(No Model.) 3 Sheets—Sheet 1.

W. WAKELY.

SHEET METAL CLEANING, WASHING, AND DRYING MACHINE.

No. 352,986. Patented Nov. 23, 1886.

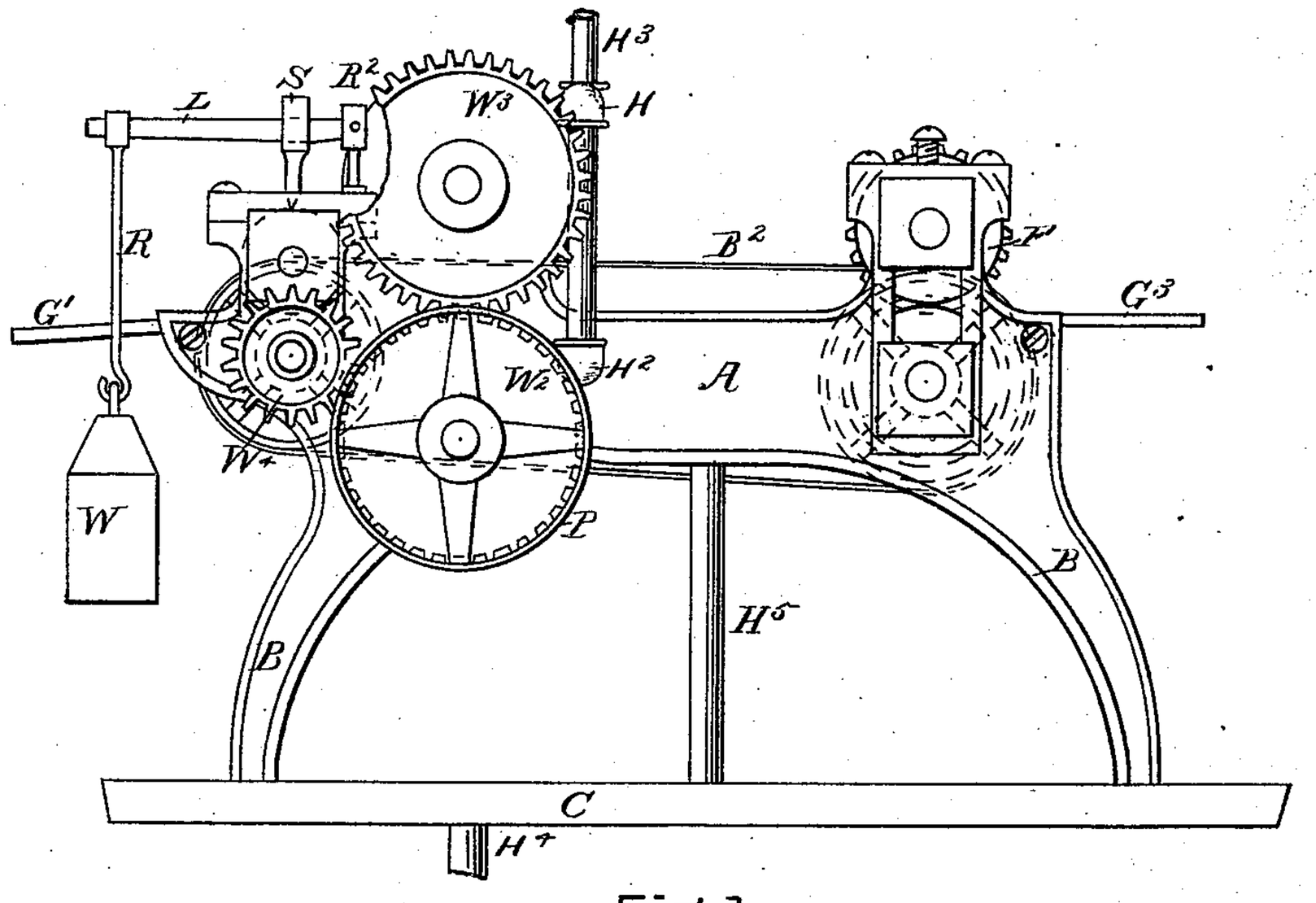

Fig. 1.

