

No. 753,960.

PATENTED MAR. 8, 1904.

S. CRUMP.
MACHINE FOR CLEANING PRINTERS' ROLLERS.

APPLICATION FILED JULY 3, 1903.

NO MODEL.

Fig. 1.

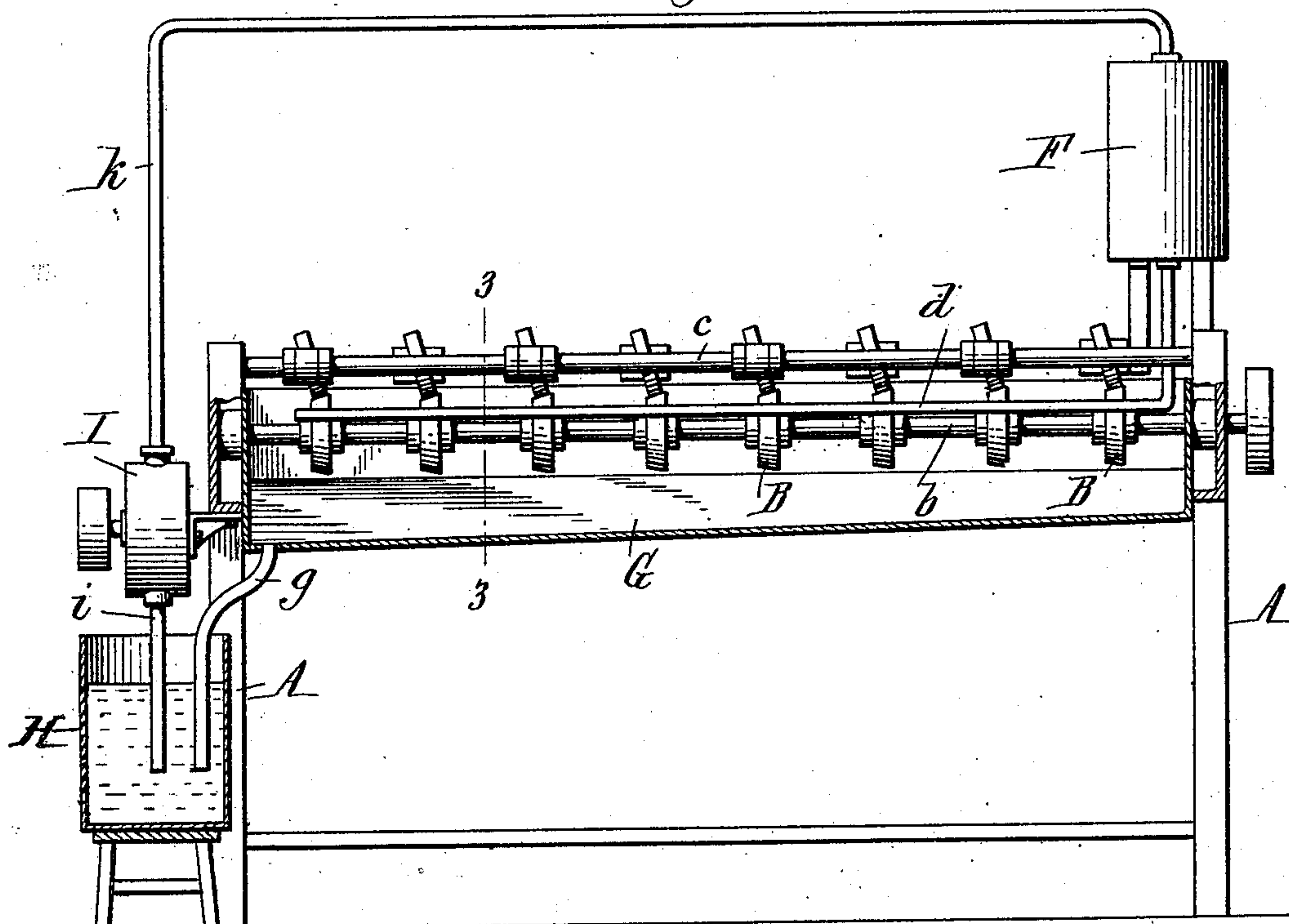


Fig. 2.

