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PATENTED DEC. 8, 1903.

E. S. STIMPSON & C. SHORT.
CLAMPING DEVICE FOR HEDDLE BARS OR SUPPORTS.

APPLICATION FILED SEPT. 26, 1903.

NO MODEL.

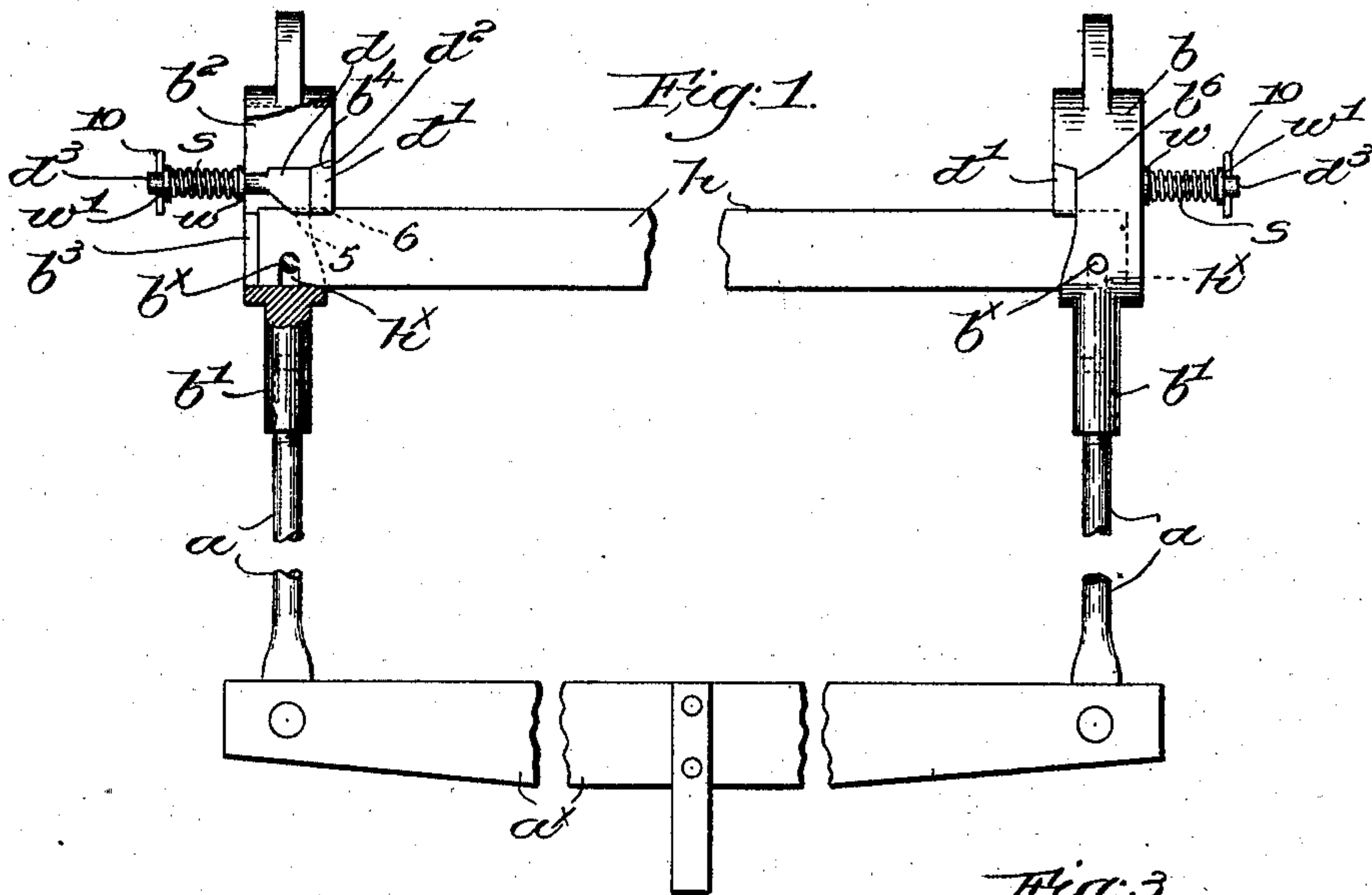


Fig. 2.

