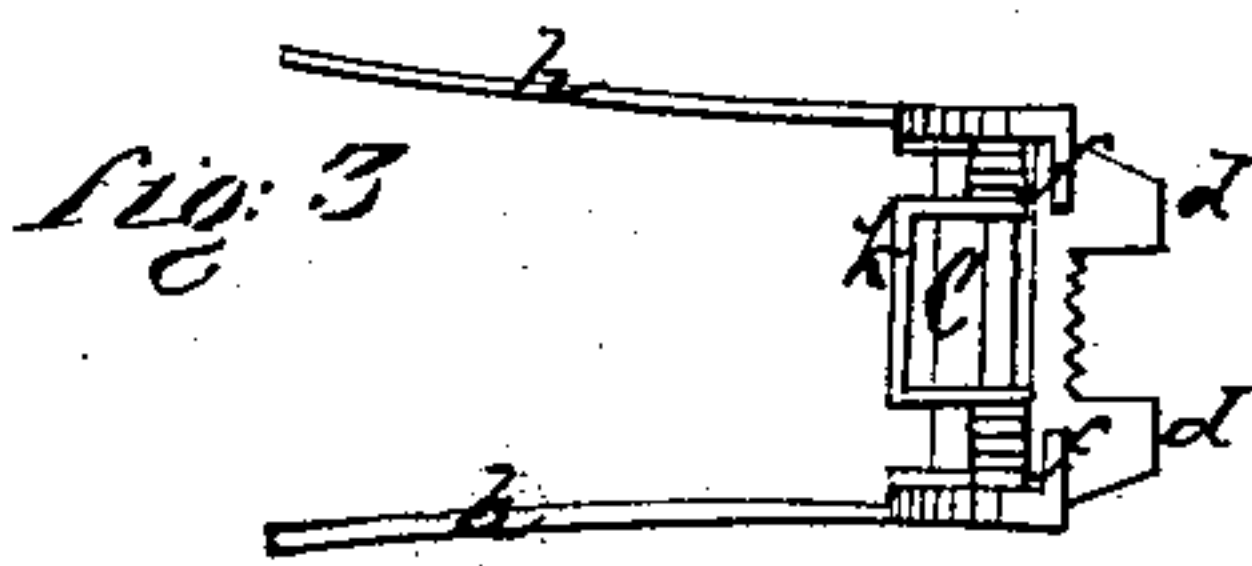
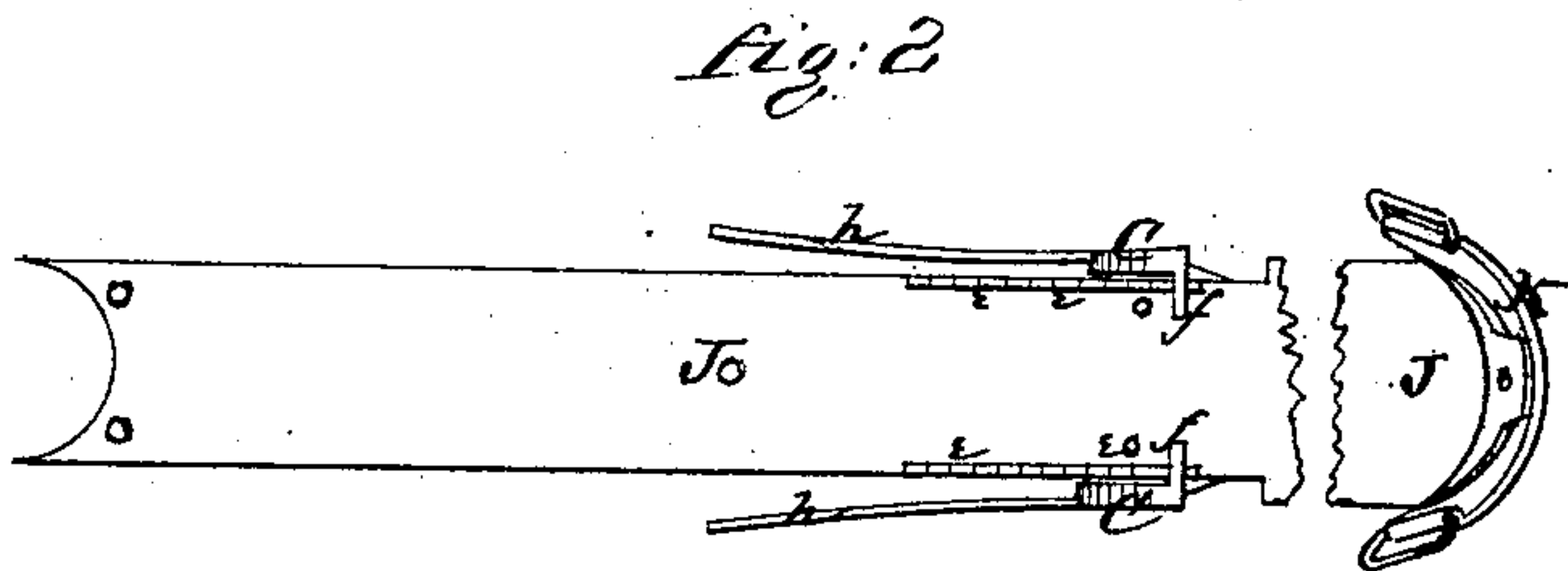
