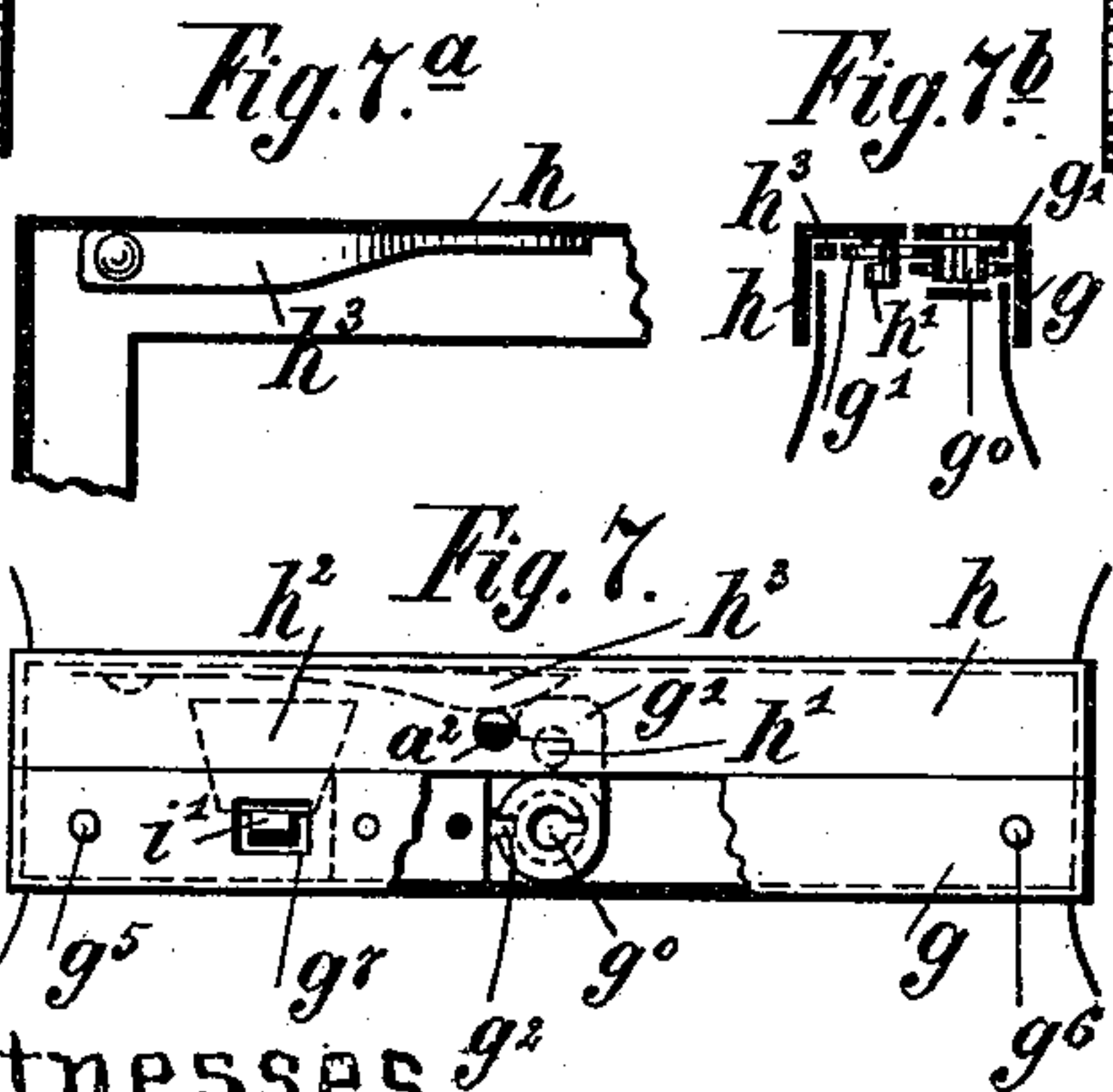


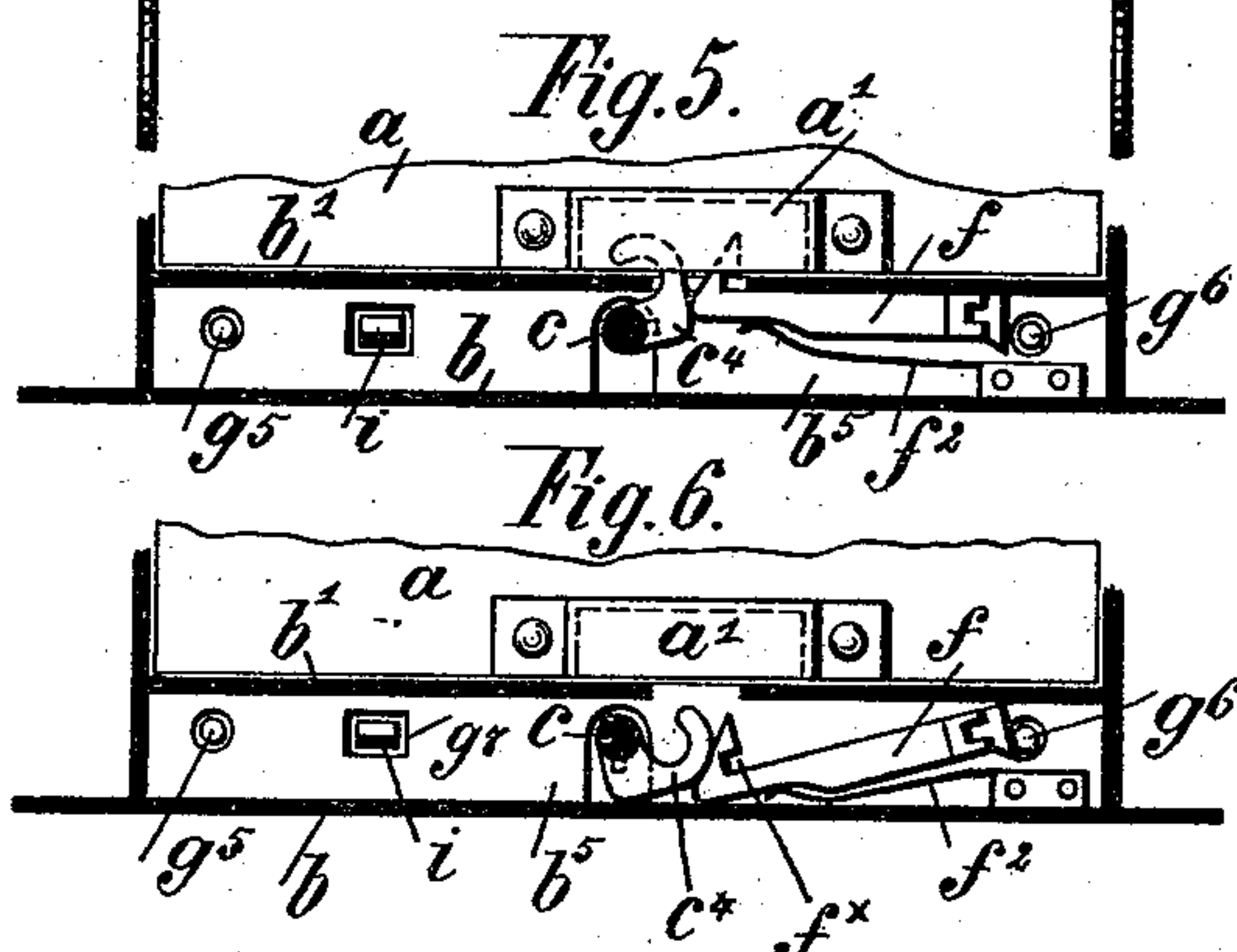
2 Sheets—Sheet 1.

No. 438,942.

Patented Oct. 21, 1890.



Witnesses, ^{9th}
John R. Shields.
E. M. Parkman.



Inventor.
Hermann Perls.
By Paine Lord.
attys.