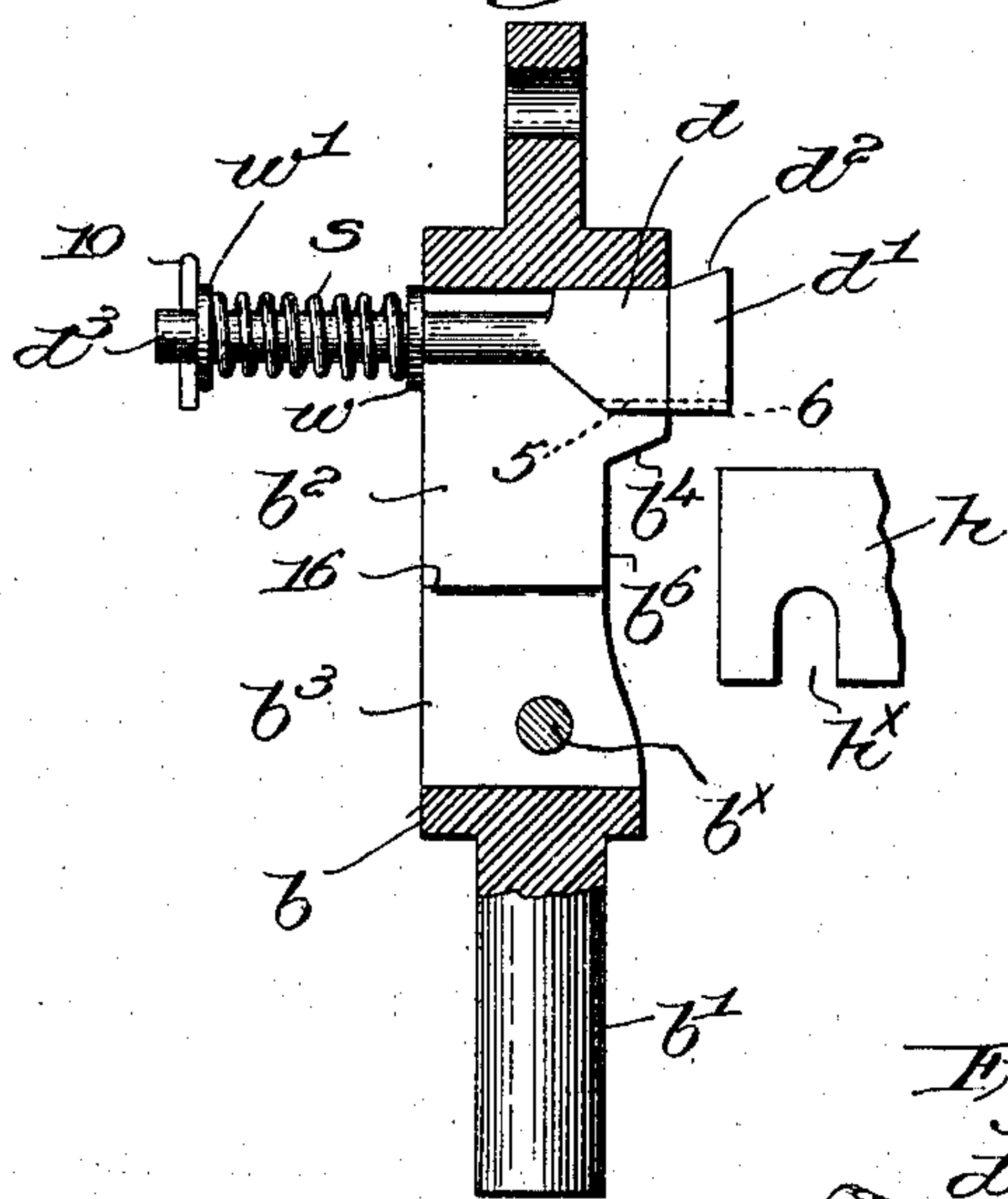


Fig. 3.