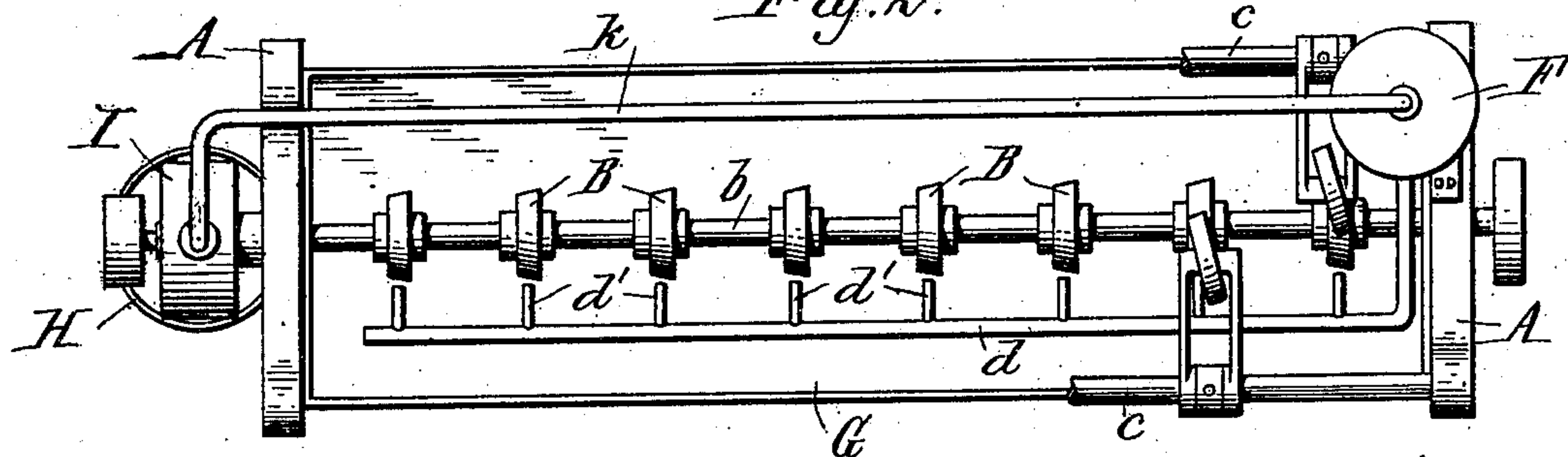


Fig. 3.