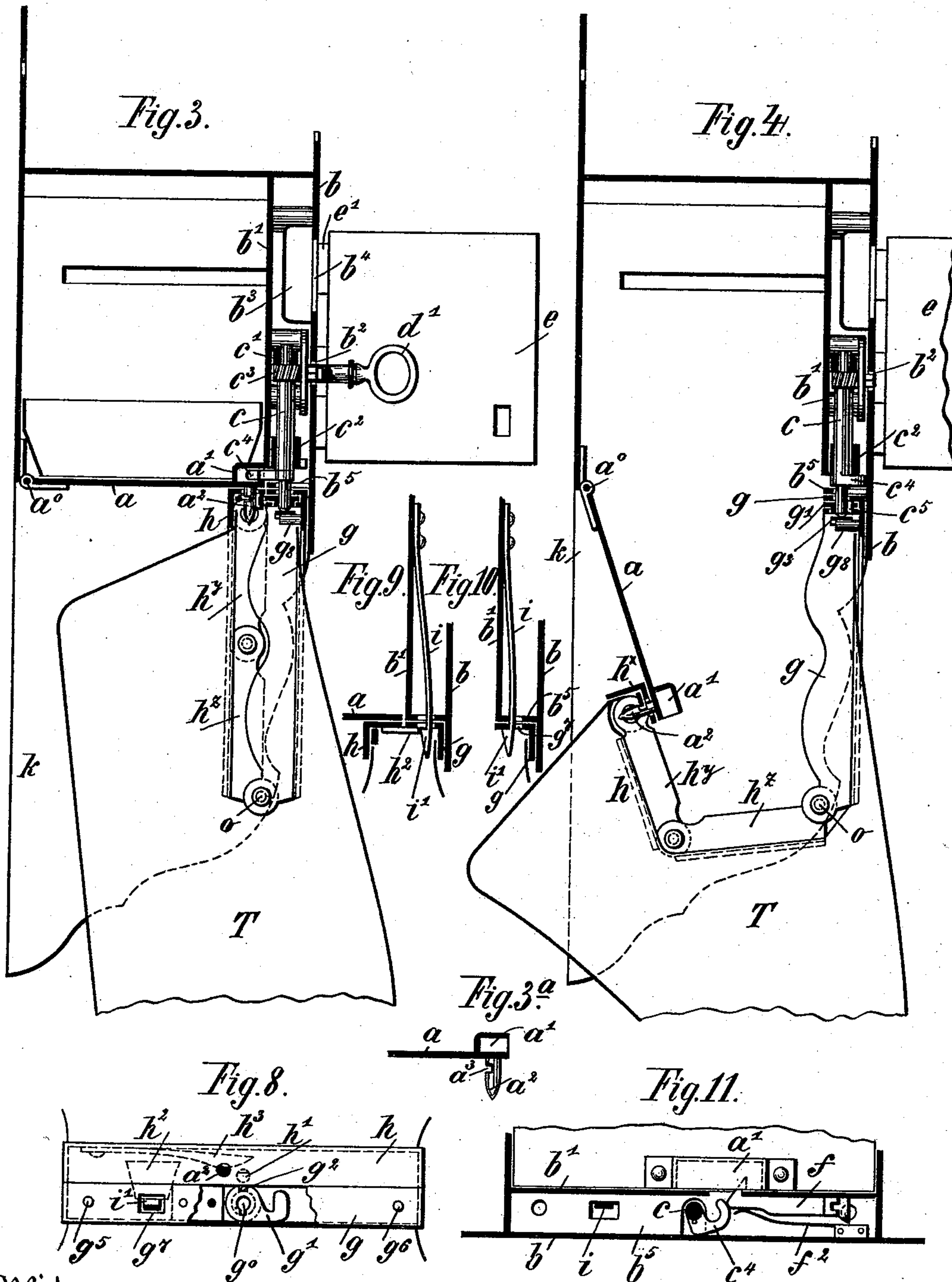
(No Model.)

2 Sheets—Sheet 2.

H. PERLS.
LETTER BOX.

No. 438,942.

Patented Oct. 21, 1890.



Witnesses,
John R. Shields.
E. M. Parkman.

Inventor,
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By *Rine Lomb.* atty.

UNITED STATES PATENT OFFICE.

HERMANN PERLS, OF ROSBACK, GERMANY, ASSIGNOR OF ONE-HALF TO
SIEGMUND BERNHARDT, OF NEW YORK, N. Y.

LETTER-BOX.

SPECIFICATION forming part of Letters Patent No. 438,942, dated October 21, 1890.

Application filed June 16, 1890. Serial No. 355,590. (No model.) Patented in Germany September 22, 1889, No. 51,458.