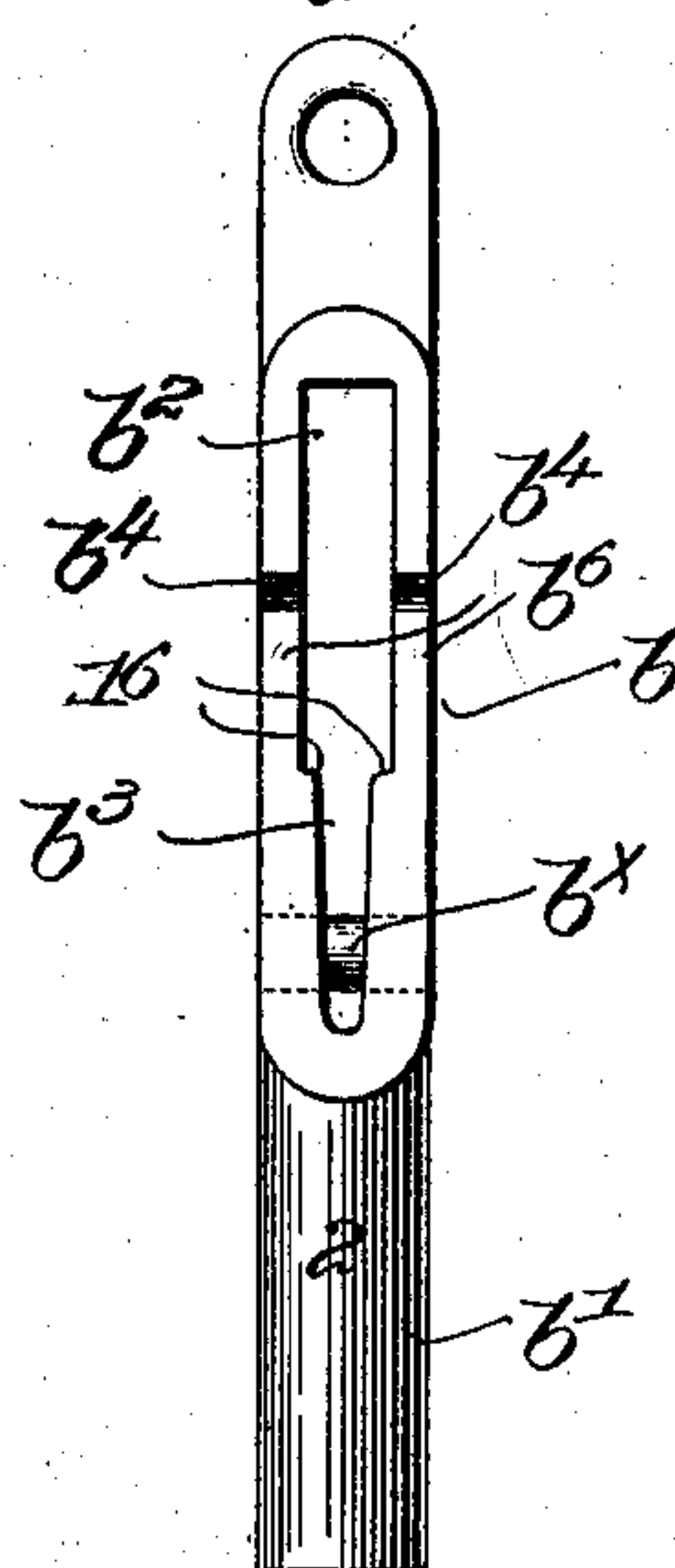
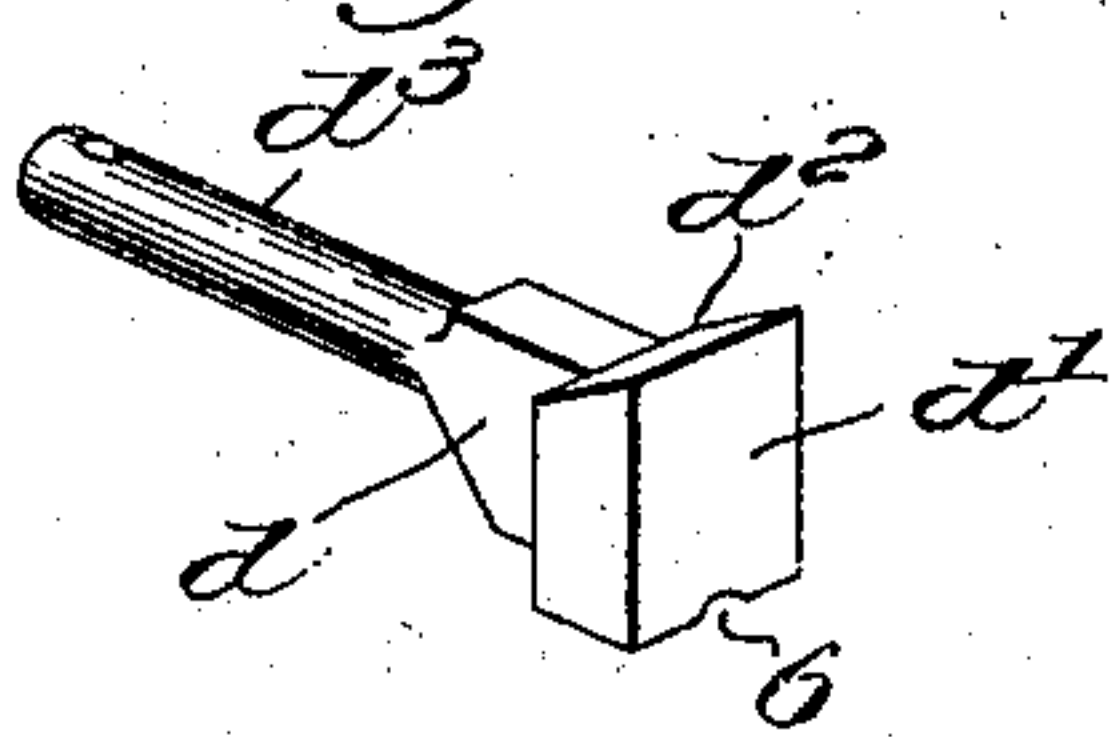


