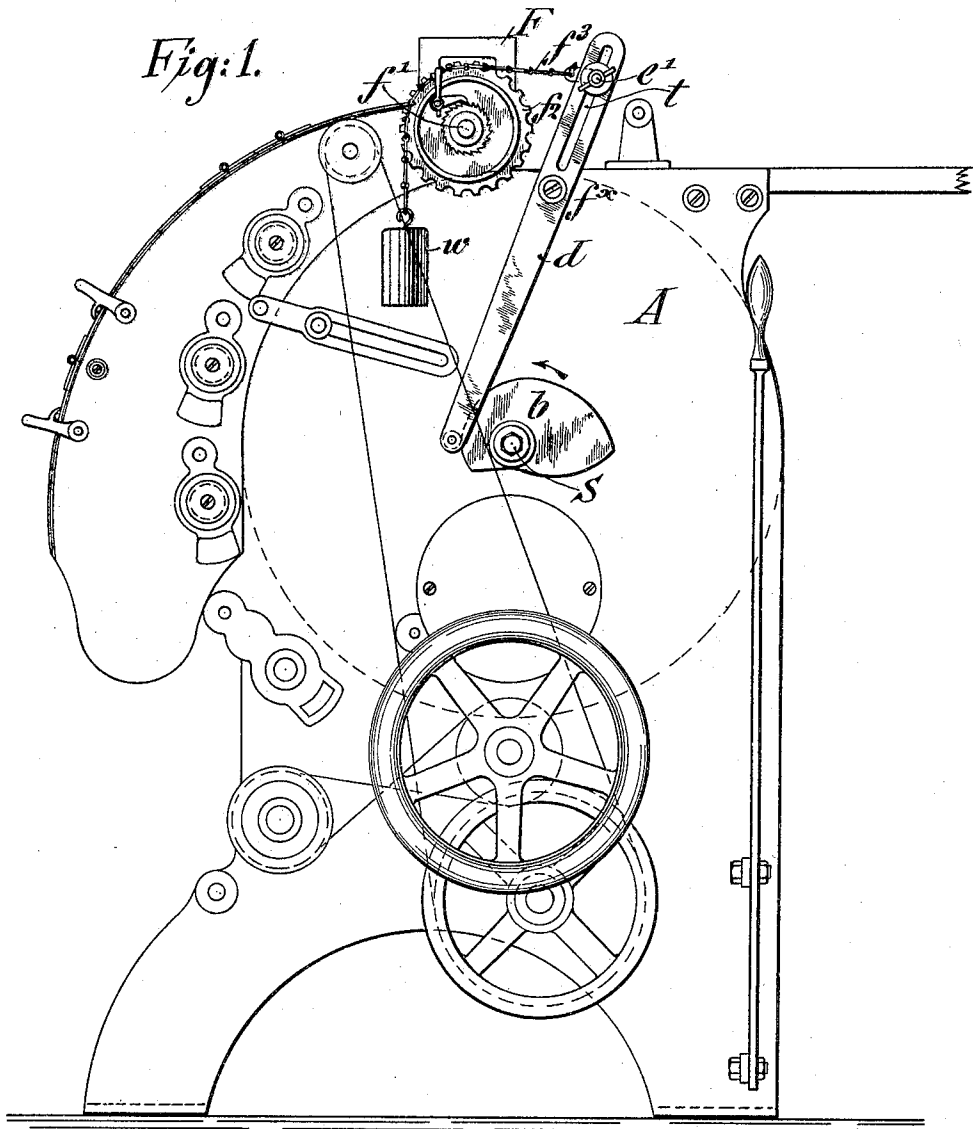


No. 822,108.

PATENTED MAY 29, 1906.

M. FRITSCHÉ.  
BRONZING MACHINE.  
APPLICATION FILED FEB. 8, 1906.

2 SHEETS—SHEET 1.



Witnesses  
*Edw. J. Deane*  
*H. F. Durrhein.*

Inventor  
*Max Fritsche*  
By his Attorneys  
*Conner & Co.*

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2 SHEETS—SHEET 2.

