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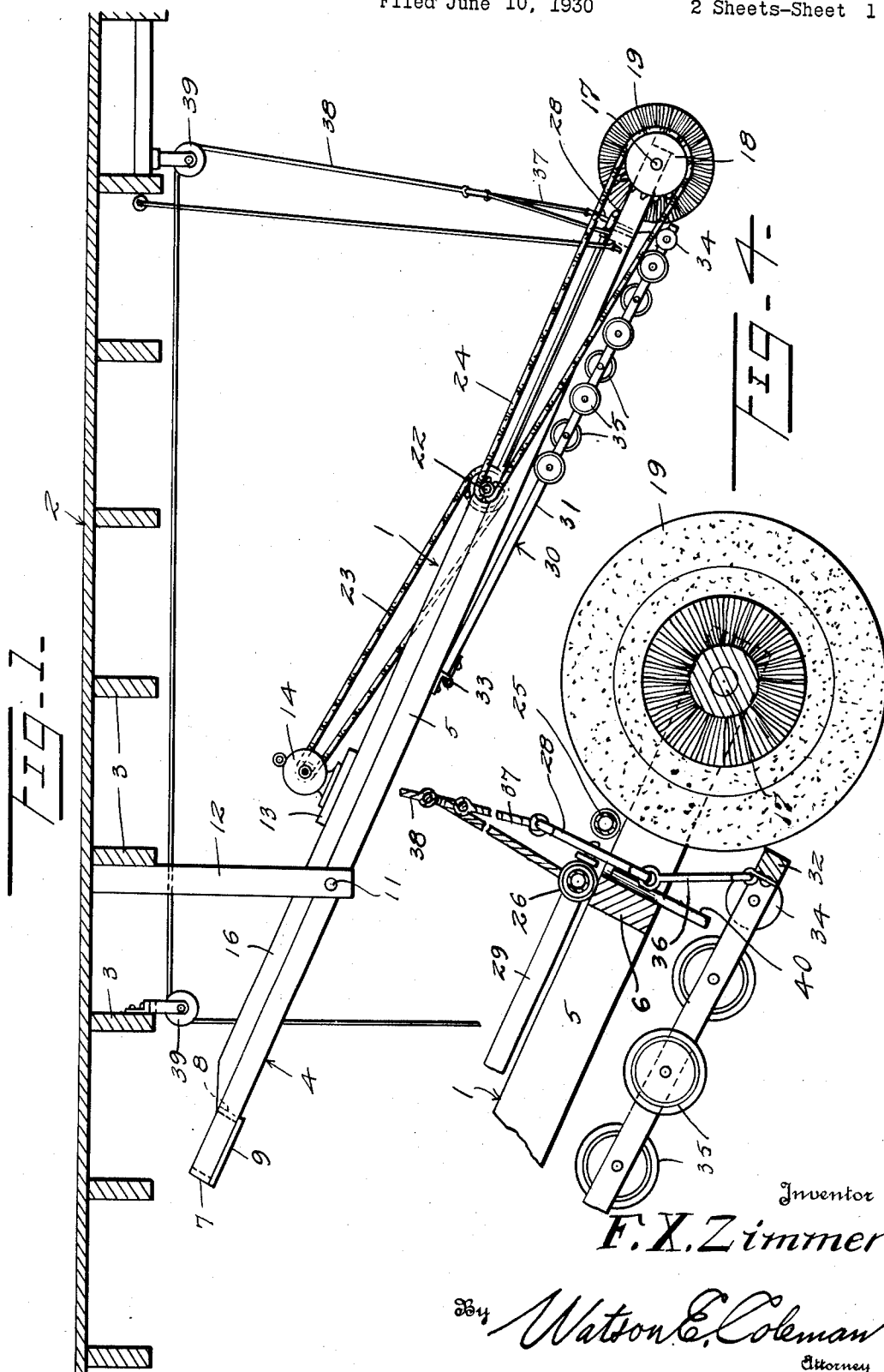
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MOTOR VEHICLE TOP WASHER

