

No. 670,329.

Patented Mar. 19, 1901.

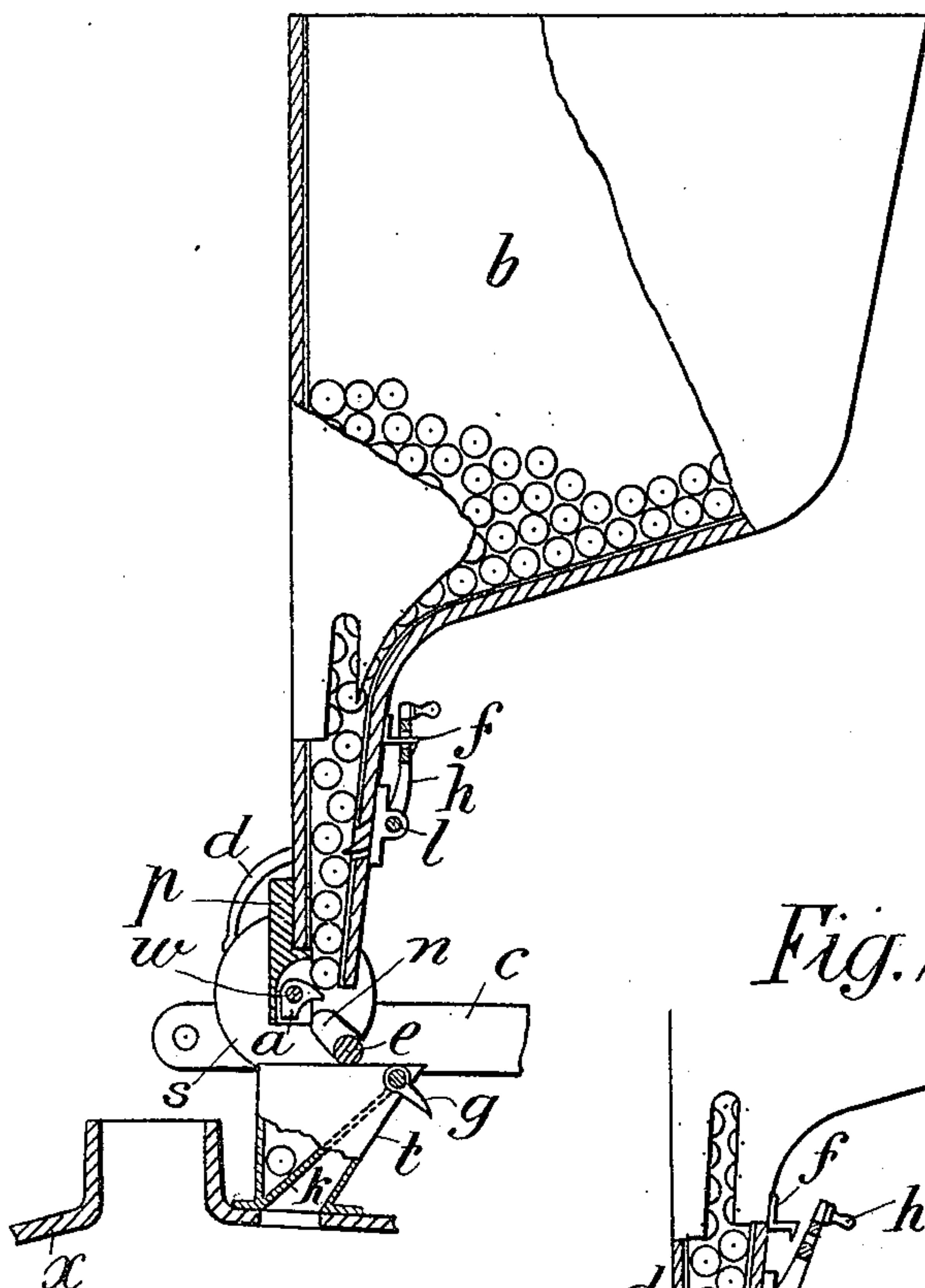
O. SCHÖNAUER.

AUTOMATIC TYPE METAL SUPPLYING APPARATUS FOR COMPOSING AND LINE  
CASTING MACHINES.

