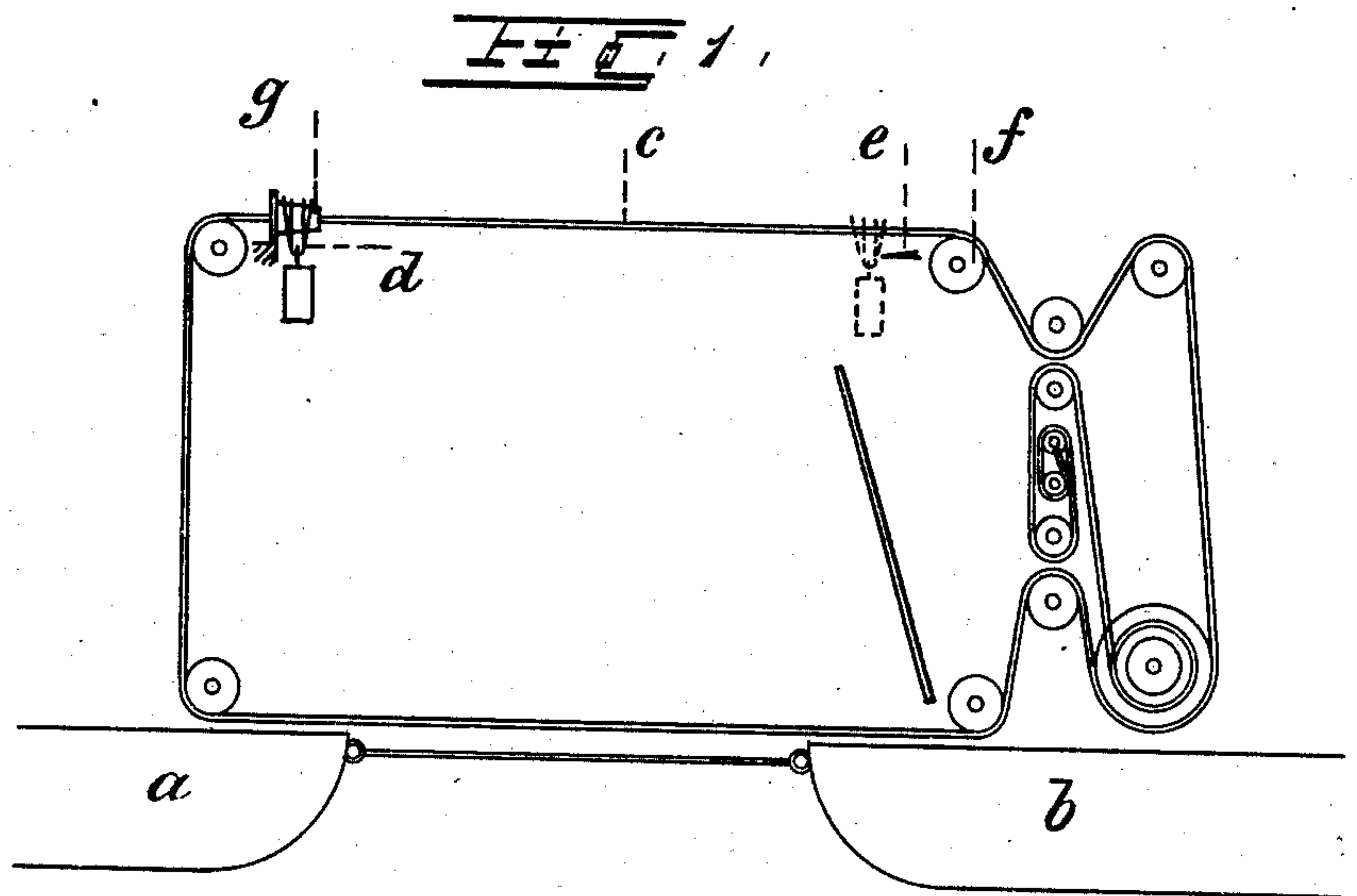


No. 840,099.

PATENTED JAN. 1, 1907.

H. O. ADAM.
DEVICE FOR TAKING IN COAL AT SEA.
APPLICATION FILED MAY 3, 1905.



WITNESSES
K. M. Kuehne
John A. Percival

Inventor
Heinrich Otto Adam
BY *Richard H. [Signature]*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

HEINRICH OTTO ADAM, OF DRESDEN, GERMANY.

DEVICE FOR TAKING IN COAL AT SEA.

No. 840,099.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed May 3, 1905. Serial No. 258,599.

To all whom it may concern:

Be it known that I, HEINRICH OTTO ADAM, chief engineer, a subject of the German Emperor, residing in the city of Dresden, Kingdom of Saxony, German Empire, have invented a certain new and useful Device for Taking in Coal at Sea, of which the following is a specification.

