

No. 748,160.

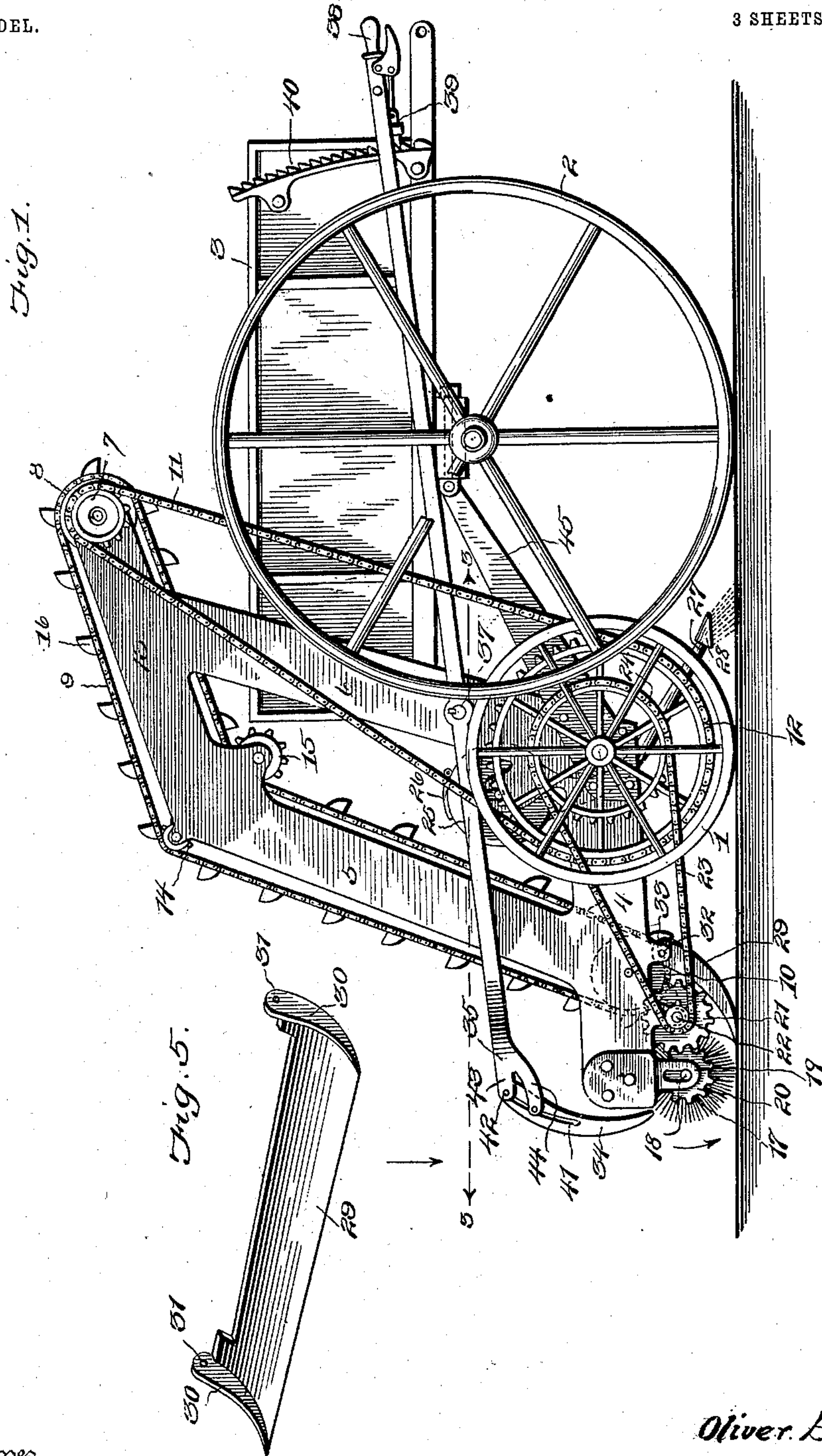
PATENTED DEC. 29, 1903.

