(No Model.) 3 Sheets—Sheet 1.

A. CATCHPOLE.

LATHE.

No. 491,236. Patented Feb. 7, 1893.

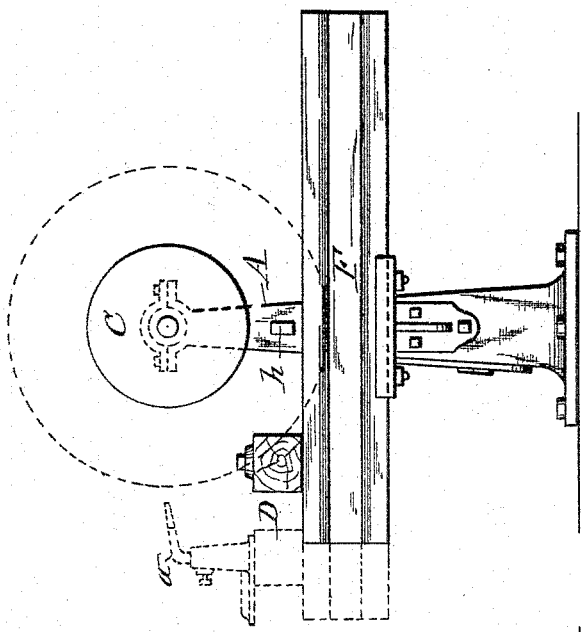

Fig. 2

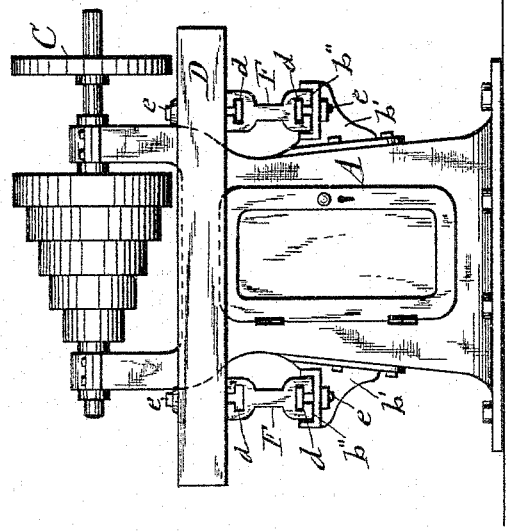

Fig. 1

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INVENTOR:

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By Dodd, Laass & Dodd

his ATTORNEYS.

(No Model.) 3 Sheets—Sheet 2.

A. CATCHPOLE.

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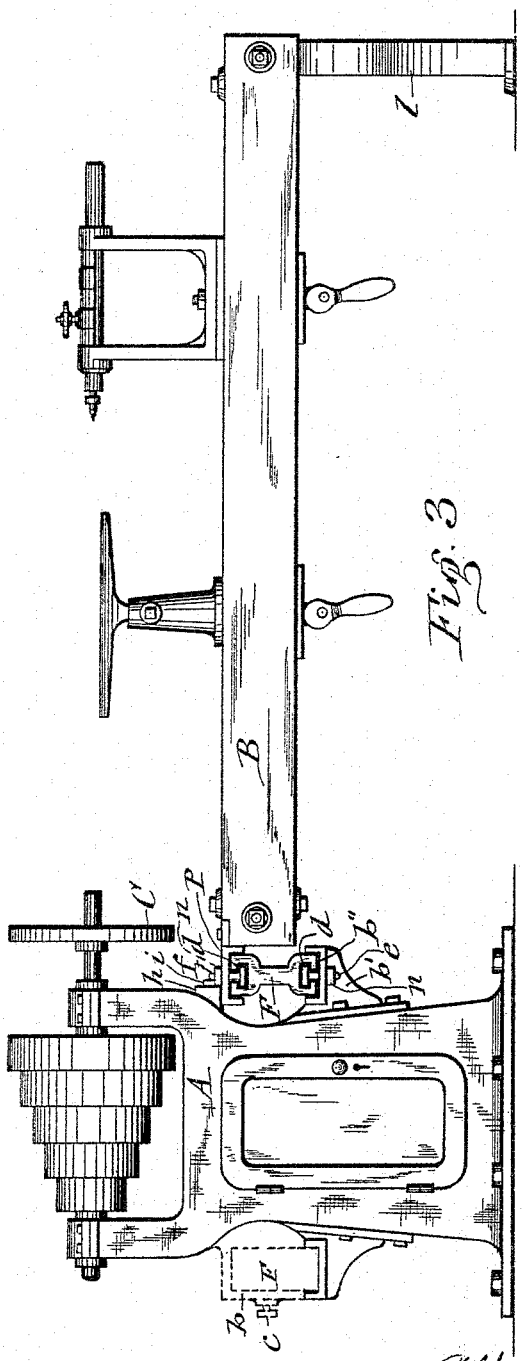

