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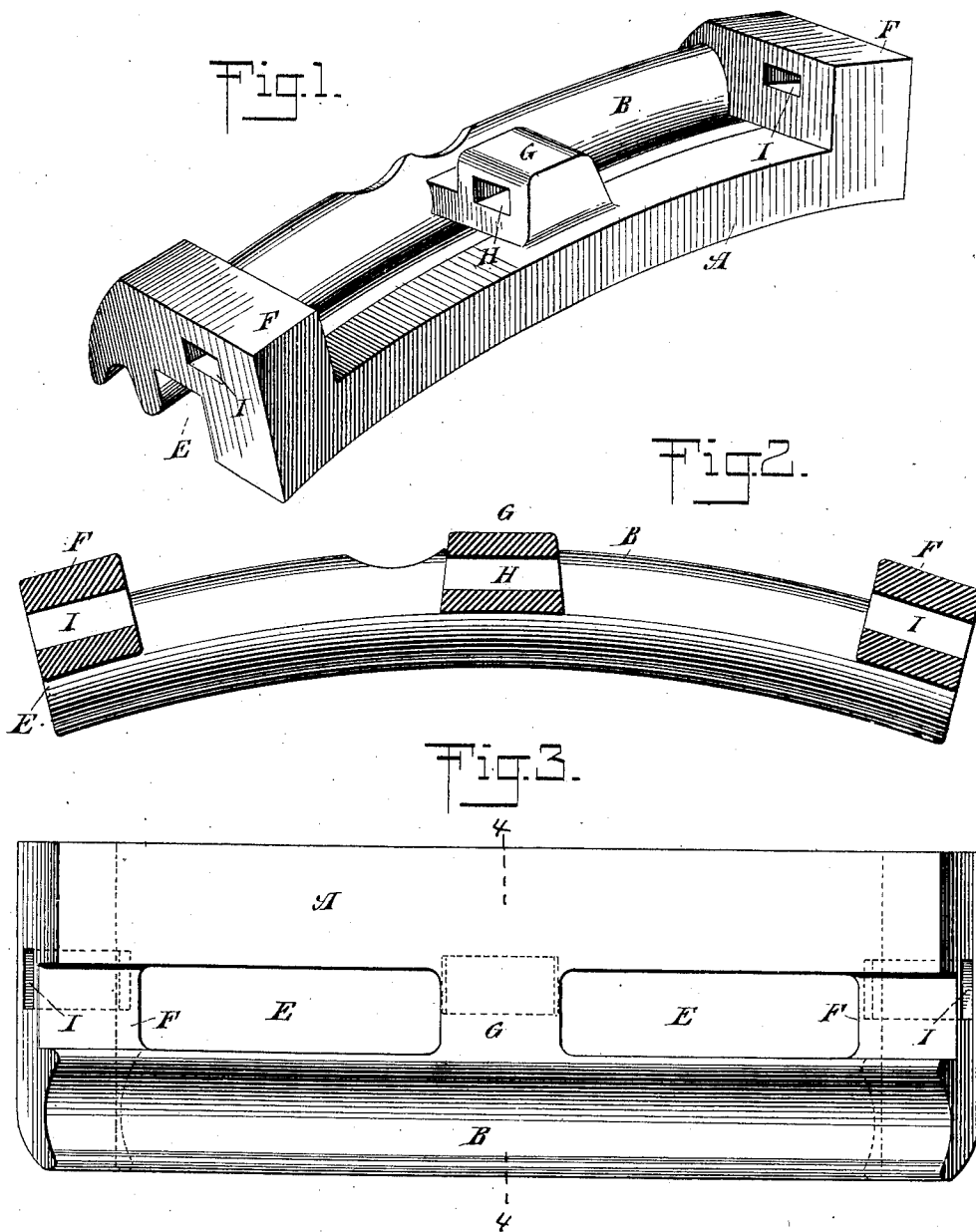
PATENTED OCT. 9, 1906.

W. H. V. ROSING & F. L. GORDON.

BRAKE SHOE.

APPLICATION FILED FEB. 17, 1906.

2 SHEETS—SHEET 1.



WITNESSES:
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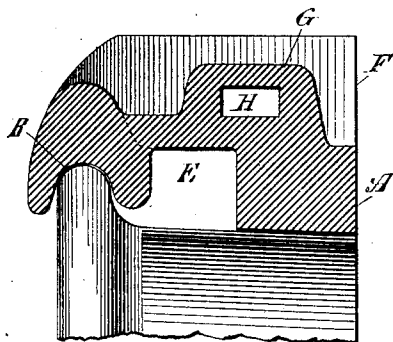
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2 SHEETS—SHEET 2.

