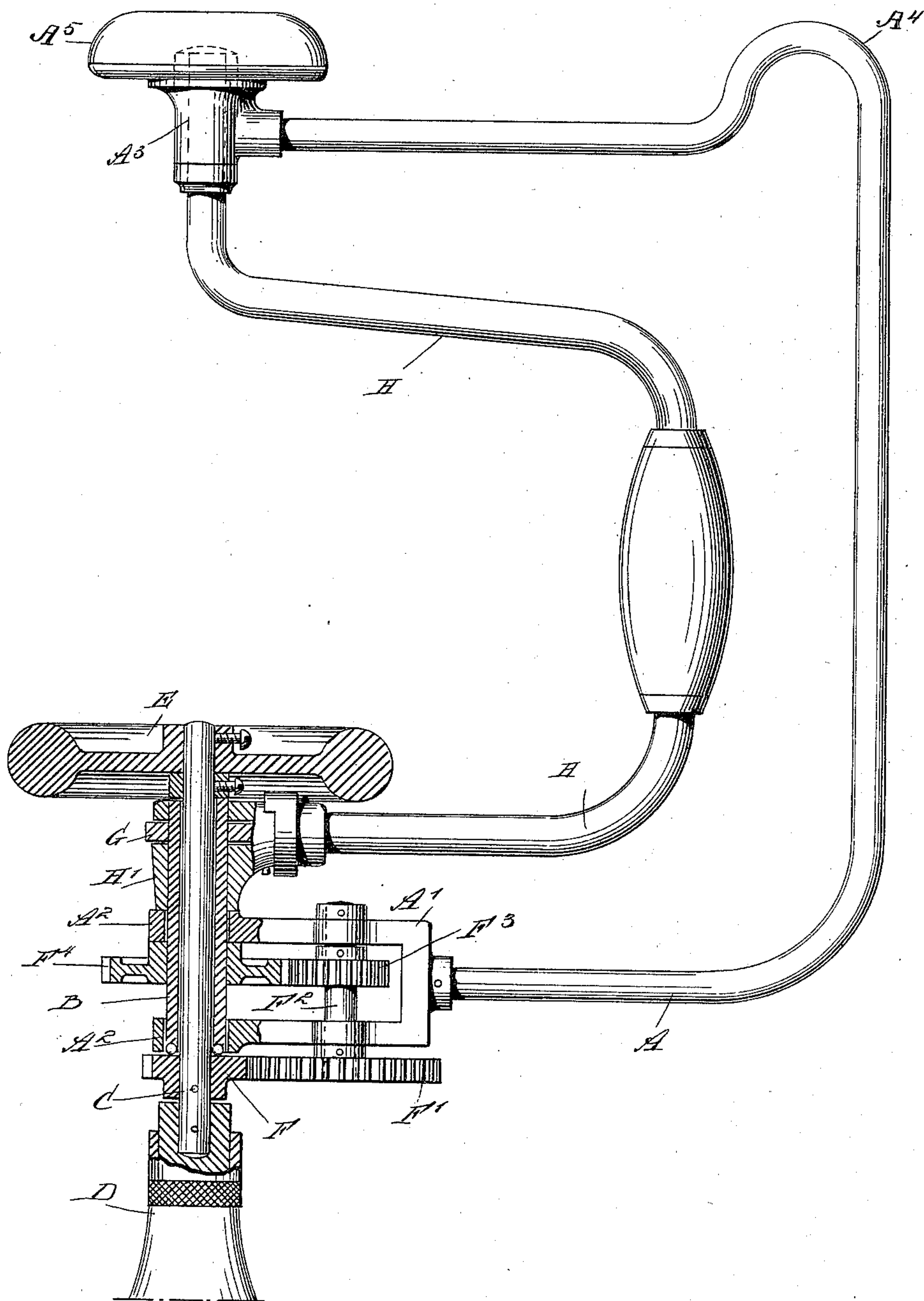


(No Model.)

J. H. MORRISON.
BRACE.

No. 598,382.

Patented Feb. 1, 1898.



WITNESSES:

John A. S. [Signature]
Rev. G. H. [Signature]

INVENTOR
J. H. Morrison
BY *[Signature]*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN H. MORRISON, OF PRESCOTT, ARIZONA TERRITORY.

BRACE.

SPECIFICATION forming part of Letters Patent No. 598,382, dated February 1, 1898.

Application filed March 19, 1897. Serial No. 628,340. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. MORRISON, of Prescott, in the county of Yavapai and Territory of Arizona, have invented a new and Improved Brace, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved brace arranged to obtain a high speed for the bit to insure an easy, steady, and quick boring of the material without necessarily increasing the speed of the crank-arm on the part of the operator.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claim.

Reference is to be had to the accompanying drawing, forming a part of this specification, in which the figure represents a sectional side elevation of the improvement with parts in elevation.

The improved brace is provided with a main frame A, made approximately U-shaped and formed at its lower arm with a fork A', provided with bearings A² for a sleeve B, through which passes the shaft C, mounted to turn in the sleeve and provided at its lower end with a suitable chuck or tool-holder D for carrying the bit or other tool. The shaft C is connected by a train of gear-wheels with the sleeve B, the said train of gear-wheels comprising a pinion F on the shaft C and in mesh with a gear-wheel F', secured on the shaft F², journaled in suitable bearings on the fork A', and provided with a pinion F³ in mesh with the gear-wheel F⁴, fastened to the sleeve B. Thus when the latter is rotated a rotary motion is transmitted by the said train of gear-wheels to the shaft C, the latter rotating at a higher rate of speed than the sleeve B.

On the upper end of the shaft C is secured a fly-wheel E for steadying the rotary motion of the shaft C while boring an aperture in the material. Near the upper end of the sleeve B is secured a ratchet-wheel G, adapted to be engaged by the usual reversing-pawl held on the crank-arm H, journaled at one end H' on the sleeve B and at its other end on the head A³ of the main frame A.

Now when the operator turns the crank-arm H a rotary motion is given to the sleeve B by the pawl H' and ratchet-wheel G, and this motion of the sleeve is transmitted by the train of gear-wheels to the shaft C to turn the tool carried by the holder D.

The main frame A is preferably provided at its upper corner with an offset A⁴, extending approximately to the height of the knob A⁵ and serving to press against the arm of the operator to prevent the frame A from turning when the machine is used, and also requiring but a slight hold or grip of the knob A⁵ to hold the frame steady. The pawl-and-ratchet device G may be omitted and the crank-arm H rigidly fastened to the sleeve B. The latter is preferably provided with a ball-bearing at the pinion, as shown in the drawing.

It will be seen that the device is very simple and durable in construction, is not liable to get out of order, and permits the mechanic to quickly drill a hole in the material.

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

In a brace the combination of a frame having a fork with alined bearings, a sleeve mounted to turn in the said bearings, a shaft revoluble in the sleeve and projecting beyond the lower end thereof, a crank-arm mounted revolubly on said sleeve and in that end of the frame which end is opposite the forked end thereof, whereby to impart rotary movement to the sleeve, the crank being outside the upper arm of the fork, a gear fixed to the sleeve and located between the arms of the fork, a counter-shaft mounted in the fork, a gear attached to the counter-shaft and meshing with the gear of the sleeve, a gear fixed to the projected lower portion of the first-named shaft outside of the fork and affording an end bearing for the sleeve outside of the fork, and a gear meshing with the gear of the first-named shaft and fixed to the counter-shaft, substantially as described.

JOHN H. MORRISON.

Witnesses:

M. O. ARCHIBALD,
H. R. WITTE.