

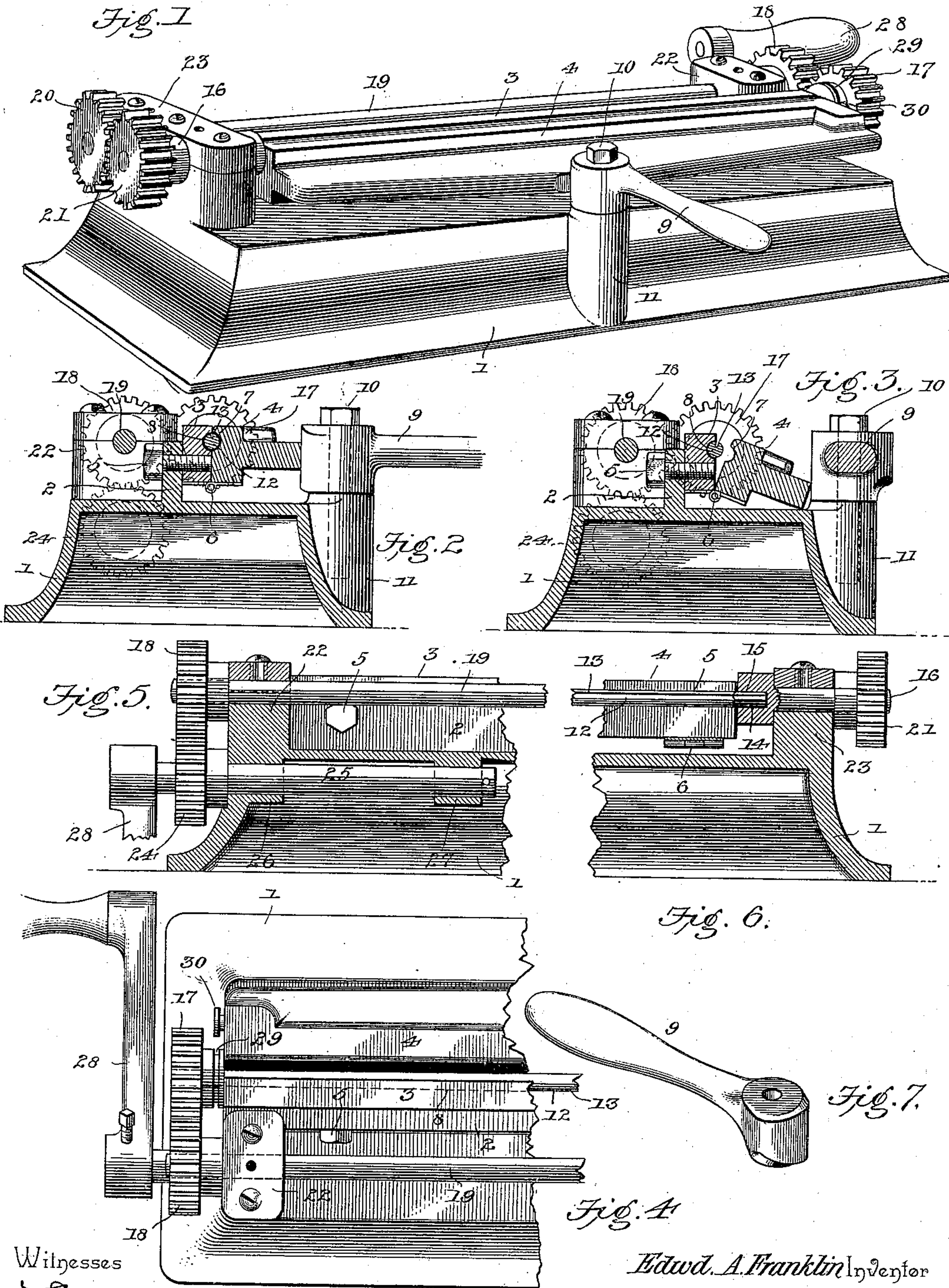
No. 618,408.