Filed June 10, 1930

2 Sheets-Sheet 1



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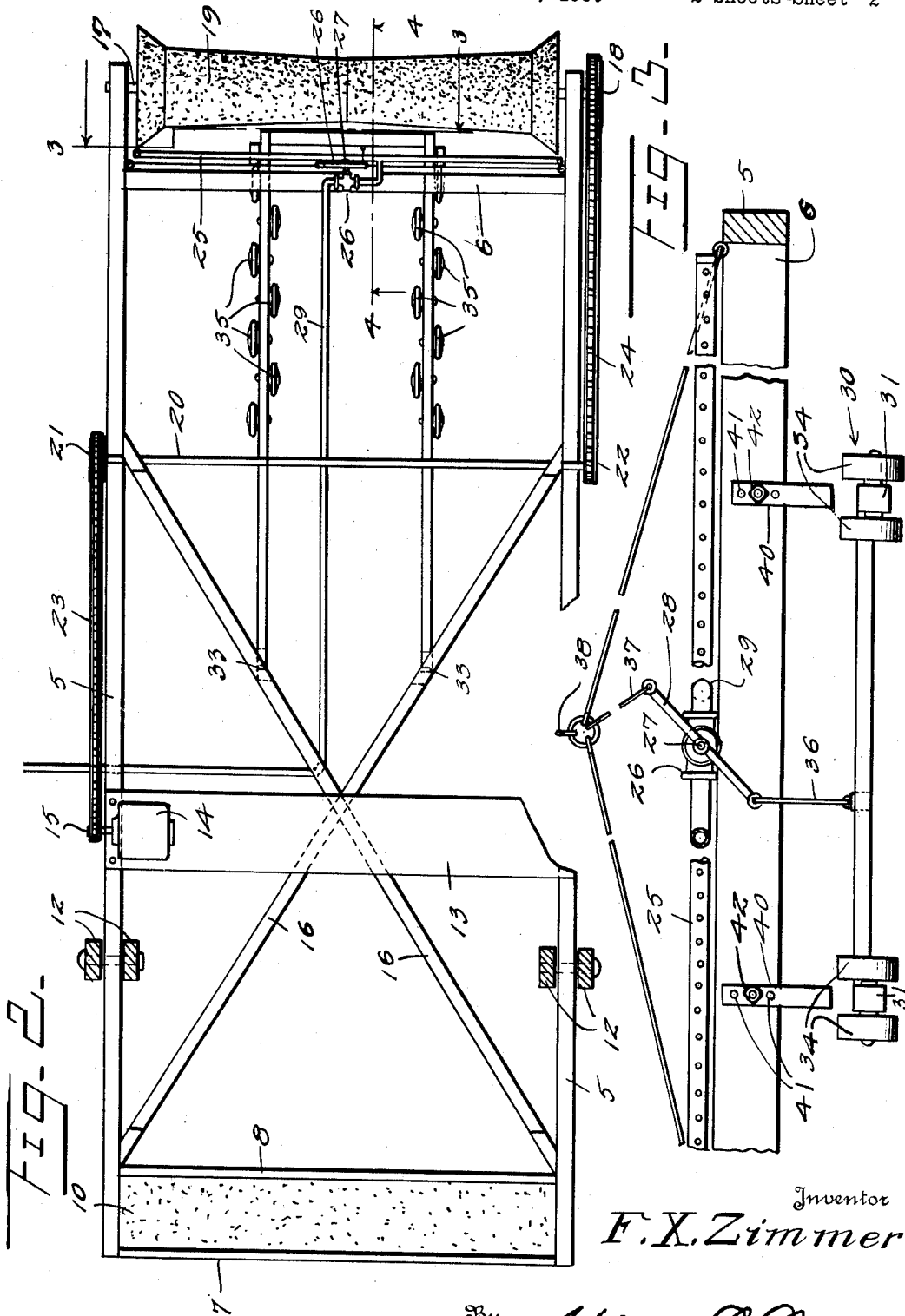
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MOTOR VEHICLE TOP WASHER

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8 Claims. (Cl. 15—21)

This invention relates to improved means for automatically washing the top of a motor car.

The primary object of the invention is to provide a washing device which is entirely automatic in its operation, it only being necessary for the motor car to pass beneath the washing device when the latter will scrub off the top of the machine as it passes thereunder.

Another object of the invention is to provide in an automatic washing device of the above described character a novel means for permitting the motor vehicle to pass under and maintain its top in contact with the washing device, without marring or otherwise damaging the top of the vehicle.

Still another object of the invention is to provide a novel means for automatically causing the discharge of water over the top of the motor vehicle as it passes beneath the washer, the discharge of water commencing the moment the front part of the motor vehicle top comes into contact with and raises a portion of the device.