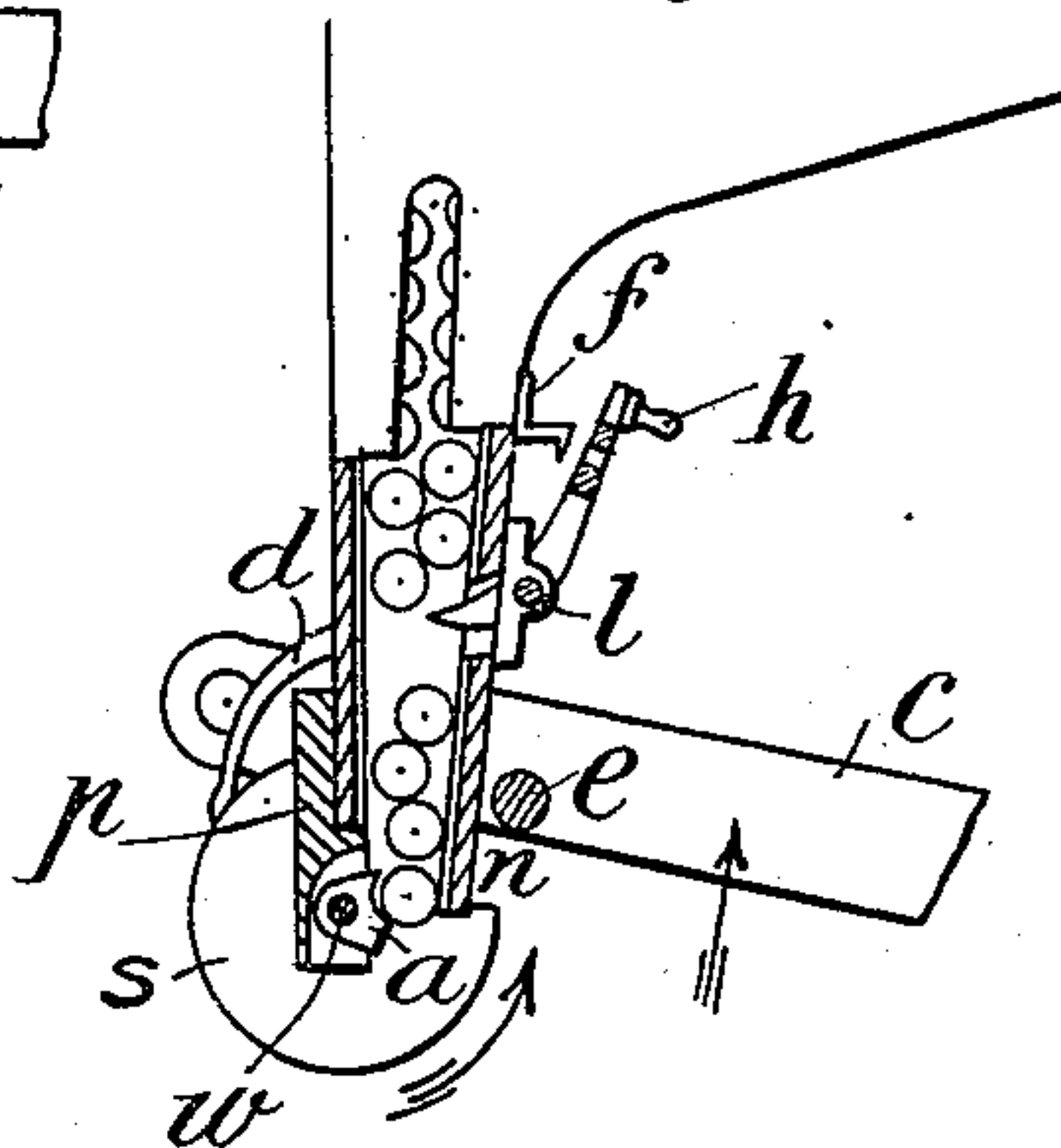
(Application filed Dec. 19, 1899.)

(No Model.)

*Fig. 1.*



*Fig. 2.*



Witnesses

*Halter abbe*  
*P. W. Wright*

INVENTOR

*Otto Schönauer*

BY

*Howson and Howson*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

OTTO SCHÖNAUER, OF STEYR, AUSTRIA-HUNGARY.

AUTOMATIC TYPE-METAL-SUPPLYING APPARATUS FOR COMPOSING AND LINE-CASTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 670,329, dated March 19, 1901.

Application filed December 19, 1899. Serial No. 740,918. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO SCHÖNAUER, managing director of the Österreichische Waffenfabriks-Gesellschaft, a subject of the Emperor of Austria-Hungary, and a resident of Steyr, Upper Austria, Empire of Austria-Hungary, have invented an Automatic Type-Metal-Supplying Apparatus for Composing and Line-Casting Machines, of which the following is a specification.