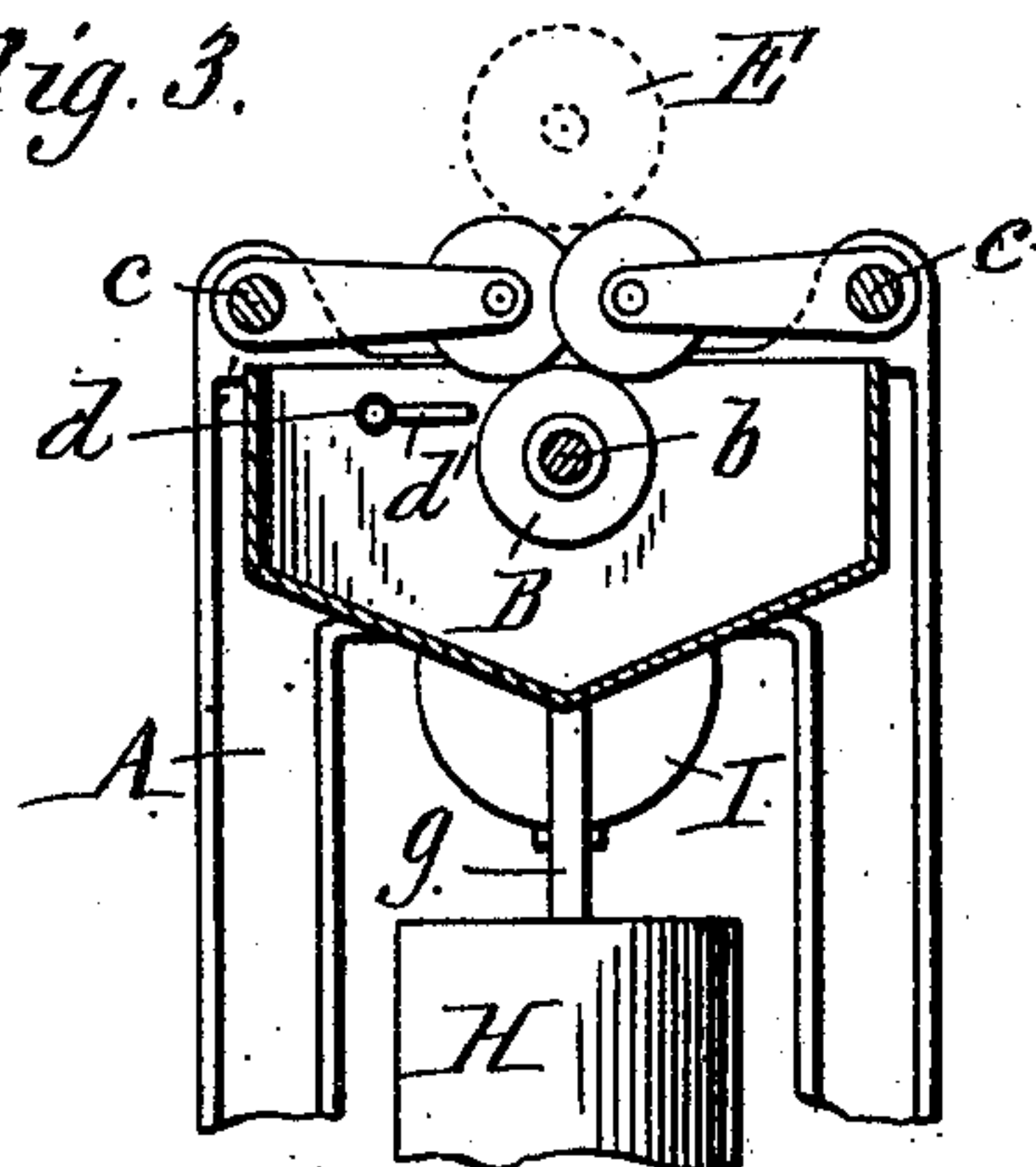
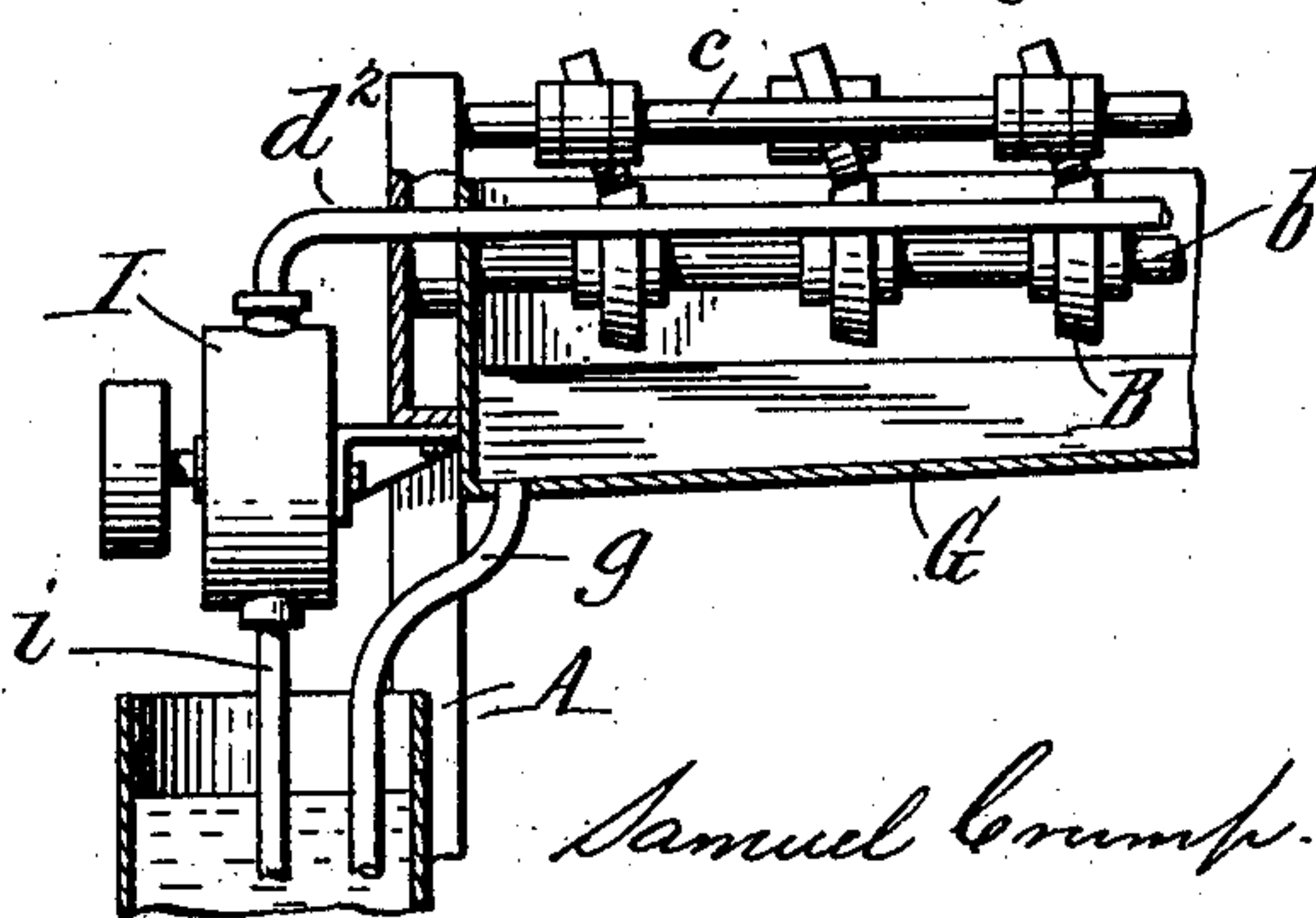


