

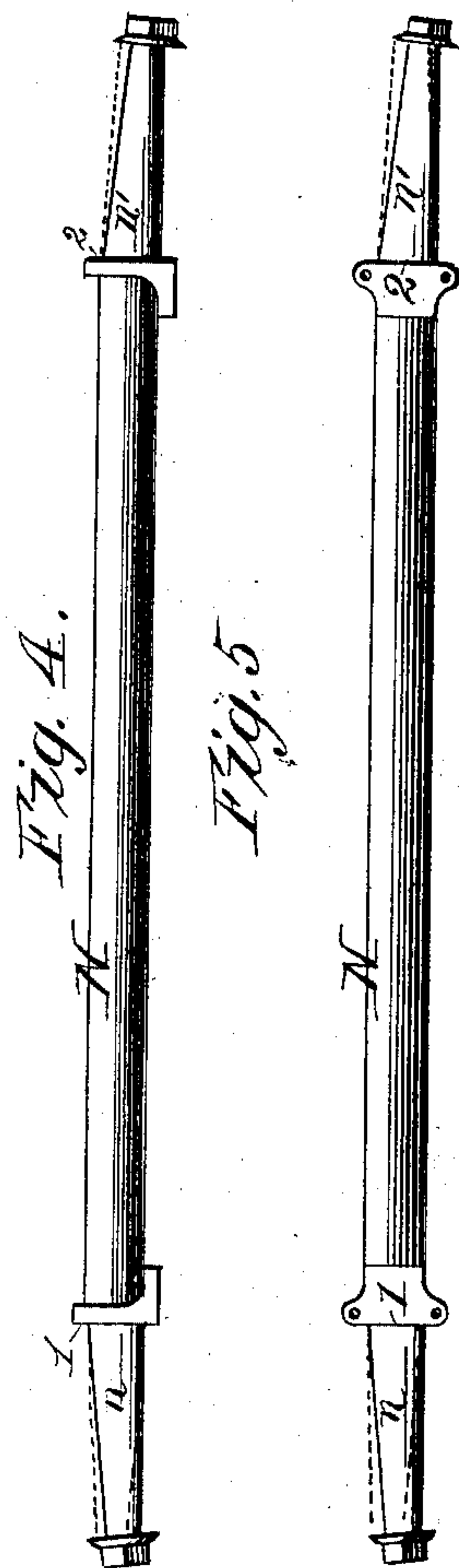
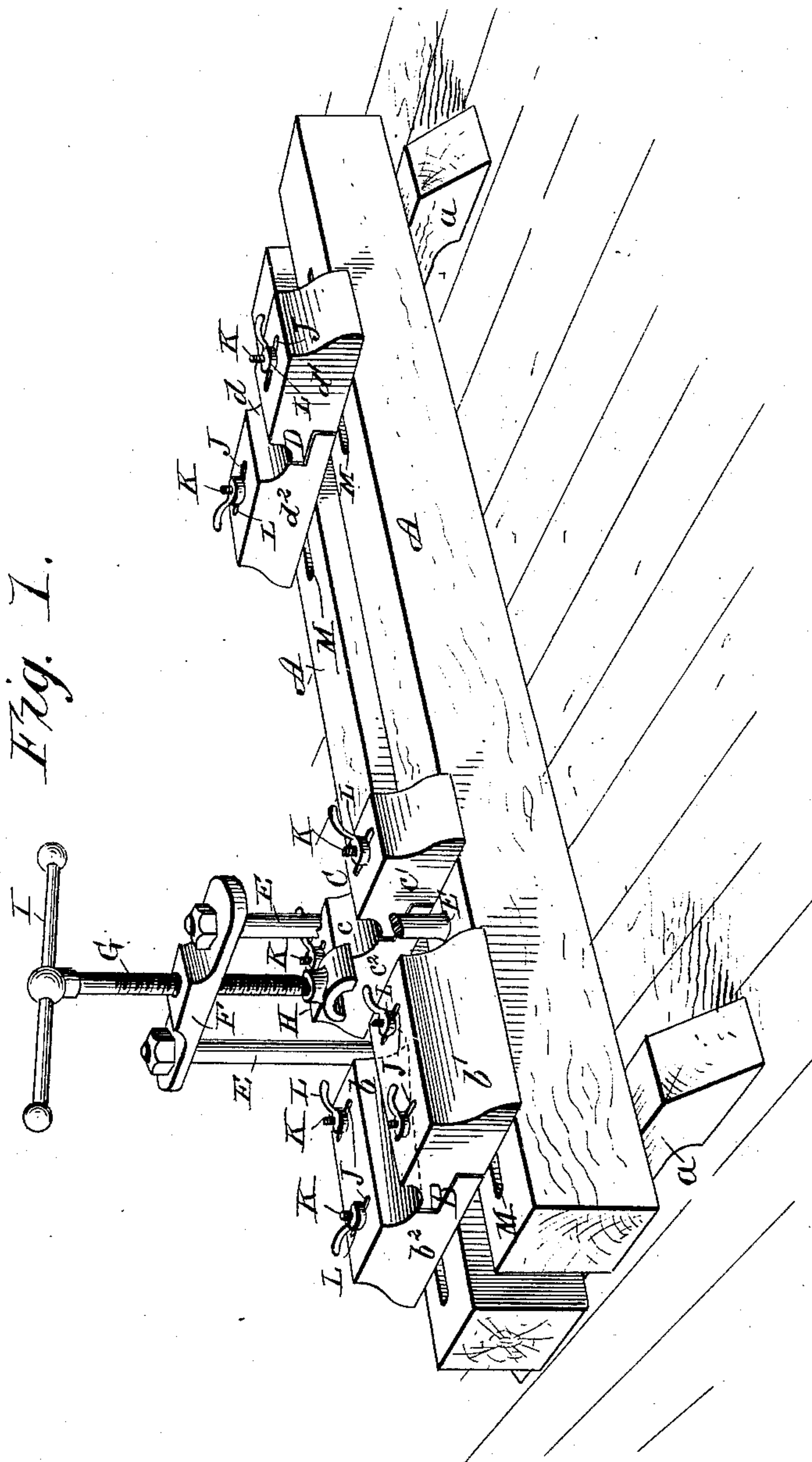
(No Model.)

