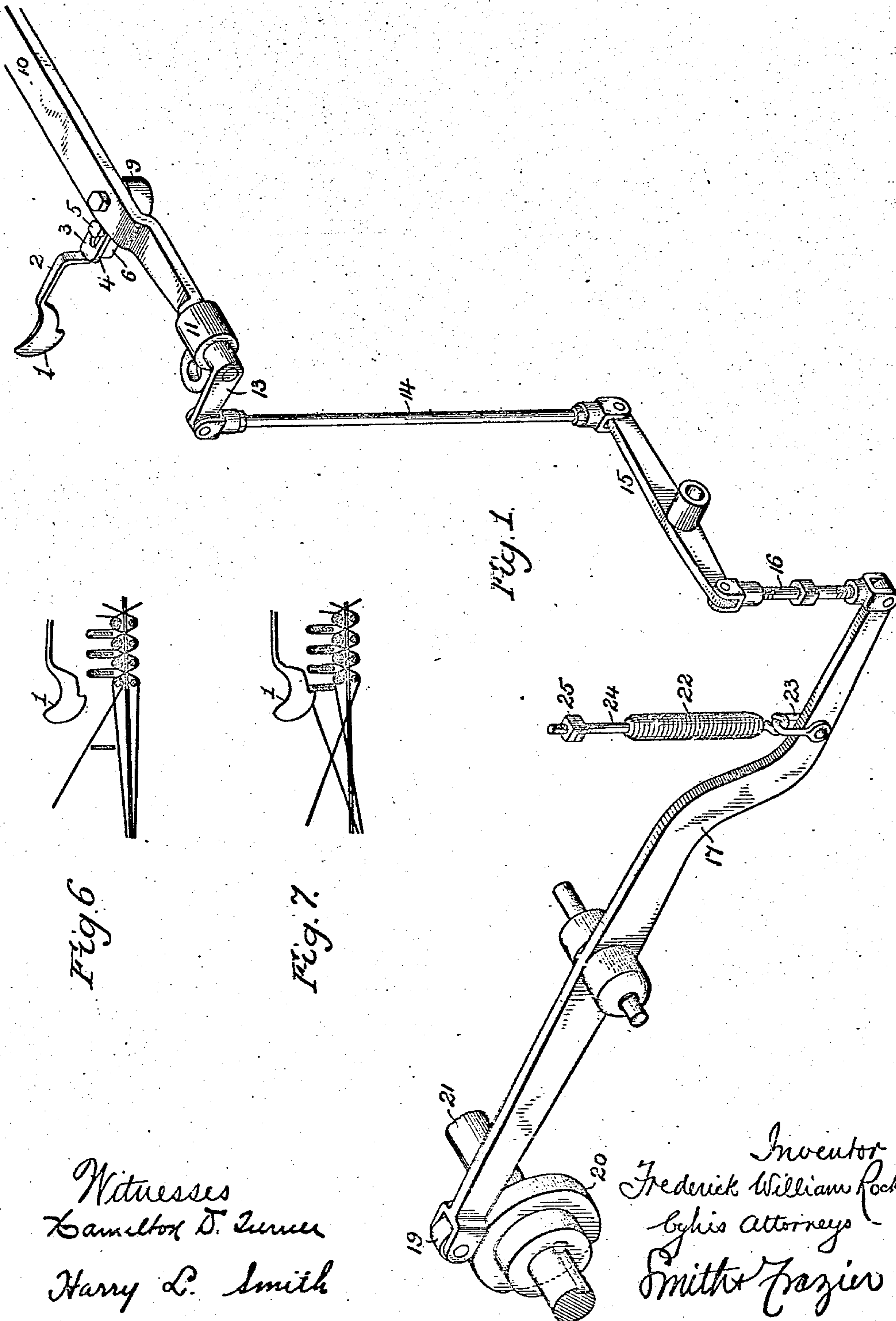


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 APPLICATION FILED JUNE 10, 1907.

Patented Sept. 15, 1908.

2 SHEETS—SHEET 1.

898,928.