Other objects and advantages of the present invention will become apparent as the description of the same proceeds and the invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawings but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a view in side elevation of the structure embodying the present invention.

Figure 2 is a view in top plan of the same, portions thereof being in section.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a sectional view taken on the line 4—4 of Figure 2.

Referring more particularly to the drawings wherein like numerals of reference indicate corresponding parts throughout the several views, the washing device embodying the present invention is illustrated as being suspended from the ceiling of a room.

The device is indicated generally by the numeral 1 and the ceiling is indicated by the numeral 2, the ceiling shown being of the type commonly found in unfinished frame buildings, that

is with the joists or rafters 3 as the case may be exposed to view.

While the device has been shown as suspended from a ceiling it is, of course, to be understood that it is not to be limited to a mounting of this character for it will be readily apparent that it may be mounted upon a scaffold structure or in other ways to permit a motor vehicle to pass therebeneath. While, as above stated, the mounting of the device is not to be limited to the method shown still the description of the mounting will be confined to the use of a roof or ceiling for the support of the device.

The device comprises an elongated rectangular frame 4 having the spaced parallel side beams 5 and the front and rear cross beams 6 and 7 respectively. Inwardly of the rear beam 7 a cross member 8 is positioned and this member and the rear beam are connected by a bottom board 9 to form a trough 10 across the rear of the frame, which is filled with cement or any other suitable ballast.

At a point inwardly of the rear ends of the frame each of the side members is traversed by a pivot bolt 11 which passes through the lower ends of a pair of suspension beams 12 between which the side member is positioned. These suspension beams 12 are secured at their other ends to the ceiling joists 3 in the manner shown and since the pivots 11 are disposed between the transverse center of the frame and the rear end it will be readily seen that the forward end of the frame will normally tip downwardly.

At a point adjacent the suspension beams 12 there is extended across the top of the frame a platform 13 upon which is mounted at one side of the frame a motor 14. This motor is provided with a sprocket gear 15 upon the end of its armature shaft, the shaft being of a sufficient length to locate the sprocket gear beyond the adjacent side of the frame. The frame is suitably reinforced by the obliquely directed and crossed brace bars 16, these bars crossing at a point substantially directly below the platform 13.

As shown the front cross beam 6 of the frame 4 is disposed inwardly of the forward ends of the side members 5 so that there may be mounted between these forward ends of the side members a transverse shaft 17. This shaft has its ends extended through suitable bearings and projecting beyond the sides of the beams 5 in the manner shown and the end of the shaft opposite the side of the frame upon which the motor is placed, carries a sprocket gear 18. Between the side members of the frame 4 the shaft 17 carries a

brush 19 and as shown this brush has the bristles thereof of gradually increasing length near each end so that these longer bristles at the ends of the brush will come down over the rounded side of a motor vehicle top as the same passes under the brush.

At a suitable point rearwardly of the brush 19 a counter-shaft 20 is located which extends transversely of the frame and the end upon the side of the frame adjacent the motor carries a relatively large sprocket gear 21 while the opposite end carries a smaller sprocket gear 22. As shown the sprocket gear 21 is connected with the gear 15 upon the motor armature shaft by a sprocket chain 23 while the gear 22 is connected with the gear 18 upon the brush shaft by a sprocket chain 24.

Mounted to extend transversely of the forward end of the frame in the rear of the brush 19 is a perforated water spray pipe 25, which is connected intermediate its ends through suitable unions, with a quick opening valve 26. This valve may be of the rotary plug type or of any other suitable type which may be opened quickly and to which a lever bar may be attached. While the device is not to be restricted to the use of a rotary plug valve, this type is shown and will be described. The stem 27 carried by the plug of the valve 26 has secured thereto a rock lever 28, the stem being attached to the lever intermediate the ends of the latter as shown. When the valve is closed the rock lever 28 is disposed downwardly at an oblique angle with respect to the adjacent cross beam of the frame. Connected to the valve upon the side opposite the connection for the spray pipe 25 is a water supply pipe 29 which extends rearwardly of the frame to a point adjacent the pivotal center thereof where it may be connected with a suitable flexible coupling and water conducting pipe which will permit oscillation of the frame without interfering with the supply of water to the pipe.