O. BROTHERS.
ATTACHMENT FOR STREET CLEANING MACHINES.

APPLICATION FILED APR. 30, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses

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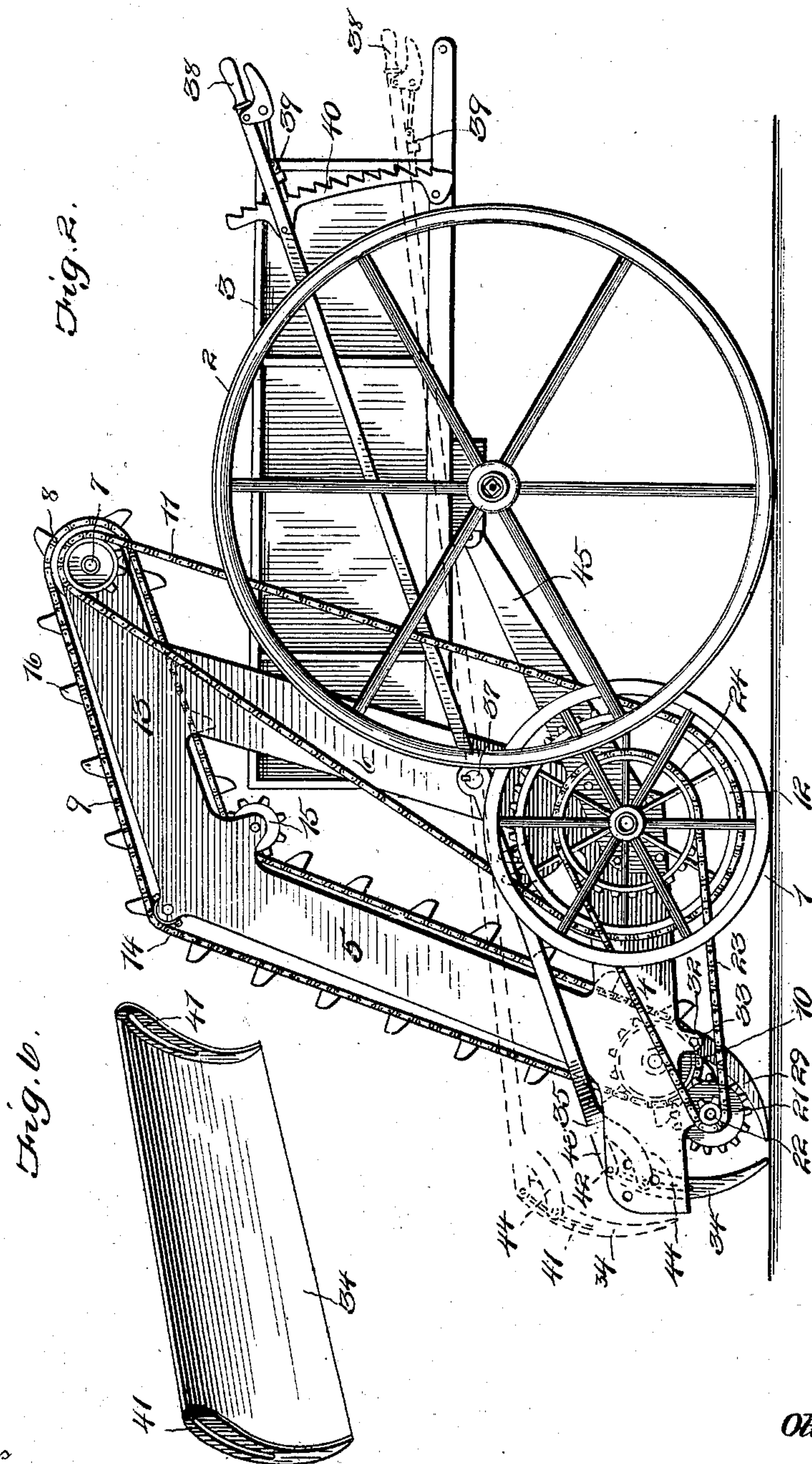
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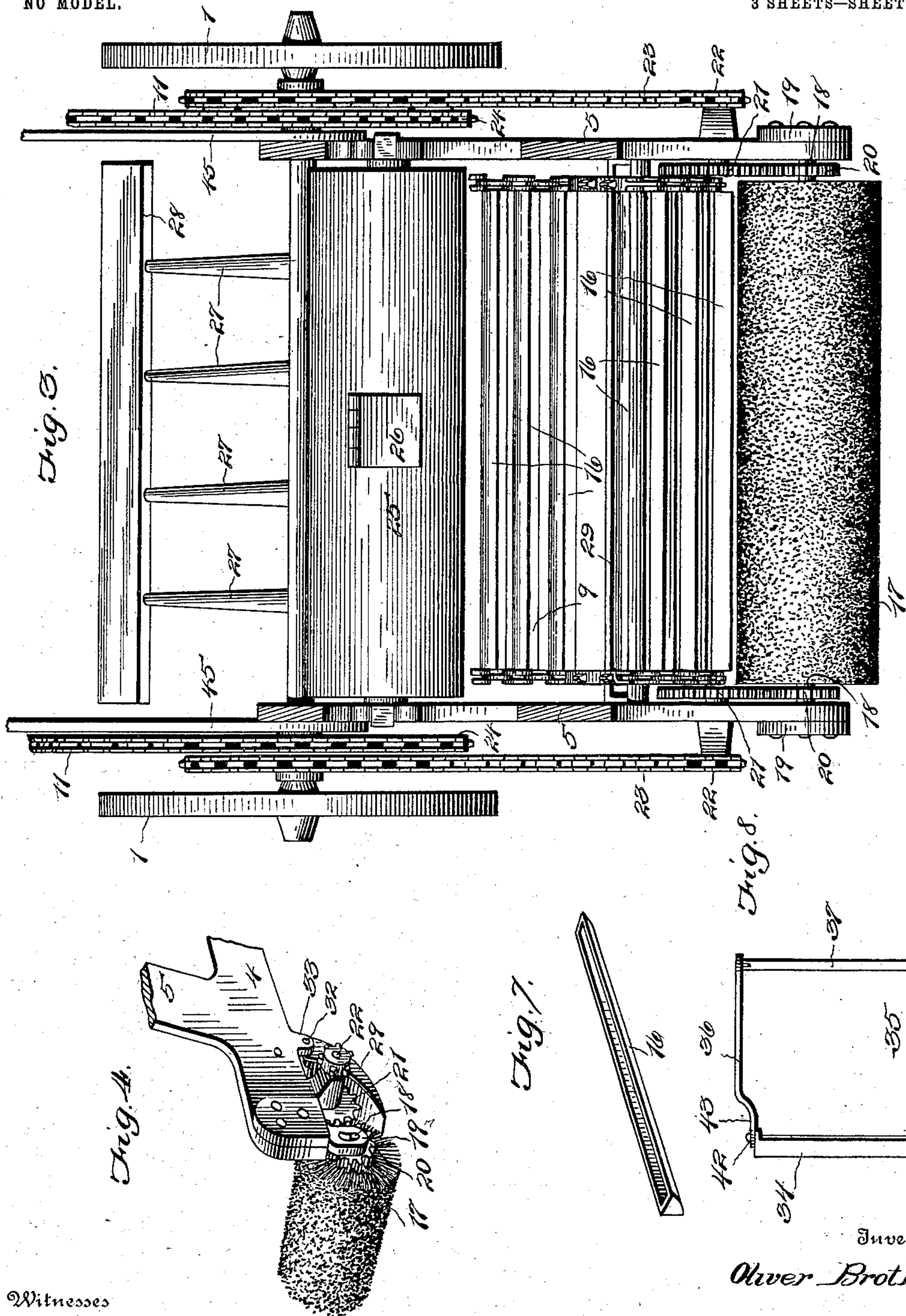
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

