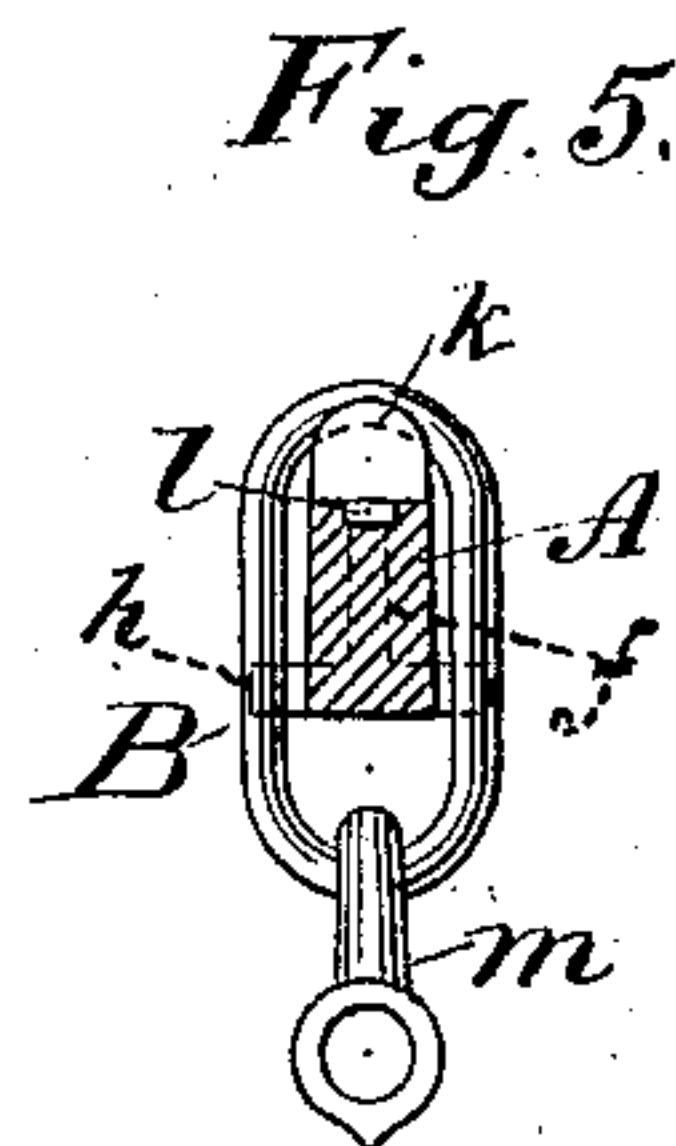