Fig. 3

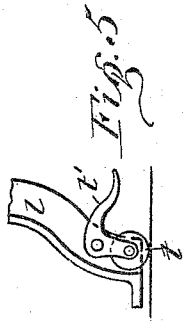

Fig. 5

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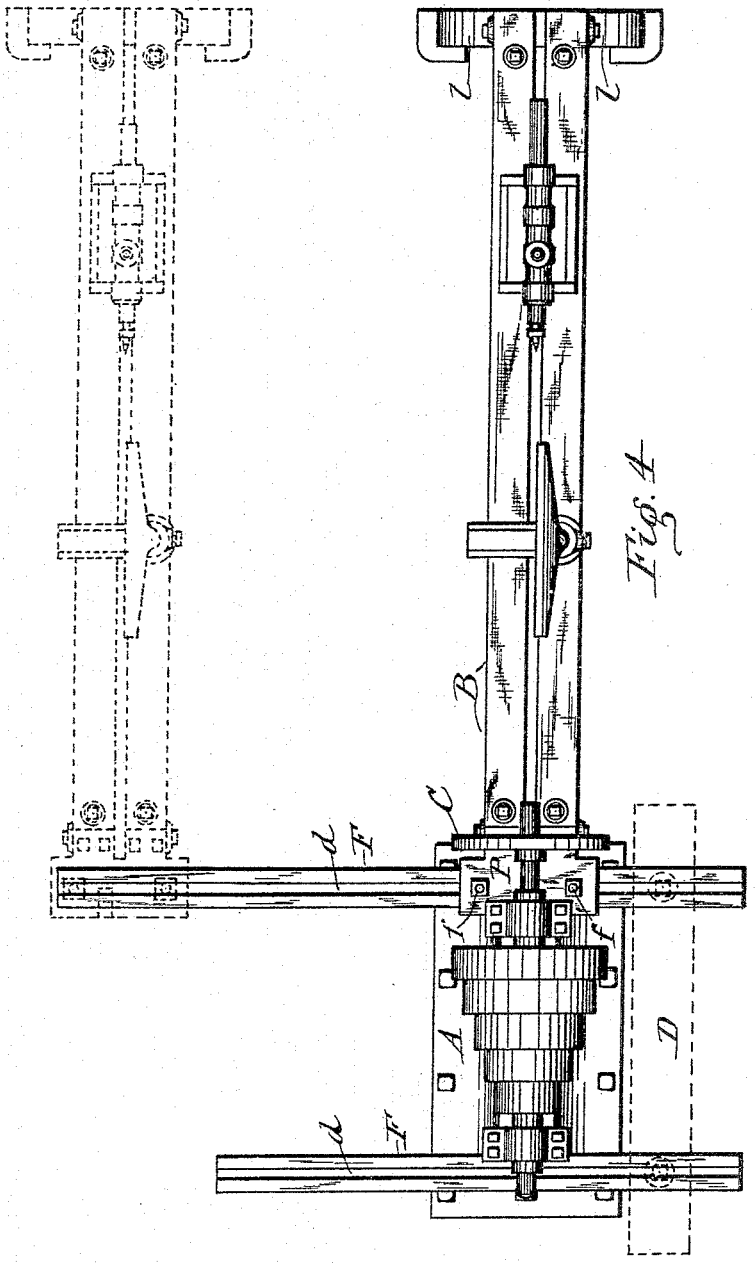
(No Model.)