2 Sheets—Sheet 1.

J. F. HENNESSY.
AXLE SETTING MACHINE.

No. 375,937.

Patented Jan. 3, 1888.



WITNESSES:

J. D. Sanford
C. Sedgwick

INVENTOR:

J. F. Hennessy
BY *Munn & Co.*

ATTORNEYS.

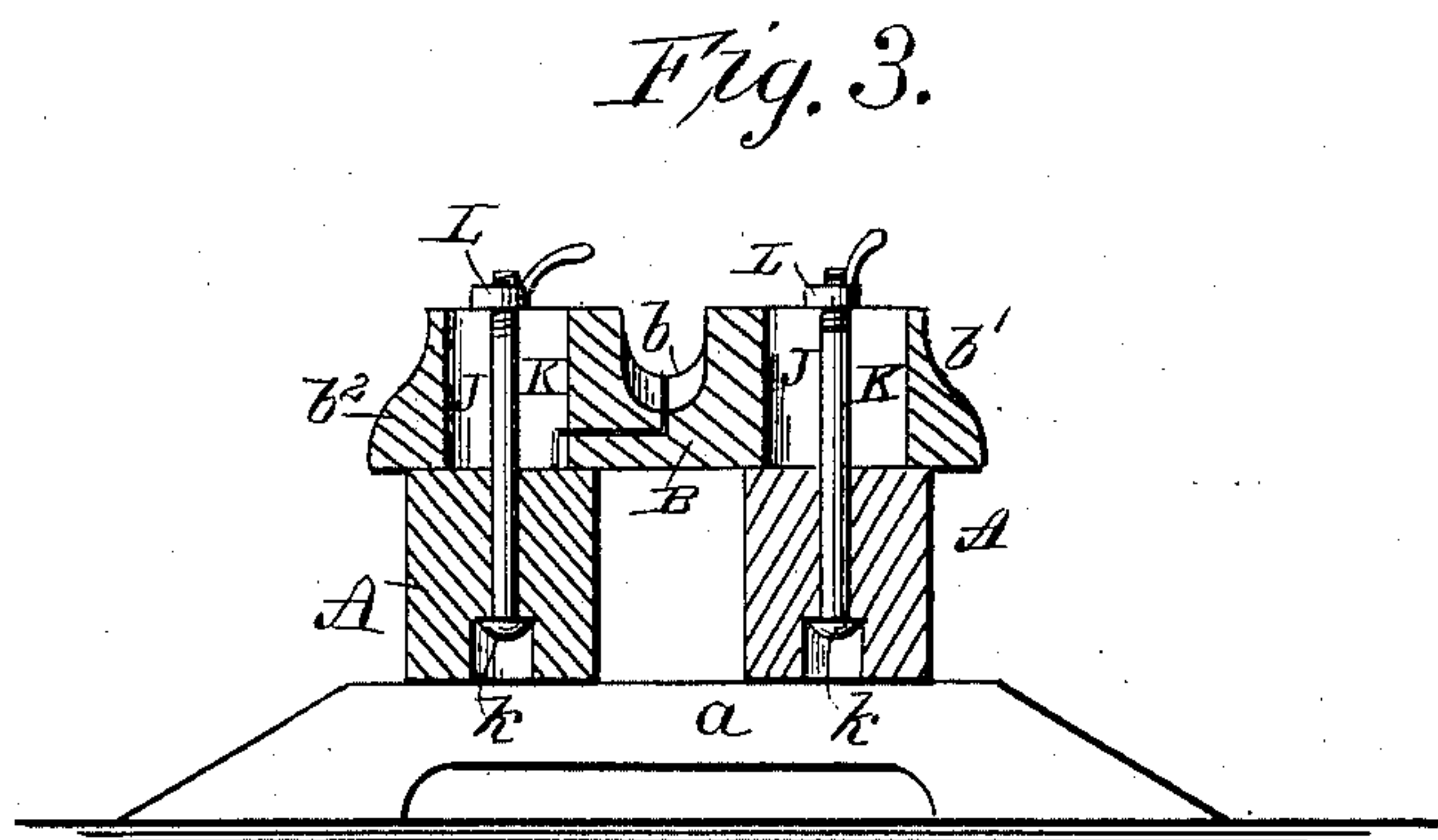
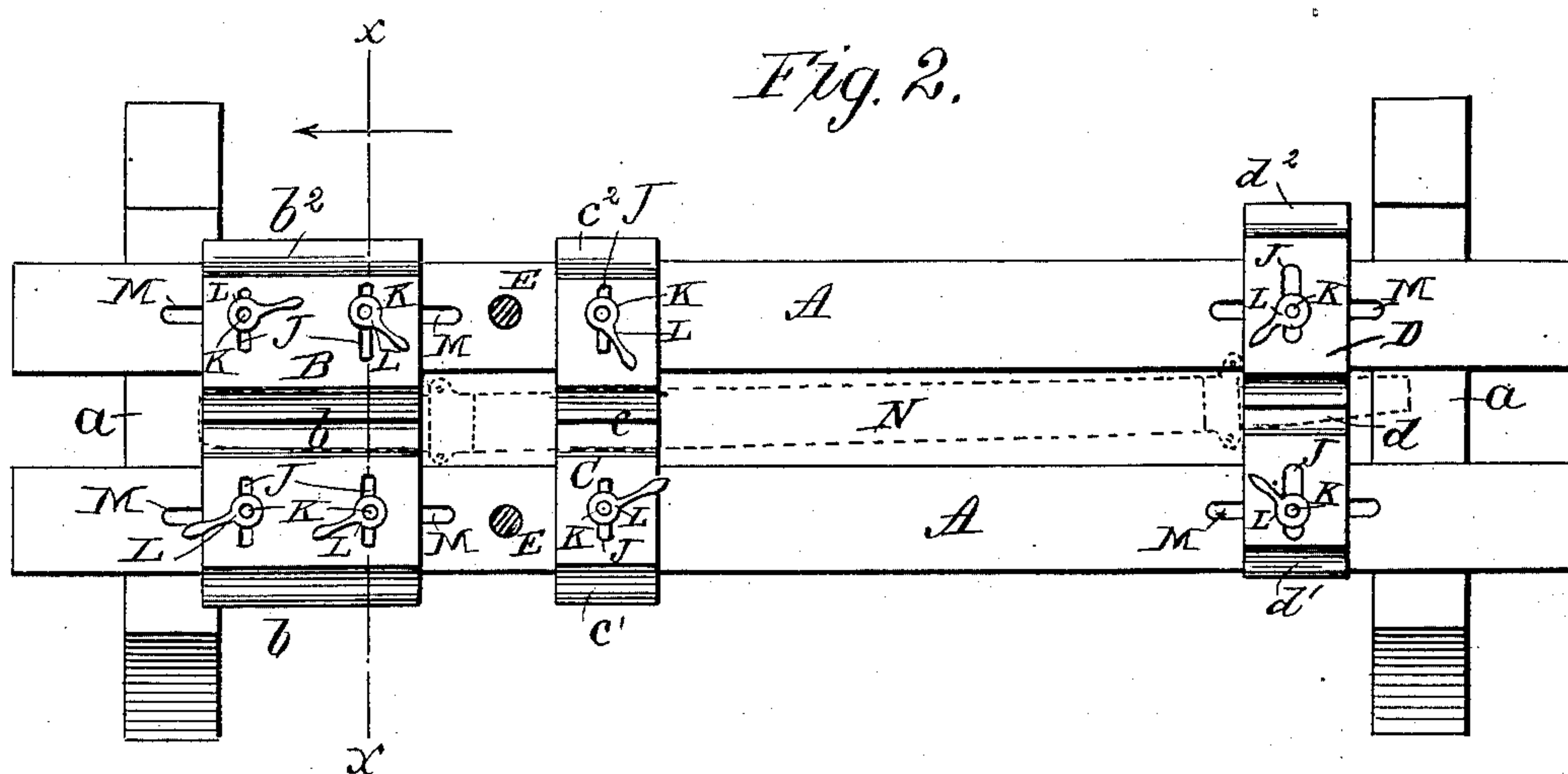
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2 Sheets—Sheet 2.