To all whom it may concern:

Be it known that I, HERMANN PERLS, a subject of the German Emperor, residing at Rosback, in the Grand Dukedom of Mecklenburg-Schwerin, Germany, have invented certain new and useful Improvements in Letter-Boxes and Collecting-Bags, (for which I have secured Letters Patent in Germany, No. 51,458, dated September 22, 1889,) of which the following is a specification.

The present invention relates to a letter-box in combination with a letter-bag so arranged that the postman in collecting the letters is unable either to see or touch them. For this purpose the combined letter box and bag are constructed in such a manner that both can only be opened when the bag is properly adjusted on the box and that both are closed and locked again on being taken apart. On opening the letter-box the bag is opened at the same time, so that the letters may fall from the former into the latter, both, however, remaining inaccessible from the outside, while on closing the box after the letters have been allowed to fall into the bag both box and bag are closed and locked.

In order to make my invention more clearly understood, I refer to the accompanying drawings, in which similar letters denote similar parts throughout the several views.

Figure 1 is a front elevation of the letter-box. Fig. 2 shows a sectional front elevation, the cover only being cut away to show the mechanism. Fig. 3 is a sectional side elevation showing the bag in position previous to opening the box. Fig. 3^a is a detailed view of a pin projecting beyond the bottom of the letter-box and being provided with a notch to attach the letter-bag to the letter-box. Fig. 4 is a partly-sectional side elevation showing bag and box open. Fig. 5 is a horizontal section on the line $x x$, Fig. 2. Fig. 6 is the same section showing the mechanism in a different position. Figs. 7 and 8 are top views, partly in section, of the bag when closed. Figs. 9 and 10 show a spring-catch engaging with the frame at the mouth of the collecting-bag. Fig. 11 shows the spring-catch in another position. Figs. 7^a and 7^b are detail views of the spring h^2 .

The letter-box is of the usual form and provided with a bottom a , hinged to the back of the box at a^0 and opening downward. The box has a double front wall b and b' , and between these two partitions the mechanism for opening box and bag is situated. This mechanism consists of a vertical spindle c , Figs. 2 and 3, mounted in the bearings c' c^2 , attached to the wall b' and containing worm-wheel c^3 , driven by a worm d , Fig. 2. The spindle of worm d is square at one end and projects through the hole b^2 in the front wall b of the letter-box, Fig. 3, the end of the spindle being flush with the outside surface of the box. The square end of worm-spindle d is for the reception of a key d' , by means of which the spindle and with it the vertical spindle c may be turned. When not in use the key may be placed in the recess b^3 provided for this purpose in the front end b of the box, Fig. 3. The inlet b^4 to this recess, as also the key-hole b^2 , may be closed by a cover e , Figs. 1 and 3, hinged at e' to the letter-box and containing the usual automatic arrangement for showing the time when the next collection takes place.

To the lower end of spindle c is attached a hook c^4 , Figs. 3, 5, and 6, which, when in the position shown in Fig. 5, projects into a cap a' on the bottom a of the box, preventing the same from being opened. To open the box, the hook c^4 must be brought into the position shown in Fig. 6. Resting with its one end against hook c^4 is a bolt f , Figs. 2 and 5, guided between the bottom b^5 of the double front and a projecting guide-piece b^6 , attached to partition b' . This bolt is arranged to move in two directions, backward and forward and sideways, and is held in constant contact with the hook c^4 by a spiral spring f' , Fig. 2, while a flat spring f^2 , Fig. 5, presses it against the partition b' . The end of bolt f , which lies against hook c^4 , is formed to a hook and adapted to project into the cap a' of the bottom a . Before the box can be opened it will be necessary to remove bolt f from the cap a' in the manner hereinafter described.

The lower end of spindle c projects downward through the bottom part b^5 and is provided with a projection or bit c^5 , Figs. 2 and

4. On the front edge of the bottom a , about in the middle of the same, a pin a^2 is situated, having a notch a^3 and projecting downward, Fig. 3^a.