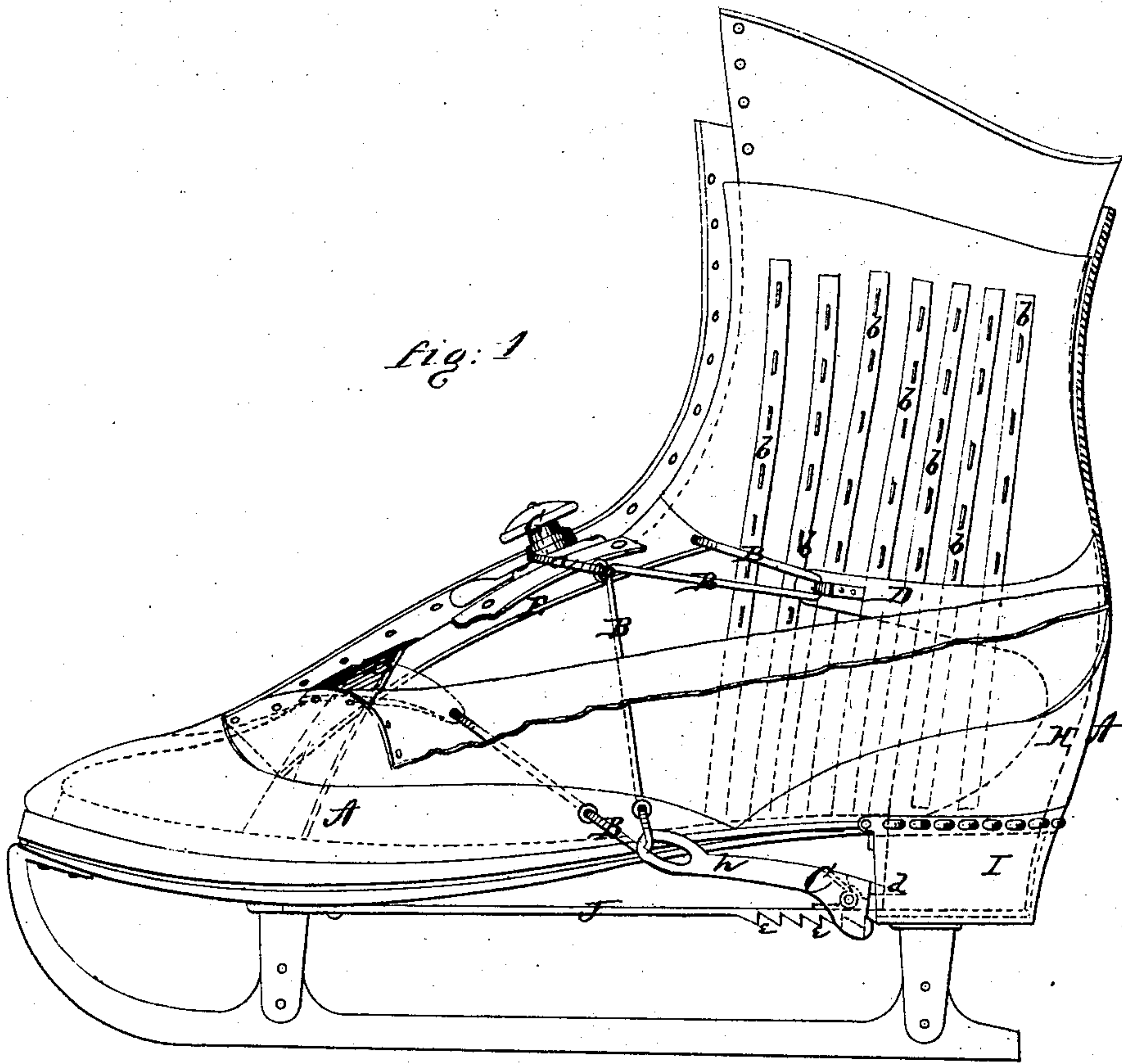