J. F. HENNESSY.
AXLE SETTING MACHINE.

No. 375,937.

Patented Jan. 3, 1888.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES FRANKLIN HENNESSY, OF WINONA, MINNESOTA.

AXLE-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 375,937, dated January 3, 1888.

Application filed August 18, 1887. Serial No. 247,270. (No model.)

To all whom it may concern:

Be it known that I, JAMES FRANKLIN HENNESSY, of Winona, in the county of Winona and State of Minnesota, have invented a new and Improved Axle-Setting Machine, of which the following is a full, clear, and exact description.

My invention relates to a machine for setting the arms of vehicle axles, and has for its object to provide a simple and inexpensive machine of this class by which the axles may be set when cold to give them any proper "pitch" and "gather" at one operation and without the use of gages, whereby this usually difficult work may be easily accomplished with economy of time and labor.

The invention consists in certain novel features of construction and combinations of parts of the axle-setting machine, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of my improved axle-setting machine. Fig. 2 is a plan view of the machine with the axle indicated thereon in dotted lines and the screw removed. Fig. 3 is a vertical transverse section taken on the line *xx*, Fig. 2. Fig. 4 is a side view of an axle set by the machine, and Fig. 5 is a bottom view of the axle.

The bed or base of the axle-setting machine consists, preferably, of two heavy parallel sills, *A A*, which are fixed to suitable foot-plates, *a a*, which support the machine from the floor or ground. On the sills *A A* are placed metal blocks *B C D*, on and in which the axle to be set is supported, as presently explained, and between the blocks *B C* there are fixed to the sills a couple of uprights or short posts, *E E*, which are connected at their tops by a cross-bar, *F*, which is bored and internally threaded to receive a heavy screw, *G*, having swiveled to its lower end a concaved foot-plate, *H*, which may be forced down or raised by operating the handle *I* of the screw. Each of the blocks *B C D* is provided over the sills *A A* with slots *J J*, and bolt ends or screws *K*, having heads *k* at the lower faces or parts of the blocks, are passed upward through these slots, and above

the blocks receive handle-nuts *L*, which construction allows the blocks to be adjusted laterally on the sills. The bolts *K* of the block *C* quite snugly fit the holes made in the sills to receive them, as it is intended that this block shall have capability of lateral adjustment only; but the bolts *K* of the blocks *B D* pass through longitudinally-ranging slots *M* in the sills; hence these blocks *B D* may be adjusted both laterally and longitudinally on the sill or bed of the machine.

The blocks *B C D* are each preferably made in two parts, *b' b'' c' c'' d' d''*, respectively, which are preferably fitted to each other by a lapped joint, and at their centers the blocks *B C D* are provided, respectively, with grooves *b c d*, which may be made wider or narrower to receive axles of different diameters by adjusting the two parts of the blocks laterally with relation to each other. The groove *b* in the block *B* is deeper at its end next the block *C* than at the other or outer end of the block, to correspond somewhat with the taper of the arm of an axle to be set, and the groove *c* of the block *C* is as much deeper than the grooves *b* in the block *B* as the amount of the pitch or downward bend it is desired to give the axle-arm.

