

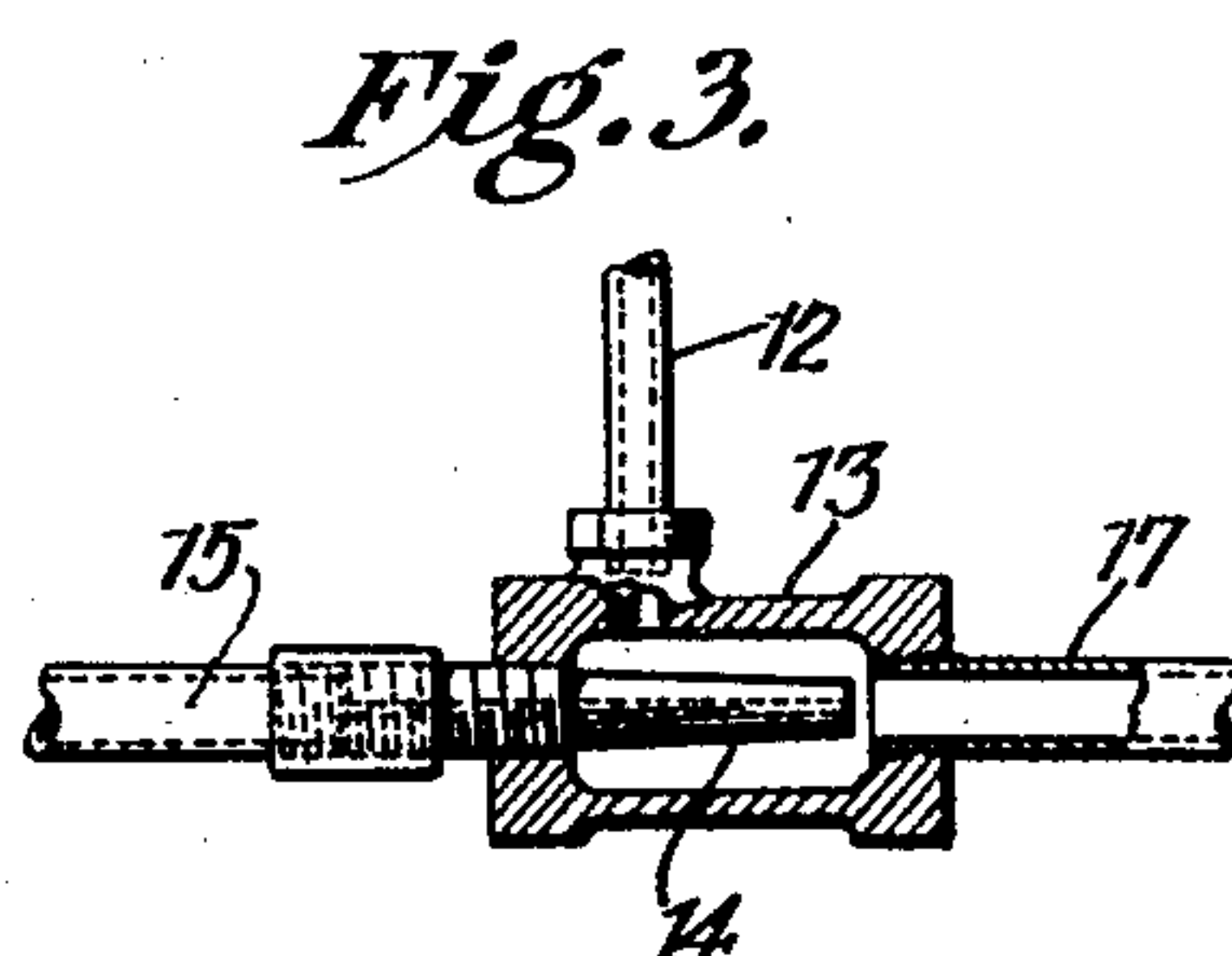