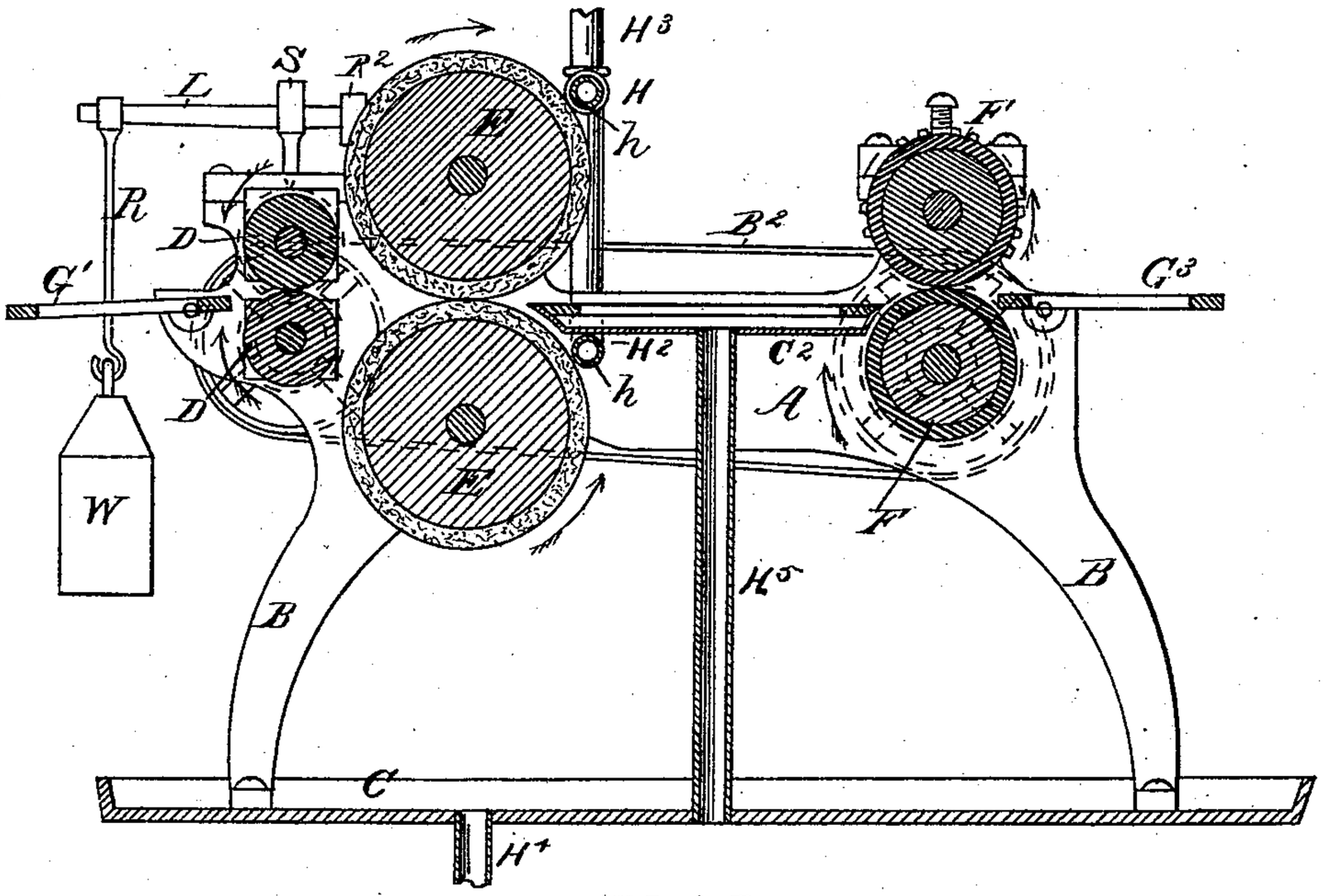

Fig. 2.

WITNESSES

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INVENTOR

William Wakely
by Bowson
his atty

(No Model.) 3 Sheets—Sheet 2.