The operation of the machine is as follows: When the two parts of the blocks *B C D* have been adjusted to give proper width to their respective grooves *b c d*, and when the blocks *B D* have been adjusted lengthwise of the machine to allow the axle *N* to be placed with its opposite arms *n n'* in the grooves *b d* of the blocks *B D*, while the shoulders or collars *1 2*, next the axle-arms *n n'*, rest against the inner faces or walls of the blocks *B D*, and after the block *D* has been set to one side to shift its groove *d* a sufficient distance out of alignment with the grooves *b c* of the blocks *B C*, the screw *G* will be turned to force the foot-plate *H* down upon the axle until it is pressed fully to the bottoms of the grooves *b c* in the blocks *B C*, and this single operation will bend the axle-arm *n* two ways, or downward for the pitch and forward for the gather, the downward movement for the pitch being due to the greater depth of the groove *c* than that of the groove *b*, and the forward bend for the gather being due to the extent of lateral ad-

justment of the groove *d* of the block D out of line with the grooves *c b* of the blocks C B. In other words, when the axle is first laid in the grooves *b d* of the blocks B D it will lie over
 5 at one side of the groove *b* and at the opposite side of the groove *c* of the blocks B C, and when the screw forces the axle downward it also bends it laterally. When the other arm, *n'*, of the axle is to be set, the block D will be
 10 set laterally to carry its groove *d* out of alignment at the other side of the center of the sill or bed of the machine.

The entire operation is very simple and effective, and axles, whether solid or hollow,
 15 can be set when cold to give any required extent of pitch and gather to their arms, thus saving the heavy expense incident to heating the axles, and avoiding the risks attending the use of gages for the purpose of giving correct
 20 vertical and lateral bends to the axle arms, as by the machine the arms will be bent both ways with absolute uniformity without using gages, thereby greatly reducing the expense of setting the axles and assuring true and proper
 25 run of the wheels upon them for any style of running-gear.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

30 1. The combination, in an axle setting machine, of a sill or bed, a series of blocks fitted on the sill and provided with grooves to receive the axle, and a screw or equivalent device pressing the axle near its arm to pitch
 35 the arm, substantially as herein set forth.

2. The combination, in an axle-setting machine, of a sill or bed, a series of blocks mounted on the sill and provided with grooves to receive the axle, and one or more of said blocks
 40 made laterally adjustable, and a screw or equivalent device for pressing the axle near its arm to set the axle into the adjacent block-grooves and give it pitch and gather at one operation, substantially as herein set forth.

3. The combination, in an axle-setting machine, of sills A, blocks B C D, held thereto
 45 and provided with grooves *b c d*, respectively, and a screw, G, fitted between the blocks B C and adapted to press the axle into the grooves *b c* of said blocks, substantially as described, 50 for the purposes set forth.

4. The combination, in an axle-setting machine, of sills A, blocks B C D, provided with grooves *b c d* and slots J, and bolts K, passed
 55 through said slots and the sills and provided with nuts L, allowing lateral adjustment of the blocks, substantially as herein set forth.

5. The combination, in an axle-setting machine, of sills A, provided with slots M, blocks B C D, provided with grooves *b c d* and slots
 60 J, bolts K, and nuts L, and the bolts K of blocks B D passing through the slots M, substantially as shown and described, whereby all the blocks B C D are allowed lateral adjustment and the blocks B D are made adjustable
 65 lengthwise of the machine, substantially as herein set forth.

6. The combination, in an axle-setting machine, of sills A, blocks B C D, having grooves *b c d*, and said block D made laterally adjustable on the sills, and the blocks B C D made
 70 in two parts, allowing adjustment of the grooves *b c d* to accommodate axles of different sizes, substantially as herein set forth.

7. The combination, in an axle-setting machine, of sills A, provided with slots M, blocks B C D, having grooves *b c d* and transverse
 75 slots J, the bolts K, and nuts L, and the bolts K of blocks B D passed through the slots M, and said blocks B C D each made in two parts, 80 allowing adjustment of the width of their grooves *b c d*, substantially as described, for the purposes set forth.

JAMES FRANKLIN HENNESSY.

Witnesses:

H. M. KINNEY,
 J. C. BLAKE.