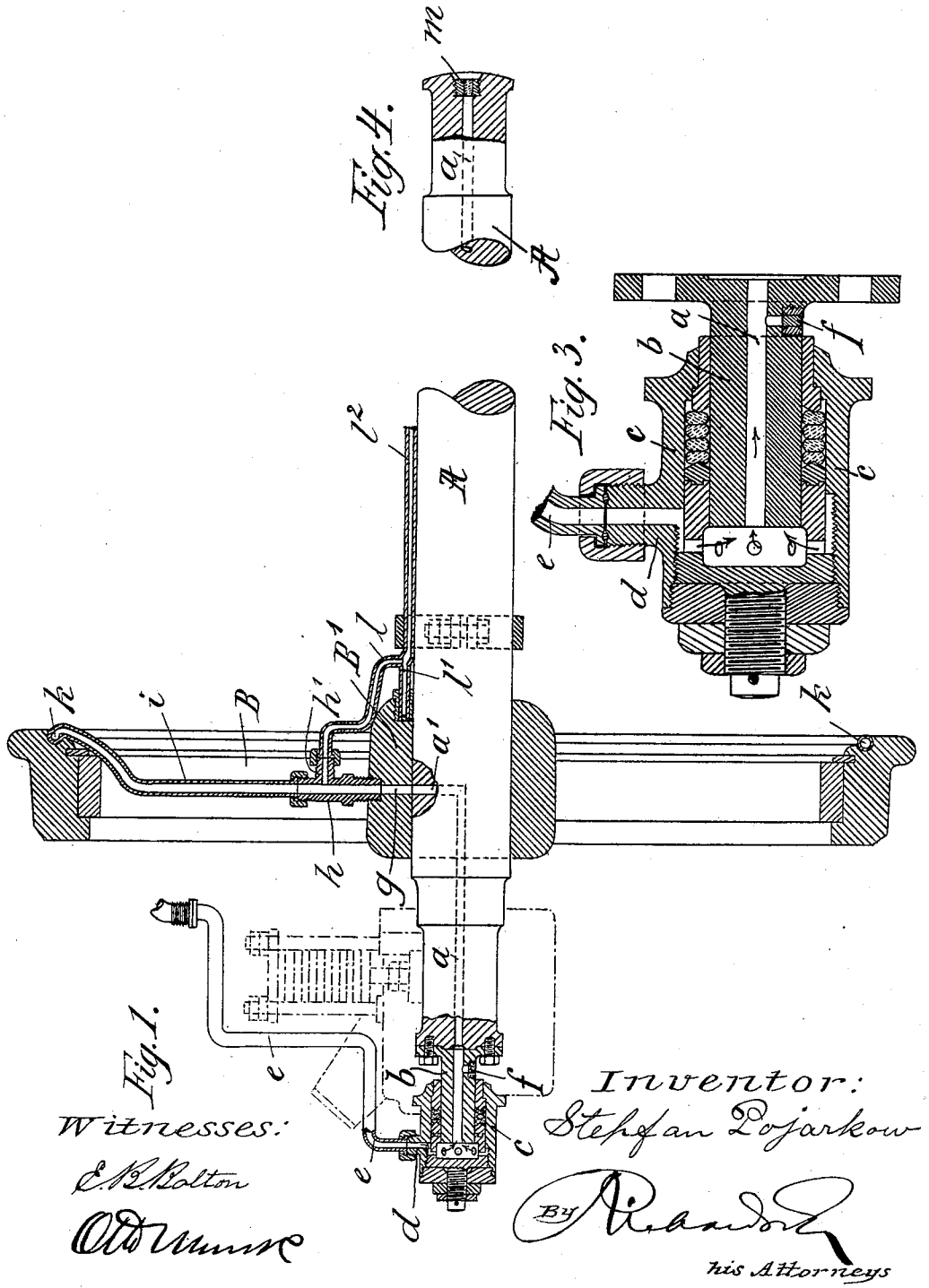
(No Model.) 2 Sheets—Sheet 1.

S. POJARKOW.

CONTRIVANCE FOR AUTOMATICALLY STOPPING TRAINS, &c.