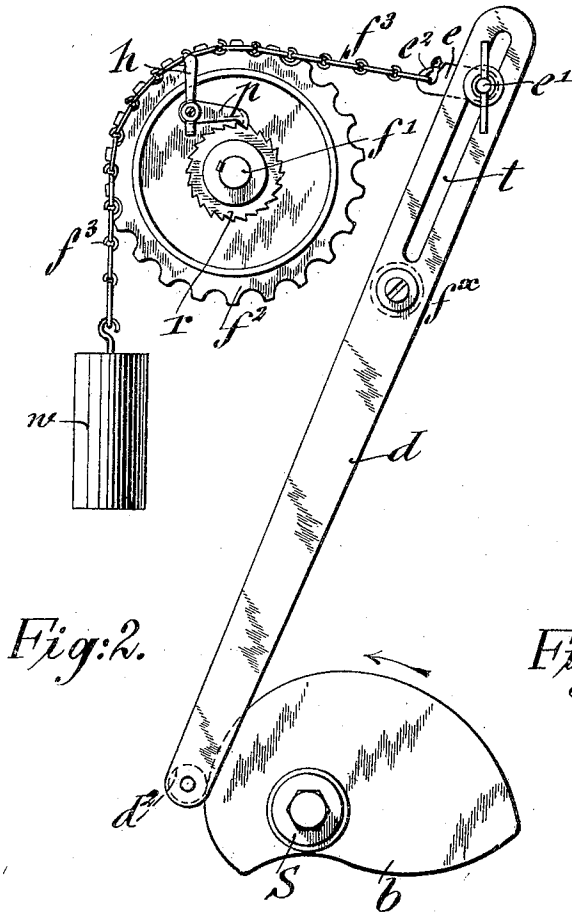


Fig:2.

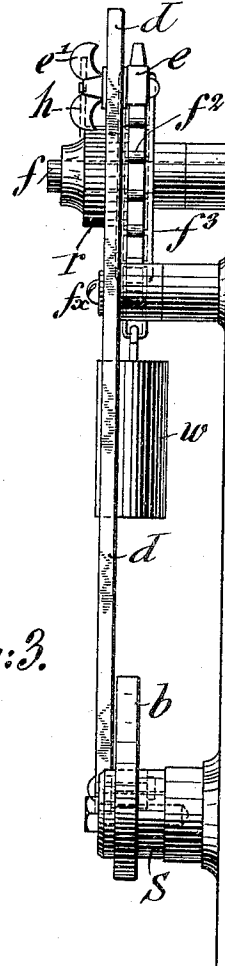


Fig:3.

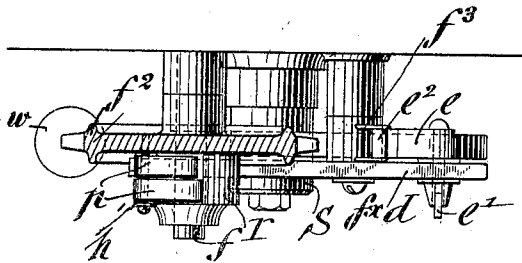


Fig:4.

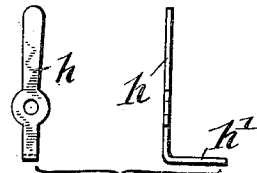


Fig:5.

Witnesses  
Edward [Signature]  
H. [Signature]

Inventor  
Max Fritzsche  
By his Attorneys  
Louise [Signature]

# UNITED STATES PATENT OFFICE.

MAX FRITSCHÉ, OF CARLSTADT, NEW JERSEY, ASSIGNOR TO JOSEPH A. KAPP, OF NEW YORK, N. Y., AND LOUIS HEUGSTLER, OF WEEHAWKEN, NEW JERSEY.

## BRONZING-MACHINE.

No. 822,108.

Specification of Letters Patent.

Patented May 29, 1906.

Application filed February 8, 1906. Serial No. 300,180.

*To all whom it may concern:*

Be it known that I, MAX FRITSCHÉ, a citizen of the United States, residing in Carlstadt, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Bronzing-Machines, of which the following is a specification.

This invention aims to provide certain improvements in bronzing-machines, and more especially in the mechanism for operating the supply-roller of the bronze-fountain; and for this purpose the invention consists of an improved mechanism for intermittently actuating the feed-roller of the bronze-fountain from the shaft of the sheet-carrying cylinder, as will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved bronzing-machine. Fig. 2 is a side elevation of the mechanism by which motion is transmitted to the bronze-powder feed-roller from the shaft of the sheet-carrying cylinder drawn on a larger scale. Fig. 3 is an end elevation of Fig. 2. Fig. 4 is a plan view, partly in section; and Fig. 5 shows the handle for the gravity check-pawls.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