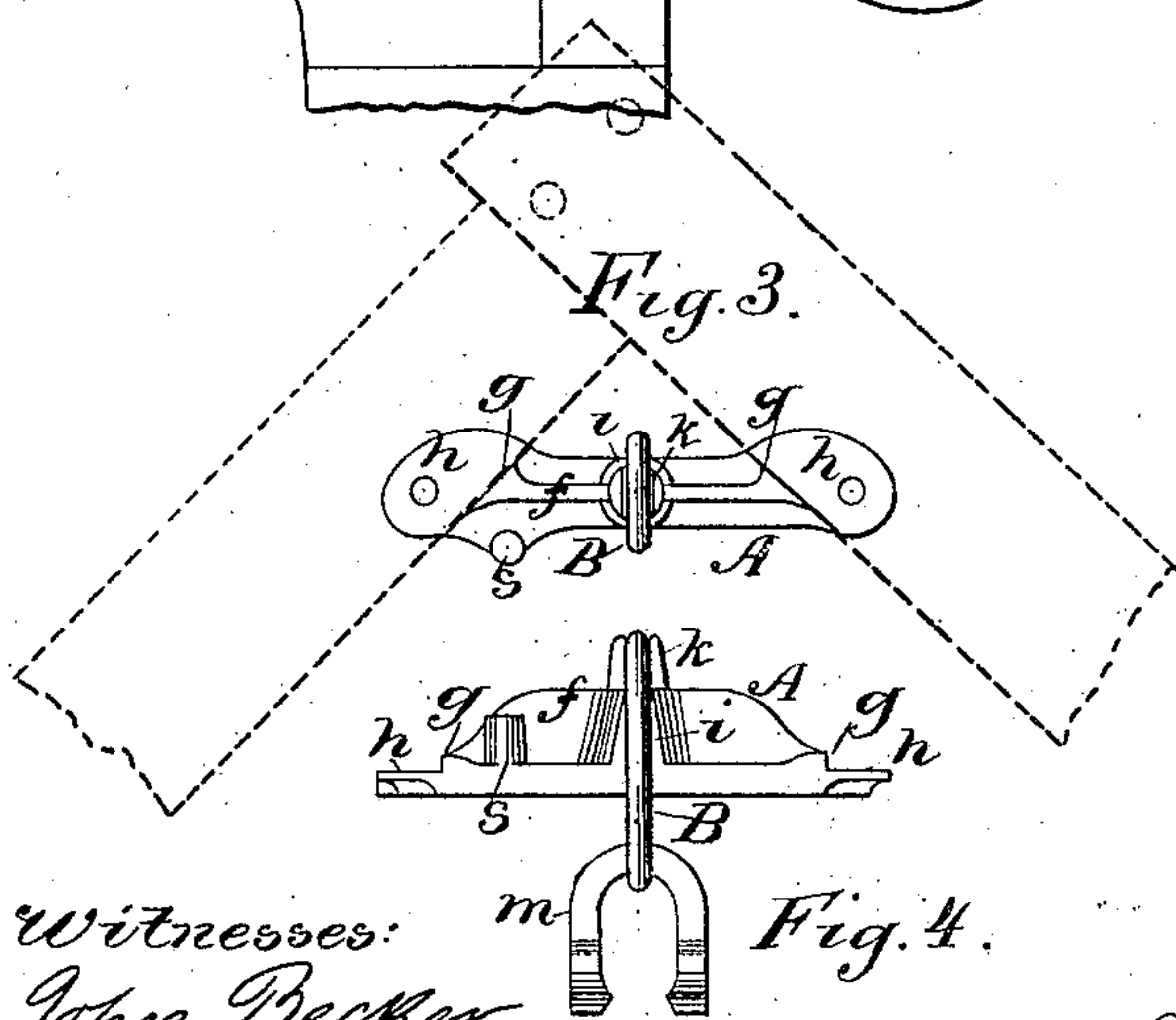
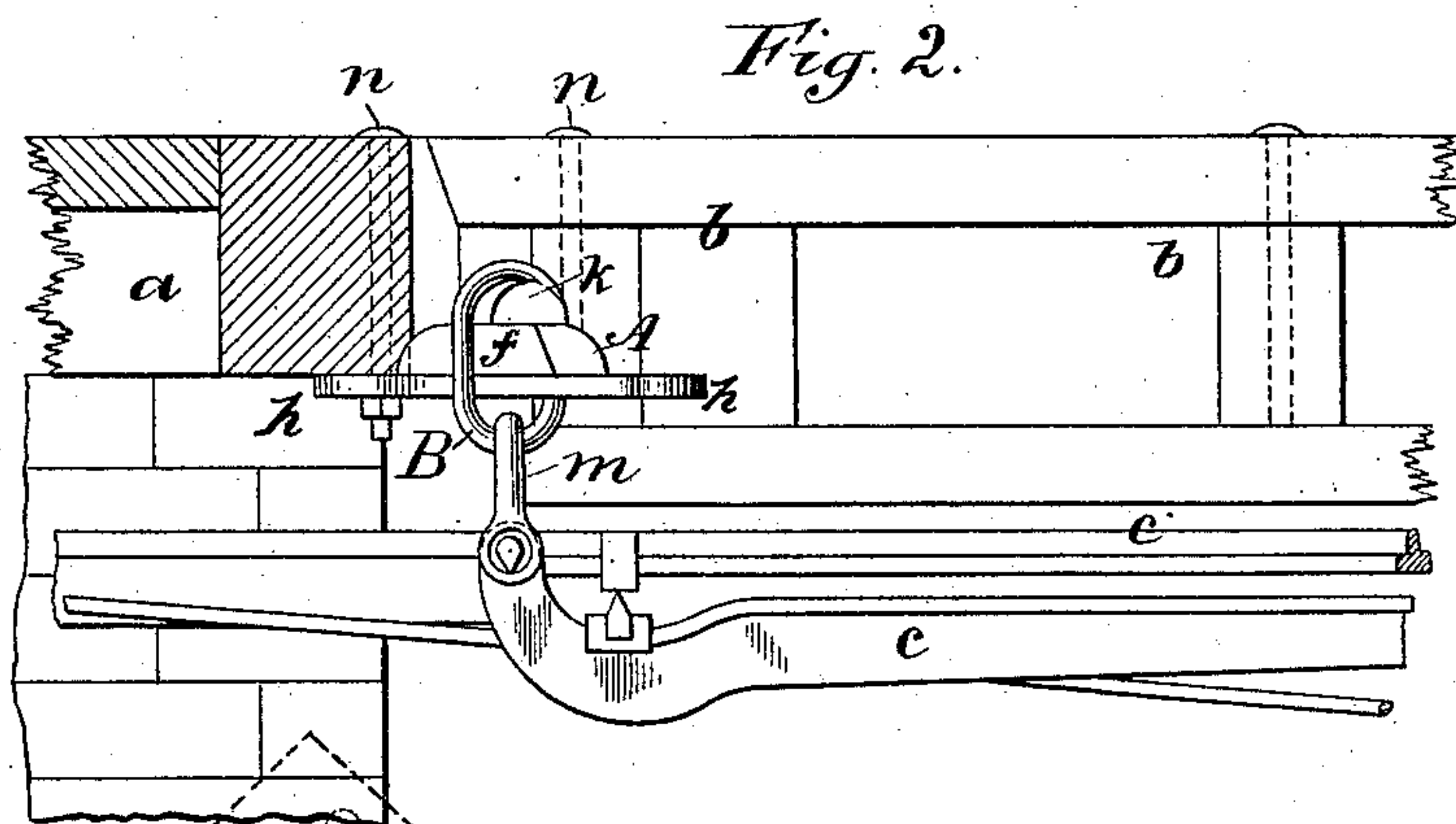
