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F. D. HOLDSWORTH

PORTABLE COMPRESSOR

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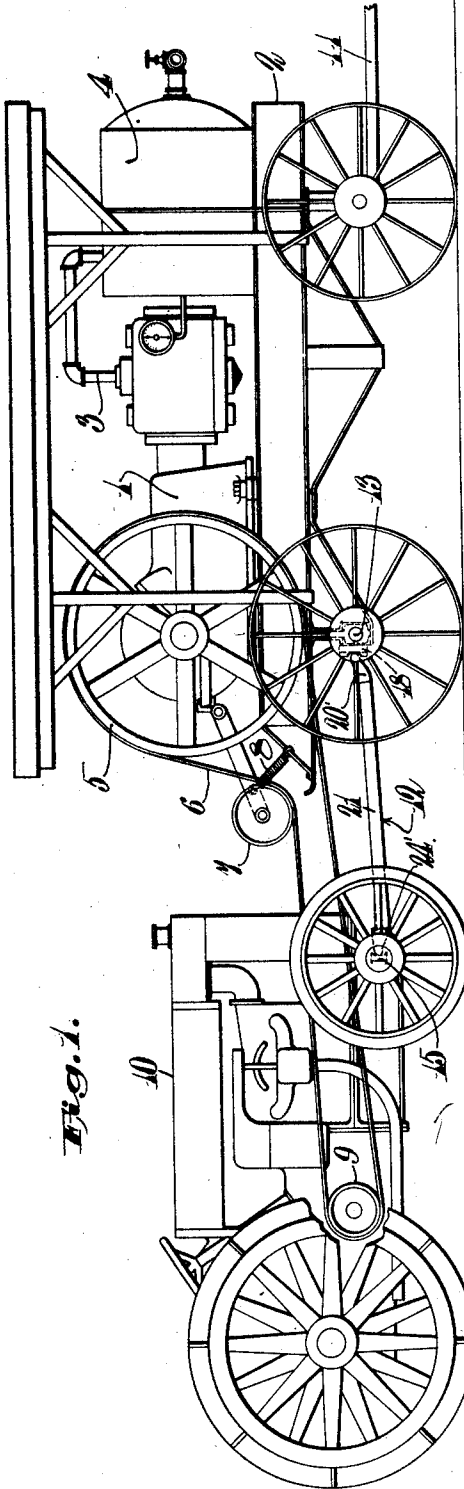


Fig. 1.

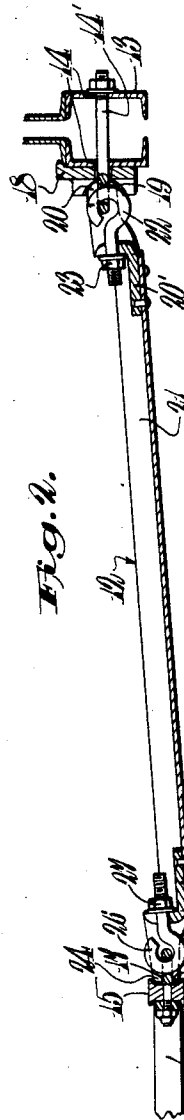


Fig. 2.

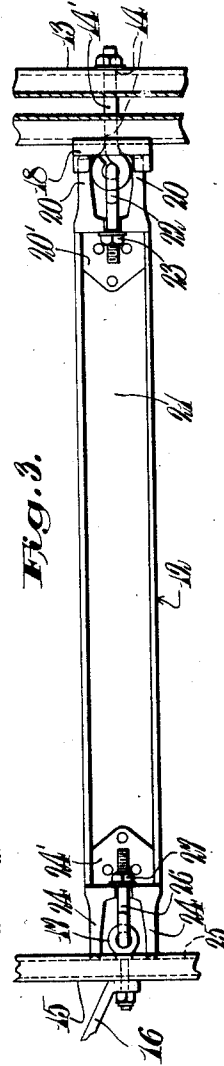


Fig. 3.

Inventor:
Fred D. Holdsworth.
by
Tracey, etc.
Attorney.

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UNITED STATES PATENT OFFICE.

FRED D. HOLDSWORTH, OF CLAREMONT, NEW HAMPSHIRE, ASSIGNOR TO SULLIVAN MACHINERY COMPANY, A CORPORATION OF MASSACHUSETTS.

PORTABLE COMPRESSOR.

Application filed April 10, 1922. Serial No. 551,434.