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWARD S. STIMPSON, OF HOPEDALE, MASSACHUSETTS, AND CHARLES SHORT, OF MONTREAL, CANADA, ASSIGNORS TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

CLAMPING DEVICE FOR HEDDLE BARS OR SUPPORTS.

SPECIFICATION forming part of Letters Patent No. 746,401, dated December 8, 1903.

Application filed September 26, 1903. Serial No. 174,795. (No model.)

To all whom it may concern:

Be it known that we, EDWARD S. STIMPSON, a citizen of the United States, and a resident of Hopedale, county of Worcester, State of Massachusetts, and CHARLES SHORT, a subject of the King of Great Britain, and a resident of Montreal, Province of Quebec, Canada, have invented an Improvement in Clamping Devices for Heddle Bars or Supports, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to loom harness-frames; and it has for its particular object the production of a novel clamping device for holding in place the detachable heddle-support when the latter is in operative position.

In accordance with our invention the downhold when in operative position is locked positively and effectually from accidental displacement, and when it is moved manually from inoperative to operative position the downhold is automatically and positively locked.

The novel features of our invention will be described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a front elevation, centrally broken out, of a harness-frame with one form of our invention embodied therein, the side bars being broken out and the head of one of them is shown partly in section. Fig. 2 is a greatly-enlarged vertical sectional detail through the head on the line 2 2, Fig. 3, showing the downhold in elevation and in its inoperative position, the end of the heddle-support being shown as removed from its seat. Fig. 3 is an inner side elevation, also enlarged, of the head without either the downhold or the heddle-bar; and Fig. 4 is a perspective detail of the downhold detached.

The harness-frame shown in Fig. 1 is of well-known construction, comprising a bottom cross-bar a^x and rigidly-attached upright side bars a , in practice rods threaded at their

upper ends to screw into threaded bosses b' of heads b , usually made as castings. Each head has a longitudinal slot b^2 therein, narrowed at its lower portion at b^3 to form a seat and presenting shoulders 16, (see Fig. 3,) the side walls of the seat usually being slightly converging toward the bottom of the seat, the latter being crossed by a transverse pin b^x .

The heddle-support h is a flat bar notched at h^x near each end to embrace the pins b^x when the ends of the support are inserted in the seat, the engagement of the support and pins preventing any relative lateral movement of the frame side bars a and the heddle-support when the latter is in operative position. The construction described is substantially such as is shown in United States Patent No. 729,047, the application and removal of the heddle-support being effected as therein described.

We have provided a novel downhold for the heddle-support to retain it seated, and the construction and arrangement is such that at such time the downhold is positively locked from accidental movement into position to release the support.

The inner side of each head b is cut away at each side of the wider portion of the slot b^2 to leave overhanging shoulders b^4 , slightly beveled, as herein shown, for a purpose to be described.

We have shown the downhold (separately illustrated in Fig. 4) as comprising a flat-sided body d of such thickness as will easily slide up and down or in and out in the slot b^2 , the lower edge of the body being grooved, as at 5, Figs. 1 and 2, in alinement with a similar groove or notch 6 in a lateral enlargement d' on the inner end of the body. The enlargement is at right angles to the body, has its upper edge beveled at d^2 to correspond with the bevels of the shoulders b^4 , and it is wide enough to engage both of the latter when in operative position. When the heddle-support h is removed, the internal shoulders 16 prevent the downhold from descending below them and becoming wedged in the seat b^3 .

At its outer end the body d is provided with a preferably cylindrical extension d^3 , long enough to pass through the slot b^2 and project beyond the outer side of the head a considerable distance. Washers w and w' are slipped on the projecting end and a coiled spring s is interposed between them, a cotter-pin 10 or other suitable device holding the washer w' on the extension d^3 , while the washer w rests against the outer side of the head. The expansive force of the spring always tends to draw the downhold outward and to bring the enlargement d' against the inner side of the head b , as will be manifest.