Witnesses
 Hamilton D. Turner
 Harry L. Smith

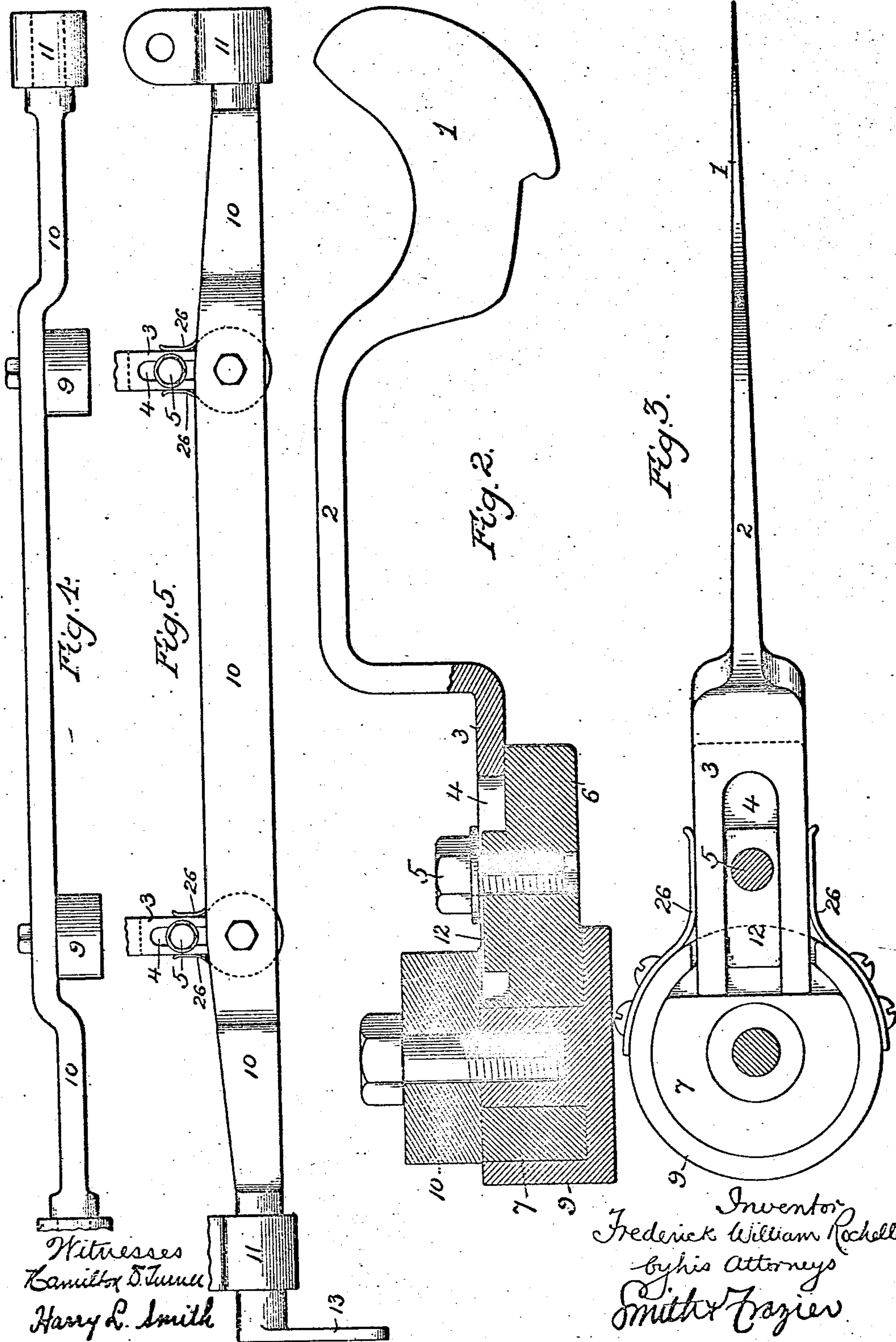
Inventor
 Frederick William Rochelle
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Witnesses
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 Harry R. Smith

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UNITED STATES PATENT OFFICE.

FREDRICK WILLIAM ROCHELLE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO IVINS, DIETZ & METZGER COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

PILE-WIRE SUPPORTER FOR LOOMS.

No. 898,928.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed June 10, 1907. Serial No. 378,240.

To all whom it may concern:

Be it known that I, FREDRICK WILLIAM ROCHELLE, a citizen of the United States, residing in Philadelphia, Pennsylvania, have
5 invented certain Improvements in Pile-Wire Supporters for Looms, of which the following is a specification.

My invention consists of an improvement in that forming the subject of Letters Patent
10 No. 529,615, granted to Harry Hardwick on the twentieth day of November, 1894, the object of my invention being to improve the construction and operation of the wire-retaining hooks.

15 In the accompanying drawings—Figure 1 is a perspective view of one of the wire-retaining hooks and of the mechanism for operating the same in accordance with my invention; Fig. 2 is an enlarged view of the
20 hook and its carrier, partly in side elevation and partly in longitudinal vertical section; Fig. 3 is a plan view of the same with the supporting bar removed; Fig. 4 is a rear view on a smaller scale, of two of the hook
25 carriers and of the bar upon which they are mounted; Fig. 5 is a plan view of the same, and Figs. 6 and 7 are views illustrating the operation of the hook in connection with a pile wire.

30 The invention forming the subject of the aforesaid patent, No. 529,615, consisted in the use of a series of hooks for engaging the pile wires in succession, as they were beaten up and holding such wires in an upright position during the interweaving of the backing
35 weft threads with the pile warp threads looped over the wires.