Fig. 4.



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MACHINE FOR CLEANING PRINTERS' ROLLERS.

SPECIFICATION forming part of Letters Patent No. 753,960, dated March 8, 1904.

Application filed July 3, 1903. Serial No. 164,186. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL CRUMP, a citizen of the United States, and a resident of Poughkeepsie, in the county of Dutchess and State of New York, have invented new and useful Improvements in Machines for Cleaning Printers' Rollers, of which the following is a specification.

This invention relates to a machine for washing or cleaning printers' rollers, which machine contains rollers by which the liquid solvent or cleaning liquid is worked into the impurities on the printer's roller for loosening and removing the same. A machine of this general character is shown and described in Letters Patent No. 678,484, July 16, 1901, granted to F. Hart, assignor, &c. In the machine of said patent the solvent or cleaning liquid is picked up by driving-rollers which revolve in the liquid contained in a trough. These rollers transfer the solvent to the upper working or cleaning rollers, which support the printer's roller to be cleaned and act upon the same. The rollers revolving in the liquid solvent, which is usually kerosene, stir or agitate the liquid and cause the same to assume a foamy consistency, which is undesirable, as it reduces the supply of liquid to the rollers and the cleaning effect.

One object of my invention is to apply the liquid in a solid stream, whereby the supply of liquid to the rollers and the cleaning effect are increased.

Another object is to provide means for keeping the liquid in circulation while the operation of cleaning is going on.

Another object is to provide simple means for separating the removed heavy impurities from the cleaning liquid.

In the accompanying drawings, Figure 1 is a sectional elevation of a roller-washing machine provided with my improvements. Fig. 2 is a top plan view of the same, showing most of the upper rollers removed. Fig. 3 is a vertical cross-section in line 3 3, Fig. 1. Fig. 4 is a fragmentary sectional elevation illustrating a modified construction of the machine.

Like letters of reference refer to like parts in the several figures.