This invention relates to type-metal-supplying apparatus for composing and line-casting machines, and has for its object to automatically and intermittently supply to the melting-pot of the machine such quantities of metal in an unmolten state as have been poured out therefrom for the purpose of casting the lines composed, so that not only the quantity of metal contained in the pot, but also its temperature, are practically constant.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of my improved apparatus in one position. Fig. 2 is a similar view of the essential parts thereof in another position.

My improved apparatus constitutes a self-consistent attachment which may be secured in any preferred manner to any type of composing and line-casting machines.

The apparatus comprises a hopper *b*, which serves to hold the type or line-casting metal in the form of suitably-shaped (preferably cylindrical) pieces of a predetermined volume or weight. This hopper is secured to the machine in any desired manner. To the front wall of the apparatus a plate *p* is secured, (preferably by screws,) carrying the bearings for a shaft *w*. On the rear wall of the hopper a mechanism for stopping the supply is provided consisting of a lever *h*, having its fulcrum at *l*, and of the spring-latch *f*. To the shaft *w* a trough-shaped shoulder *a* is secured within the hopper, such shoulder being adapted to receive the metal pieces from the hopper and to deliver them to the melting-pot. Outside the hopper *b* a disk *s*, having a radial slot *n*, is secured to the shaft *w*. On some reciprocating or oscillating part of the machine—for instance, on the metal pump-lever *c*—a pin *e* is secured, adapted to engage into said slot *n*, so that during the

operation of the machine the disk *s*, with the shaft *w* and the trough-shaped shoulder *a*, is intermittently turned to and fro. A spring-brake *d*, secured to the hopper *b*, acts on the disk *s* to prevent it from turning too far in in either direction.

Below the apparatus a funnel *t* is secured to the cover of the melting-pot *x*, in which funnel a flap *k*, provided with a counterbalancing-arm *g*, is provided. This flap serves to introduce the pieces of metal delivered from the apparatus into the melting-pot and to keep back the hot air ascending from the pot.

The pieces of metal delivered into the funnel *t* force back the flap *k* by gravity and then fall into the pot, whereupon the flap is closed by the gravity of the counterbalancing-arm *g* to prevent losses of heat in the pot.

In Fig. 1 the lever *c* is shown in its lowermost position. The trough-shaped shoulder *a* has taken a piece of line-casting metal from the hopper *b* and this piece has fallen through the funnel into the pot *x*. In Fig. 1 the metal piece is shown in the very act of forcing back the flap *k*. The lever *c* now rises, and the pin *e* of the same engaging into the radial slot *n* of the disk *s* turns the latter in the direction indicated by the arrow in Fig. 2 until a fresh piece of metal has entered the trough-shaped shoulder *a*. Now when the movement of the lever *c*, and consequently the movement of the disk *s* and the trough-shaped shoulder *a*, are reversed the latter takes with it the piece of metal resting therein until in the position shown in Fig. 1 such metal piece is allowed to fall into the funnel *t*, and thence into the pot, as above stated. Therefore whenever a certain volume or weight of metal has been poured out from the pot to cast a line composed a piece of metal of the same volume or weight is delivered into the pot by the apparatus hereinbefore described, so that the quantity of metal contained in the pot *x* is practically kept constant. This and also the fact that by the flap *k* undue losses of heat from the pot *x* are prevented makes it possible to accurately regulate the supply of heat to the pot, so that the temperature of the metal in the pot is maintained practically constant.

In the position shown in Fig. 1, where the lever *h* is turned against the wall of the hop-



per *b* and locked in such position by the spring-latch *f*, the inner end of the lever is drawn back, and hence permits the pieces of metal to run freely down to the trough-shaped shoulder *a*. On turning the lever *h* into the position shown in Fig. 2 after having released the latch the inner end of the lever is shifted inward, and thus intercepts the downward movement of the metal pieces toward the trough-shaped shoulder. The automatic supply of type or line-casting metal to the pot *x* is thus stopped.

I claim—

1. In combination with a reciprocating or oscillating part of a composing and line-casting machine, a stationary hopper adapted to contain pieces of metal of predetermined weight or volume, a melting-pot, an oscillating feed-shoulder at the lower end of the hopper, and mechanism connecting such feed-shoulder with the said reciprocating or oscil-

lating part and adapted to impart to such feed-shoulder an intermittent reciprocating movement, substantially as and for the purpose described.

2. In combination with a reciprocating or oscillating part of a composing and line-casting machine, a stationary hopper, a melting-pot, an oscillating feed-shoulder at the lower end of the hopper, a brake for the oscillating feed-shoulder and mechanism connecting said shoulder and the reciprocating part of the machine, all substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OTTO SCHÖNAUER.

Witnesses:

FRANÇOIS BIAZZI,  
JULIO CESAR D'ASSIS.