(No Model.)

J. H. BRADLEY.

BELT TIGHTENER.

No. 263,106. Patented Aug. 22, 1882.

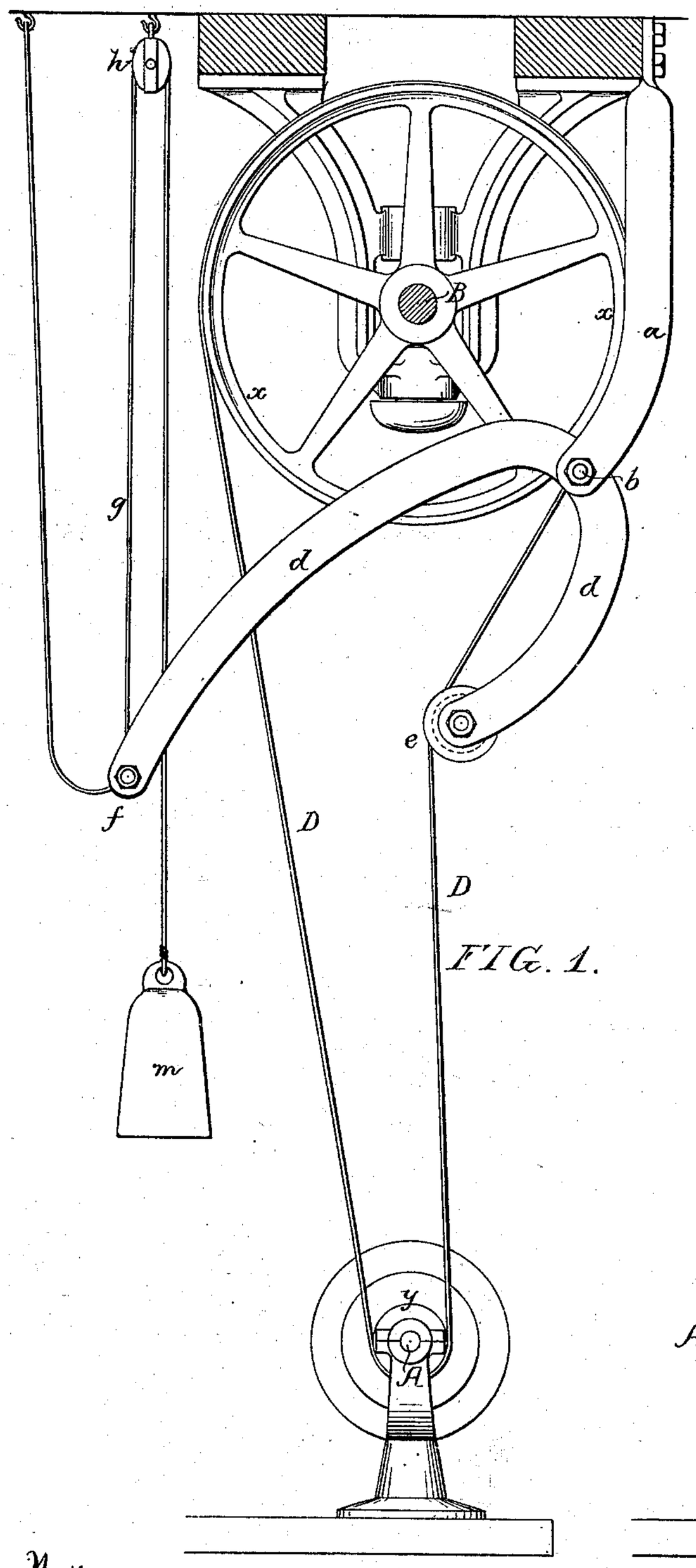

FIG. 1.