My invention relates to portable compressors, and more particularly to portable compressor systems of the separately wheel-supported compressor and driving unit type.

5 An object of my invention is to provide an improved portable compressor apparatus. Another object of my invention is to provide an improved portable compressor apparatus in which the compressor and the driving unit therefor are separately mounted. A further object of my invention is to provide an improved portable compressor apparatus in which the compressor unit and the prime mover therefor are separately mounted and so connected as to constitute during driving of the compressor practically a single rigid unit. Other objects and advantages of my invention will hereinafter more fully appear.

10 In the accompanying drawings I have shown for purposes of illustration one form which my invention may assume in practice.

In these drawings,—

15 Fig. 1 is a side elevation of a compressing apparatus in which my invention is incorporated.

Fig. 2 is a central vertical section through a portion of the mechanism shown in Fig. 1, the same being shown on an enlarged scale.

20 Fig. 3 is a plan view of the structure shown in Fig. 2.

In the accompanying drawings I have shown a portable compressor 1 mounted upon a wheeled frame 2 and discharging by a line 3 to a receiver 4 supported upon said frame. The compressor 1 is provided with a combined driving pulley and fly wheel 5 around which a belt 6 passes, this belt being held by a floating pulley 7 and spring 8 in contact with the major portion of the periphery of the fly wheel 5. The belt is driven by a driving pulley 9 which is disposed on a tractor 10, which tractor is connectable to a tongue 11 to move the compressor unit about as may be desired.

25 It will be understood that when the compressor is in operation, there is some longitudinal vibration of the frame 2 due to the longitudinal reciprocation of certain moving parts of the compressor and accordingly that there will be some fluctuations in the tightness and steadiness of the driving of the belt 6. It will also be observed that the lower pass of belt 6 being under considerable tension, there will be a constant tendency of

the tractor 10 to move toward the compressor 1 or vice versa. For the purpose of overcoming the disadvantages arising from these conditions I have arranged mechanism generally designated 12 to tie the tractor 10 and the frame 2 together into a substantially rigid unit, the mechanism lying in a common vertical plane with the pulley 9 and wheel 5. It will be noted that the compressor has a rear axle 13 supporting one end of the frame 2; and this axle is traversed by alined holes 14 through which an eye-bolt 14' passes. The front axle 15 of the tractor 10 has substituted for one of the several holding bolts which connects the axle 15 to a brace member 16, a second eye-bolt 17. Engaging with the rearward side of the axle 13 is a plate 18 which has a transverse groove 19 therein into which groove feet 20 having arcuate end portions and carried by a member 20' secured in a channel member 21 are adapted to fit, these feet being held in the groove 19 by means of a second eye-bolt 22 and nut 23 which draw the parts into close engagement. Similar feet 24 formed on a member 24' are at the opposite end of the channel member 21 and fit into the groove 25 in the I-beam type front axle of the tractor 10. An eye-bolt 26, which is interengaged with the eye of the bolt 17 and provided with a nut 27, serves to draw up the parts into tight engagement. It will be observed that, when the mechanism 12 has been placed in position and the nuts 23 and 27 tightened up, the compressor unit and prime mover or tractor unit will be prevented from motion toward each other or away from each other and that as a result it will be unnecessary to employ chocks or timbers to block the wheels of the compressor carrying truck or the tractor and it will further be observed that by reason of the fact that the mechanism 12 is connected to the axles substantially in the same vertical plane as that of the belt 6, there will be no tendency for the parts to move out of alinement laterally and a single member can successfully hold the parts properly spaced. By reason of the eye-bolt connection it will be noted that the two machines do not have to be on level ground but one may be above or below the other.

While I have in this application specifically described one form which my invention may assume in practice, it will be un-

derstood that this form of the same is shown for purposes of illustration and that the invention may be modified and embodied in various other forms without departing from its spirit or the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. In a portable compressor apparatus, a wheeled truck mounted compressor, a wheeled prime mover for driving the same, driving connections extending between said prime mover and compressor, and a single strut having end pieces adapted to engage adjacent axles of said compressor and prime mover to fixedly space the same, each end piece being adapted to engage its respective axle at spaced horizontal points so as to restrict relative movement between the compressor and prime mover to a substantially vertical plane.

2. In a portable compressor apparatus, a truck mounted compressor, and means for driving the same including a wheeled prime mover and a driving element extending between said prime mover and said compressor, and a single strut lying in the same vertical plane as said driving element and which extends longitudinally of said compressor and prime mover but to one side of the central longitudinal lines thereof, said strut having end pieces adapted to engage said compressor and prime mover respectively at spaced horizontal points whereby to fixedly space said compressor and prime mover and also prevent lateral movement therebetween.