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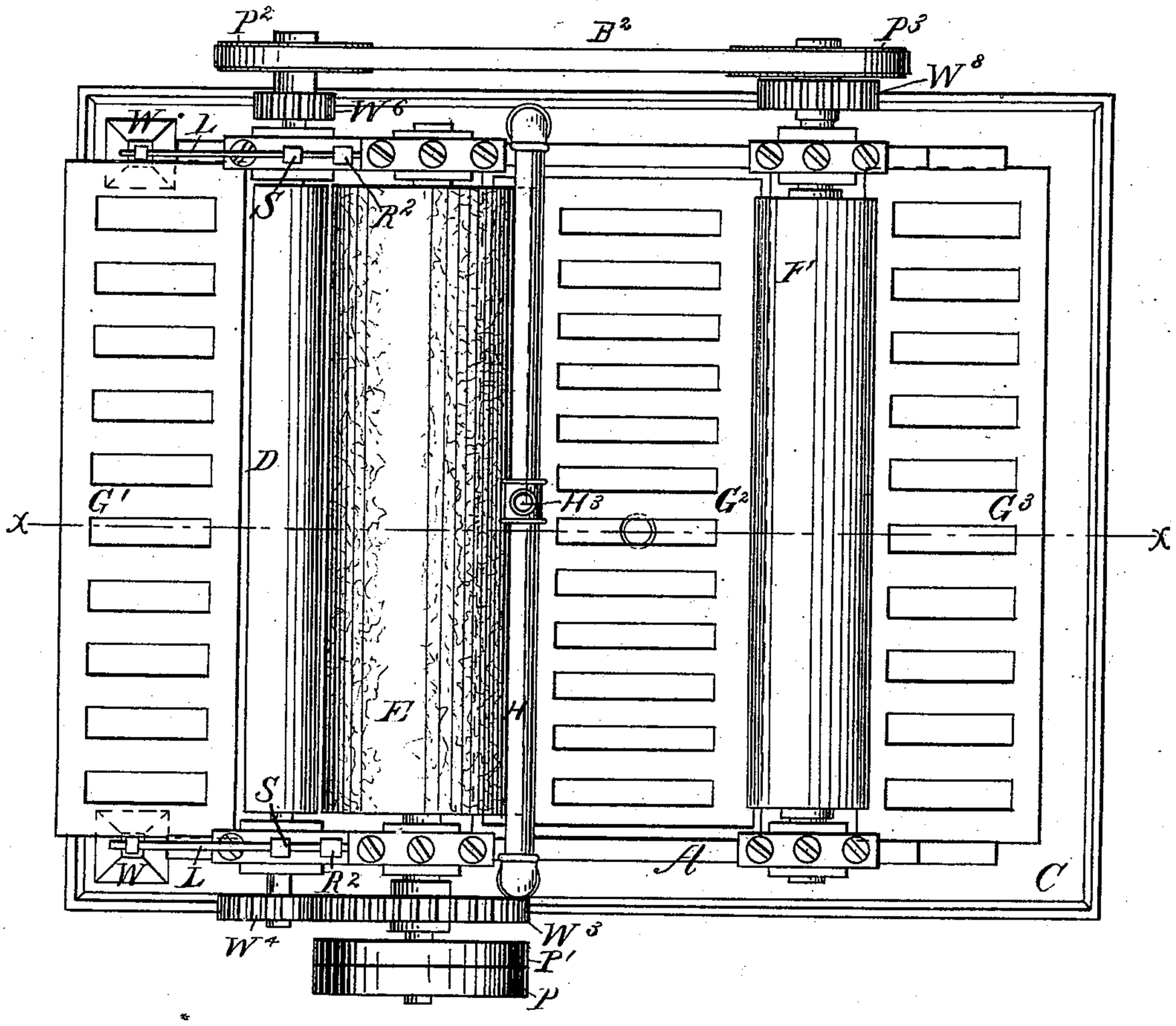

Fig. 3.

WITNESSES

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(No Model.) 3 Sheets—Sheet 3.

W. WAKELY.

SHEET METAL CLEANING, WASHING, AND DRYING MACHINE.