Disposed beneath and longitudinally of the frame 4 is an elongated auxiliary frame indicated generally by the numeral 30. This frame is made up of the side members 31 and the cross connecting member 32 at the forward end thereof, while the rear ends of the members 31 are pivotally attached as at 33 to any suitable portion of the main frame 4, as for example to the brace bars 16, in the manner shown. The frame 30 is materially narrower than the main frame 4 which supports it and the forward ends of the side portions 31 terminate just behind the brush 19.

The forward end of each member 31 has pivotally attached to each side thereof a roller 34 and behind each of these rollers there is rotatably mounted upon each member 31 a series of rubber tired wheels 35 of the character generally employed upon baby carriages and preferably of about six or seven inches diameter. Each side member 31 of the auxiliary frame thus carries a double row of wheels as shown so that firm and steady contact will be made with the top of the motor vehicle passing longitudinally beneath the frames.

Suitably oscillatably mounted upon the upper surface of the bar 32 of the auxiliary frame 30 is a push rod 36 which is connected with the lower end of the rock lever 28. The other end of this lever 28 has a rod 37 attached thereto to which is attached a rope or cable 38 which passes upwardly through a suitable pulley 39 mounted over the frame. The other end of the cable is accessible to a person standing upon the floor of the

room beneath the structure and when pulled upon will cause the forward or brush carrying end of the main frame, and also the auxiliary frame, to be lifted. It will be seen, however, that a pull exerted upon the rope 38 will not open the valve 26, in fact, if the valve happens to be open when the rope is pulled it will cause the closing of the valve.

In operation the motor 14 of the device is energized to cause rotation of the brush 19. The frame 4 will normally assume the inclined position shown and the forward or brush carrying end thereof will be at such an elevation from the floor that it will be impossible for a motor vehicle to pass therebeneath without having the top of the vehicle come into contact with the rollers 34 and 35 and with the brush 19.

The machine which is to have its top washed is driven beneath and longitudinally of the frame from the raised end thereof so that the rollers upon the forward end of the auxiliary frame will ride up over the visor of the machine top and will thus lift or swing the auxiliary frame upwardly. This will push up on the rod 36 and open the valve 26 so that water will be immediately discharged onto the top of the machine and will continue to flow onto the machine until the rear thereof has passed from beneath the wheels of the auxiliary frame. It will, of course, be apparent that with the water first being discharged over the top of the machine and the brush then passing over the wetted machine top, the thorough washing of the same will result.

In order that the brush 19 may not bear too heavily upon the top of a motor vehicle there are provided adjustable stops 40 which, as shown in Figure 3, are mounted upon the front cross bar 6 of the frame 1. Each of these stops is relatively long and is provided with a number of apertures 41 through one of which may be extended a bolt 42 which is passed through the bar 6 in the manner shown in Figure 3. By placing these stops 40 at the proper point on the bar 6 the frame 30 will only be permitted to swing upwardly a short distance so that the brush 19 will not rest too heavily upon the top of the machine passing beneath the washing device. Movement of the frame 30 is sufficient, however, to completely open the valve 26 of the water pipe.

Having thus described my invention, what I claim is:

1. A motor vehicle top washing device, comprising a rotating brush, means carrying the brush at an elevation whereby a motor vehicle may pass therebeneath to make contact between the brush and the top of the vehicle, a valved water supply pipe having downwardly directed discharge openings disposed adjacent said brush, a body mounted adjacent the brush for relative vertical movement with respect to the brush carrying means, rotatably mounted elements carried by the body and projecting beneath the plane thereof, said body being raised by contact of the top of the motor vehicle with said elements in the passage of the vehicle therebeneath, and means connecting said body with the valve of said water supply pipe to open said valve upon the upward movement of the body.

2. A motor vehicle top washing device, comprising an elongated frame, means for pivotally supporting said frame at an elevation to permit a motor vehicle to pass therebeneath, said pivotal support being disposed between the transverse center of the frame and one end thereof whereby to cause the other end of the frame to normally

be directed downwardly, a rotating brush supported transversely of the said other end of the frame, a valved water supply pipe disposed adjacent said brush, a second frame pivotally attached to the first frame and adapted to be shifted vertically, said second frame being disposed for contact with the top of a vehicle passing therebeneath, and means connecting said second frame with the valve of the water supply pipe to cause the opening of the valve upon the lifting of the frame.

