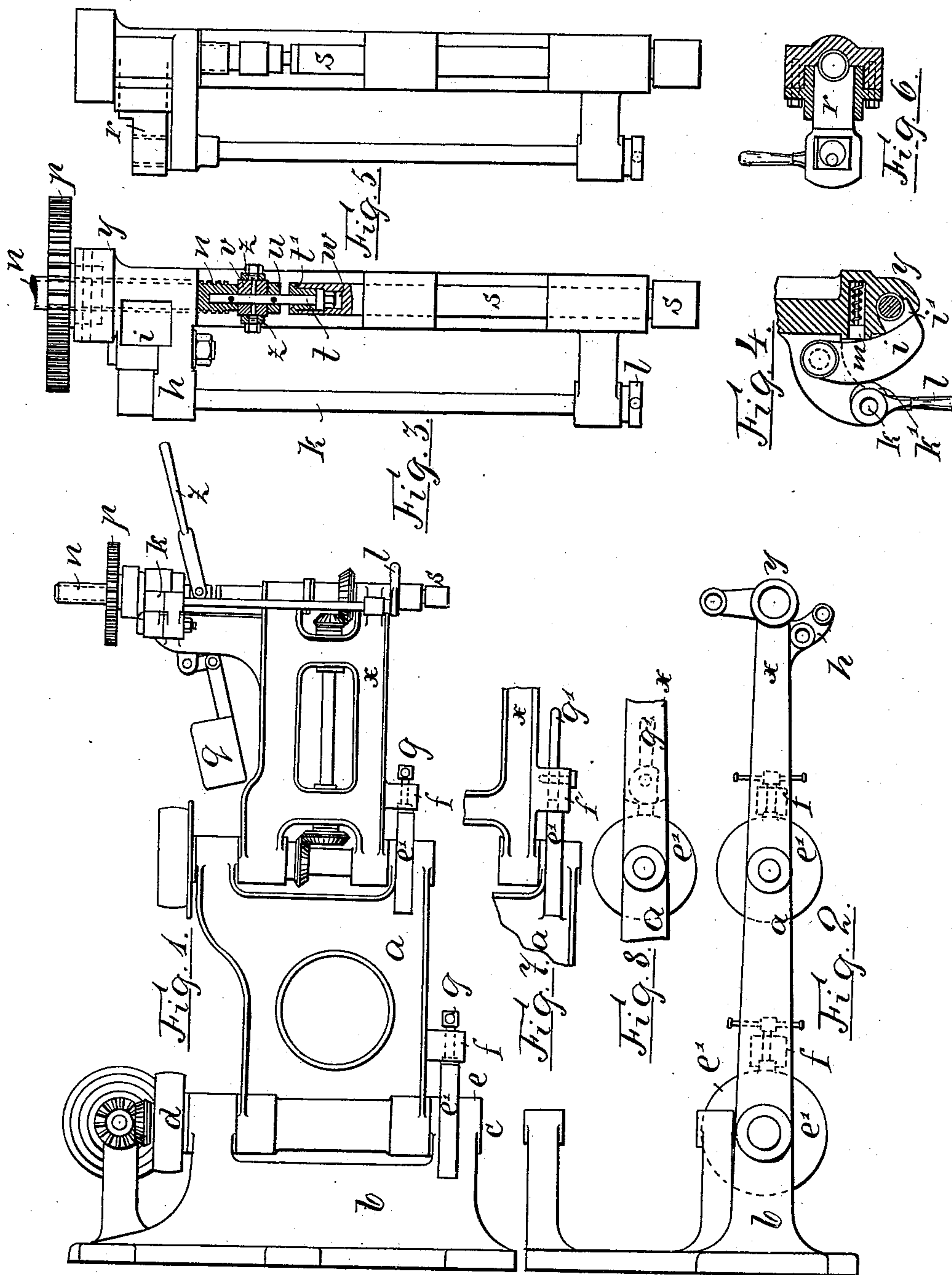


(No Model.)

F. GILDEMEISTER.
DRILLING MACHINE.

No. 464,126.

Patented Dec. 1, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRIEDRICH GILDEMEISTER, OF BIELEFELD, GERMANY.

DRILLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 464,126, dated December 1, 1891.