A represents the end frames of the ma-

chine, *b* the lower horizontal shaft, on which the driving-rollers *B* are mounted, and *c c* the upper horizontal shafts, on which the upper cleaning or massage rollers are mounted. All of these parts may be constructed and operated as described in said Letters Patent or in any other suitable manner.

d represents a horizontal liquid-delivery pipe, which is arranged lengthwise along the series of lower driving-rollers *B* and provided opposite each of said rollers with a nozzle *d'* or a perforation by which a stream of liquid is delivered against the same. This solid stream of liquid spreads over the face of the roller without being beaten or broken into foam and keeps the roller covered with a layer or film of liquid which is substantially unbroken and is transferred to the upper cleaning or massage rollers, by which the liquid is applied to the printer's roller *E* under treatment. (Indicated in dotted lines in Fig. 3.) The liquid is preferably supplied to the discharge-pipe *d* from an elevated reservoir *F*.

G represents a trough arranged lengthwise beneath the rollers for collecting the surplus liquid which drops therefrom and from the printer's roller and other parts. This trough is provided in its bottom with a drain-pipe *g*, by which the liquid is conducted to a pail or other receptacle *H*.

I is a rotary or other suitable pump which has its suction-pipe *i* extended into the pail or reservoir *H* and delivers the liquid by its discharge-pipe *k* to the elevated reservoir *F*.

The liquid falling into the trough *G* passes from the discharge-pipe *g* of the latter into the pail *H* and is drawn from the pail by the pump and returned to the elevated reservoir, from which the liquid descends again to the delivery-pipe *d*. The liquid is kept in circulation in this manner, and the impurities and other waste matter which are carried off by the liquid settle to a large extent in the pail and remain in the latter, as the suction-pipe of the pump terminates several inches above the bottom of the pail. By removing the pail and substituting another pail the solvent can be changed in a very simple manner and the machine adapted to operate upon printers' rollers covered with a different color.

While it is preferred to supply the solvent to the delivery-pipe from an elevated reservoir, the solvent may be supplied to said pipe in a different manner—for instance, from the
5 pump directly, as shown in Fig. 4, in which the pump is shown as discharging directly into the delivery-pipe d^2 .

It is preferred to deliver the cleaning liquid against the lower driving-rollers; but, if
10 desired, the liquid may be delivered against the upper cleaning or massage rollers.

I claim as my invention—

1. In a machine for cleaning printers' rollers, the combination of rollers adapted to convey the cleaning liquid in a film to the printers' rollers under treatment, and a delivery-pipe for the cleaning liquid having nozzles which discharge the liquid directly against the faces of said rollers, substantially as set
20 forth.

2. In a machine for cleaning printers' rollers, the combination of cleaning-rollers adapted to act upon the printer's roller to be cleaned, elevating-rollers which run in face-to-face
25 contact with said cleaning-rollers, nozzles which discharge the cleaning liquid directly against the faces of said elevating-rollers, and means for supplying the cleaning liquid to said nozzles, substantially as set forth.

3. In a machine for cleaning printers' rollers, the combination of rollers adapted to convey the cleaning liquid in a film to the printer's roller under treatment, a delivery-pipe for the cleaning liquid having nozzles which dis-

charge the liquid directly against the faces of
35 said rollers, a receptacle below said rollers for catching the surplus liquid, and a circulating-pump which receives the liquid from said receptacle and returns the liquid to the delivery-pipe, substantially as set forth. 40

4. In a machine for cleaning printers' rollers, the combination of rollers adapted to convey the cleaning liquid in a film to the printers' rollers under treatment, a delivery-pipe for the cleaning liquid having nozzles which
45 discharge the liquid directly against the faces of said rollers, and an elevated reservoir from which the liquid is supplied to said delivery-pipe, substantially as set forth.

5. In a machine for cleaning printers' rollers, the combination of rollers adapted to convey the cleaning liquid in a film to the printer's roller under treatment, a delivery-pipe for the cleaning liquid having nozzles which discharge the liquid directly against the faces of said
55 rollers, a receptacle below said rollers for catching the surplus liquid, an elevated reservoir from which the liquid is supplied to said delivery-pipe, and a circulating-pump which receives the liquid from said receptacle and
60 returns the liquid to said elevated reservoir, substantially as set forth.

Witness my hand this 16th day of June, 1903.

SAMUEL CRUMP.

Witnesses:

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RUDOLPH A. HAGEDORN.