Fig. 4.



Figs

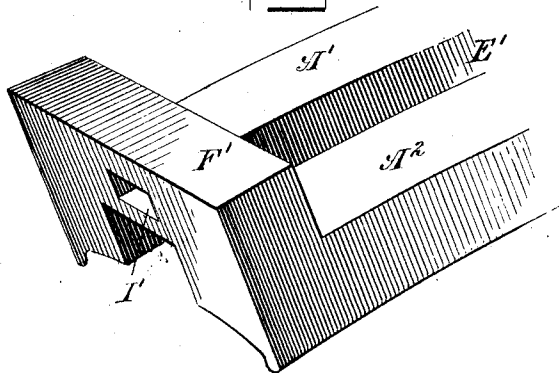
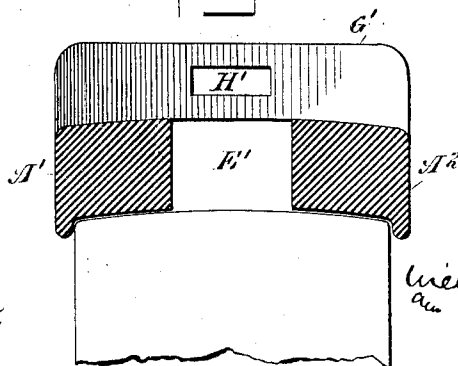


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLIAM H. V. ROSING, OF ST. LOUIS, MISSOURI, AND FRANK L. GORDON,
OF CHICAGO, ILLINOIS.

BRAKE-SHOE.

No. 832,813.

Specification of Letters Patent.

Patented Oct. 9, 1906.

Application filed February 17, 1906. Serial No. 301,639.

To all whom it may concern:

Be it known that we, WILLIAM H. V. ROSING, a resident of the city of St. Louis, State of Missouri, and FRANK L. GORDON, a resident of Chicago, county of Cook, and State of Illinois, citizens of the United States, have made and invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

Our invention relates to an improvement in brake-shoes for locomotives and cars.

It is well known that on wheels, and particularly those employed with heavy engines now in common use, there is an excess of wear upon that portion of the wheel-tread adjacent to the flange caused by contact with the rail. To prevent the brake-shoe from impinging upon the rail-worn portion of the tread and increasing the wear by the frictional contact of the shoe, the latter has in some instances been constructed with a channel overlying that portion of the tread contacting with the rail, such shoe satisfactorily performing its functions until such time as it becomes worn down to the bottom of the channel, whereupon it is open to the same objections as shoes of ordinary construction, which bear upon all parts of the wheel-tread. In other instances brake-shoes have been constructed with an opening or openings extending entirely through the same; but such a shoe has not come into general use by reason of the fact that the bridges connecting the body and flange of the shoe at all times contact with the wheel-tread, the result being that when the shoe is but partly worn down its strength is not sufficient to withstand the strain imposed upon it.

The object of our invention is to overcome these defects and to provide a shoe so constructed that it will bear upon the wheel-flange and also upon the outer edge of the wheel-tread or upon that part of the latter least subjected to wear by contacting with the rail and at the same time be sufficiently strong and capable of use until worn down to a greater extent than a shoe of ordinary construction.

With these and other ends in view it consists in certain novel features of construction, as will be hereinafter described, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a brake-shoe con-

structed in accordance with our invention: 55
Fig. 2 is a longitudinal sectional view thereof.
Fig. 3 is a bottom plan view thereof, and Fig. 4 a view in cross-section taken on the line 4 4 of Fig. 3. Fig. 5 is an end view of a shoe adapted for use upon "blind" wheels and 60
having our invention applied thereto. Fig. 6 is a sectional view through the key-lug of the shoe illustrated in Fig. 5.

Our improved shoe is formed of cast iron, steel, or other metal or metals, is curved in 65
its length to conform to the shape of the wheel, and is preferably of ordinary thickness. As shown in the drawings, it comprises a body A, the lower or wearing face of which is adapted to contact with the outer 70
edge of the wheel-tread or that portion thereof least subject to wear from contact with the rail, and a curved flange B, adapted to receive and contact with the flange C of the wheel D, as illustrated in Fig. 4, a space E 75
intervening between said body A and flange B the entire length of the shoe, this intervening space coming opposite the rail-worn portion of the wheel-tread, the distance between the 80
two parts or portions of the shoe approximating the width of said rail-worn portion of the tread.