Patented Jan. 31, 1899.

E. A. FRANKLIN.
MACHINE FOR FORMING SHEET METAL.

(Application filed June 16, 1898.)

(No Model.)



Witnesses

E. A. Franklin

By his Attorneys,

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UNITED STATES PATENT OFFICE.

EDWARD A. FRANKLIN, OF AUSTIN, TEXAS, ASSIGNOR TO THE CHICAGO NOVELTY MANUFACTURING COMPANY, OF JERSEY CITY, NEW JERSEY.

MACHINE FOR FORMING SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 618,408, dated January 31, 1899.

Application filed June 16, 1898. Serial No. 683,616. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. FRANKLIN, a citizen of the United States, residing at Austin, in the county of Travis and State of Texas, have invented a new and useful Machine for Forming Sheet Metal, of which the following is a specification.

The invention relates to improvements in machines for forming sheet metal.

The object of the present invention is to improve the construction of machines for shaping sheet metal and to provide a simple and inexpensive one which will possess great strength and durability and which will be capable of readily forming sheet metal into a cylindrical shape and of enabling the same to be readily removed from it.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a metal-forming machine constructed in accordance with this invention. Fig. 2 is a transverse sectional view, the hinged jaw being closed. Fig. 3 is a similar view, the hinged jaw being open. Fig. 4 is a plan view of one end of the machine, the parts being arranged as shown in Fig. 3. Fig. 5 is a longitudinal sectional view of one end of the machine. Fig. 6 is a similar view of the other end of the machine. Fig. 7 is a detail view of the cam-lever.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates an oblong supporting frame or base, preferably constructed hollow, as shown, and provided on its upper face with a longitudinal rib or flange 2, extending from one end of the base to within a short distance of the other end and supporting a stationary jaw 3, which coöperates with a hinged jaw 4. The rib or flange is arranged near the center of the base, and the stationary jaw 3, which is located at one side thereof, is provided at its engaging face with a longitudinal groove or recess of substantially semicircular shape. Both the flange or rib 2 and the jaw

3 are perforated at intervals for the reception of transverse bolts 5 or other suitable fastening devices for connecting the parts.

The jaw 4 is hinged at its lower face to the bottom of the jaw 3 preferably by hinges 6, arranged as shown, and the said jaw 4, which is located at one side of the base, is provided at its inner engaging face with a longitudinal groove or recess 7, similar to the groove or recess 8 of the stationary jaw. When the hinged jaw is closed, the adjacent edges of the jaws at the top of the grooves or recesses are slightly separated, as shown in Fig. 2 of the accompanying drawings. The opening and closing of the jaw 4 is effected by means of a horizontally-swinging cam-lever 9, mounted on a vertical pivot 10 and engaging the outer edge of the jaw 4 at the center thereof. The head of the cam-lever is eccentrically pivoted, and the pivot 10 preferably consists of a vertical screw having a polygonal head engaging a threaded socket of an enlargement 11 of the base.

Within the circular or cylindrical space formed by the recesses or grooves of the jaws operates a removable shaft 12, which is provided with a longitudinal groove 13, adapted to receive the edge of the sheet of metal to be rolled into cylindrical form. The inner or rear end of the shaft is squared at 14 and is adapted to fit in a socket 15 of a short shaft 16, journaled at the rear end of the base and disposed longitudinally thereof. The front or outer end of the grooved shaft 12 carries a spur gear-wheel 17, which meshes with a corresponding gear-wheel 18 of a longitudinal shaft 19, extending the entire length of the base and connected with the outer end of the short shaft 16 by gear-wheels 20 and 21.