OLIVER BROTHERS, OF HARTLAND, VERMONT.

ATTACHMENT FOR STREET-CLEANING MACHINES.

SPECIFICATION forming part of Letters Patent No. 748,160, dated December 29, 1903.

Application filed April 30, 1903. Serial No. 155,058. (No model.)

To all whom it may concern:

Be it known that I, OLIVER BROTHERS, a citizen of the United States, residing at Hartland, in the county of Windsor and State of Vermont, have invented certain new and useful Improvements in Attachments for Street-Cleaning Machines; 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.

My invention relates to attachments for street-cleaning machines; and it consists of certain novel features of combination and construction of parts, the preferred form whereof will be hereinafter fully described, and pointed out in the claims.

The prime object of my invention, among others, is to provide a street-cleaning machine which will not only remove the accumulation of refuse, &c., from the surface of the street, but will dispose of such refuse by lifting it bodily and delivering it into a receptacle carried by the machine itself or into an adjacent vehicle.

A further object of my invention is to provide coöperating means whereby any dried or frozen matter adhering to the surface of the street will be cleanly removed therefrom.

Other objects and advantages will be hereinafter made clearly apparent, reference being had to the accompanying drawings, which are made a part of this application, and in which—

Figure 1 shows a side elevation of my invention complete ready for use as an ordinary street-sweeper. Fig. 2 is a similar view to that presented in Fig. 1, excepting that the sweeping-brush is removed and the scraper proper lowered into its operative position. Fig. 3 is a top plan view of a portion of my invention as shown in Fig. 1. Fig. 4 is a detail in perspective showing the rotary brush employed by me and scoop adapted to co-operate therewith. Fig. 5 is a perspective detail view showing the scoop designed to co-operate with the rotary brush and scraper. Fig. 6 is a perspective detail view of the scraper proper. Fig. 7 is a detail view showing one of a plurality of dust and refuse removers. Fig. 8 is a detail view showing the scraper and controlling-lever therefor.

In materializing my invention I provide suitable carrying-wheels 1 for the cleaning-machine proper and carrying-wheels 2 for the refuse-receptacle employed in connection therewith, said carrying-wheels 2 having a suitable box 3 of any desired size into which the refuse is delivered, as will hereinafter be more clearly set forth.

The carrying-wheels 1 of the cleaner proper are journaled upon the base-section 4 of the frame of the machine, and upon said base-section or frame proper I erect upon each side thereof the standards 5 and 6, said standards being designed to support in suitable bearings the sprocket-wheel 7, which is secured to a suitable shaft extending across the machine and having secured rigidly thereto at each end a sprocket-wheel 8. The sprocket-wheels 8 are designed to drive the sprocket-chain 9, it being understood that a pair of sprocket-idlers 10 are provided in suitable bearings at the lower end of the standard 5, whereby the sprocket-chain 9 may extend continuously around them and be driven by the sprocket-chain 11, mounted on the sprocket-wheel 7 and the driving-sprocket 12, which latter is secured to and carried by one of the carrying-wheels proper, 1.

It will be understood that inasmuch as the standard 5 merges into a substantially horizontal section 13, it being necessary to provide a pair of idler-sprockets (indicated by the numerals 14 and 15) whereby the sprocket-chain 9 and the plurality of refuse-carrying buckets 16, secured to the chain 9, may be so directed in their movements that the contents carried thereby will be delivered into the receptacle 3.

The idler-sprockets 10, it will be obvious, must be so located as to bring the plurality of carriers or buckets 16 successively into approximation with the cleaning apparatus.

Designed to coöperate with the refuse-carrying bucket 16, whereby snow, ice, or other matter adhering to the surface of the street may be reliably removed, I provide the scraper 34, which is controlled by the lever 35 at one end and by the auxiliary member 36 at the other end, it being understood that the lever 35 and the member 36 are rigidly secured to the shaft 37, extending through the frame of the machine from side to side there-

of, thus making it possible to readily elevate or lower the scraper 34.

The controlling-lever 35 is provided with a suitable handle 38 and also with a suitable detent 39, designed to cooperate with the rack-bar 40, whereby the scraper may be secured at any desired point, the teeth of the rack-bar being so disposed that the scraper 34 will be locked in a lowered position, thereby reliably holding it to the performance of its office. I have, however, provided the compensating-slot 41 in each end of the scraper 34, said slot being designed to loosely receive suitable lugs or rivets 42, carried by the branches 43 and 44 of the lever-section 35 and its cooperating auxiliary member 36, thus providing means to prevent undue strain upon the scraper-plate 34 while in its operative position.