Application filed April 28, 1891. Serial No. 390,863. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH GILDEMEISTER, a subject of the King of Prussia, and a resident of Bielefeld, Province of Westphalia, German Empire, have invented a new and useful Drilling-Machine, of which the following is a clear and exact specification.

My invention relates to improvements in drilling-machines; and the object of the same is to enable a quick and precise start, a swifter drilling, and also an exact guiding of the drill, thereby producing by far cleaner and neater holes than could possibly be arrived at in machines hitherto in use. I attain this object by providing the machine with a feeding device which can be actuated by hand-lever or in the usual manner by hand-wheel, pinion, and spur-wheel. In both cases the raising of the spindle is a self-acting one by either counter-weight or spring. For guiding the drill the wall-machine is provided with fastening or locking devices, hereinafter more fully explained.

In order to have my invention well understood, I refer to the accompanying drawings, in which similar letters denote similar parts throughout the different views, and in which—

Figure 1 is an elevation of the complete drilling-machine. Fig. 2 is a plan. Figs. 3 to 6 are details of the drill-spindle and feeding device, and Figs. 7 and 8 are details for guiding and locking the arms of the frame.

The upper bearing *y* of the screw *n*, being in one with the frame *x*, has a bracket *h* cast on, bearing the pivot of a sector-shaped arm *i* and a vertical shaft *k*. The sector-shaped arm *i* has a half-nut *i'* attached to the end thereof which gears into the screw *n*. The vertical shaft *k* is on top provided with an eccentric or cam *k'* and on its lower end with a handle within easy reach of the workman. By left-handed turning of the handle the cam will press against the arm *i* and gear the nut *i'* into the thread of the screw *n*, thus forcing the spindle to move down when made to revolve by the wheels *p*. When turning the handle right-handed, the cam will release the nut, which will be thrown out of gear by the spiral spring *m*. The screw *n*, thus being at liberty to move vertically, may be drawn up-

ward along with the drill-spindle by the counter-weight *q* or by a spring. (Not illustrated on the drawings.) The sector-shaped arm *i* and spring *m* may be replaced by the device illustrated in Figs. 5 and 6. Here there is a slide *r* attached to the nut, operating in combination with an eccentric in similar manner as before.

The drill-spindle *s* is connected to the screw *n* in the following manner: The pressure-bolt *t* is let into the upper end of the spindle, and being provided with a boss is coupled thereunto by a screw-plug *t'*. The rear end of *t* is also let into the screw and attached to the same by a pin. A collar *u* sits on an offset of the bolt *t* and is also attached to it by a pin. Between the under face of the screw and the collar *u* there is a loose ring *v*, which is linked to the hand-lever *z* by two pivots, the hand-lever *z* having the form of a fork, between which the ring *v* is hinged. The bearing-points of the spindle *s* and the bolt *t* being rounded off, case-hardened, and always kept properly oiled will permit the pressure to be transmitted to the spindle without loss of power by friction.

In wall-drilling machines the frame *a*, carrying the spindle, may be hinged to a wall-bracket and thus able to rotate. The lower bearing *e* has a disk *e'* cast on concentric to the axis of rotation. Unto the frame *a* there is a lug *f* cast on, holding a stopper-screw *g* or cam *g'* for the sake of tightening the same to the disk *e'*. The same device is applied to the frame *x*.

Having thus fully described the nature of said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a drilling-machine, a half-nut *i'*, gearing into the thread of the spindle-screw and operated by a hand-lever, in combination with a drill-spindle and a counter-weight tending to raise the spindle, as and for the purpose set forth.

2. In a wall-drilling machine, the disk *e'*, cast onto the hinge, in combination with a stopper-screw carried by the rotating arm and locking the same against the disk, as and for the purpose set forth.

3. In a drilling-machine, the half-nut *i'*,

gearing into the thread of the spindle-screw
u and operated by a handle, in combination
with a hand-lever *z*, the drill-spindle *s*, the
spindle-screw *n*, the loose ring *v* and fixed
5 ring *u*, the pressure-bolt *t*, and screw-plug *t'*,
as and for the purpose set forth.

In testimony whereof I have signed this

specification in the presence of two subscri-
ing witnesses.

FRIEDRICH GILDEMEISTER.

Witnesses:

HUGO RIEBR,

HERMANN KUHFS.