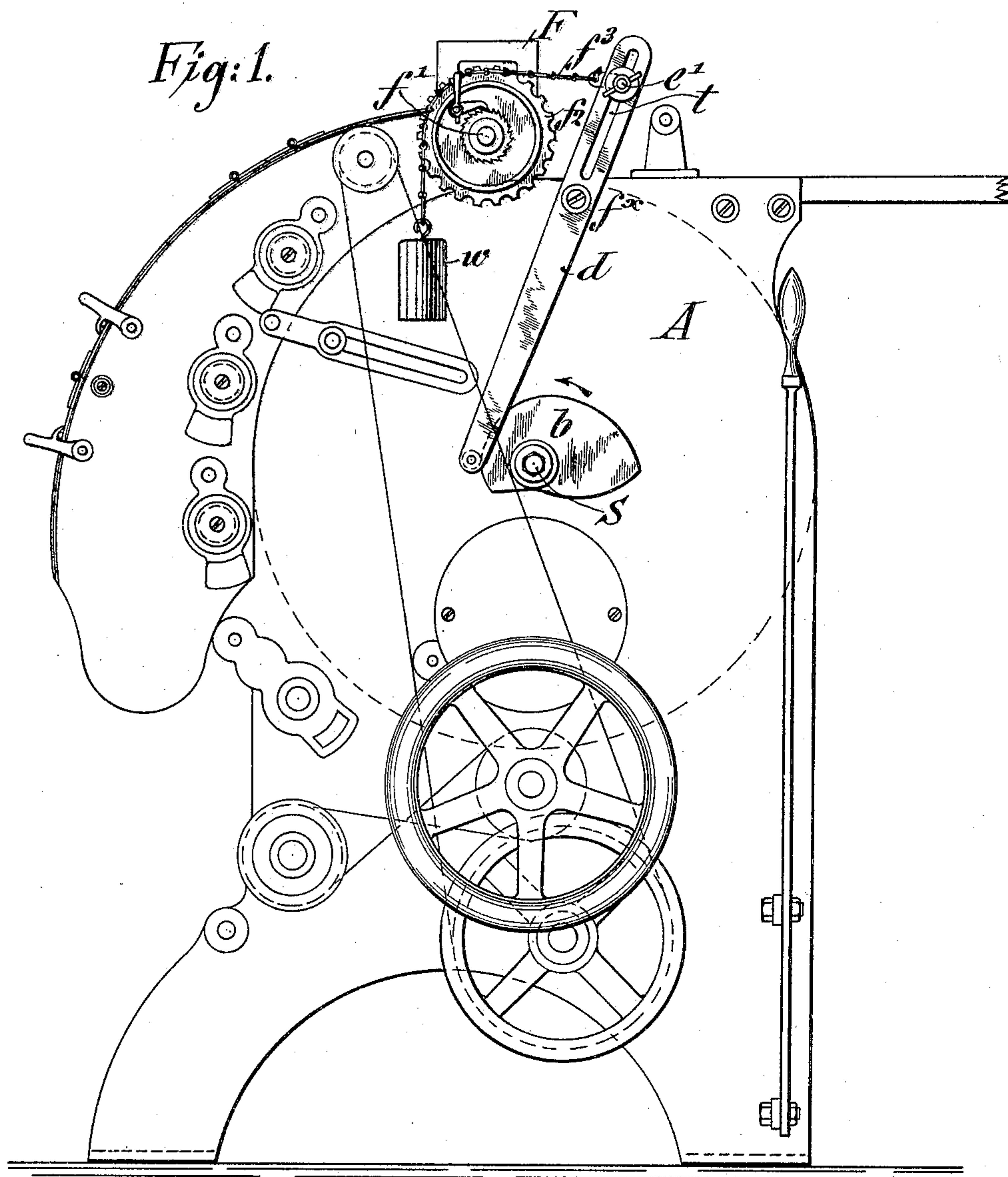


No. 822,108.

PATENTED MAY 29, 1906.

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

2 SHEETS—SHEET 1.



Witnesses  
*Edvard A. Pearson*  
*H. J. Burkner.*

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

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2 SHEETS—SHEET 2.