A.C. Platt,

Skate.

No. 109935.

Patented Dec. 6, 1870.



Witnesses.

W. A. Graftman,
C. L. Cuth.

Inventor.

Alfred C. Platt
per Alexander Mason
Attys.

United States Patent Office.

ALFRED C. PLATT, OF SANDUSKY, OHIO.

Letters Patent No. 109,935, dated December 6, 1870.

IMPROVEMENT IN SKATES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, ALFRED C. PLATT, of Sandusky, in the county of Erie and in the State of Ohio, have invented certain new and useful Improvements in Skates; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a "combined overshoe and skate," as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view of my combined overshoe and skate.

Figure 2 is a bottom view of a plate running under the skate, or rather under the foot-board of the skate, the rear or heel end of said plate being shown in plan view.

Figure 3 is a bottom view of the device for securing the heel.

No method of securing skates now in use admits of wearing an overshoe, and the straps contracting around the feet prevent the free circulation of the blood, and consequently cold feet is a common complaint among skaters, even when the remainder of the body is kept in a glow of warmth by the exhilarating exercise, and there is great need of an overshoe in combination with a skate to render the feet comfortable.

The herein-described device will be found to meet this want.

A represents the overshoe, the upper part of which is made of elastic material, to readily admit the foot without lacing and conform to its shape when on. It is lined with a loose or elastic lining, and between it and the outer covering the straps or cords B B are arranged, as shown.

These straps may be entirely concealed within the shoe by passing through loops, rings, or eyelets attached between the lining and outer covering on each side of the hollow of the foot; or, as here represented, they may pass down through openings in the shoe and connect with the device for holding the heel.

In this way they answer the same purpose for securing the fore part of the foot, and, at the same time, secure the heel as they are tightened, as will be presently described.

These straps or cords are attached to the skate near the toe, and passing back cross each other on the foot between the outer joints of the toes, then

pass down on each side, either through rings connected with the skate or through loops in the arms of the heel-holding device C; then up through rings, hooks, or loops upon the heel-strap D, and finally up from these and connect with the upper part of a strap or pad, E, which runs along the top of the foot, and connects with the straps where they cross over the toes.

This arrangement of the straps B B and connection with the pad or strap E renders them more convenient when used on the skates not having the overshoe, as they are not so likely to become disarranged and entangled when off, and are readily drawn on, and at once to their place like a loose shoe.

Cords or straps *a a* connecting with the cords or straps B B on each side of the foot are tightened over the foot by tying or buckling; or, if the tightening device G described in my patent of August 23, 1870, is used, the cord *a* can be connected with it and the skate tightened by it.

By this arrangement of the straps the whole skate is tightened quickly, evenly, and comfortably, yet firmly to the foot.

This arrangement of the straps also combines convenience, elegance, and comfort with the line of draft where and only where most needed.

In skates as now made heavy double straps pass over the toes where but little force is needed; these wide straps are required to prevent injury to the foot on account of their position, crossing as they do the joints of the toes, and compressing them uncomfortably together, while the heel is secured by a single narrow strap, which, owing to its diagonal position to the line of draft, does not give the required security to the heel, where the greatest force is needed, without a painful or uncomfortable pressure upon the instep, which cramps it and interferes with the free action of the ankle.

This tight strap over the instep is greatly objected to by good skaters.

By my arrangement the front straps cross the foot between the outer joints of the toes, and do not cramp them together, but press the foot easily yet firmly to the skate.

Passing back, they connect again with the skate near the center, and being tightened over the foot at this point help to secure the heel, and lessen the force upon the heel-strap, as will readily be perceived.

The connection of the straps passing over the instep with the front straps by the pad or strap E, upon the top of the foot, also prevents the heel-strap from drawing back and cramping the ankle at the instep.

This method of strapping may be applied to skates without the overshoe, and will be found not only much more convenient, elegant, and comfortable, but

to give greater security to the skate than any other means now in use.