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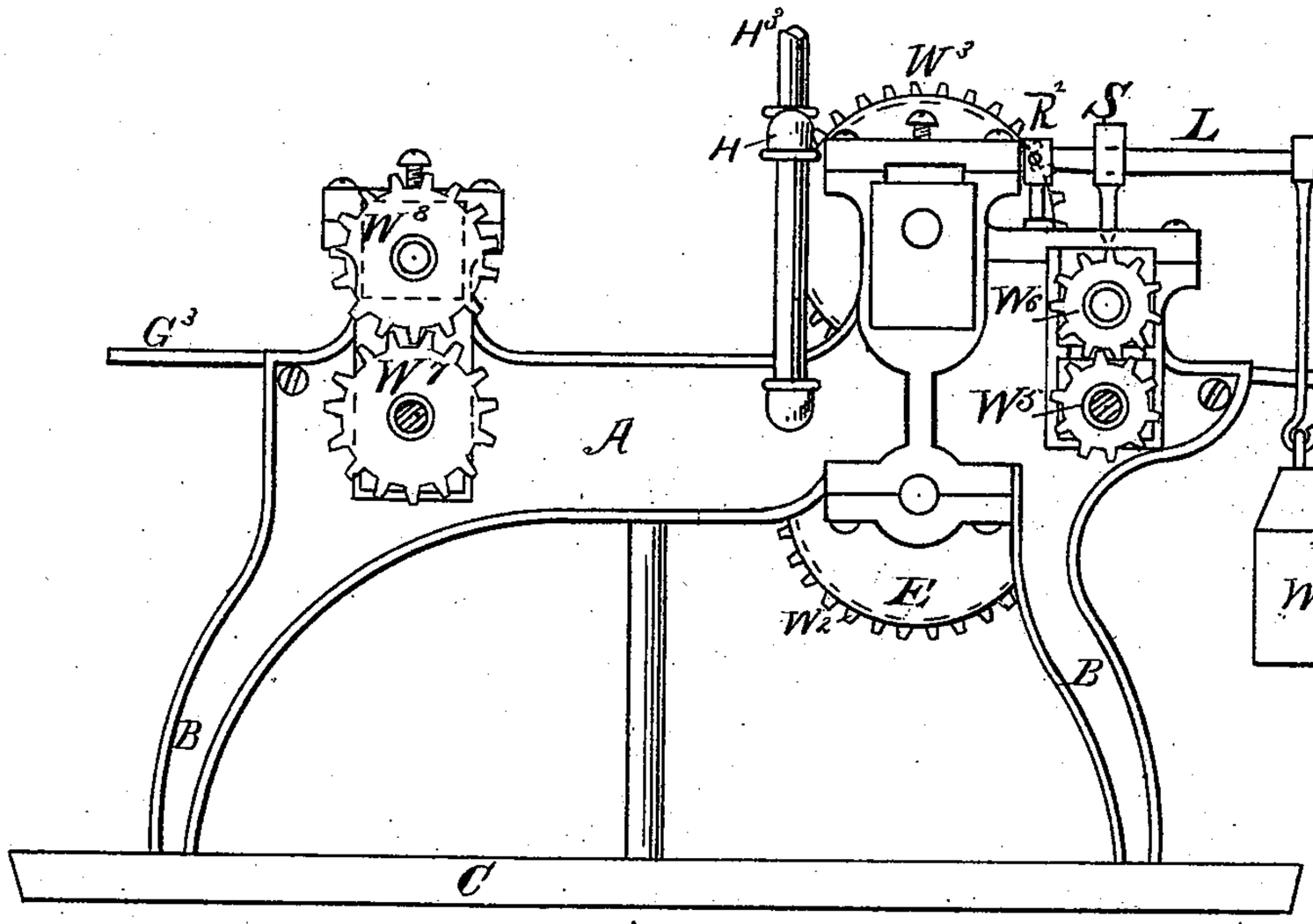

Fig. 4.

WITNESSES

H. E. Barry
William Garvey.

INVENTOR

Wm. Wakely
by
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Atty.

UNITED STATES PATENT OFFICE.

WILLIAM WAKELY, OF TAUNTON, MASSACHUSETTS.

SHEET-METAL CLEANING, WASHING, AND DRYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 352,986, dated November 23, 1886.

Application filed September 16, 1885. Serial No. 177,228. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WAKELY, of Taunton, in the county of Bristol and Commonwealth of Massachusetts, have invented a new and useful Sheet-Metal Cleaning, Washing, and Drying Machine, of which the following is a full and exact specification.

