K. LINCK.

DEVICE FOR RAPIDLY STOPPING COMPOUND STEAM ENGINES.

APPLICATION FILED JULY 15, 1907.

984,012. Patented Feb. 14, 1911.

2 SHEETS—SHEET 1.

Fig. 1

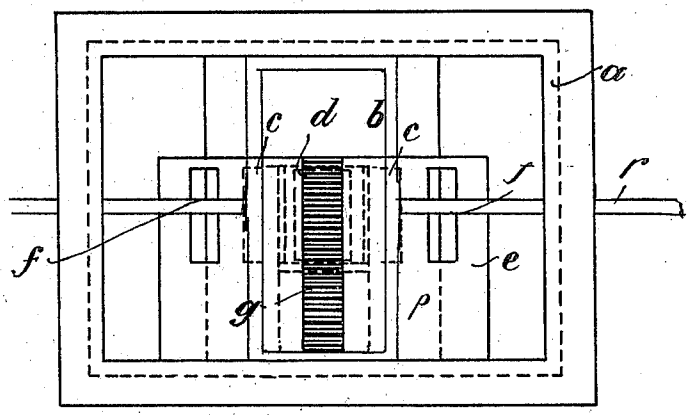

Fig. 2

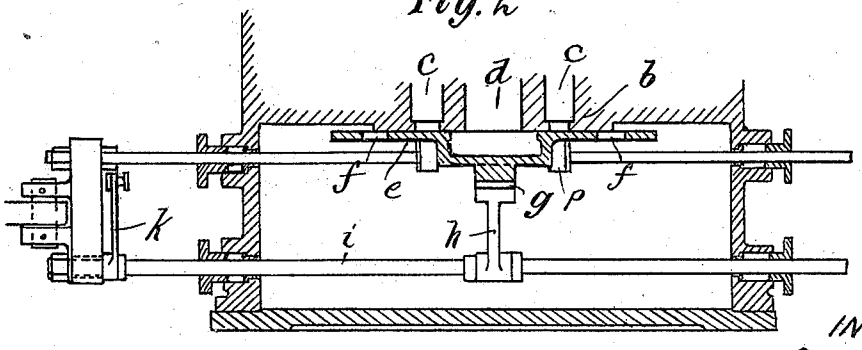

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Fig. 3

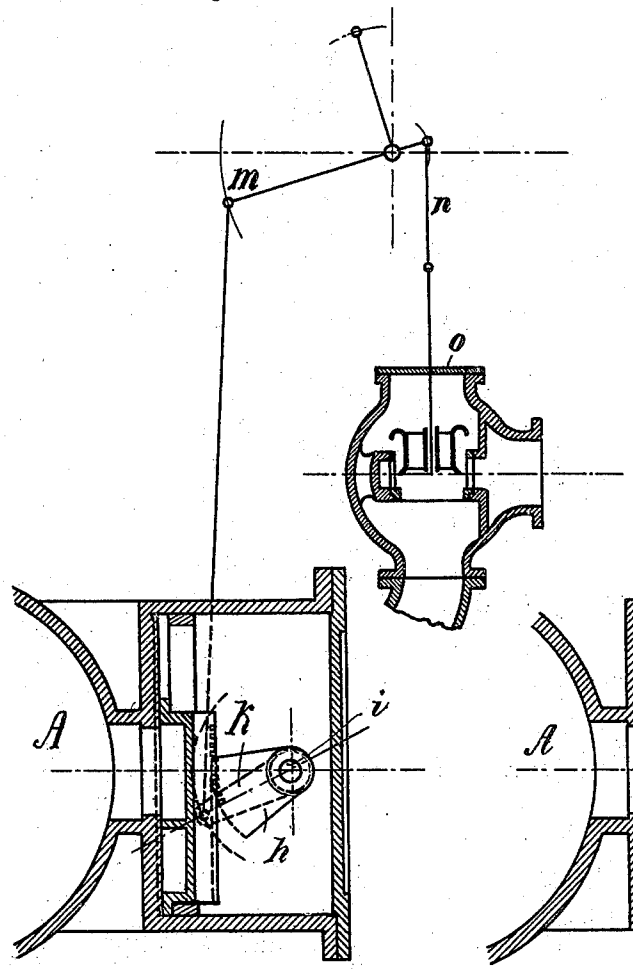
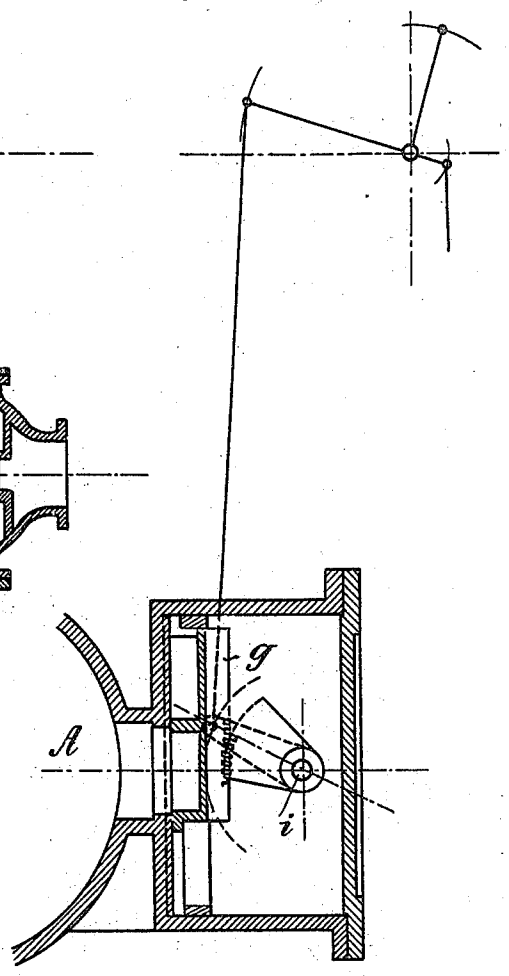