Referring to the drawings, A represents the supporting-casing of a bronzing-machine, and F the bronze-fountain, which is supported thereon, a suitable feed-roller being furnished in said fountain for transmitting a quantity of bronze-powder to the sheet that is fed to the sheet-carrying cylinder of the machine. The shaft  $f'$  of the feed-roller is provided at one end with a sprocket-wheel  $f^2$ , which is driven by a weighted sprocket-chain  $f^3$ , which passes over the sprocket-wheel and is connected at its upper end with an oscillating lever  $d$ , which is fulcrumed at  $f^x$  to the supporting-frame of the machine at the upper part of the same. The fulcrumed lever  $d$  is provided with a slot  $t$  at its upper end for adjusting a connecting-link  $e$  on the upper end of the lever  $d$  by means of a set-screw  $e'$ , said link being provided with a hook  $e^2$  for holding the end link of the sprocket-chain  $f^3$ . To the opposite or lower end of the sprocket-chain is attached a counterbalancing-weight  $w$ . The sprocket-wheel  $f^2$  is placed loosely on the shaft of the feed-roller;

but said shaft is turned in one direction by 55 the sprocket-wheel in connection with a pawl-and-ratchet mechanism comprising parallel pawls  $p$ , fulcrumed to the outer face of said sprocket-wheel and normally engaging a ratchet-wheel  $r$ , which is keyed by 60 its hub to said shaft. One of the pawls  $p$  is slightly longer than the other, so that the ratchet-wheel can be actuated to the extent of half a tooth, whereby the accuracy of the adjustment is increased. A handle  $h$  is 65 loosely pivoted to the screw which forms the pivot of said pawls and is provided at its lower end with an inwardly-extending arm  $h'$ , which when said handle is pivotally moved engages under the pawls  $p$  and lifts the same 70 from engagement with the ratchet-wheel  $r$ .

The lower end of the fulcrumed lever  $d$  is provided with an antifriction-roller  $d^2$ , which moves under the tension exerted on the sprocket-chain by its weight  $w$  over the periphery of a cam  $b$ , applied to the shaft S of the sheet-carrying cylinder. 75

Each rotation of the cam  $b$  produces the oscillation of the lever  $d$ , and thereby the rotation in one direction only of the ratchet-wheel, and consequently of the feed-roller, so as to supply the required quantity of bronze-powder to the sheet delivered to the sheet-carrying cylinder. By the adjustment of the connecting-link by which the sprocket-chain is connected with the oscillating lever  $d$  the rotation of the feed-roller and the supply of bronze-powder to the sheet are regulated. The intermittent rotary motion imparted to the feed-roller is dependent on the length of the sheet to be bronzed—that is to say, the feed-roller has to be rotated for a shorter period of time for a shorter sheet and for a longer period of time for a longer sheet. The higher the connecting-link is adjusted in the oscillating lever  $d$  the greater will be the oscillation of the same, and consequently the greater the rotation imparted to the feed-roller, while when the link is adjusted in a lower position in the oscillating lever the rotation will be shorter, and consequently the period of time for the supply of the powder shorter. 80 85 90 95 100

The adjustment of the sprocket-wheel can be readily accomplished by the attendant, so that the bronze-powder feed-roller is rotated for the exact time required. The adjustment is a positive one and can be accomplished 105

accurately by the simple adjustment of the link in the upper slotted end of the oscillating lever.

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

1. In a bronzing-machine, the combination, with the shaft of the sheet-carrying cylinder-shaft and the feed-roller shaft, of a sprocket-wheel on the latter, a pawl-and-ratchet mechanism between the sprocket-wheel and shaft, an oscillating motion-transmitting lever, a weighted chain connected with said lever and passing over the sprocket-wheel, and a cam on the shaft of the sheet-carrying cylinder for actuating the lower end of the motion-transmitting lever.

2. In a bronzing-machine, the combination, with the sheet-carrying cylinder and the feed-roller shaft, of a sprocket-wheel placed loosely on the latter, a pawl-and-ratchet mechanism between the sprocket-wheel and shaft, an oscillating lever fulcrumed to the supporting-frame of the machine, a weighted sprocket-chain engaging said sprocket-wheel and connected adjustably to the upper end of the oscillating lever, and a cam on the shaft of the sheet-carrying cylinder engaging the lower end of said oscillating lever.

3. In a bronzing-machine, the combination, with the feed-roller shaft, of a sprocket-wheel rotatable thereon, a ratchet-wheel fixed to said shaft adjacent said sprocket-wheel, parallel pawls pivoted to the face of said sprocket-wheel and normally engaging said ratchet-wheel, said pawls being of such relative lengths as to permit the adjustment of said ratchet-wheel to the extent of half a tooth, and means for moving said sprocket-wheel alternately in opposite directions.

4. In a bronzing-machine, in combination, with the feed-roller shaft, a ratchet-wheel keyed thereto, a sprocket-wheel rotatable on said shaft, a pawl pivoted to said sprocket-wheel and normally engaging said ratchet-wheel, a handle pivoted to the pivot of said pawl and having an arm adapted to engage under the latter, and means for alternately moving said sprocket-wheel in opposite directions.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

MAX FRITSCHÉ.

Witnesses:

HENRY J. SUHRBIER,  
PAUL GOEPEL.