3 Sheets—Sheet 3.

A. CATCHPOLE.

LATHE.

No. 491,236. Patented Feb. 7, 1893.



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UNITED STATES PATENT OFFICE.

ALFRED CATCHPOLE, OF GENEVA, NEW YORK.

LATHE.

SPECIFICATION forming part of Letters Patent No. 491,236, dated February 7, 1893.

Application filed April 16, 1892. Serial No. 429,470. (No model.)

To all whom it may concern:

Be it known that I, ALFRED CATCHPOLE, of Geneva, in the county of Ontario, in the State of New York, have invented new and useful Improvements in Lathes, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

The object of this invention is to provide a lathe which shall be simple and compact in construction and convenient in its operation, and adapted for turning large heavy work such as the main driving-pulleys of engines and analogous wheels as well as shaftings or other long and slender work.

To that end the invention consists of a head-stock and a tool-rest support extending along the side of said head-stock and adjustable laterally toward and from the same to accommodate wheels or analogous work of various diameters on the chuck-plate or face-plate of the lathe.

The invention also consists in the combination, with the head-stock, of shears detachably connected thereto.

The invention furthermore consists in certain novelties of the details of the lathe all as hereinafter more fully described and specifically set forth in the claims.

In the annexed drawings Figures 1 and 2 are respectively side and end elevations of the head-stock arranged for turning large work, Fig. 3 is a side elevation of the lathe in position for turning shafting or other long slender work, Fig. 4 is a plan view of the same, and Fig. 5 is a detail view of one of the legs which support one end of the shears.

Similar letters of reference indicate corresponding parts.

A— represents the head-stock, and —B— the shears which I detachably secure to said head-stock for the purpose of allowing large work to be attached to the chuck-plate or face-plate —C. For operating on such work I provide at the side of the head-stock —A— a suitable support —D— for the tool-rest —*a*—, which support is adjustable laterally toward and from the side of the head-stock in any suitable manner. Said support —D— consists mainly of a longitudinal beam mounted on cross beams —F—F— secured to the head-stock and extending laterally from the sides thereof. Said cross-beams may be either of wood or of metal and pass through sleeves —*b*— so as to allow the said cross beams to be shifted longitudinally and extend to a greater or less distance from the side of the head-stock. A set screw —*c*— passing through the side of the sleeve as indicated by dotted lines in Fig. 3 of the drawings engages the beam and holds the same in its adjusted position. The longitudinal beam —D— is bolted to the tops of the aforesaid cross-beams. I prefer however to form the cross-beams of metal and with T-shaped longitudinal grooves —*d*—*d*— in their tops and bottoms, and mount them on brackets —*b'*—*b'*— formed with horizontal seats —*b''*— for the cross-beams —F— and perforated for the reception of bolts —*e*— which have their heads in the T-shaped bottom grooves —*d*— and are provided with nuts —*n*— on the ends projecting beneath the top-plates or seats of the brackets. By loosening said nuts the cross-beams can be shifted longitudinally as before described and by tightening the nuts said beams are retained in their adjusted positions. The longitudinal beam —D— is secured to the tops of the cross-beams —F—F— in the same manner by bolts —*e*— passing through the beam —D— and having their heads in the top-grooves —*d*— and provided with nuts on their upper ends. This latter attachment allows the longitudinal beam to be shifted to a greater or less distance from the side of the head-stock —A— without disturbing the cross-beams, —F—F. The range of said adjustment of the longitudinal beam is however augmented by the adjustable attachment of the cross-beams to the brackets —*b'*. The end of the shears —B— adjacent to the head-stock I support on the cross-beam —F— in such a manner as to allow said shears to be shifted laterally to one side and thus permit large work to be attached to the chuck-plate —C. I preferably secure the shears to the cross-beam by means of a plate —P— firmly attached to and extending from the end of the shears and across the top of the beam —F— and provided with bolt holes for the reception of bolts —*f*—*f*— which have their heads in the T-shaped top-groove —*d*— of the beam —F— and are provided with nuts on their ends projecting above the plate —P.