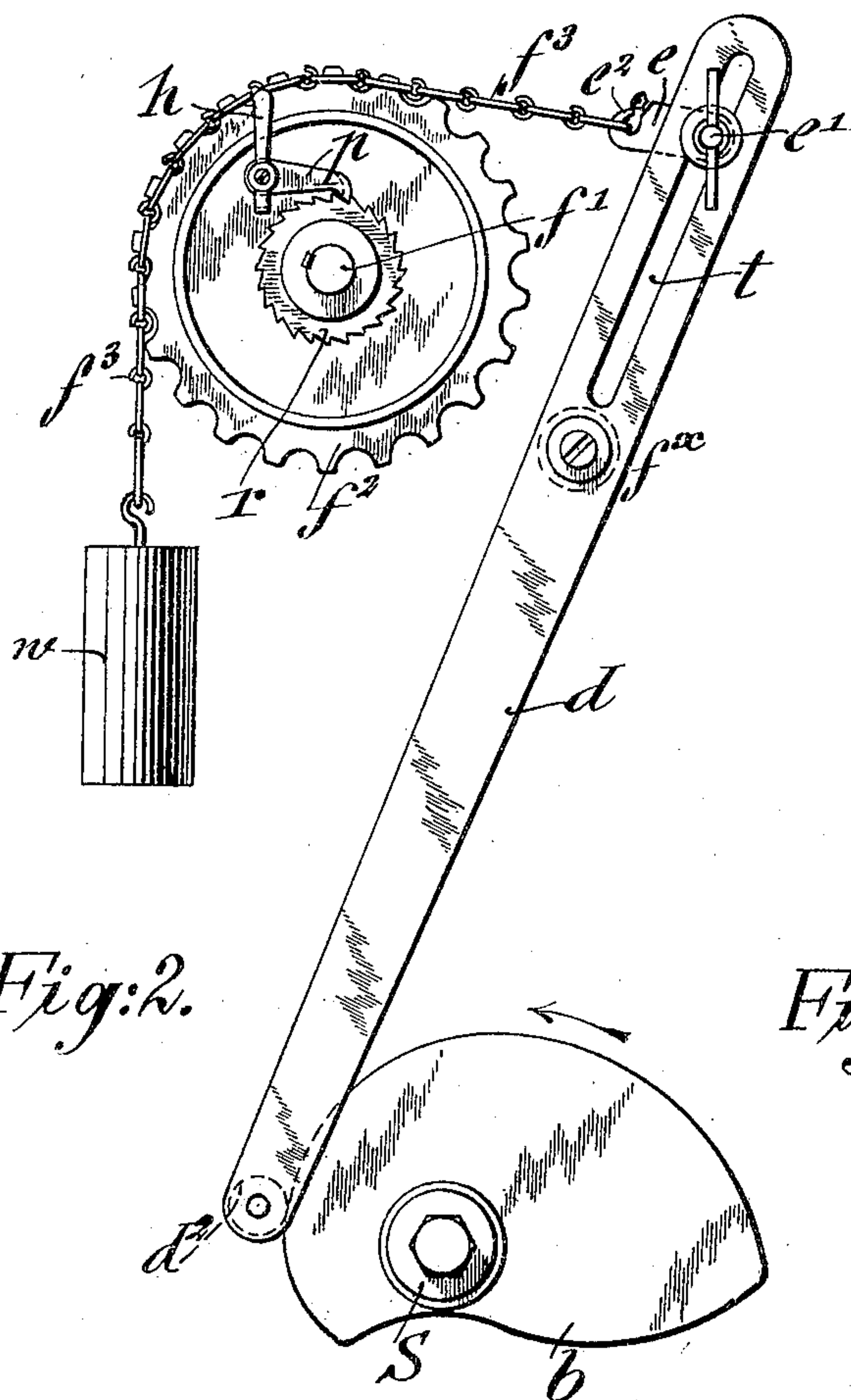


Fig:2.