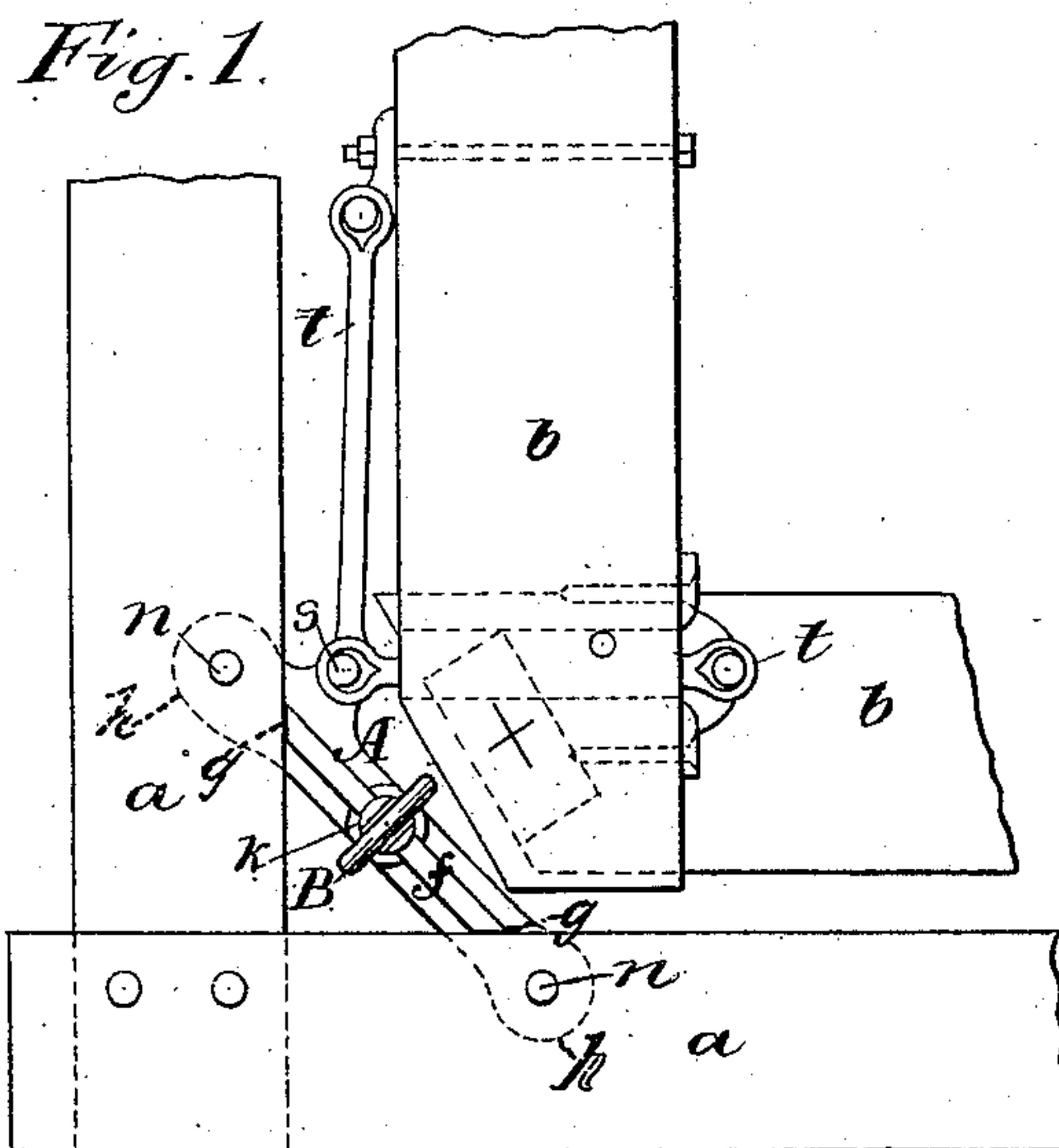