Straps as now applied have to be encumbered with clumsy buckles, loops, and bunches, which not only prevent their resting easily upon the foot, but destroy whatever beauty of form or elegance of contour it may possess.

The securing of these buckles requires long ends of strap to take hold of, which are in the way and adds still further to the clumsy appearance of the foot.

Besides, if the holes are not punched right the skate is left too loose or drawn so tight as to be painful.

Some slack is also required for the tongue of the buckle to enter the strap. This necessitates a strong pull and severe compression of the foot to render the skate sufficiently tight when on.

All these difficulties are obviated by the use of straps arranged in the manner shown and described above.

The straps and pad are concealed by the outer covering of the shoe, and nothing exposed except the ornamental knob and thumb-pieces of the pawls when the tightening device G is used, or a bow-knot when straps are used and tied, coming up through between the laces.

These laces do not need to be used, as the shoe is elastic.

When the weight of the body is removed from the broad base of the foot to the narrow edge of the skate, muscles unused to such a strain are brought into play and soon become exhausted, rendering skating very irksome and difficult. This is especially the case with new beginners, with those who seldom skate, or those who, from any cause, have weak ankles.

Skates as now made have no adequate support for the ankle. To meet this want I have attached to the lining of the overshoe on each side of the ankle the elastic supports *b b*. These supports may be of steel or whalebone, or any suitable elastic material.

The lining is padded where these supports are to render them easy to the ankle.

Between the lining and outer covering of the shoe A is a stiff piece, H, of leather, passing up behind the heel, as shown in dotted lines in fig. 1.

To the top of this piece H the heel-straps D are attached, and when the skate is tightened these straps draw around the ankle-supports *b b*, and compress them tightly on each side of the ankle, and thereby support it laterally while allowing free action forward and back.

These supports may be used without the overshoe.

The top of the skate forms the sole of the overshoe, and the heel I is made hollow to admit the heel of the boot or shoe. This form permits the form of the overshoe to conform to that of the boot or shoe within it, by permitting the hollow of the overshoe to come up to that within it, thus retaining the form of the foot, not causing it to look bungling as overshoes now in use do.

This hollow heel, while it prevents the heel of the boot or shoe from moving laterally in any direction, allows the spurs *d d* engaging with the heel of the boot or shoe to secure it from rising out.

In securing skates to the foot the greatest difficulty is experienced in securing the heel, owing to the greater strain upon it by springing against the toe, to push one's self along, and to the disadvantage of the line of draft for holding it, being so diagonal with the direction of the strain, as the strap for holding it must always pass forward over the instep of the foot.

On account of this diagonal direction of the heel-strap, to properly secure the heel, great pressure is required upon the instep of the foot, which is not only uncomfortable, (sometimes painful,) but greatly inter-

feres with free action of the ankle, necessary to good skating.

Additional security is sometimes given to the heel by turning a screw into the heel of the boot or shoe, but for this holes have to be made purposely with some instrument, not always readily obtained, and then much time is required to screw on and unscrew the skate, and the operation is very awkward and irksome.

These holes, being on the bottom of the boot, become filled with sand, gravel, or frozen earth, which renders the operation of securing the skate very difficult, if not impossible, without obtaining an instrument for reopening the hole.

When skates are secured without screws or straps, boots or shoes are required purposely for them, or an extra plate is required to be attached to the heel, which is liable to be kicked off when not skating, or the opening in it rendered useless by becoming filled with frozen earth, sand, or gravel.

These methods of securing the heel, awkward and inconvenient as they are, cannot be used upon skates combined with an overshoe, or skates strapped, as ladies skates usually are, with a high heel-piece of stiff leather, because, when the foot is set in its place, the skate cannot be turned.

The device by which I secure the heel, as will be presently described, will be found to obviate the foregoing difficulties, and greatly facilitates and renders more convenient the securing of the heel.

By its use the pressure required upon the top of the foot is greatly lessened and the skate rendered much more comfortable and easy, and, at the same time, more firmly secured than by any other means heretofore used.

Attached to the skate, under the hollow of the foot, is the plate J, with one or more rows of teeth, *e*, or notches on the under side.

Sliding upon this plate is the device C, with sides extending down below the plate J, from which sides teeth *f f* project inwardly and engage with the teeth *e e* upon the plate. Working thus it is adjustable to boot heels of any size.