No. 605,973. Patented June 21, 1898.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

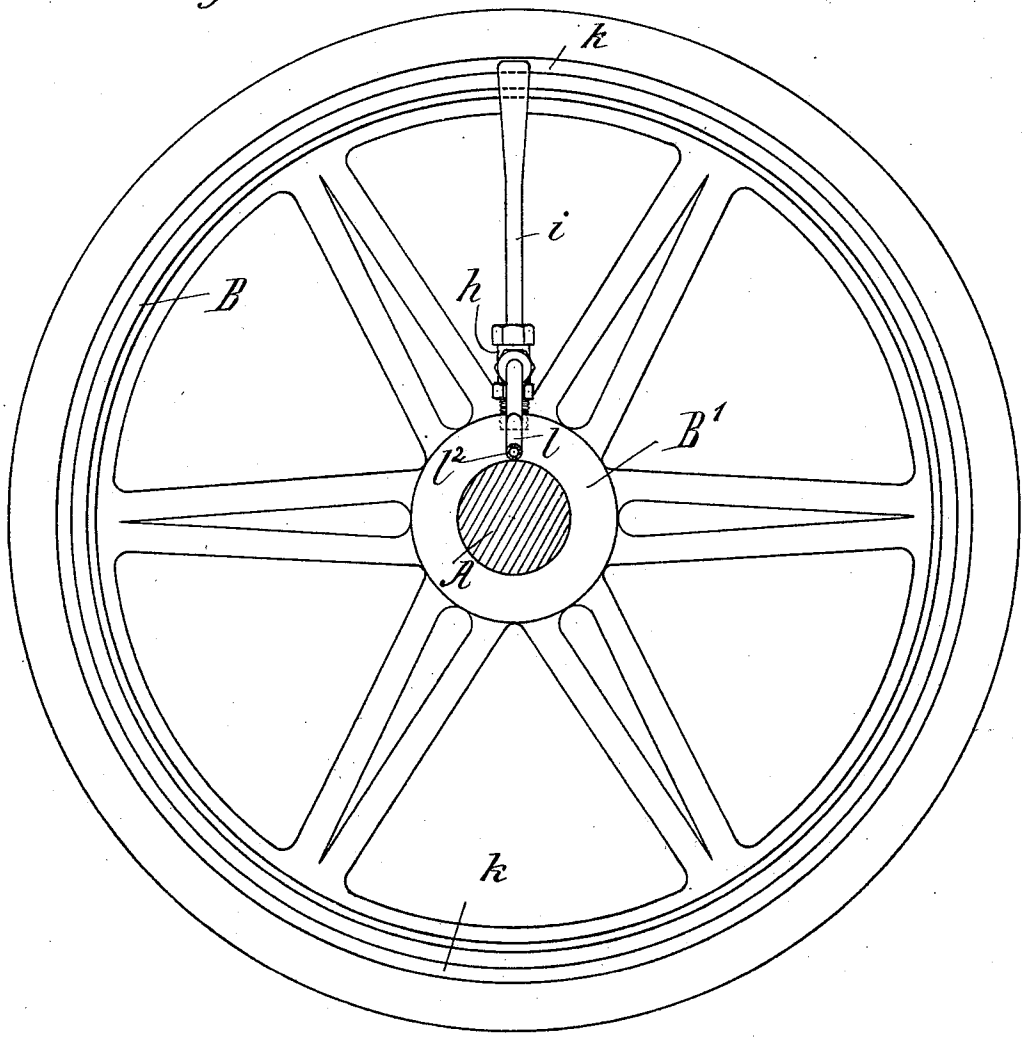
(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.



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UNITED STATES PATENT OFFICE.

STEPFAN POJARKOW, OF YEKATERINOSLAV, RUSSIA.

CONTRIVANCE FOR AUTOMATICALLY STOPPING TRAINS, &c.

SPECIFICATION forming part of Letters Patent No. 605,973, dated June 21, 1898.

Application filed October 18, 1897. Serial No. 655,581. (No model.)

To all whom it may concern:

Be it known that I, STEPFAN POJARKOW, mechanical master, a subject of the Czar of Russia, and a resident of Yekaterinoslav, Russia, have invented a certain new and useful Contrivance for Automatically Stopping Trains at the Breakdown of Rolling Parts, of which the following is a full and clear specification.