(No Model.)


D. L. COLUMBIA.
PLATFORM SCALE.

No. 303,122.

Patented Aug. 5, 1884.



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UNITED STATES PATENT OFFICE.

DANA L. COLUMBIA, OF RAVENSWOOD, ILLINOIS, ASSIGNOR TO E. & T. FAIRBANKS & CO., OF ST. JOHNSBURY, VERMONT.

PLATFORM-SCALE.

SPECIFICATION forming part of Letters Patent No. 303,122, dated August 5, 1884.

Application filed October 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, DANA L. COLUMBIA, a citizen of the United States, residing in Ravenswood, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Platform-Scales, of which the following is a specification.

My improvement applies to that part of platform-scales known as the "corner-irons," which are supporting plates or brackets fixed diagonally in the corner of the platform pit or frame, and bolted to the framing-timbers, and from which are supported or suspended the fulcrum pivotal loops, in which the large levers underlying the platform and connected with the scale-beam are fulcrumed.

My invention lies in an improved form and arrangement of corner-iron with a suspending link or loop, whereby the same are better adapted for shallow platform-pits, and whereby the construction of the parts is greatly strengthened and simplified, as hereinafter fully set forth.

In the drawings annexed, Figure 1 presents a fragmentary plan view of a platform-scales at the corner of the platform and its casing, showing my improved corner-iron in relation therewith. Fig. 2 is a fragmentary sectional elevation of the same parts. Fig. 3 is a plan of the improved corner-iron removed. Fig. 4 is an elevation thereof, with the suspending-link and fulcrum-loop; and Fig. 5 is a cross-section thereof.

In Figs. 1 and 2, *a* indicates the strong fixed timber framing which surrounds the top of the platform-pit, and *b b* indicate the platform of the scales, which fits into the pit and rests on the underlying levers *c c*, which are fulcrumed at the corners of the fixed frame and connected with each other and with the scale-beam in the usual manner.

Now, *A* indicates my improved corner-iron, which extends, as usual, diagonally across the corners of the fixed frame *a*, and is suitably bolted to the timbers of the frame. This corner-iron is, however, of peculiar form and arrangement, as will now appear—that is, referring to Figs. 3, 4, and 5, it will be noted that the corner-iron is a long and narrow plate, preferably of cast-iron, its under side being flat, while its upper side has a longitudinal