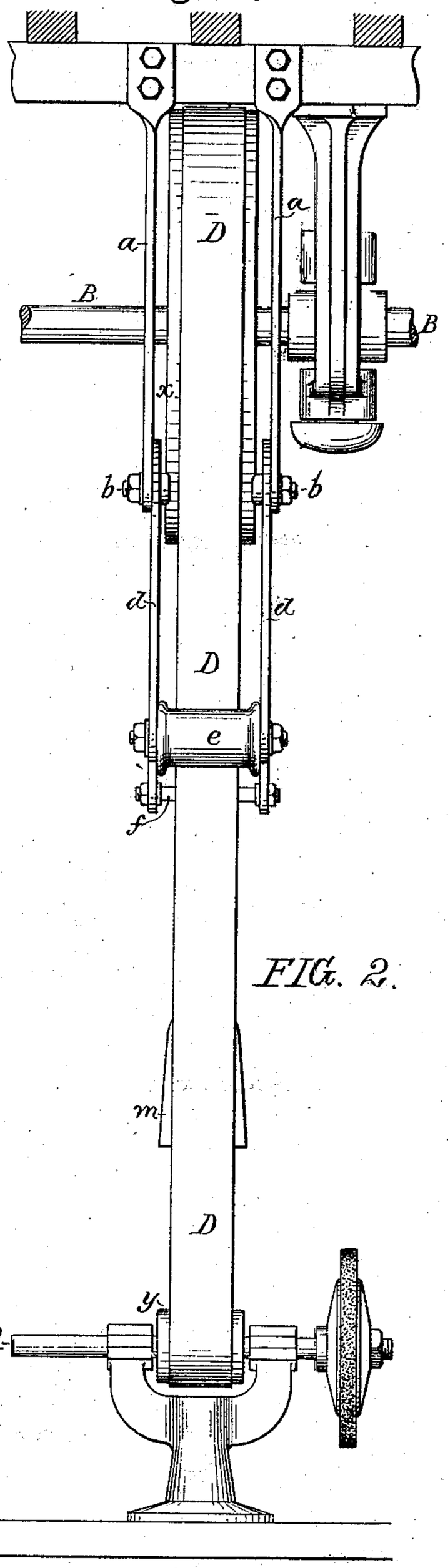

FIG. 2.

Witnesses:
James J Johnson
Harry Smith

Inventor:
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by his attorneys
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UNITED STATES PATENT OFFICE.

JOHN H. BRADLEY, OF PHILADELPHIA, PA., ASSIGNOR TO BENJAMIN THACKARA, CHARLES THACKARA, AND A. M. THACKARA, OF SAME PLACE, AND JOHN H. SOUTHWORTH, OF SPRINGFIELD, MASS.

BELT-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 263,106, dated August 22, 1882.

Application filed July 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BRADLEY, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Belt-Tighteners, of which the following is a specification.

The object of my invention is to construct a compact and convenient belt-tightener; and this object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of my improved belt-tightener, and Fig. 2 a front view of the same.

A represents the shaft or spindle of a lathe, polishing-wheel, or other device upon a work-bench, B being an overhead counter-shaft, and D the belt passing round a pulley, *x*, on the shaft B and a pulley, *y*, on the shaft A, as usual.

Owing to the high speed at which such tools as polishing-wheels are run, the lacings of an ordinary belt are rapidly worn out, and frequent stoppages for repairs become necessary, hence the use of a riveted belt and an automatic belt-tightener is advisable.

This belt-tightener I construct in the following manner: To the ceiling-joists or other suitable support I secure a pair of hangers, *a a*, the lower ends of which are connected by a pin, *b*, and to this pin is hung a duplex bell-crank lever, *d*, the short arm of which carries the spindle of a roll, *e*, which bears upon the belt D, the long arm of the lever having a bar, *f*, and to the latter is attached one end of a cord or chain, *g*, which passes round a pulley, *h*, hung to the ceiling, and has at the other end a weight, *m*. The tendency of this weight is to elevate the long arm of the lever *d*, and thus cause the roll *e* to press upon the belt D and keep the same tight. The action of the roll *e* is to press the belt away from the front of the bench, and thus lessen the risk of the said belt coming in contact with and causing injury to the person working at the bench.

When it is desired to throw the shaft or spindle A out of operation the long arm of the lever *d* is depressed by means of a hooked rod adapted to the bar *f*, the roll *e* being thereby moved away from the belt D, which is allowed to run slack.

By using two hangers and a duplex bell-crank lever, as shown, I am enabled to provide a firm support for the fulcrum-pin *b*, and for the spindle of the roll *e*. The use of the duplex lever is not necessary, however, as a single lever and hanger may in some cases be used.

An important feature of my invention is the mode of hanging the bell-crank lever—that is to say, the location of the fulcrum at the front of the pulley *x* and the projection of the long arm of the lever to the rear of the said pulley—for by this means compactness is insured without lessening the leverage, the entire device being practically within the lateral limits of the work-bench, whereas a different mode of hanging the lever would necessitate a considerable projection of the long arm of the same either in front or rear of the bench. If the arm projected in front of the bench said arm and the cord and weight connected thereto would inconvenience the person working at the bench, while the projection of the arm at the rear of the bench would in most cases be impossible, owing to the fact that work-benches are generally built close to the wall of the building in order to insure good light.

I claim as my invention—

1. The combination of the pulleys *x* and *y* and belt D with a bell-crank lever having its long arm weighted and its short arm provided with a belt-pressing roll, *e*, said lever being hung in respect to the pulleys, belt, and bench as described, whereby its long arm is located over the bench, as set forth.

2. The combination of the pulleys *x y*, belt D, hangers *a*, duplex bell-crank lever *d*, roll *e*, and weight, as described.

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

J. H. BRADLEY.

Witnesses:

JAMES F. TOBIN,
HARRY SMITH.