A. P. HINE.

Machine for Drying and Scouring Sheet-Metal.

No. 198,980. Patented Jan. 8, 1878.

Fig 1

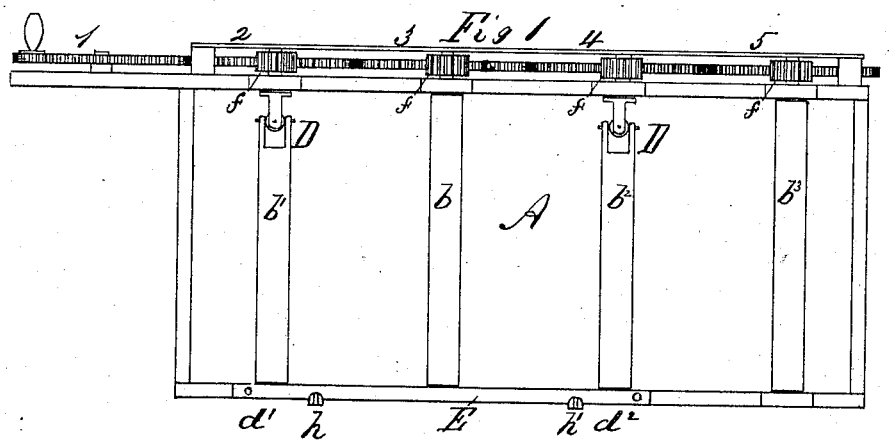
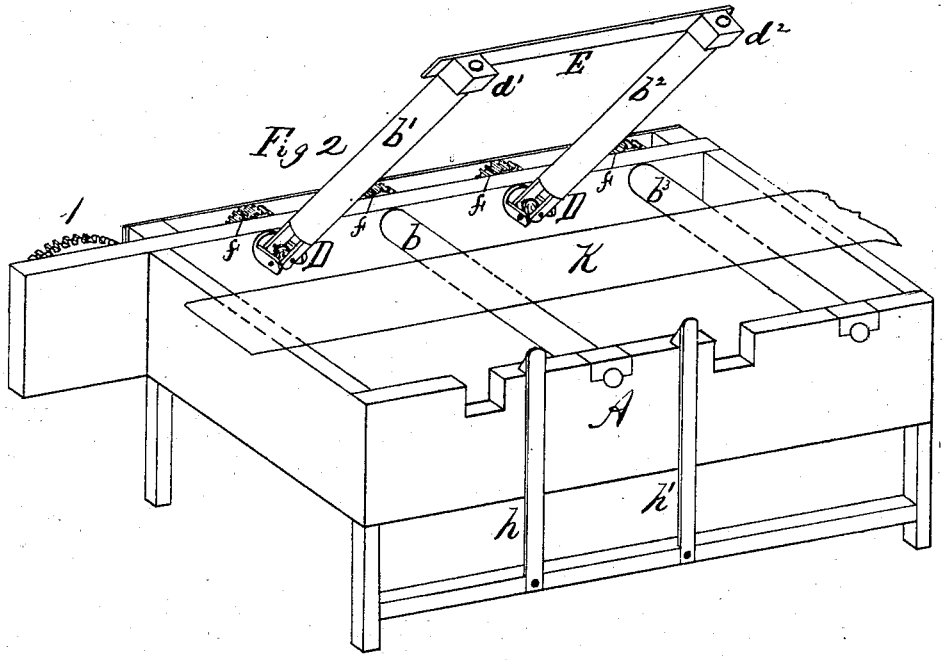


Fig 2



Witnesses:
H. A. Chapin
Wm. H. Chapin

Inventor:
Adelbert P. Hine
By Chapin & Co
Attys.

UNITED STATES PATENT OFFICE.

ADELBERT P. HINE, OF WOLCOTTVILLE, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR DRYING AND SCOURING SHEET METAL.

Specification forming part of Letters Patent No. **198,980**, dated January 8, 1878; application filed September 6, 1877.

To all whom it may concern:

Be it known that I, ADELBERT P. HINE, of Wolcottville, county of Litchfield, and State of Connecticut, have invented new and useful Improvements in Machines for Drying and Scouring Sheet Metal, which improvements are fully set forth in the annexed specification and in the accompanying drawing.

My invention is in the nature of an improvement upon the machine patented July 21, 1868, by C. E. L. Holmes; and has for its object such an arrangement of a portion of the cleaning-rollers of said machine as will tend very materially to increase the quantity of sheet metal that can be scoured and cleaned by said machine in a given time, thus reducing the cost of such cleaning about one-half.

Referring to the drawing, Figure 1 is a plan view of a machine for drying and scouring sheet metal embracing my improvements. Fig. 2 is a view, in perspective, of the same, showing two of its cleaning-rollers lifted up, and a strip of sheet metal, K, lying on the under rollers.

