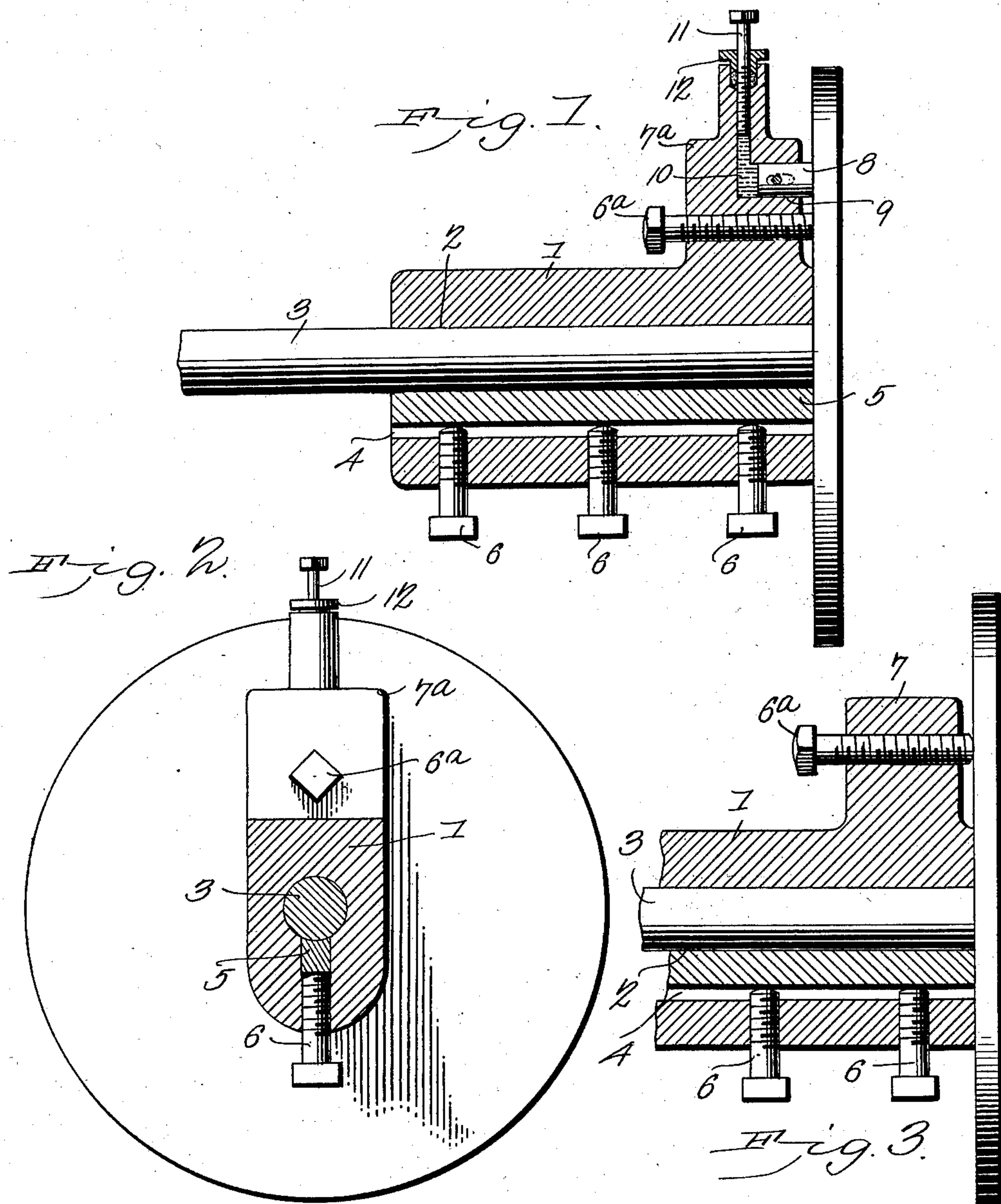


No. 749,816.

PATENTED JAN. 19, 1904.

H. R. GRANGER.
SHAFT STRAIGHTENER.
APPLICATION FILED MAY 4, 1903.

NO MODEL.



Witnesses
E. J. Stewart
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UNITED STATES PATENT OFFICE.