3. In a portable compressor apparatus, a wheel supported compressor, a wheel supported prime mover, said compressor having a driving pulley rotatable on a horizontal axis and said prime mover having a driving pulley rotatable on a parallel axis, said pulleys lying in a common vertical plane perpendicular to their axes of rotation, and a single strut lying in the same vertical plane for fixedly spacing the compressor and prime mover.

4. In a portable compressor apparatus, a wheel supported compressor, a wheel supported prime mover, said compressor having a driving pulley rotatable on a horizontal axis and said prime mover having a driving pulley rotatable on a parallel axis, said pulleys lying in a common vertical plane perpendicular to their axes of rotation, and means horizontally pivoted and lying in the same vertical plane with said pulleys for fixedly spacing the compressor and prime mover.

5. In a compressor apparatus, a portable compressor having a frame supported on wheeled axles, a prime mover for driving said compressor supported on wheeled axles, said compressor and prime mover being arranged during driving of the former by the

latter with said axles parallel to each other, and a single horizontally pivoted strut having end pieces adapted to engage adjacent axles of the compressor and prime mover and to prevent separation thereof, each end piece being adapted to engage its respective axle at spaced horizontal points so as to prevent lateral movement thereof.

6. In a compressor apparatus, a portable compressor having a frame supported on wheeled axles, a prime mover for driving said compressor supported on wheeled axles, said compressor and prime mover being arranged during driving of the former by the latter with said axles parallel to each other, and a single horizontally pivoted strut having end pieces adapted to engage adjacent axles of the compressor and prime mover to prevent approach thereof, each end piece being adapted to engage its respective axle at spaced horizontal points so as to prevent lateral movement thereof.

7. In a compressor apparatus, a portable compressor having a frame supported on wheeled axles, a prime mover for driving said compressor supported on wheeled axles, said compressor and prime mover being arranged during driving of the former by the latter with said axles parallel to each other, and means including a bar having spaced abutments at each end thereof abutting against said axles and having attaching means at the end thereof operatively connected to the adjacent axles of said compressor and prime mover for maintaining them in fixed spaced relation.

8. In a compressor apparatus, a portable compressor having a truck supported on wheeled axles, a prime mover for driving said compressor supported on wheeled axles, said compressor and prime mover being arranged during driving of the former by the latter with said axles parallel to each other, driving connections extending between said prime mover and compressor, and a single strut having horizontally pivoted attaching means at the ends thereof operatively connected to the adjacent axles of said truck and prime mover for maintaining them in fixed spaced relation preventing lateral movement while permitting movement of said compressor and prime mover therewith.

9. In a portable compressor apparatus, a wheel supported compressor, a wheel supported prime mover, said compressor having a pulley rotatable on a horizontal axis and said prime mover having a driving pulley rotatable on a parallel axis, said pulleys lying in a common vertical plane, driving means comprising a belt connecting said pulleys, and a single detachable strut disposed below said pulleys and belt and lying in the same vertical plane having end pieces pivotally connected to said compressor and prime mover respectively for fixed-

ly spacing the same, each end piece being adapted to engage its respective element of the apparatus at spaced horizontal points whereby to maintain said pulleys in alinement.

10. In a portable compressor apparatus, a compressor having a frame supported on wheeled axles, a prime mover for driving said compressor and also supported on wheeled axles, said compressor and said prime mover being arranged during driving of the former by the latter with said axles parallel to each other, driving connections extending between said prime mover and compressor, and a single detachable strut provided with end pieces, each of said end pieces having laterally spaced members adapted to engage the respective element of the apparatus whereby said strut is adapted to space said compressor and prime mover while permitting movement of said compressor and prime mover therewith.

11. In a compressor apparatus, a portable compressor having a frame supported on wheeled axles, a prime mover for driving said compressor supported on wheeled axles, said compressor and prime mover being arranged during driving of the former by the latter with said axles parallel to each other, and means including a bar having axle abutting members at the ends thereof and attaching means comprising eye-bolt connections operatively connected to the adjacent axles of said compressor and prime mover for maintaining them in fixed spaced relation.