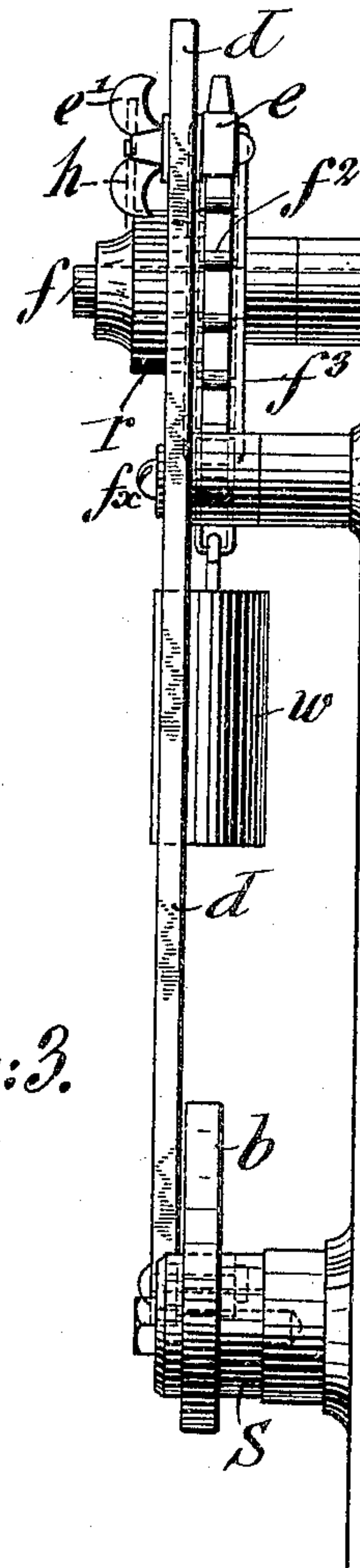


Fig:3.