In the drawing like letters refer to like parts in the different figures.

In Fig. 1, A is the body of the machine, of oblong box form. 1 2 3 4 5 are gear-wheels, geared together, and running on studs attached to the side of body A, or to short shafts running in boxes attached to the under side of the body.

The said train of gear-wheels may be run by means of a pulley attached to the hub which carries gear-wheel 1.

Lying across body A are four rollers, b^1 b b^2 b^3, firmly fixed upon shafts running through them, and said shafts are adjusted to run in boxes on either side of body A.

D D are universal joints interposed in the portion of the shafts to rollers b^1 b^2, between the ends of the rollers and the boxes on the pinion end of said shafts. f are pinions on the ends of the shafts to rollers b^1 b b^2 b^3, and they gear into and are run by gear-wheels 2 3 4 5.

E is a connecting-bar, attached by its ends to boxes d^1 and d^2. h and h' are two catch-springs, arranged to hold boxes d^1 and d^2 down in place on body A.

A disengaging-pedal, to be operated by the foot, may be arranged to release catch springs or hooks h and h' from their hold upon boxes d^1 and d^2.

In these machines, as heretofore constructed, all the scouring-rollers have been arranged to run in boxes permanently attached to the body. To aid in effectually cleaning the metal, said rollers are covered with thick felt, and the box-shaped body is partly filled with sawdust sufficiently, perhaps, to immerse the rollers therein one-half of their diameter.

In passing the end of a long strip of thin metal through the machine, preparatory to drawing it through to clean it, it is passed over roller b^3, under roller b^2, again over roller b, and finally under roller b^1, whence it is attached to a revolving roller at the end of the machine, by which the strip is drawn between the cleaning-rollers and wound into a coil.

A long thin strip of metal cannot be quickly and conveniently handled and placed in the position between the rollers, as above described, and more time is consumed in so placing the metal, by having to pass it end first between the rollers, than is required subsequently to draw the whole piece through and clean it.

My improvement entirely obviates this inconvenience, and enables the workman to quickly place the metal in the machine without having to pass it end first through the rollers, thus effecting a great saving of time, and consequent cost for scouring and cleaning; and consists in placing in the shafts to rollers b^1 and b^2 the universal joints D D, and in so fitting the boxes d^1 and d^2 on the front end of the shafts to said rollers b^1 and b^2 that they will retain their proper places thereon without being bolted to the body A. I then bolt each end of connecting-bar E to boxes d^1 and d^2. This maintains the rollers in a position parallel to each other, and aids in giving a simultaneous upward and downward movement to the two rollers b^1 and b^2, or one end of them, as will be hereinafter explained.

Catch-hooks h and h' are arranged to snap over and catch onto the top of boxes d^1 and d^2, or onto connecting-bar E, for the purpose of holding down the ends of rollers b^1 and b^2.

The operation of the machine and my improvement thereto is as follows, viz: The ma-

chine is set in motion by means of a belt running upon the driving-pulley heretofore mentioned. A workman presses his foot upon a pedal, which releases the catch-hooks h h' from boxes d^1 and d^2, and by means of a cord and weight, or a spring attached to connecting-bar E, the front ends of rollers b^1 and b^2 will be lifted up to the position shown in Fig. 2, the universal joints D D, interposed in the shafts to said rollers, as hereinbefore stated, permitting the front ends of said rollers to be so lifted while they are running, and while that portion of their shafts upon which are pinions f are retained in proper position to be run by the gear-wheels 2 and 4. This position of the rollers b^1 and b^2 permits the workman to lay the end of a strip of metal, k, which is to be cleaned, directly upon the top of rollers b and b^3, and now, by pressing down the ends of rollers b^1 and b^2 so they will be caught and retained by catch-hooks h and h', the strip of brass will be found in the same position in the rollers as if it had been passed end first between them, first over and then under the other. Thus it is obvious that by letting the two rollers b^1 and b^2 up out of the way the end of the metal strip can be much more quickly put into position to be cleaned, and much time saved.

What I claim as my invention is—

1. In a machine for scouring sheet metal, the combination of the rollers b b^3, running in fixed boxes on the body A of the machine, the rollers b^1 and b^2, with the universal joints D D in the shafts thereof, movable boxes d^1 d^2, and the body A, substantially as and for the purpose set forth.

2. The combination, in a machine for drying and scouring sheet metal, of the rollers b^1 and b^2 and their shafts, the universal joints D D, the connecting-bar E, boxes d^1 and d^2, and the catch-springs h and h', whereby the cleaning-rollers can be opened apart at one end on the line of their axes, and be returned and held in an operating position, and whereby the sheet metal can be placed between the rollers laterally instead of endwise, substantially as and for the purpose set forth.

ADELBERT P. HINE.

Witnesses:

CHAS. F. BROOKER,

SIDNEY S. INGHAM.