5 The mouth of the collecting-bag is, as usual, formed by two metallic angle-frames g and h , hinged together, Figs. 2, 3, and 7. The two halves are held together when the bag is closed by a hook g' , pivoted to the frame-half
10 g and adapted to hook round a pin h' , projecting downward inside the frame-half h , Figs. 7 and 7^b. When the hook g' is in the position shown in Fig. 8, the bag is unfastened and may be opened. The boss of hook g' is
15 provided with a notch g^2 in its rim, Fig. 7. A flat spring g^3 is fastened to the frame-half g under hook g' , Fig. 4, which carries a stud or pin pointing upward. When hook g' is in the position shown in Fig. 7, pin g^4 enters
20 the notch g^2 in the boss of hook g' , retaining the same in its position, so that the bag is closed securely. In order to turn the hook g' with the spindle c , the former is provided with a hole g^0 , into which the end of spindle
25 c fits. A hole is also bored in the frame g , which exactly corresponds in shape and position, Fig. 7^b, to hole g^0 when the hook is in the position shown in Fig. 7. Frame g has, further, on its upper side, two studs g^5 and g^6 .
30 In order to empty the letter-box, the collecting-bag T , closed and fastened, must be held against the bottom of the box in the manner shown in Figs. 2 and 3, so that the lower end of the spindle c is in hole g^0 of hook g' , pin
35 a^2 of the bottom a in the corresponding hole in the frame-half h , and the studs g^5 and g^6 in corresponding holes in the bottom part b^5 of the box. If the bag be so held against the box, the lower hooked end i' of a spring i , at-
40 tached to partition b' of the box, will come to lie in a corresponding opening g^7 of the frame-half g , Fig. 7. A small plate h^2 is attached to the frame-half h , which, as long as the bag is closed, extends as far as the opening g^7 , so that
45 the hook i' of spring i cannot close under the frame-half g , Fig. 9. Now the bag must be pressed closely against the bottom of the letter-box, whereupon the lower end of the spindle c presses spring g^8 down, Fig. 2, so that the pin
50 or catch g^4 is removed from the notch g^2 of hook g' , allowing the latter to be turned round. After the bag is thus applied to the letter-box the key d' is placed on the end of the worm-spindle d and turned round until the
55 spindle c has completed a quarter-turn. To prevent the spindle c from turning round too far a part of the circumference of worm-wheel c^3 is not toothed. As spindle c turns round, the projection or bit c^5 on the same moves the
60 hook g' from the position in Fig. 7 to that shown in Fig. 8, so that the bag is unfastened. The bit or projection c^5 on the spindle c , however, lies under the frame-half g , Fig. 4, so that the same is held onto the box. As now the hook g' ,
65 as just mentioned, turns round, it liberates a spring-catch h^3 , attached to frame-half h , Figs.

7, 7^a, and 8, which snaps into the notch a^3 of pin a^2 , Fig. 8, fixing the frame-half h of the bag to the movable bottom of the letter-box. When the bag is closed the hook g' presses
70 the spring-catch h^3 back, so that pin or stud a^2 can enter its hole in the frame-half h or be removed from the same. On turning the spindle c , hook c^4 is also moved from its position in Fig. 5 to that shown in Fig. 6, whereby
75 said hook c^4 pushes the bolt f at first backward in its longitudinal direction so far until its farther end comes against stud g^6 of the bag. On turning the hook c^4 still farther
80 round, the bolt f , not being able to go farther backward, will resist the pressure of spring f^2 , and its hooked end will emerge from the cap a' of the bottom a , so that when spindle c has completed a quarter-turn the bottom a has
85 also been unlocked and may be folded downward, together with the frame-half h , which is securely attached to it, and takes the position shown in Fig. 4. In order to enable the frame-half h to move downward in this man-
90 ner, the two ends of the frame-half are made in three pieces h^x h^y h^z , hinged together, which take the position shown in Fig. 4 on opening the box. The ends k k of the letter-box are prolonged downward far enough to cover the
95 bag when opened, so that it is not possible for the collector to get at the letters as they fall from the box into the bag. On opening the bag the plate h^2 allows spring-catch i' to pass under frame-half g , Fig. 10, whereby it is attached to the box.
100