HOLLIS R. GRANGER, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-HALF
TO CHRIST DELLWO, OF ST. PAUL, MINNESOTA.

SHAFT-STRAIGHTENER.

SPECIFICATION forming part of Letters Patent No. 749,816, dated January 19, 1904.

Application filed May 4, 1903. Serial No. 155,612. (No model.)

To all whom it may concern:

Be it known that I, HOLLIS R. GRANGER, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Shaft-Straightener, of which the following is a specification.

This invention relates to a device for straightening bent bodies, and is particularly designed for use in straightening disks which have become bent upon their shafts.

The object of the invention is to provide means for efficiently and expeditiously straightening the bodies at angles to each other, as well as to straighten one of the bodies independent of the other.

With these objects in view the invention consists in certain novel details of construction, which will be specifically set forth in the following description and illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation of my straightening-machine, showing the application thereof; and Fig. 2 is a vertical longitudinal sectional view through the same. Fig. 3 is a sectional view of the bed or block, illustrating a slightly-modified form of disk-adjusting device.

The preferred embodiment of my invention consists of a stock or block 1, having an elongated bore 2 therein for the reception of a shaft 3. The bore 2 is provided with a communicating groove 4, in which is a transversely-moving elongated jaw 5, adjustably engaging the shaft 3 in the slot 2. This jaw 5 is actuated by tension-screws 6, which are disposed at intervals on the block, so that tension can be increased or relieved at any desired point on the jaw 5 and upon the shaft 3. If the shaft is bent at an intermediate point, it can be put in true by exerting the proper pressure thereon through the medium of the screws and jaw. If the shaft is true but the disk is not disposed in proper relative position, the discrepancy can be readily rectified by exerting the proper amount of pressure on the disk by the adjusting device 6^a, which is carried by the arm 7 of the bed 1 and comprises a threaded bolt or similar de-

vice adapted to be forced against the face of the disk until it is in the proper position on the shaft. If both the disk and shaft are bent, they can be simultaneously straightened by exerting pressure upon the shaft and disk at the same time.

In the form illustrated in Fig. 1 I have illustrated a hydraulic disk-adjusting device, which is shown as comprising a sliding piston 8, movable in a recess or channel 9 in the arm 7^a corresponding to the arm 7 in the preferred form. This piston 8 is actuated by the fluid 10, contained within the recess or channel 9 and which is compressed by suitable means, conveniently illustrated as a screw or plunger 11, projecting through a stuffing-box 12 and extending into the channel 9. This type of adjusting means is particularly adapted for heavy work, and by compressing the fluid to force the piston 8 against the disk sufficient power can be exerted to rectify any irregularities in the disk. It will be observed that by relieving the pressure of the jaw 5 from against the shaft the block can be rotatably swung upon said shaft, so as to swing the disk-presser device on an arc to exert the pressure at the proper point.

While I have specifically described what to me at this time appears to be the very best means of accomplishing the desired result, I would have it understood that I do not limit myself to the exact details of construction shown, but reserve the right to make such slight changes and alterations as would properly come within the scope of the appended claims.

I claim—

1. In a device of the class described, a stock having a bore with a communicating longitudinal groove, a clamping-jaw adjustably mounted in the groove and a disk-straightener carried by the stock and eccentric to the axis of the shaft.

2. In a device of the character described, a portable stock having a shaft-receiving bore, a clamping-jaw movable within the bore to engage the shaft, said stock being rotatable on the shaft and an eccentrically-disposed disk-straightener carried by the stock.

3. In a device of the class described, a stock
having an arm, a disk-straightening means
carried by the arm, a shaft-receiving opening
in the stock and an adjustable clamping-jaw
5 having a plurality of adjusting devices to hold
it into engagement with the shaft.

4. In a device of the class described, a stock
having a longitudinal shaft-receiving opening
and a communicating groove, a shaft-straight-
10 ener movable in the groove, alining adjusting

devices for actuating the straightener, an arm
carried by the stock, and a straightening de-
vice carried by the arm.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in 15
the presence of two witnesses.

HOLLIS R. GRANGER.

Witnesses:

A. F. MASCHGER,
HERMAN A. PETER.