When the downhold is in the position shown in Fig. 2, the spring holds the enlargement against the head above the shoulders b^4 , the force of the spring retaining it in such inoperative position, so that the attendant's hands are free to insert or remove the heddle-support. Having inserted the ends of the latter in the seats b^3 , the notches h^x engaging the pins b^x , the attendant pushes the downhold downward. Just as soon as the beveled edge d^2 passes the corner of the shoulders b^4 the tension of the spring acts to complete the downward movement and at the same time pulls the downhold outward relatively to the head into operative position, (shown in Fig. 1,) the beveled faces of the shoulders and the enlargement d' exerting a cam-like action upon each other. When the downhold is in operative position, the grooves 5 6 receive the upper edge of the heddle-support and the shoulders b^4 act to lock the downhold in its operative position, the enlargement being held against the flat portion b^6 of the head by the spring. It will be manifest that any upward movement of the downhold will be prevented by the shoulders, so that a positive lock is provided, and when the downhold is manually moved, as described, into operative position the locking is effected automatically by or through the spring. When it is desired to unclamp the support, the attendant pushes the extension d^3 inward to disengage the downhold from the locking-shoulders and then moves it up into the position shown in Fig. 2, whereupon the heddle-support can be disengaged from the pin b^x and lifted out.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a loom harness-frame, side bars having heads each provided with a longitudinal slot, a detachable heddle-support adapted to be seated at its ends in the slotted heads, and a device slidably mounted on each head to engage and positively hold the heddle-support in position.

2. In a loom harness-frame, side bars having heads each provided with a seat, a de-

tachable heddle-support adapted to be seated at its ends therein, a device on each head to engage and hold the heddle-support seated, and means to positively and automatically effect locking of said device in operative position when manually moved thereinto.

3. In a loom harness-frame, side bars having heads each provided with a longitudinal slot, a detachable heddle-support adapted to be seated at its ends in the slotted heads, a downhold on each head and slidable in the slot thereof, to engage and hold the heddle-support in position, and a positively-acting lock to retain the downhold in operative engagement with the heddle-support.

4. In a loom harness-frame, side bars having heads each provided with a longitudinal slot widened at its upper end, and a locking-shoulder on each head, a detachable heddle-support adapted to be seated at its ends in the lower end of each slot, a downhold movable in the widened end of the slot and adapted to engage the upper edge of and position the heddle-support when seated, a portion of the downhold then cooperating with and being held locked by the shoulder, and a controlling-spring for the downhold to prevent its accidental disengagement from the shoulder.

5. In a loom harness-frame, side bars having heads each provided with a longitudinal slot, a detachable heddle-support adapted to be seated at its ends in the bottoms of the slots, means to prevent lateral movement of the heads when said support is in place, a downhold slidable up and down and also back and forth in each slot and having an external lateral enlargement, an overhanging locking-shoulder on each head, to cooperate with the lateral enlargement and maintain the downhold in operative position, and a spring cooperating with the downhold to retain it in operative or inoperative position.

6. In a loom harness-frame, side bars having heads each provided with a longitudinal slot, the inner side of each head being provided with an overhanging shoulder, a detachable heddle-support adapted to be seated at its ends in the slotted heads, a downhold slidably mounted on each head and laterally enlarged at its inner end, to engage and retain the heddle-support in position, and a spring carried by the downhold and interposed between its outer end and the head, to maintain the shoulder and enlargement in engagement and thereby prevent upward movement of the downhold when in operative position.

7. In a loom harness-frame, side bars having heads each provided with a longitudinal slot, the inner side of each head being provided with an overhanging shoulder, a detachable heddle-support adapted to be seated at its ends in the slotted heads, a downhold

slidably mounted on each head and laterally
enlarged at its inner end, to engage and re-
tain the heddle-support in position, the down-
hold having an elongated extension project-
5 ing beyond the outer side of the head, a re-
taining device on the outer end of the exten-
sion, and a spring surrounding the extension
and interposed between the head and the re-
taining device, to maintain the enlargement
10 in engagement with the shoulder when the
downhold is in operative position.

In testimony whereof we have signed our

names to this specification in the presence of
two subscribing witnesses.

EDWARD S. STIMPSON.

CHARLES ^{his} × _{mark} SHORT.

Witnesses for Stimpson:

CLARE H. DRAPER,
GEORGE OTIS DRAPER.

Witnesses for Short:

THADEE DALCOURT,
JOSEPH MAROTTE.