My invention relates to a machine for cleaning sheet metal; and it consists of the combination of a set of smoothing and feeding rolls with a set of scouring-rolls provided with water-pipes for wetting their surfaces, and a set of wiping-rolls, whereby I automatically smooth, wash, and dry sheets of metal preparatory for the market.

In the accompanying drawings, Figure 1 is a side elevation of my new machine on the side on which I place the pulley connected with the prime power. Fig. 2 is a vertical sectional elevation on the line *x x* of Fig. 3. Fig. 3 is a plan view of the same. Fig. 4 is an elevation of the opposite side of that shown in Fig. 1, with the pulleys P^2 P^3 left off.

The frame A of my new machine, which carries the three sets of rolls D D, E E, and F F, rests on supports B B, which stand in a vat or base, C. To support and guide the sheets in their passage through the rolls I use the racks G' G^2 G^3. The set of rolls D D, which I preferably make of iron, or any suitable metal, act as smoothing and feeding rolls and deliver the sheets to the scouring and cleaning rolls E E, which are wooden cylinders covered, preferably, with cocoanut matting tacked on, though ordinary burlaps or any other suitable material would do. The rolls F F consist of wood covered, preferably, with soft rubber, and have the double function of drawing the sheets through the cleaning-rolls E E and of wiping them dry.

The arrows in Fig. 2 show the direction in which each of the rolls moves when the machine is in operation. I keep the rolls E E constantly wet with water by means of the two parallel pipes H H^2, which have a series of small holes, *h h*, on their under side in such a position that the water runs out onto the rolls just above their center, as shown in Fig. 2. The water is fed to the pipes H H^2 through the supply-pipe H^3, and is discharged, first, into the vat C C^2, and then through the waste-pipe H^4 H^5. The pressure or bite required for the rolls D D is obtained by the weights W W, acting through rods R R, on the ends of the levers L L (which are pivoted on the uprights R^2 R^2, rising from the frame of the machine) upon the lever-supports resting on the bearings of the upper roll D. Each set of rolls is journaled in the frame of the machine, as shown in Figs. 1 and 4. The prime power is exerted through the pulley P′, P being a loose pulley. The wheel W^2, on the same shaft as the pulley P′, is geared to the wheel W^3 on the shaft of the upper roll E, and to the wheel W^4 on the shaft of the lower roll D, as shown in Fig. 1. On the other end of the shaft of the lower roll D is the pulley P^2 and the wheel W^5, which is geared to the wheel W^6 on the shaft of the upper roll D. The shafts of the rolls F F have geared wheels W^7 W^8, and are operated through the pulley P^3 on the shaft of the lower roll F, by the belt B^2.

I make the frame of the machine preferably of cast-iron and the vats of the same material.

While this machine can be made any size, I preferably place the sets of rolls D D and F F about forty-two inches apart and make the rolls twenty inches in length, as the usual dimensions of sheeting metal of copper and composition are fourteen by forty-eight inches. The diameters of the rolls may vary, but are in the proportions shown in Fig. 2. In a machine of these proportions the upper vat may be six inches deep and the lower one three.

In operating the machine the sheets are fed from the rack or table G' to the rolls D D, and they are then carried through the rolls, as described. The rolls E E, as they revolve with the aid of the water, scour and wash the sheets, the rolls F F wipe and dry them.

What I claim is—

1. In a sheet-metal smoothing, washing, and drying machine, a set of smoothing and feeding rolls, D D, provided with adjustable pressure-weights, and a set of scouring-rolls geared to run in an opposite direction from the rolls

D D, in combination with a set of drying-rolls geared to run in an opposite direction from the scouring-rolls, with a supporting-frame, substantially as described.

2. A sheet-metal smoothing, washing, and drying machine consisting of a frame, A, vats C C^2, pipes H^2 H^2 H^4 H^5, and a set of feeding-rolls, D D, scouring-rolls E E, and wiping-rolls F F, all arranged and operated substantially as described.

In witness whereof I have hereunto set my hand.

WILLIAM WAKELY.

Witnesses:
WM. B. H. DOWSE,
HENRY F. BASSETT.