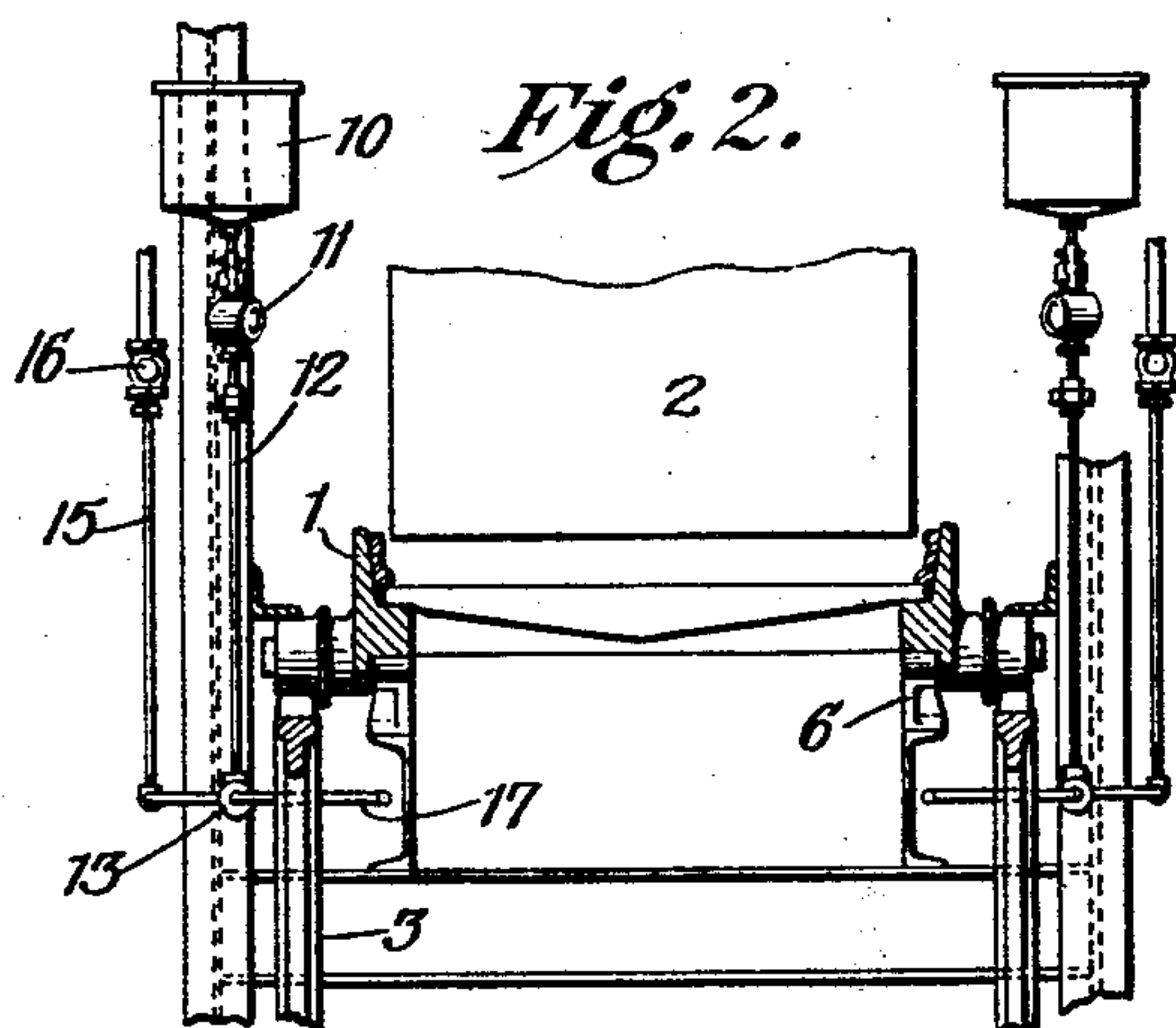
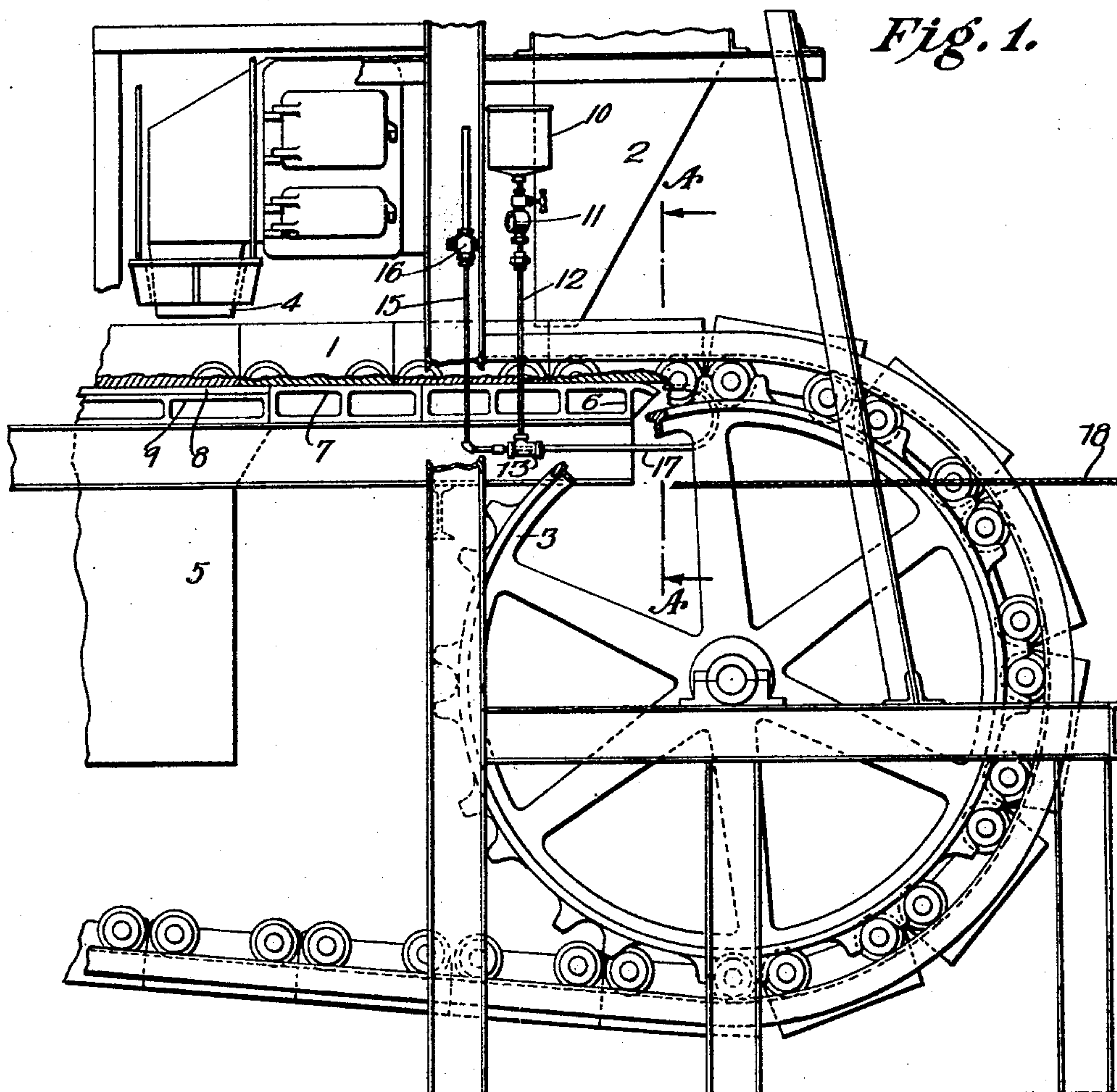
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E. CUDDIHY