The taking in of coal from the coal-ship, or, generally speaking, from one ship onto the other ship, as heretofore practiced, as is well known, used to take place by connecting both ships by means of a hawser or hauling cable or rope and by then arranging a rope circuit between both of the ships, the bags which are filled with coal being suspended from the said rope circuit, so as to be hauled from one ship to the other. In this arrangement the bags are suspended from the hoisting-rope by means of iron hooks of special construction, which when they arrive upon the ship to be loaded abut against a stop, which acts upon the said hooks in such a manner as to detach them from the hoisting-rope, so that the hooks with the coal-bags drop off from the rope. This manner of hoisting the coal from one ship to the other presents, however, a number of inconveniences, among which in the first place the fact has to be mentioned that the detaching of the hook sometimes fails to work. This drawback is also coupled with the inconvenience that on account of the very often greatly changing and varying elevation of the hoisting-sheave the hooks with the coal-bags are not carried along with sufficient security, the hooks getting pushed close to each other and failing to be detached in time from the rope. Whenever any stop or irregularity has, however, occurred in the regularity of the hoisting operation, the locating and removing of the difficulty cause in most cases a loss of sometimes very valuable time.

To dispense with these difficulties is the object of the present invention, and this is accomplished by using ordinary hooks in place of the hoisting-hooks heretofore employed, which are rather expensive and present the above-mentioned inconveniences, the said ordinary hooks being, however, not directly fastened to the hoisting-rope, but by means of tow-loops, the tow being severed by mechanical means as soon as the coal-bag has arrived at the ship it is desired to load at a suitable place.

The new arrangement for taking in coal at

sea is shown diagrammatically in Figure 1 of the accompanying drawings, while Figs. 2 to 4 illustrate the operation of slinging the rope, and Fig. 5 is a device for the lifting off of the severed hitch of tow in case the hitch is not drawn off from the hoisting-rope by the dropping coal-bag.

The coal-ship *a* is connected by the hauling rope or hawser *c* to the ship *b* where the coal is to be taken in. Then the endless-rope circuit is laid in the ordinary manner, the coal-bags being suspended from the upper branch *c* of said circuit. The hitch of tow is slung around the running hoisting-rope in the manner illustrated in Fig. 3 of the drawings—that is to say, while the one closed end of the hitch of tow *d* is suspended at one side of the hoisting-rope the other closed end is passed through the depending loop-forming end—and it is then passed around the hoisting-rope in such a manner that the two closed ends will then be suspended from the hoisting-rope *c*, forming a double hitch, in which the coal-bag is suspended by means of an ordinary S-shaped hook. The coal-bag will then tighten the hitch put around the hoisting-rope to such an extent that the hitch is sure to be seized and carried along by the hoisting-rope in its travel. The rope hitch *d* will thereby pass onto the ship *b*, where it strikes against a knife *e*, which is arranged in any suitable manner near the sheave *f*, and the hitch of the tow is thereby cut through. As soon as one side of the hitches of the tow has been severed the weight of the suspended coal-bag pulls the entire tow off from the wire rope, inasmuch as the bag is still suspended from the hitch. Hence the bag does not only drop off, as required, at a convenient place, but the tow by which it has been carried thus far is also pulled off by mechanical means from the hoisting-rope, so that it is prevented from interfering with the movement of the hoisting-rope and with the correct transportation of the following coal-bags. In view of the great speed at which the hoisting rope usually runs the slinging around of the tow *d* may be attended with difficulties and may even cause danger to the operator. This is avoided by passing the hoisting-rope at the place where the loading is to be effected through a stationary hollow cone *g*, Figs. 1 and 2, of such length that the operator is able to effect the formation of hitch described upon said cone. By this means there is no danger to the operator, and when

the hitch is correctly formed the operator merely pushes it by hand or by means of a lever unto the running hoisting-rope, and he then suspends the coal-bag from it, which
 5 will then tighten the hitch. Inasmuch as the hitch of tow is now directly suspended from the hoisting-rope, which runs freely through the stationary hollow cone *g*, only
 10 moved along by the hoisting-rope, and the hauling down of the bag and the detaching of the same from the hoisting-rope take place in the manner already indicated; yet the consumption of tows may be further reduced
 15 by using a single hitch only for engagement with the coal-bag instead of the double hitch, Figs. 2 and 3. The suspended coal-bag will draw the hitch of tow so tightly in this case also that the hoisting-rope will be sure to
 20 carry the hitch along, notwithstanding the variation of level of the ships.

By the severing of the hitch by knife *e* the suspended coal-bag drops off. Still the bag is not capable of pulling the tow off from the
 25 hoisting-rope, as in the case of the hitch shown in Fig. 3; but for this purpose it is necessary to employ a take-off device for the tow, which, as shown in Fig. 5 of the drawings, has the shape of a curved prong *h*. The
 30 hitch of tow is forced unto this prong, and it is thereby retained and drawn off as the

hoisting-rope continues to run. The manner of removing the severed tow *d* from the prong *h* does not constitute a subject of my invention. This may be effected by a rotating
 35 scraper or, furthermore, by enlarging the rear part of the prong so as to form a kind of knife. The next hitch of tow arriving will then push that hitch which is already mounted upon the prong farther on, the hitch being
 40 cut in this manner and dropping off.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In combination with an endless rope circuit, a hitch of tow adapted to carry a coal-
 45 bag placed on said rope circuit and a knife provided at the place of unloading and in the place of movement of the hitch of tow, substantially as described.

2. In combination with an endless rope
 50 circuit, a cone placed at the place of suspension through which the rope is free to pass, a hitch of tow for carrying the coal formed upon said cone and a knife provided at the
 55 place of unloading and in the path of movement of the hitch of tow.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HEINRICH OTTO ADAM.

Witnesses:

PAUL E. SCHELLING,
 PAUL ARRAS.