To unite the two portions A and B of the shoe, we employ bridges, preferably cast or otherwise formed integral therewith, said 85
bridges, however, extending upwardly from the back or upper surfaces of the body A and flange B, the bottom of each bridge coinciding with the back of the shoe. These bridges are preferably three in number, one at each 90
end of the shoe, as illustrated at F, and the third, G, at about the center thereof, the latter also performing the function of the ordinary key-lug, by means of which it may be attached to the brake-head, (not shown,) an 95
opening H being formed therein for the passage of the key. As this key (not shown) is ordinarily of greater length than the shoe, an opening I is also formed in the bridges F, into or through which the key may extend. 100

From the foregoing it will be understood that while a shoe constructed as above described does not come into frictional contact with the rail-worn portion of the wheel-tread, yet at the same time it is in every way as 105
strong as the shoe of ordinary construction, and being of the ordinary thickness and containing the usual amount of metal it is capa-

ble of use until worn down to a greater extent than a shoe wherein no channel is formed. These advantageous features of the shoe are secured by reason of the location of the
 5 bridges uniting the body and flange, the same being so disposed that they are in no way subjected to friction or wear, and therefore necessarily remain intact during the entire life of the shoe.

10 It will of course be understood that we do not limit ourselves to the number of bridges, as above described, nor to the exact position of the same as illustrated in the drawings, as
 15 any number thereof may be employed and so disposed as will properly unite the several parts and lend sufficient strength to the shoe to withstand the strain imposed upon it. Furthermore, while we have described the invention as applied to a flanged shoe it will
 20 be apparent that it may also be applied to shoes constructed for use in connection with a blind wheel—that is, a wheel formed without a flange. In such instance the shoe will be constructed as illustrated in Figs. 5 and
 25 6, A' and A² representing the two separated parts of the body of the shoe with the space E' intervening between them, such space coming opposite the rail-worn portion of the wheel-tread, as in the first instance,
 30 bridges F' connecting the two separated parts A' and A² at the ends of the shoe and a central bridge G' at or about the center thereof, said latter bridge being provided with the key-opening H'. These bridges will extend
 35 upwardly from the back or upper surfaces of the body of the shoe, as in the case of the shoe first described, and being in no way subjected to friction or wear from contact with the tread of the wheel retain their strength
 40 during the entire life of the shoe, and thus permit the latter to wear down to a much greater extent than in those instances where bridges or connecting metal are subjected to the same wear as the face of the shoe.

45 Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A brake-shoe comprising two parts, separated opposite the rail-wearing portion

of the wheel-tread, and bridges uniting said 50 parts, said bridges extending upwardly and beyond the back of said shoe, substantially as described.

2. A brake-shoe comprising two separated parts, and one or more bridges uniting the 55 same, the bottom of the bridge coinciding with the back of said shoe, substantially as described.

3. A brake-shoe comprising a body and flange with a space between them, and one or 60 more bridges uniting the same, the bottom of the bridge coinciding with the back of the shoe, substantially as described.

4. A brake-shoe comprising a body and flange so separated as to prevent contact with 65 that portion of the wheel-tread adjacent to the flange, and one or more bridges uniting said body and flange of the shoe and extending outwardly from the back of said shoe, substantially as described. 70

5. A brake-shoe comprising a body and flange with a space intervening between them, and one or more bridges uniting the same, 75 the bottom of said bridge coinciding with the back of the shoe, said bridge being formed with a key-opening therein, substantially as described.

6. A brake-shoe comprising a body and flange with an intervening space between them, end and central bridges uniting the 80 same and formed with key-openings therein, the bottom of said bridges coinciding with the back of the shoe, substantially as described.

Signed at the city of St. Louis and State of 85 Missouri this 6th day of February, A. D. 1906.

WILLIAM H. V. ROSING.

Witnesses:

C. F. McCUEN,
 W. A. SEILER.

Signed at Chicago, in the county of Cook and State of Illinois, this 7th day of February, A. D. 1906.

FRANK L. GORDON.

Witnesses:

F. L. WHITCOMB,
 U. MULLIGAN.