In the patented device the retaining hooks were provided with resilient shanks or stems
40 secured to a rigid bar extending across the loom above the breast beam, and the hooks were normally so disposed as to engage the wires and were lifted by each wire as the latter was forced under the hooks in being
45 beaten up to its place in the web by the action of the reed. It has been found in practice that the imposition of this duty upon the pile wires had a tendency to defeat, in a measure, the purpose for which the retaining hooks were designed, and my invention
50 has therefore been devised with the view of overcoming this objection, one feature of my invention consisting in imparting a positive raising and lowering movement to the hooks
55 in order that each pile wire can be beaten up

to its position in the web while the hooks are raised and therefore without any interference with said hooks, the latter being then lowered so as to engage the pile wire and retain it in position during the tying in of the
60 warp threads which have been looped over the wire, the hooks being then again raised prior to the insertion of a succeeding wire.

In Fig. 1 of the drawing, 1 represents one of the wire-retaining hooks, which has a stem
65 or shank 2, terminating in a head 3, slotted, as at 4, for the reception of a bolt 5, whereby said head is secured to a projecting arm 6 upon a cylindrical block 7, the latter being fitted so as to be free to rock or swing to a
70 limited extent in a cup 9 which is secured to the underside of a rocking bar 10 mounted in suitable bearings 11 on the breast beam or other available member of the loom, any lateral swinging movement of the hook inde-
75 pendently of the block 7 being prevented by reason of the engagement with the slot 4 of a lug 12 on the upper face of the arm 6 of the block.

One end of the rocking bar 10 is provided
80 with a crank 13 connected by a rod 14 to a lever 15, the latter being intended to be fulcrumed upon the fixed frame of the loom at any convenient point and being connected by an adjustable rod 16 to a lever 17 likewise in-
85 tended to be conveniently fulcrumed upon the fixed frame of the loom, this lever 17 having an anti-friction roller 19 which is acted upon by a cam 20 on the cam shaft 21 of the loom, said anti-friction roller being main-
90 tained at all times in contact with the periphery of the cam 20 by reason of the action upon the lever of a coiled spring 22 which, at one end, engages a link 23 on the lever and is intended to be secured at the other end to a
95 fixed lug on the loom frame, being provided with a threaded rod 24 and nuts 25, in order that the tension of the spring 22 may be regulated as desired.

The cam 20 is designed to impart such
100 rocking movement to the bar 10 as will effect a lifting of the hooks 1 during the time that each pile wire is being beaten up, the hooks being then lowered into engagement with the pile wire and retaining their posi-
105 tion during the insertion and beating up of the weft thread or threads whereby the tying of the pile warp threads into the backing fabric is effected.

Vertical adjustment of the hooks in respect 110

to the pile wires can be readily effected by lengthening or shortening the adjustable connection 16 between the levers 15 and 17. Each hook is normally retained in its central position in respect to the supporting cup 9 by means of a spring 26 on each side of the same, but said hook can yield laterally to a limited extent in either direction in order to insure its entrance between the bars of the reed when the latter is beating up, since, if the forward end of the hook should happen to strike the advancing edge of either of the reed bars, it can yield to one side or the other sufficiently to escape the same and thus prevent injury either to the reed bar or hook, which might be caused if said hook opposed a rigid resistance to the reed.

I claim:—

1. The combination, in a loom for weaving pile fabrics, of a hook constructed to engage the upper edge of the last inserted pile wire and retain the same in position while the loops are being formed over the same, with means for raising and lowering said hook, whereby it can be moved to position free from engagement with the upper edge of the wire when the same is being beaten up.

2. The combination, in a loom for weaving pile fabrics, of a series of hooks, each constructed to engage the upper edge of the last inserted pile wire and retain the same in position while the loops are being formed over the same, a bar carrying said hooks, and means for rocking said bar to cause the hooks to engage with or be disengaged from the wire.

3. The combination, in a loom for weaving pile fabrics, of a series of hooks constructed to engage the upper edge of the last inserted pile wire, and retain the same in position while the loops are being formed over the same, a bar carrying said hooks, and means

for rocking said bar, said means having an adjustable element whereby the position of the hook in respect to the upper edge of the wire can be varied.

4. The combination of a pile-wire-retaining hook, with a laterally yielding mount therefor.

5. The combination of a pile-wire-retaining hook, with a mount therefor free to yield laterally in either direction.

6. The combination of a pile-wire-retaining hook, with a mount therefor opposing yielding resistance to the lateral movement of the hook.

7. The combination of a pile-wire-retaining hook, with a mount therefor opposing yielding resistance to the lateral movement of the hook in either direction.

8. The combination of a pile-wire-engaging hook, a mount therefor free to yield laterally, and a rocking bar carrying said yielding mount for the hook.

9. The combination of a pile-wire-engaging hook, a block carrying the same, a cup in which said block is mounted so as to have a slight swinging movement, and a rocking bar to which said cup is secured.

10. The combination of a pile-wire-engaging hook, a block carrying the same, a cup in which said block is mounted so as to have a slight swinging movement, a rocking bar to which said cup is secured, and springs tending to maintain said block in a central position.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

FREDRICK WILLIAM ROCHELLE.

Witnesses:

WM. M. BRINKWORTH,
ANNA HULSHIZER.