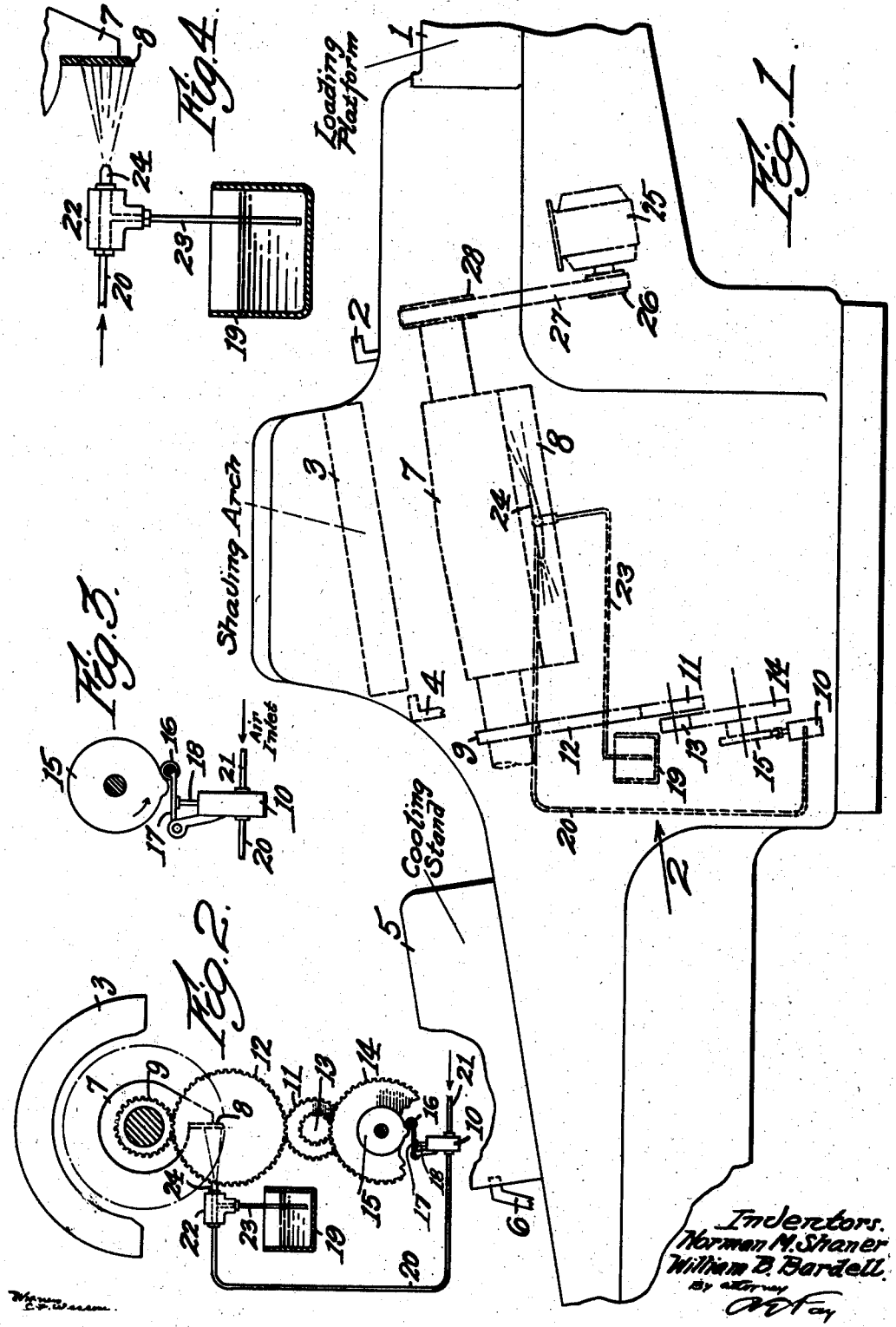
Oct. 27, 1942. N. M. SHANER ET AL 2,299,852

LUBRICATOR MECHANISM

Filed Sept. 3, 1938



Patented Oct. 27, 1942 2,299,852

UNITED STATES PATENT OFFICE

2,299,852

LUBRICATOR MECHANISM

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Application September 3, 1938, Serial No. 228,338

2 Claims. (Cl. 29—106)

This invention relates to a type of machine in which plates are shaved to the proper thickness, cooled, and delivered and is particularly adaptable for use on stereotype plates.

The principal objects of this invention are to remove immediately any chips that accumulate on or stick to the shaving knife and to eliminate the soldering back of any such chips after the knife has passed.

