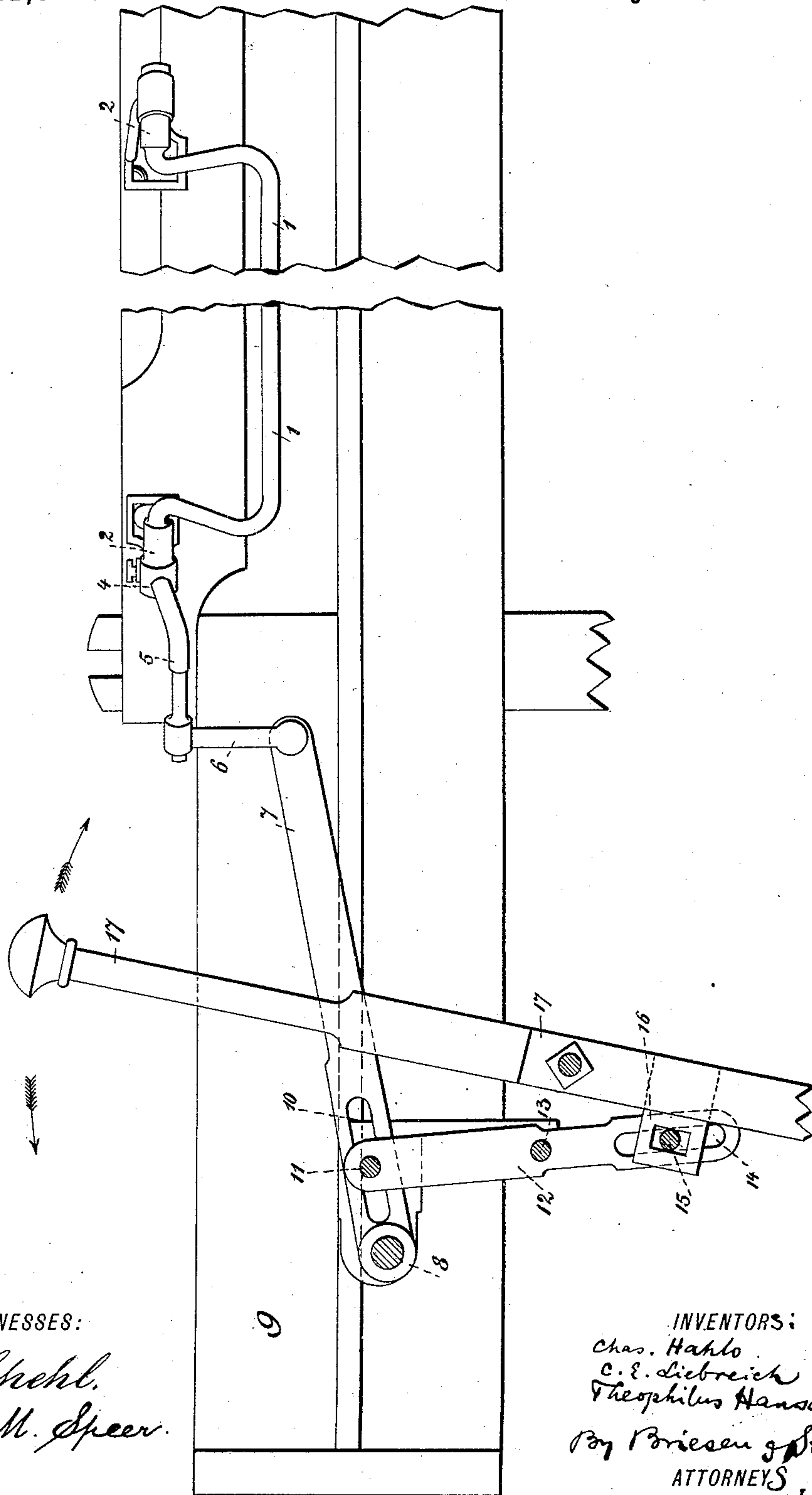


(No Model.)

C. HAHLO, C. E. LIEBREICH & T. HANSON.
SHUTTLE GUARD FOR LOOMS.

No. 341,571.

Patented May 11, 1886.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES HAHLO, CHARLES EDWARD LIEBREICH, AND THEOPHILUS HAN-
SON, OF BRADFORD, COUNTY OF YORK, ENGLAND.

SHUTTLE-GUARD FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 341,571, dated May 11, 1886.

Application filed February 13, 1885. Serial No. 155,810. (No model.) Patented in England October 23, 1884, No. 14,028; in Germany November 21, 1884, No. 49,340, and in Austria November 21, 1884, No. 2,384.

To all whom it may concern:

Be it known that we, CHARLES HAHLO and CHARLES EDWARD LIEBREICH, merchants and machinists, and THEOPHILUS HANSON, mechanic, subjects of Her Britannic Majesty, Queen Victoria, residing at Bradford, in the county of York, England, have invented new and useful Improvements in Shuttle-Guards for Looms, (for which we have obtained patents in Great Britain No. 14,028, bearing date October 23, 1884; Germany, No. 49,340, bearing date November 21, 1884, and Austria No. 2,384, bearing date November 21, 1884,) of which the following is a specification.

This invention relates to that class of devices wherein the act of starting or setting on the loom automatically moves a guard into position over the warp and shuttle-race, so as to prevent the shuttle being thrown out of the loom, the said guard being automatically removed clear of the warp, so as to allow room for reintroduction of the shuttle or for taking up an end, or other purpose, by the act of moving the stop-handle into position for stopping the loom. We attain these objects by the mechanism illustrated in the accompanying drawing, which is a front elevation of the upper part of the lathe of a loom having our improved apparatus applied thereto.

At 1 is the guard-bar carried by and free to move in the brackets 2 2, which are attached to the lathe, the end 4 being by finger 5 connected to the link 6 of the lever 7, having its fulcrum on the pin 8, attached to the front of the shuttle-box 9. In the lever 7 is a slot, 10, in which plays the pin 11, attached to the vertical lever 12, mounted on fulcrum-pin 13, its lower end having slot 14, through which is passed the pin 15, fastened to the plate-arm 16

of the ordinary stop-and-start handle 17. The pin 13 projects from the shuttle-box 9 or from an arm thereon.

The guard 1 is shown in the drawing as "on"—that is to say, in the going position—and it will be seen that when the loom is stopped by moving the handle 17 its pin 15 will turn the lever 12 on its pin 13, and the pin 11 will, by moving in the slot 10, depress the lever 7, and by the links 6 and finger 5 turn or move the guard 1 inward, folding it close to the reed and out of the way. The moving of the handle 17 to start the loom will move the parts automatically, and by the positive motion set the guard in the position shown by the drawing.

We do not claim connecting a shuttle-guard or guard-operating rod with a starting or knocking off lever, as specified in English Patent No. 1,848 of the year 1871, nor connecting the shuttle-guard with the belt-shipper for enabling the guard being raised to permit the picking of threads, as described in the United States Patent No. 12,593 of March 27, 1885.

What we claim as our invention, and desire to secure by Letters Patent, is—

The stop-and-start handle or lever 17, pin 15, slotted lever 12, slotted lever 7, support 8, links 6, finger 5, lathe-brackets 2, and guard 1, having end 4, which connects with the finger 5, in combination, and for the purpose set forth, and as illustrated.

CHARLES HAHLO.
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Witnesses:

WALTER BRIERLEY,
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