By loosening the nuts the shears can be shifted laterally as before stated and when desired they can be readily brought back to their normal position directly under the axis of the lathe and clamped in said position and thus adapt the lathe for turning shafts or other analogous work. To facilitate said latter adjustment of the shears I either rigidly attach to or form integral with the head-stock —A— a lug or suitable stop —*h*—, and provide the plate —P— with a similar lug —*i*— in such a position as to cause the two lugs to abut against each other when the shears are brought into their normal position under the axis of the lathe. To allow the shears to be easily shifted as aforesaid I provide the legs —*l*—*l*— of the shears with casters —*t*— the frames of which are pivoted eccentrically to the legs and are provided with suitable handles —*t'*— by which to turn the caster-frames on their pivots. By means of said handles the casters can be depressed so as to raise the legs from the floor and thus allow the shears to be readily shifted as aforesaid, and when the shears are in their normal position under the axis of the lathe the casters can be raised to allow the legs —*l*—*l*— to rest on the floor.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination, with the head-stock, of cross-beams secured longitudinally adjustable to said head-stock to project a greater or less distance from the side thereof, and a longitudinal beam secured to said cross-beams and supporting the tool-rest, as set forth.

2. The combination, with the head-stock, of cross-beams secured longitudinally adjustable to said head-stock, and a longitudinal beam mounted on said cross-beam adjustable laterally toward and from the side of the head-stock and supporting the tool-rest as set forth.

3. The combination, with the head-stock —A—, of the brackets —*b'*—*b'*— rigidly secured to said head-stock and formed with the seats —*b''*—*b''*—, the cross-beams —F—F— mounted on said brackets and provided with the T-shaped longitudinal grooves —*d*—*d*— in their tops and bottoms, the longitudinal beam —D— mounted on the cross-beams, and bolts —*e*—*e*— having their heads in the aforesaid grooves and fastening the beams in their respective positions as set forth.

4. The combination with the head-stock —A— of the shears —B— supported removably from and to its normal position under the axis of the lathe, as set forth.

5. The combination, with the head stock, of a cross-beam secured to said head-stock and the shears mounted on said cross-beam and movable laterally thereon as set forth.

6. The combination, with the head-stock —A— of the cross-beams —F—F—, shears —B— mounted on one of said cross-beams adjustably to and from its normal position under the axis of the lathe, and the longitudinal beam —D— extending along the side of the head-stock and mounted on the two-cross-beams, substantially as and for the purpose set forth.

7. The combination, with the head-stock —A—, of the cross-beam —F—, the shears —B— mounted on said cross-beam adjustably to and from its normal position under the axis of the lathe, and stops —*h*— and —*i*— attached respectively to the head-stock and shears, substantially as and for the purpose set forth.

8. The combination, with the head-stock —A— and shears —B—, of the cross-beam —F— provided with the T-shaped groove —*d*— in its top, the plate —P— attached to the shears and riding on the aforesaid beam, and bolts —*e*— passing through said plate and having their heads in the groove —*d*— and provided with nuts on their upper ends, substantially as and for the purpose set forth.

In testimony whereof I have hereunto signed my name this 14th day of April, 1892.

ALFRED CATCHPOLE. [L. S.]

Witnesses:
E. LAASS,
MARK W. DEWEY.