3. A motor vehicle top washing device, comprising an elongated frame, means for pivotally supporting said frame at an elevation to permit a motor vehicle to pass therebeneath, said pivotal support being disposed between the transverse center of the frame and one end thereof whereby to cause the other end of the frame to normally be directed downwardly, a rotating brush supported transversely of the said other end of the frame, a valved water supply pipe disposed adjacent said brush, a second frame pivotally attached to the first frame and adapted to be shifted vertically, said second frame being disposed for contact with the top of a vehicle passing therebeneath, means connecting said second frame with the valve of the water supply pipe to cause the opening of the valve upon the lifting of the frame, and a plurality of rotating elements carried by said second frame for contact with the top of the motor vehicle passing therebeneath.

4. A motor vehicle top washing device, comprising an elongated frame, means for pivotally supporting said frame at an elevation to permit a motor vehicle to pass therebeneath, said pivotal support being disposed between the transverse center of the frame and one end thereof whereby to cause the other end of the frame to normally be directed downwardly, a rotating brush supported transversely of the said other end of the frame, a valved water supply pipe disposed adjacent said brush, a second frame pivotally attached to the first frame and adapted to be shifted vertically, said second frame being disposed for contact with the top of a vehicle passing therebeneath, means connecting said second frame with the valve of the water supply pipe to cause the opening of the valve upon the lifting of the frame, and a counter-balance upon the first mentioned frame at the other end from the brush, to assist in the lifting of the brush carrying end of the frame.

5. A car top washing device, comprising an elongated frame, means for pivotally supporting said frame at a point between the transverse center and one end thereof, a brush rotatably supported in the other end of the frame, means carried by the frame for driving said brush, a water supply pipe extending transversely of the frame adjacent the brush, a valve in the pipe having a movable element by which it is opened or closed, a second frame disposed longitudinally on the underside of the first mentioned frame and having the end remote from the brush pivotally attached to the first frame, a plurality of roller members disposed longitudinally on each side of the second frame for contact with the top of a motor vehicle passing therebeneath and longitudinally thereof, and a connecting bar between said second frame at the end adjacent said brush and the said movable element of the valve, said bar being moved to actuate said element, to open the valve, when shifted by the second frame as

the latter is lifted, by a motor vehicle passing therebeneath.

6. A car top washing device, comprising an elongated frame, means for pivotally supporting said frame at a point between the transverse center and one end thereof, a brush rotatably supported in the other end of the frame, means carried by the frame for driving said brush, a water supply pipe extending transversely of the frame adjacent the brush, a valve in the pipe having a movable element by which it is opened or closed, a second frame disposed longitudinally on the underside of the first mentioned frame and having the end remote from the brush pivotally attached to the first frame, a plurality of roller members disposed longitudinally on each side of the second frame for contact with the top of a motor vehicle passing therebeneath and longitudinally thereof, a connecting bar between said second frame at the end adjacent said brush and the said movable element of the valve said bar being moved to actuate said element, to open the valve, when shifted by the second frame as the latter is lifted, by a motor vehicle passing therebeneath, and means for manually lifting the brush end of said frame, said means being connected to said valve whereby to actuate the same to closing position when the frame is lifted by said manual means.

7. A motor vehicle top washing device, comprising an elongated frame, means for pivotally supporting said frame at a point between the transverse center and one end thereof, a counter-balance upon the end of the frame adjacent the pivot point thereof, a rotating brush extending transversely of the frame at the other end, a water supply pipe extending transversely of the frame adjacent said brush, a valve controlling said pipe and having an operating lever connected intermediate its ends thereto, a second elongated frame extending longitudinally of the first mentioned frame, a hinge connection between one end of said second frame and the first frame, the other end of said second frame being disposed adjacent said brush and hanging below the first frame, a plurality of wheels mounted along each side of said second frame for contact with the top of a motor vehicle passing longitudinally therebeneath, a connecting rod between the hanging end of said second frame and one end of said valve lever, and means for manually lifting the brush carrying end of said first frame, said means being connected with the other end of said valve lever and when operated shifting the lever to close the valve.

8. A motor vehicle top washing device, comprising a rotating brush disposed horizontally to engage across the top of a motor vehicle passing therebeneath, counter-balanced pivoted supporting means for said brush which when moved in one direction raises the brush substantially vertically, a water spray device disposed adjacent said brush for discharging water onto the motor vehicle top, valve means controlling the flow of water through the device, an element movable in a substantially vertical direction carried by the counterbalanced supporting means and arranged to be engaged by the motor vehicle top in advance of the brush, and means connecting said movable element with said valve means of the water discharge pipe whereby the latter is opened when the element is raised.

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