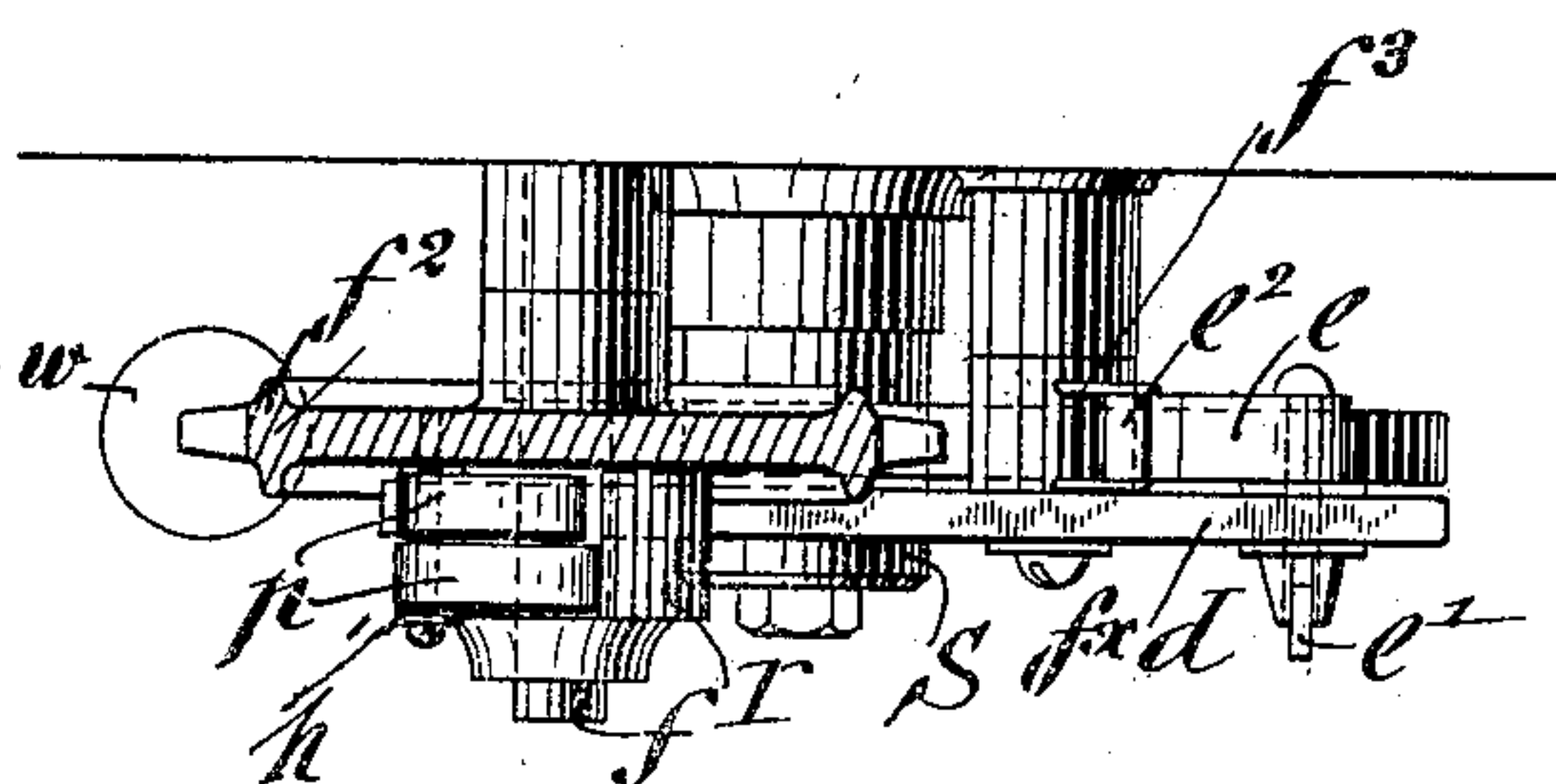


Fig:4.

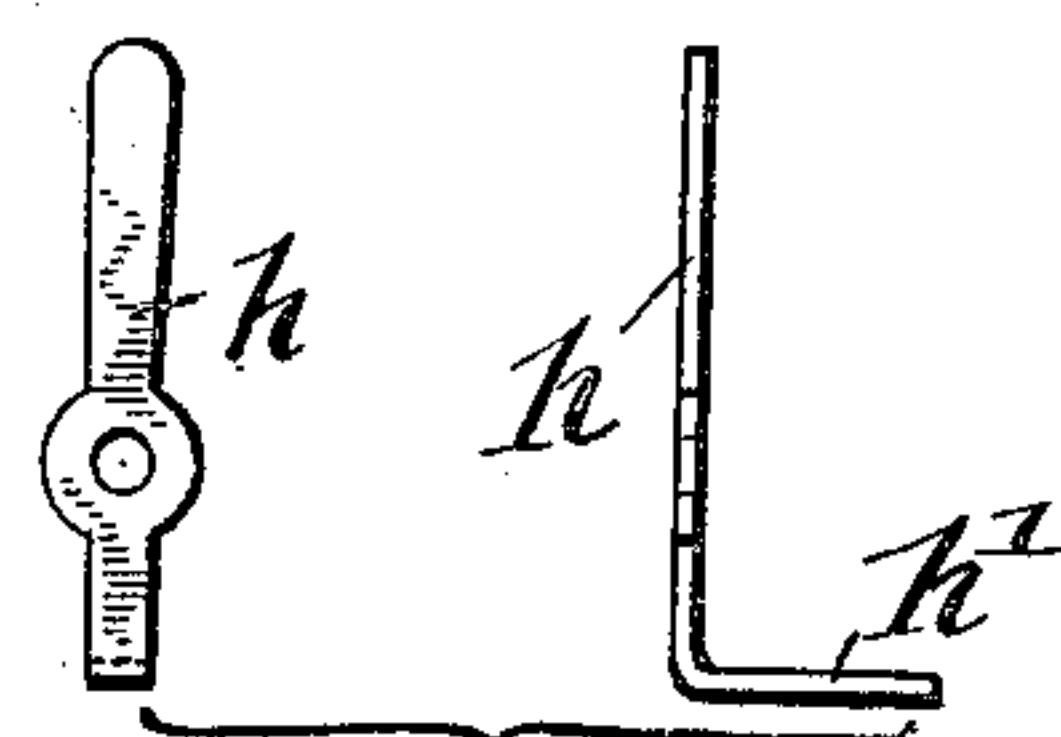


Fig:5.

Witnesses  
Edward Bear  
H. Duker.

Inventor  
Max Fritzsche  
By his Attorneys  
Gruenewald



# 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 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 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 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 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.

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.

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



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.