12. In a portable compressor apparatus, a wheel supported compressor, a wheel supported prime mover, said compressor having a driving pulley rotatable on a horizontal axis and said prime mover having a driving pulley rotatable on an axis parallel thereto, said pulleys lying in a common vertical plane perpendicular to the axes of rotation, a driving connection comprising a belt connecting said pulleys, and means having ends pivoted to said compressor and prime mover and lying in the same vertical plane with said pulleys and belt for fixedly spacing the compressor and prime mover.

13. In a portable compressor apparatus, a wheel supported compressor, a wheel supported prime mover, said compressor and prime mover having respectively driven and driving pulleys rotatable on parallel axes, means connecting the pulleys in driving relation, and a single detachable strut disposed between the compressor and prime mover in the vertical plane which includes the line of reaction resulting from the driving of the compressor by the prime mover, said strut having its opposite ends engaging said compressor and prime mover substantially in the plane which includes said line of reaction.

14. In a compressor apparatus, a portable compressor having a frame supported on wheeled axles, a prime mover for driving said compressor supported on wheeled axles, said compressor and prime mover being arranged during the driving of the former by the latter with their axles parallel to each other, and means including a bar having spaced axle abutting members at each end thereof, and attaching means comprising eyebolt connections disposed between said abutting members operatively connected to the adjacent axles of said compressor and prime mover for maintaining them in fixed spaced relation.

15. In a compressor apparatus, a portable compressor having a frame supported on wheeled axles, a prime mover for driving said compressor supported on wheeled axles, said compressor and prime mover being arranged during driving of the former by the latter with said axles parallel to each other, and means including a bar having spaced axle abutting members at the ends thereof, and attaching means comprising eyebolt connections secured to said axles and disposed between said abutting members and cooperating with adjustable members carried by said bar for maintaining said axles in fixed spaced relation.

16. In a portable compressor apparatus, a wheel supported compressor, a wheel supported tractor, said compressor having a pulley rotatable on a horizontal transverse axis and said tractor having a powered driving pulley rotatable on a parallel axis, a belt driven by said tractor pulley for driving said compressor pulley, a belt tightener on said wheel supported compressor to maintain said belt under tension, and means for connecting said compressor in fixed spaced relation with said tractor and for maintaining said belt in operative position, said means also permitting movement of said compressor and tractor therewith without affecting the connection of said belt.

17. In a portable compressor apparatus, a wheel supported compressor, a wheel supported tractor, said compressor having a pulley rotatable on a horizontal transverse axis, said tractor having a powered driving pulley rotatable on a parallel axis offset from the axes of the wheels thereof, driving means between said pulleys comprising a belt, and means for connecting said compressor in fixed spaced relation to said tractor, and for maintaining said driving means in operative position, said means also permitting movement of said compressor and tractor therewith without affecting the connection of said driving means.

18. In a portable compressor apparatus, a wheel supported compressor, a wheel supported tractor, said compressor having a pulley rotatable on a horizontal transverse

axis, said tractor having a powered driving pulley rotatable on a parallel axis offset from the axes of the wheels thereof, driving means between said pulleys comprising a belt, and means for connecting said compressor in fixed spaced relation to said tractor for preventing lateral movement therebetween and for maintaining said driving means in operative position, said means also permitting movement of said compressor and tractor therewith without affecting the connection of said driving means.

19. In a portable compressor apparatus, a wheel supported compressor, a wheel supported tractor, said compressor having a pulley rotatable on a horizontal transverse axis, said tractor having a powered driving pulley rotatable on a parallel axis offset from the axes of the wheels thereof, driving means between said pulleys comprising a belt, and means for connecting said compressor in fixed spaced relation to said tractor for preventing lateral movement therebetween and for maintaining said driving means in operative position, said latter means comprising a plurality of members

always having fixed transverse spaced relation relative to each other and adapted to have a fixed operative relation with said tractor while permitting movement of said compressor and tractor therewith without affecting the connection of said driving means.

20. In a portable compressor apparatus, a wheel supported compressor, a wheel supported tractor, said compressor having a pulley rotatable on a horizontal transverse axis, said tractor having a driving pulley rotatable on a parallel axis offset from the axes of the wheels thereof, driving means between said pulleys comprising a belt, and means for connecting said compressor in fixed spaced relation for preventing lateral movement with respect to said tractor and for maintaining said driving means in operative position, said latter means comprising a plurality of members having fixed transverse spaced relation relative to each other and adapted to have a fixed pivotal relation with said tractor.

In testimony whereof I affix my signature.
FRED D. HOLDSWORTH.