Upon the part of this device toward the heel are the spurs or points *d d*, for the purpose of crowding into the heel and holding it secure, pressing it back and hugging it down upon the skate, as it does by the action of a force upon the arms or levers *h h* extending forward from said device, said force operating through the fulcrum formed by the plate J, and engaging teeth *f f*.

This force may be applied and this device held in position by a bar extending across the plate J, under the arms *h h*, while being slid forward, raises these arms and holds the spurs or points *d d* against the heel, or they may be raised and the spurs crowded in by the hands and sustained by spring-catches connected with the ends of the arms *h h*, and catching upon the plate J, or by any other suitable device.

To facilitate the operation of fastening the skate, I have devised the method of passing the cords or straps B B through a loop or opening in the ends of the arms *h h*. Thus, as the skate is tightened by the straps, these arms are raised and the heel secured.

Under the cross-bar of the device C, and coiled upon a wire extending from side to side, is the spring *k*, which serves to hold the device C in position up in the notches and against the heel of the boot or shoe until the straps are tightened.

The broad surface of the device C between the spurs which enter the heel is roughened, creased, or grooved, or provided with blunt teeth, as shown in fig. 3, so that when the spurs have worked in their length by use and the action of the force upon the levers *h h*, this roughened surface will engage with the heel and

hold it, even if the spurs should, by continuous use, become loose.

To operate this device, the foot is set in its place upon the skate, when the arms of the device C are depressed, and the whole slid back against the heel of the boot or shoe. The spring *k* will raise the device up in the notches *e* on the plate J, and also hold it in position against the heel until tightened by the tightening of the straps B B.

This device for holding the heel may be attached to any skate; for this purpose the plate J is provided with holes, so that it may be screwed upon the wooden foot-piece of an ordinary skate.

There is a large opening in the center of the heel, which prevents the plate from interfering with any irregularity left by cutting off the screw or spur, which usually projects from the heels of skates as now made.

To the back end of the plate J is attached a flexible strap or plate, K, with loops at each end for the attachment of heel-straps, when it is used upon skates without the overshoe or skates without the high leather heel-straps, with which ladies' skates are usually provided. This strap K is quite stiff, but can be bent, and, when the skate is for the first time put on, the foot is placed in the position desired, whether central or a little to one side, as is sometimes preferred, especially if the heel of the boot or shoe is run over, when the strap is bent to its place by the tightening of the skate, and afterward serves as a guide for placing the foot, when it is firmly secured in its place by the device C. The back end of the plate J is turned up for the back of the heel to rest against, and to this the heel-strap K is attached.

When it is desired to use the device C upon skates with metallic foot-pieces instead of wood, the metal plate itself may be so constructed as to take the place of the plate J. The edges under the hollow of the foot could be bent and teeth formed upon them, or a slot could be made in the middle with notches for the support of the fulcrum of the device C.

When it is preferred to retain upon ladies' skates, the high stiff-leather heel-pieces with which they are usually provided as a sort of support to the ankle, hooks may be attached to it on each side, as in the overshoe, into which the straps or cords may be

hooked after the skate is on and unhooked before taking it off. The object of this is to permit the heel of the boot or shoe to rise above the high heel-piece, without a great unnecessary and inconvenient slack of the cords or straps.

When straps are used in combination with the device C, the skate may be made sufficiently tight by the straps passing directly up from the arms *h h* and buckling or tying across the foot.

Having thus fully described my invention,

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

1. In combination with a skate, the overshoe A, provided with the stays *b b* and hollow heel I, and secured by the straps B B, arranged substantially as and for the purposes herein set forth.
2. The arrangement of the straps B B, substantially as shown and described, in combination with the strap or pad E and cord *a*, for the purposes set forth.
3. The elastic ankle supports *b b*, tightened by means of the heel-strap D, substantially as and for the purposes herein set forth.
4. In an overshoe, combined with a skate, the hollow heel I, having an opening in its front for the passage of the spurs *d d*, substantially as and for the purposes herein set forth and described.
5. The plate J, provided with one or more racks, *e*, constructed and applied in combination with the device C, substantially as and for the purposes herein set forth.
6. The device C, constructed as described, with spurs *d d*, teeth *f f*, levers or arms *h h*, and spring *k*, substantially as and for the purposes herein set forth.
7. The combination of the device C and straps B B, arranged and tightened substantially as herein set forth.
8. The combination of the plate J, device C, and straps B B, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 1st day of October, 1870.

ALFRED C. PLATT.

Witnesses:

E. M. COLVER,

CHAS. R. McLOUTH.