An important object also is to provide means for spraying an atomized oil periodically on the knife to eliminate the above difficulties.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which

Fig. 1 is a side elevation of a plate finishing machine indicating the main features of this invention applied thereto;

Fig. 2 is an end view taken in the direction of the arrow 2 in Fig. 1;

Fig. 3 is an end view of the operating cam and associated parts;

Fig. 4 is an end view, partly in section, showing the way in which the atomized oil is sprayed on the shaving knife.

In a machine of this nature it has been customary to place a plate on the receiving platform where it is inspected and then passed into the shaving arch where a knife or knives finish the ribs on the concave side of the plate. This causes the overall thickness of the plate to be shaved to an accurate thickness.

In cases where high production is necessary and the plates and knife get hot, it sometimes happens that chips accumulate on, or stick to, the shaving knife and cause difficulty. This sometimes causes shaving to an uneven thickness and even permits the soldering back of the chips on the plates after the knife has performed its operation.

By this invention an atomized oil may be sprayed on the knife periodically and the above difficulty will be eliminated.

The plate to be machined is first placed on a loading platform 1 and then moved on to rollers, not shown, which carry the plate in the finishing arch. A stop 2 is placed at the end of the loading platform to intercept the plate and then release it at a definite time when the shaving arch 3 is clear to receive it. The plate slides down to a stop 4 which will set the plate in the correct position for machining the concave inner surface and also the ends of the plate. After the plate is released from the arch 3 it is passed into a cooling stand 5 where it is interrupted again by a stop 6 and cooled before being removed from the machine. The operation of these three stops 2, 4 and 6 is not a part of this invention and can be accomplished by any of the operating means now known.

As is usual, through the machine passes a knife bar 7 to which is attached a shaving blade 8. This blade 8 is brought against the inner surface of the plate when the plate is secured within the arch and rotates on the axis of the curved arch. This rotation shaves the inner surfaces of the ribs inside the plates thereby finishing the plates to the proper uniform thickness. This, of course, creates heat and added to the original heat of the plate the transfer of heat across the shaving surface on the plate results in chips adhering to the knife blade.

The bar 7 may be rotated by a motor 25, through a sprocket 26, chain 27 and sprocket 28, the latter being secured to the knife bar 7. Also secured to the knife bar 7 is a pinion 9 which, through a train of gears 11 and 12, meshing with the pinion 9, drives, through the gear 11, a gear 12 and a pinion 13 attached to the gear 11 and a gear 14 to which is fastened a cam 15. This operates an air valve 10.

The high point of this cam during its rotation is brought against a roll 16 mounted on a lever arm 17 pivoted to the casing of the valve 10. The action of the cam is to depress this lever 17 and through a pin 18 open the valve 10. This valve is connected up with a source of air under pressure so the air enters through a pipe 21 passing through the open valve 10 and through an air pipe 20. Here it comes through an atomizer body 22, the details of which do not constitute a part of this invention. It provides a suction which, through an oil supply pipe 23 extending into an oil reserve 19, draws oil up and sprays it through a nozzle 24 with the air.

The cam 15 is so timed as to operate the valve 10 when the knife blade 8 reaches the position shown in Fig. 2. At this point the supply of oil and air will wash the blade free of any chips, lower its temperature and leave thereon a film of oil that will assist in keeping the knife free of chips and in producing a finer finish.

It is apparent, therefore, that the blade 8 is not only cooled but is provided with a blast of air and oil which will remove any chips clinging to it and also leave the blade lubricated for its further operation of finishing to a finer degree than has been the case heretofore.

It is to be understood that this operation is

accomplished periodically with compressed air for drawing the oil up through the tank 19 and spraying it out of the nozzle 24. Control of this device is accomplished simply by a rotating cam 15 which operates an air valve 10 to every one or more revolutions of the knife bar that may be desired.

Having thus described our invention and the advantages thereof, we do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what we claim is:

1. In a stereotype plate shaving machine, the combination with a loading platform, a semi-cylindrical shaving arch having means for holding the plate, a shaving blade rotatable in the arch around the axis thereof, a cam lever, means operated from the shaving knife for periodically moving said lever, a valve for allowing the inlet of a fluid under pressure, said lever operating said valve, a pipe for receiving said fluid, a source of lubricating oil, a pipe extending from the first named pipe into said source, and a nozzle to which the oil will be inspirated by the current of fluid and from which the oil and fluid will be forced against said blade.

2. In a stereotype plate shaving machine, the combination with a semi-cylindrical shaving arch having means for holding the plate, a shaving blade rotatable in the arch around the axis thereof, means operated from the shaving knife for periodically moving a valve for allowing the inlet of fluid under pressure, a pipe for receiving said fluid, a source of oil, a pipe extending from the first named pipe into said source, and a nozzle to which the oil will be inspirated by the current of fluid and from which the oil and fluid will be forced against said blade.

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