Designed to cooperate with the scraper 34 is the flexible lip 29, corresponding in function to an ordinary dust-pan, and it will be observed that since said lip is provided with the side walls 30, suitably apertured, as indicated by the numeral 31, it may be properly and pivotally suspended by means of suitable lugs 32, carried by the ears 33, the upper edge of the lip 29 being cut away to permit the plurality of carriers 16 to freely pass the same. Inasmuch as the lip 29 is thus pivotally sustained in its operative position, it will be left free to ride over any inequalities in the street-surface and yet always be in proper position to receive upon its upper surface the dust, refuse, &c., delivered thereon by the scraper.

I also locate upon a suitable part of the carrying-frame 4 a water-reservoir 25, having a suitable closure or lid 26, through which water may be introduced, it being my purpose to provide a suitable sprinkler in order to obviate an undue amount of dust being created during the cleaning process. The reservoir 25 is connected at its lower side with a plurality of tubular members or pipe-sections 27, which extend downward to a proper point and communicate with the sprinkler or spraying devices proper, 28, suitably provided upon its under side with a plurality of perforations, and it is therefore obvious that the contents of the receptacle 25 will be delivered to the sprinkler member 28, and thereby distributed over the entire surface of the street covered by my cleaning-machine or over that portion of the surface coincident in extent with the surface covered by the scraper 34. In some instances, however, I desire to employ a rotary brush 17 in cooperation with the buckets 16, said brush being provided at each end with a suitable journal 18.

The journals 18 find bearings in the depending bracket 19, said bracket being preferably slotted, whereby the brush may rise upward and freely pass over any inequalities in the surface of the street. At one end the rotary brush is also provided with a gear 20, designed to mesh with the driving-gear 21,

which latter is properly mounted upon a stub-shaft or journal carried by part of the frame-section 4 and has upon its outer side a driving-sprocket 22, designed to be driven by the sprocket-chain 23, which passes over the sprocket-wheel 24, also secured to one of the carrying-wheels proper, 1, as more clearly shown in Figs. 1 and 3. It will be understood that when the brush is being used the scraper 34 will be elevated to the position shown in Fig. 1, thus disposing said scraper out of the path of the brush; but when it is desired to use the scraper the brush 17 is entirely removed from its bearings and the scraper lowered to the position shown in Fig. 2.

It will be seen that I have provided simple though reliably efficient means for not only taking up all manner of refuse from the surface of the streets, but in bodily conveying such refuse into a receptacle, which may consist of an ordinary cart attached to the front part of the machine or may consist of the special receptacle 3, suitably connected to the cleaning-machine proper, as by the arms 45.

While I have described the preferred combination and construction of parts deemed necessary in carrying out my invention, I wish to comprehend all substantial equivalents and substitutes which may be considered as falling fairly within the scope and purview of my invention.

Believing that the advantages and manner of using my improved combined street-cleaner and refuse-conveyer have thus been made clearly apparent, further description is deemed unnecessary.

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

1. The herein-described attachment for street-cleaning machines, comprising an adjustable scraper-plate 34, a controlling-lever for said plate whereby it may be raised or lowered into position as desired, and means carried at one end of said lever to secure it in its adjusted position, all combined substantially as and for the purpose set forth.

2. The combination with a street-cleaning machine, of an adjustable scraper-plate 34, having end sections provided with elongated slots, a controlling-lever for said plate carried by said machine, the outer end of said lever being provided with a suitable locking mechanism, branches 43 and 44 at the opposite end of said controlling-lever, a lug 42 carried by each of said branches and adapted to enter said elongated slots, whereby said scraper may move upwardly and downwardly to adjust itself to the inequalities of the street-surface, substantially as and for the purpose set forth.

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

OLIVER BROTHERS.

Witnesses:

EDWARD R. BUCK,
MARY P. JARVIS.