As long as the letter box and bag are opened the latter cannot be removed from the former, for even if the key d' be turned backward so that the bit c^5 would let the frame-half g go the latter is still held by the spring-hook i i' .
105 To remove the bag from the box, it is necessary to close up the bottom of the latter with frame-half h attached to it into the position Fig. 3, whereupon the key may be turned backward until spindle c has regained its
110 original position. It is prevented from turning too far backward by hook c^4 , which comes against the partition b' in its end position. On turning the spindle c back the hook c^4 and bolt f again pass under cap a' of the bottom
115 a , so that the box is locked again. The hook g' is also moved back into the position Fig. 7, so that the bag is also locked. At the same time hook g' presses spring h^3 out of the notch a^3 of pin a^2 , leaving the latter free. On clos-
120 ing the bag the plate h^2 presses spring i back, so that catch i' is no longer under frame-half g . The bag may now be removed from the box, whereupon the pin g^4 returns into the notch g^2 of hook g' , locking the bag.
125

The post official who opens the bag possesses a key having the same form as the lower end of spindle c , with which he may unlock and afterward relock the bag. In order that the key may find a stop on being placed
130 into the key-hole of the bag, frame-half g is provided with a stud g^8 under spring g^3 .

The letter-box cannot be opened until the bag is applied to it in the manner described. In the other case, if the key d' be turned round, the bolt f has no stop in its longitudinal direction, as the stud g^6 of the bag no longer projects through the bottom of the box. This bolt will therefore, instead of being pushed out of the cap a' by hook c^4 , simply be moved backward longitudinally, Fig. 11, in which case the spring f^2 will prevent the hook of the bolt from coming out of the cap a' of the bottom a . The hook of bolt f is further provided with a slit f^x , Fig. 6, which grips round the edge of partition b' , Fig. 11, whereby the box is still more securely closed.

Having now particularly described and ascertained the nature of my said invention and the manner in which it is to be performed, I declare that what I claim, and desire to secure by Letters Patent of the United States, is—

1. A letter-box having a double front $b b'$ and a spindle c , vertically mounted therein at c' c^2 , projecting with its lower end through the bottom b^5 of the double front and provided with a bit or projection c^5 , which passes under the half g of bag-frame $g h$, fixing the same to the box, having, also, hook c^4 inside the double front, adapted to pass under a cap a' of bottom a , thus locking the box, said spindle c rotated by a worm d and worm-wheel c^3 and key d' , in combination with a collecting-bag having frame-halves g and h , the latter consisting of the pieces $h^x h^y h^z$, hinged together, as specified, the two halves adapted to close on each other and fasten by a hook g' , mounted inside frame-half g and provided with a hole g^0 , into which the end of spindle c fits when the bag is applied to the box, said hook g' closing round pin h' of frame-half h , and on being removed therefrom

operating a spring-catch h^3 , which, in combination with a pin a^2 on the letter-box, locks frame-half h to the letter-box lid a , frame-half g being further provided with studs $g^5 g^6$, fitting into corresponding holes in the bottom b^5 of the double front, all parts operating in combination with each other in the manner and for the purpose substantially as described.

2. In combination with the letter bag and box specified, a flat spring g^3 , mounted inside frame-half g and provided with a pin in its end adapted to pass into a notch g^2 in the boss of hook g' , preventing the same from being turned back when the bag is closed, and arranged to be pressed downward by the end of spindle c and removed from the notch when the bag is applied to the box, in the manner substantially as described.

3. In combination with the letter box and bag specified, a spring-catch i , attached to the inside of the double front and provided with a hook i' on its lower end, projecting through the bottom of the double front and adapted to pass into an orifice in the frame-half g when the bag is applied to the box, said catch $i i'$ being operated by a plate h^2 on the bag being opened, in the manner substantially as described.

4. In combination with a letter box and bag, the bolt f , having hook f^x , movable backward and sidewise, and operated by flat spring f^2 , spiral spring f' , hook c^4 on spindle c , and stud g^6 on the bag-frame, in the manner and for the purpose substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 5th day of May, 1890.

HERMANN PERLS.

Witnesses:

MAX REBOCUDT,
GUSTAVE HENZEL.

Correction in Letters Patent No. 438,942.

It is hereby certified that the residence of the patentee in Letters Patent No. 438,942, granted October 21, 1890, upon the application of Hermann Perls, for an improvement in "Letter Boxes," was erroneously written and printed "Rosback, Germany," whereas said residence should have been written and printed *Rostock, Germany*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 18th day of November, A. D. 1890.

[SEAL.]

CYRUS BUSSEY,
Assistant Secretary of the Interior.

Countersigned:

C. E. MITCHELL,
Commissioner of Patents.