Fig. 4



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UNITED STATES PATENT OFFICE.

KARL LINCK, OF HOMBURG, GERMANY.

DEVICE FOR RAPIDLY STOPPING COMPOUND STEAM-ENGINES.

984,012. Specification of Letters Patent. Patented Feb. 14, 1911.

Application filed July 15, 1907. Serial No. 383,857.

To all whom it may concern:

Be it known that I, KARL LINCK, engineer, a subject of the King of Prussia, and residing at Homburg, in the Palatinate, Germany, have invented certain new and useful Improvements in Devices for Rapidly Stopping Compound Steam-Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a device for rapidly stopping compound steam engines working with two or more stages of expansion, by means of which the admission of steam to the intermediate or low pressure cylinder is cut off simultaneously with the cutting off of the fresh steam from the high pressure cylinder. In known arrangements of this kind a separate cut off valve is provided in the admission pipe to the intermediate or low pressure valve chest and this valve is connected by a rod with the cut off valve in the admission pipe of the high pressure valve chest so that both cut off valves may be simultaneously closed.

From the known devices of this kind the present invention is distinguished in that the steam admission ports of the low pressure or intermediate pressure cylinder are closed simultaneously with the cutting off of the fresh steam from the high pressure cylinder without using any separate cut off valve, there being utilized for this purpose merely the control devices which are used for the cylinders such as shell valves, disk valves, Corliss cocks or valve. These valves or the like are so constructed that simultaneously with the closing of the fresh steam admission channel they are turned or made to slide so as to close completely the steam admission ports to the cylinder.

One example of the construction according to this invention which is applicable for all controlling mechanism, is shown in the accompanying drawings, wherein an ordinary shell valve is illustrated.

Figure 1 is a front view of the valve chest from which the cover has been removed. Fig. 2 is a longitudinal section thereof. Fig. 3 is a diagrammatic section showing the valve open, and Fig. 4 is a like view showing the valve closed.

In Fig. 1, *a* is the valve chest and *b* the surface on which the valve of the low pressure cylinder A slides, the steam inlet and outlet ports *c d* being provided in this surface. The valve *e* sliding on this surface has ports *f* which in the present example are in the upper half of the slide and are shorter than half the width of the slide *e* so that when the latter is shifted upward the admission ports are completely cut off, and no steam can enter the cylinder through them.

The outside face of the slide carries a toothed rack *g* in which gears a toothed sector *h* mounted on a spindle *i* in the valve chest. One end of this spindle extends through the valve chest and is connected with a lever arm *k*, itself connected by a system of links *l*, *m*, *n*, with the admission valve *o* of the high pressure cylinder in such a manner that when this valve is closed the slide valve *e* is moved upward so that the unperforated part thereof slides over the admission and exhaust ports of the low pressure cylinder.

When the admission valve *o* is opened, the slide valve *e* is in the position shown in Fig. 3. When the valve *o* is closed the slide valve is in the position shown in Fig. 4, and steam is cut off from the low pressure cylinder.

It is obvious that the invention is not limited to the specific construction shown and described and also that the invention is applicable to the various other well known types of valves.

It is a matter of indifference how the connection between the high pressure steam admission valve and the valve that controls the steam for the low pressure cylinder is arranged. It is only essential that by closing the high pressure steam valve the control valve of the low pressure cylinder should be caused to close completely the admission of steam directly to the cylinder itself. In this manner the engine is brought to rest as quickly as possible.

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:—

1. In combination with a compound engine having an admission valve to the high-pressure cylinder and the usual valve controlling the admission of steam directly to and from the ports of the low-pressure cylinder and its operating means, of means connecting said admission valve with said usual valve whereby the closing of the ad-

mission valve operates said usual valve to simultaneously close the ports of the low-pressure cylinder and hold them closed.

2. In combination with a compound engine having an admission valve to the high-pressure cylinder and the usual valve controlling the admisson of steam directly to and from the ports of the low-pressure cylinder and its operating means, of means connecting said admission valve with said usual valve whereby the closing of the admission valve simultaneously shifts the valve at the low-pressure cylinder to a closed inoperative position thus cutting off steam to the low-pressure cylinder simultaneously with the closing of the admission valve without the employment of an additional valve therefor.

In testimony whereof I affix my signature, in presence of two witnesses.

KARL LINCK.

Witnesses:
CARL SCHUMANN,
WALTER HÄNSING.