The base is provided at its front end with a bearing 22 to receive the front end of the longitudinal shaft 19. This bearing 22 is arranged at one side of the base, and the latter is provided at its other end with a double bearing 23, extending substantially entirely across the base and having the shaft 16 and the rear end of the longitudinal shaft journaled in it. The gear-wheel 18 meshes with a lower gear-wheel 24 of a short counter-shaft 25, which is journaled in suitable bearings

26 and 27 of the base and which carries a crank-handle 28. The crank-handle has sufficient weight to hang down when it is released, and it is adapted to return and hold the groove of the removable shaft at the top opposite the mouth or entrance to the space between the jaws, so that a sheet of metal may be readily introduced into it.

The hub of the gear-wheel 17 is provided at the inner face thereof with an extension having an annular groove 29, adapted to be engaged by a headed stud 30, carried by the movable jaw 4 and adapted to enter the annular groove 29 when the jaw 4 is closed, whereby the shaft 12 is held against longitudinal movement and the gear-wheel 17 is held in mesh with the gear-wheel 18. When the jaw 4 is opened, the headed stud 30, which is arranged at the end of the jaw and which has its head disposed in a vertical plane, is carried out of the annular groove to release the shaft and enable the same to be readily removed.

The grooved shaft, which forms a core around which the sheet metal is rolled, may be of any diameter to adapt the machine for the manufacture of tin cans, stovepipes, and analogous articles, and when short pieces of metal are operated on a series of such pieces may be simultaneously formed into cylindrical shape by the machine.

The invention has the following advantages: The machine, which is simple and comparatively inexpensive in construction, is adapted through the rotation of the grooved shaft to seize a piece of sheet metal and roll the same into cylindrical shape. A series of short pieces may be simultaneously operated on, and the hinged jaw may be readily opened to permit the grooved shaft and the sheet metal to be readily removed. The headed stud of the hinged jaw automatically engages the annular groove of the hub portion or extension of the gear-wheel 17, and it is adapted to lock the shaft against longitudinal movement and retain the gearing in mesh.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a machine of the class described, the combination of a base provided with a stationary jaw, a socket arranged at one end of the stationary jaw, a shaft fitting in the socket and extending longitudinally of the said jaw, a movable jaw mounted on the base and detachably interlocked with the shaft to retain the same in the socket, said movable jaw being adapted when swung outward to

release the shaft, and means for rotating the shaft, substantially as described.

2. In a machine of the class described, the combination of a base, a stationary jaw mounted thereon, a hinged jaw for cooperating with the stationary jaw, a short shaft journaled on the base and located at one end of the jaws and provided with a socket, the removable shaft provided with a longitudinal groove, said shaft being arranged between the jaws and fitting in the socket, a longitudinal shaft arranged parallel with the said shafts, gearing connecting the ends of the longitudinal shaft with the short shaft and the removable shaft, and means for operating the longitudinal shaft, substantially as described.

3. In a machine of the class described, the combination of a base, a stationary jaw mounted thereon, a movable jaw, a grooved shaft arranged between the jaws and adapted to be removed therefrom, a fastening device mounted on the movable jaw and arranged to engage and release the grooved shaft as the movable jaw is closed and opened, and gearing connected with the grooved shaft and retained in mesh by the said fastening device, substantially as described.

4. In a machine of the class described, the combination of a base or support, a stationary jaw mounted thereon, a movable jaw provided at one end with a headed stud, a grooved shaft arranged between the jaws, the gear-wheel 18, the gear-wheel 17 mounted on the grooved shaft and provided with a hub extension having an annular groove arranged to be engaged by the headed stud of the movable jaw when the latter is closed, whereby the shaft will be held against longitudinal movement, and the gear-wheels will be retained in mesh, and means for operating the gear-wheel, substantially as described.

5. In a machine of the class described, the combination of a base having a stationary jaw, a shaft 16 arranged at one end of the jaw and provided with a socket, a removable shaft extending longitudinally of the jaw and having one end detachably fitted in the socket, a movable jaw detachably engaging the removable shaft and retaining the same in the said socket, said movable jaw being adapted, when swung outward, to release the removable shaft, and gearing for rotating the shafts, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDWARD A. FRANKLIN.

Witnesses:

E. R. FRANKLIN,
JOHN D. JACKSON.