central web or flange, *f*, rising thereon to a height, say, equal to or greater than the width of the plate, which gives the plate a **I**-section through said flange, and greatly strengthens and stiffens the same. This flange *f* does not extend quite to the ends of the plate, but terminates, at some distance from the ends, in a gradually-descending curve, which ends at flanges or shoulders *g g*, which extend diagonally across the ends of the plate at right angles to each other, as shown in Fig. 3. The ends of the plate beyond these shoulders *g g* are flat and broad, forming flat ears *h h*, adapted to fit snugly against the under side of the frame-timbers *a a*, when the plate is fixed thereto by means of bolts *n n*, as shown in Figs. 1 and 2, while the shoulders *g g* abut against the upright sides of the timbers *a*, as indicated in Fig. 1, and by dotted lines in Fig. 3, and thus determine the proper diagonal position in which the corner-iron is to be secured to the timbers, and render the attachment of the same thereto accurate and firm, as will be readily understood. The center of the corner-iron is strengthened by a cylindrical or slightly-tapering boss, *i*, which rises from the base to the top of the flange *f*, and on the top of this boss is mounted a pivotal or swiveling block, *k*, having a short round pintle or stem on its under side, which fits into a corresponding socket in the top of the boss, as seen best in Fig. 5, so that the block is thus capable of turning slightly on the boss, as will be understood. Across the top of the block is formed a semi-circular groove, (see Figs. 3, 4, and 5,) in which is socketed a suspending-link, *B*, which straddles and surrounds the middle of the corner-iron and depends below the same, as shown in Figs. 2, 4, and 5, and in the lower depending bight of the link is suspended the fulcrum-pivot loop *m* of ordinary form, in which the knife-edge fulcrum-pivots of the platform-levers *c* are pivoted, as shown in Fig. 2.

It will be seen that as the link *B* bears upon and is suspended from the pivotal block *k*, hence the block with the link *B* and its depending loop *m* are therefore swiveled on the corner-iron, and can thus adapt themselves to the correct position of the fulcrum-pivots of the levers *c*.

It will of course be readily understood that

each corner of the platform-casing *a* is provided with one of the corner-irons and suspending links or loops, in each one of which one of the four platform-levers is pivoted, according to the usual system of platform-scales, only one of these corners being shown in the drawings, as my invention does not concern the general mechanism of the scale. One end of the corner-iron is cast with a pintle-lug, *s*, (see Figs. 3 and 4,) to receive the eye of the check-rods *t*, as shown in Fig. 1.

It will now be appreciated that my improved corner-iron and the suspending-link, arranged as shown, present great advantages over the constructions heretofore adopted—first, the corner-iron is solid and imperforate at the center, and is thus very strong and not liable to spring or break, and is greatly re-enforced by the flanged and bossed construction described, whereas the construction heretofore used is perforated through the center; secondly, the suspending-link *B* straddles the corner-iron, and is supported on the top of the same in the position most favorable to strength, which, furthermore, raises the position of suspension of the link high above the base of the corner-iron, instead of being far below it, as heretofore, so that not only is this arrangement very strong and compact, but it requires less depth in the platform-pit, and enables shallow pits to be employed, and the lever mechanism to be brought closer up under the platform, which is a decided advantage, as will be readily apparent. Furthermore, the construction of the corner-iron is much simpler and cheaper when formed as described than when formed as heretofore.

If desired, the link *B* separate from the pivot-loop might be dispensed with, and the pivot-loop *m* might be formed so as to straddle and hang directly from the corner-iron; but I prefer the devices shown. Again, if desired, the swiveling block *k* might be omitted, and the top of the boss *i* might be grooved to receive the link *B* directly; but I prefer the construction shown.

I do not of course confine myself to the exact form of the corner-iron illustrated and described, that is cast with a flat base-plate having the upright flange *f*, boss *i*, and ears *h h*, as the corner-iron may be a simple girder-like bar or beam of solid, square, or any other cross-section without departing from the main features of my invention.

What I claim is—

1. In a scales, a corner-iron consisting of a girder-like beam or plate extended diagonally across the corner of the platform-pit, in combination with a fulcrum-suspending link or loop straddling said plate transversely and bearing upon and suspended from the top of the same, and depending below the same to receive the fulcrum-pivots, substantially as herein set forth.
2. In a scales, a corner-iron consisting of a short girder-like beam or plate having a solid imperforate center, in combination with a suspending link or loop straddling said center of the plate and bearing upon the top thereof, and depending below the plate to receive the fulcrum of the platform-levers, substantially as herein shown and described.
3. The combination, with the corner iron or plate *A*, of the link *B*, straddling the same, and the loop *m*, hung from said link below the plate, as and for the purpose set forth.
4. The combination, with the corner-iron *A*, of the pivotal block *k*, mounted thereon, and a suspending fulcrum loop or link bearing upon said block and straddling the corner-iron and depending below the same, substantially as herein set forth.
5. The combination, with the corner-iron *A*, of the pivotal bearing-block *k*, suspending-link *B*, and fulcrum-loop *m*, arranged and operating substantially as herein set forth.

DANA L. COLUMBIA.

Witnesses:

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T. EVERETT BROWN.