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SINTERING MACHINE AND THE LIKE

Filed June 5, 1928



INVENTOR
Edward Cuddihy
BY *D. Anthony Mina*
ATTORNEY

UNITED STATES PATENT OFFICE

EDWARD CUDDIHY, OF TOOELE, UTAH

SINTERING MACHINE AND THE LIKE

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The invention relates to sintering machines and is particularly directed to the lubrication of the sliding surface of the pallet frame and the parts on which it slides, with certain advantages referred to in detail hereinafter. The accompanying drawings illustrate one embodiment of the invention.

Fig. 1 is a side elevation of the drive end of a Dwight-Lloyd sintering machine, omitting parts which are unrelated to this invention;

Fig. 2 is a transverse section on the line A—A of Fig. 1;

Fig. 3 is an elevation, partly in section, of parts of the lubricating device.

The pallet frames 1 receive in succession a charge of the material to be sintered from the hopper 2 as they travel past the lower end thereof, moving from right to left. They are driven by a sprocket wheel 3. The charge is ignited at the top as the pallets come under an igniting burner 4. A down draft is maintained as the pallets pass over a wind box 5 which sucks the air through the charge and through the grate forming the bottom of the pallet.

At the right-hand end of the supporting frame-work there is a guide casting 6 with a curved lip to ease the passage of the pallets from the driving wheel 3 to their fixed supports. From the guide castings 6, the pallets pass on to dead plates 7 and thence on to wearing strips 8. They should rest with a close fit on the dead plates and wearing strips so as to prevent a leakage of air at these points, which leakage cuts down the efficiency of the fans drawing air out of the wind box 5.

The lubrication of such machines heretofore has been by means of compression grease cups or similar devices placed at intervals along the castings 9 which form the side copings of the wind box. These are not easily accessible, and generally neglect, dust and heat have combined to make them inoperative or only partially operative. This has resulted in great wear on the pallet frame and the wearing strips, requiring frequent renewal of these parts and causing delay and expense. I propose to lubricate them by devices which are removed from the hottest part of the machine and which supply the lubricant contin-

uously and under easy observation and control.

An oil reservoir 10 discharges at the bottom through a sight feed valve 11 to a pipe 12 which leads at its lower end into an injector 13 within which is the nozzle 14 of a pipe 15 which connects through a valve 16 with a supply of compressed air. From the outlet end of the injector, a pipe 17 projects forwardly to a point beyond the end of the guide casting and is bent to direct the oil on to the curved end of the casting and under the surfaces of the pallets. The oiling arrangement is duplicated for the two sides of the machine.

In operation, the sight feed valve is regulated for the desired quantity of oil. The air valve 16 is then regulated so that the air will carry the lubricant through the pipe 17 spraying it between the upper and lower surfaces of the guide and pallets, respectively. The operator stands on the operating floor 18 where the oiling operation is directly under his eye and where he can change the oil feed at will. He needs only to maintain the oil tank full. The oiling is a continuous operation. It not only serves the usual oiling functions but also maintains a very effective film between the moving and the stationary parts, making an approximately gas tight contact and thus increasing the efficiency of the suction fan.

Various modifications may be made by those skilled in the art without departing from the invention as defined in the following claims.

What I claim is:—

1. The combination with a machine having a series of pallets and means for advancing them onto and sliding them over a fixed support of means for projecting a lubricant between the surfaces of said parts where the pallets are guided on to the fixed support.

2. The combination with a machine having a series of pallets sliding over a fixed support of means for projecting a lubricant between the surfaces of said parts where the pallets are guided on to the fixed supports, said projecting means comprising a pipe carrying a continuous supply of air under pressure in order to continuously lubricate such surfaces.

3. The combination with a machine having a series of pallets sliding over a fixed support of means for projecting a lubricant between the surfaces of said parts where the pallets are guided on to the fixed supports, said
5 projecting means including a regulable feed for the lubricant and means for continuously projecting it at the point stated.

4. The combination with a sintering machine having a series of pallets and means for
10 advancing them over a fixed frame and between an igniter and a wind box of means for supplying a lubricant to the under surfaces of the pallets at a point well in advance of the igniter.

5. The combination with a sintering machine having a series of pallets travelling over a fixed frame and between an igniter and
15 a wind box of means for supplying a lubricant to the under surfaces of the pallets at a point well in advance of the igniter, said lubricating means including a regulable feed and means for continuously projecting the
20 lubricant at the point stated.

25 In witness whereof, I have hereunto signed my name.

EDWARD CUDDIHY.

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