All previous known devices for automatically stopping trains at the breakdown of rolling parts consist for the most part in the suitable arrangement of electric contacts which will be opened or shut at the breakdown of some axle and start an alarm device by which the conductor and guards are warned and which acts directly upon the brake-valves of the air-brakes. Those contrivances cannot, however, be regarded as giving full guarantee for the security of trains, because they will only be efficient as long as the battery by which the electric current is to be produced is strong enough for releasing the devices which are inserted in the circuit for said purpose.

The object of the present invention is to avoid those intervening means by directly operating the brakes by the breakdown of or other damage to the rolling parts.

The present invention consists, substantially, in that there are provided at those places of rolling parts which are liable to breaking, as well as at their connecting-places, pipings which are broken at the same time as some rolling part breaks down or when there takes place an involuntary displacing of connected parts. This method may as well serve for indicating the heating of bearings as that by electric conveyance by obstructing the brake-piping which is conducted to this effect through the axle-head by a metal tampion melting at low temperature. Moreover, it is still especially advantageous that with the present invention damaged places may be easily recognized by the escaping of the compressed air, so that the persons in charge of the examination may quickly find out the defect and have the respective car exchanged or may remedy it, as may be desirable.

The accompanying drawings show how the present invention is put into practice, for instance, with a car-axle and wheels.

Figure 1 is a vertical section through the wheel. Fig. 2 is a back view of the same. Fig. 3 shows one axle-head on an enlarged scale, and Fig. 4 the other one.

In axle A there are arranged at right angles to each other two borings a a', which meet one with another, and the former of which, being disposed exactly coaxial, opens at the front side of the gudgeon. To the front side of the gudgeon there is secured by means of a flange a tube b, which forms a continuation of the boring a. Said tube is arranged in a stuffing-box, through which compressed air is conveyed to boring a and whose outer end is tightly closed. For the conveyance of compressed air stuffing-box c bears a short joining-tube d, to which the piping is secured and has a lateral opening f, closed by a tampion fusible at low temperature. The compressed air escapes through opening f as soon as that tampion has been fused.

The vertical boring a' of axle A is in connection with a radial boring g of the nave B' of wheel B. Into this boring there is screwed a T-shaped piece h, whose straight branch of boring corresponds with a diametrically-arranged piping i, which leads to the wheel-tire and which ends in an endless tube k, embedded into the tire and securely fastened to it. The joining end h' of the T-shaped tube h is turned to the inner side of the wheel and joins a piping l, that is divided in two branches l' l^2, the former of which ends in the inner front side of nave B', while the latter leads to the oppositely-disposed wheel, which is prepared in the same manner as the heretofore-described one. The axle-head of that side is perforated in the same way with a radial and an axial boring.

Fig. 4 illustrates merely a part of the axial boring, the rest of the arrangement and the joining of the radial boring being done in the same way as represented in Fig. 1. The sole difference consists in that the stuffing-box for admitting compressed air has been omitted at this side and that the boring a itself is closed by a melting tampion screwed into the same at the front side of the gudgeon.

The heretofore-described contrivance works as follows: The borings a a' of the axle and all pipings being in connection with them are filled with compressed air. As soon now as some part breaks down or as the nave dis-

places itself on the axle the piping will necessarily be broken at the same time. By this the compressed air escapes and the brakes are actuated at the same moment as the breakdown occurs. When the gudgeon turns hot by friction, the compressed air will find an escape as soon as the melting temperature of tampion *f*, respectively *m* is reached, and the brakes are in the same way instantaneously operated. The escaping of compressed air indicates clearly in which place there has been fused a tampion, which bearing has turned hot, so that no long search is needed. For the same reason it would be impossible in the case of heating of a plurality of bearings to forget one or the other of them, because the train could not be restarted before all molten tampions had been replaced.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

In a contrivance for automatically stopping trains at the breakdown of rolling parts means for connecting the latter with the air-brake suitably-arranged pipings *e b*, a stuffing-box *c*, borings *a a'* provided in the axle-head, pipings *l' k* embedded into the body of the wheel and means *i h l* for connecting those pipings with each other, substantially as and for the purpose set forth.

Signed at Odessa, Russia, this 20th day of September, 1897.

STEPFAN POJARKOW.

Witnesses:
THOMAS E. HEENAN,
THOMAS MILES.