

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GODBERSEN-SMITH CONSTRUCTION COMPANY
d/b/a GOMACO CORPORATION,
Petitioner,

v.

GUNTERT & ZIMMERMAN CONST. DIV., INC.,
Patent Owner.

Case IPR2024-00835
U.S. Patent No. 11,535,318

DECLARATION OF RONALD M. GUNTERT, JR.

I, Ronald M. Guntert, Jr., declare:

1. I am the CEO of Patent Owner Guntert & Zimmerman Const. Div., Inc. (“G&Z”). I have personal knowledge of the facts stated herein and can testify competently as to those facts. I make this declaration in support of G&Z’s Patent Owner’s Response against Petitioner Gomaco Corp. (“Gomaco”).

2. My father founded the predecessor company to G&Z in 1942 in Stockton, CA as a shipyard, for fulfilling World War II manufacturing contracts for the military. Today, I am the company’s CEO, and, Rolf Guntert, is the company President and runs the day-to-day operations.

3. Right after the war, G&Z started manufacturing concrete slipform pavers for constructing canals, and later highways and airports, and additionally began manufacturing other large special equipment for large infrastructure projects all over the world. G&Z designed and built the first crawler track mounted, concrete slipform paver with automatic line and grade in 1956 first used California on State Route 99 near G&Z’s factory today. The business has stayed within the family for three generations and has continued to make and sell concrete slipform pavers with a history of industry leading innovation. At peak in 2nd Quarter of 2018 we had 199 total employees. Today, due to continued competitive pressure of having to compete against our own technology copied by all our competitors, we have had to let go of almost 149 employees since 2nd Quarter of 2018.

4. From the early 1980s through 2010, conventional four track slipform pavers utilized pivoting swing legs with turnbuckles to adjust and hold the jacking column with the crawler track attached to the swing leg in a preset position. The jacking column is comprised of an upper female housing portion and male steadment that extends and retracts vertically inside the female jacking column by means of a hydraulic elevation cylinder located inside and secured to the bottom of the male steadment and secured to the top of the upper female housing. The jacking column uses a steering cylinder / steering arm combination to provide the torque to steer the crawler track. In the conventional design, the steering arm was connected to a “square to round” adapter typically located and supported within the lower portion of the female jacking column housing (forming a jacking column steering cylinder configuration). When actuated by the steering cylinder / steering arm combination, the adapter would rotate, what is typically, a square male steadment connected to the crawler track to steer the crawler track. For a short time from 1989 until 1998, G&Z designed and built a “keyway style” jacking columns where in lieu of a “square to round” adapter, used a rotating collar with steering arm supported on the bottom at the lower portion of the female jacking column. The rotating collar had a male key on its ID that engaged with round male steadment with a keyway along its length. A traditional steering cylinder / steering

arm combination would cause this collar to rotate, which in turn would rotate the round male steadment connected to the crawler track to steer the crawler track.

5. Specifically, to reposition the swing leg and crawler track of a conventional slipform paver machine that was in the working mode an operator would have to:

- 1) stop the machine;
- 2) support the machine using the other jacking columns and raise the machine and lower it on a support stand on the corner where the swing leg and crawler track were to be repositioned (which could adversely affect the preset level of the machine / concrete surface while paving concrete);
- 3) using the jacking column to hydraulically lift the crawler track off the ground;
- 4) use the turnbuckle to pivot the bolster swing leg until the jacking column and the crawler track are in the desired position;
- 5) tighten the turnbuckle(s) so that the swing leg cannot move from the desired new position;
- 6) hydraulically lower the track back to the ground and raise the machine off the support stand, remove the stand, and lower the machine back to its present elevation;

7) rotate the track around the vertical axis of the jacking column using manual control of the hydraulic steering cylinder so the crawler track is back parallel to the previous straight-ahead position again by measuring; and

8) reset the orientation measuring transducer to restore automatic steering control of that crawler track in relationship to the other crawler track in which it must stay parallel to by measuring.

6. In response to the contractors' changing needs due to old highways exceeding their design life and needing reconstruction, and the demand for smoother concrete pavements, G&Z embarked on a flurry of innovations between 1996 - 1999 that met this need. In 1996, G&Z introduced its prototype four track, S850 paver with its double telescopic tractor frame, telescopic bolsters, and 90-degree steering capability, which allowed the machine to drive in the transport mode and significantly reduced the time needed to alter the machine's paving width. The S850 also introduced a unique paving kit and a patented anti-torsion / cross slope to allow paving referencing only a single stringline which enabled steering and elevation control without sacrificing concrete smoothness. . The new G&Z Front Tie Bar Inserter with chain feeder also did not require removal for transport.

7. These developments allowed our S850 slipform paver to be self-loaded on a trailer without first removing the paving kit, which meant that the paver could

be transported, unloaded and made ready to pave at another site the next day without the need of a crane. Further, minor width changes could be implemented relatively quickly which represented a huge leap in productivity compared to offerings on the market at the time. Even though the steering angles were limited, the S850's "flip of a switch" 90-degree steering capability meant that pavers could now be walked and steered onto a trailer and maneuvered around the job site and get around obstructions quicker than before, saving time and money.

8. With G&Z's North American market share slowly but surely growing with the success of the S850, we hired a new VP of Sales and Marketing, who assembled a sales and marketing plan and team. G&Z's market share grew rapidly during this period, led by the success of the S850, and it encouraged G&Z to set its sights on addressing the ongoing needs of the urban paving market, which required short pours, frequent width changes and moves, and a far more obstacle avoidance capabilities than the relatively straightforward highways and runways that conventional slipform pavers typically paved.

9. Attached hereto as Exhibit 2035 is a true and correct copy of G&Z's Industry Analysis for Fiscal Year 2015.

10. Attached hereto as Exhibit 2036 is a true and correct copy of the global concrete paving industry and market report.

11. Attached hereto as Exhibit 2031 is a true and correct copy of G&Z's concrete paver sales data from September 1987 through October 2020. I have reviewed the document marked as Exhibit 2031 that was prepared by G&Z employee Salima Ismaylova and confirm the contents of it are a true and accurate represent of G&Z's concrete paver sales.

12. Early in the design on this future paver (that would go on to be named the S600), G&Z determined that if we were to meet their new paver design goals, we needed to incorporate swing legs into this design.

13. With the S600, G&Z set out to design slipform paver that was narrower in profile and even more maneuverable than the S850, with the goal of achieving coordinated steering of crawler tracks (to at least 90°) *and* swing legs while under load. G&Z started its development process by looking at the jacking column design and performing 90-degree steering with wide steering angles from any swing leg position using a steering cylinder, and determined the steering cylinder would either run out of stroke, which would require "relocking" the steering cylinder or if they made the steering cylinder long enough, it would compromise their design goal of making the machine narrow profile. G&Z also encountered practical limitations when using turnbuckles between the swing legs and the machine frame because they also compromised the design goal of making the machine narrow profile and required manual rebolting of the turnbuckles during machine width changes.

14. G&Z considered using slew drives earlier to steer the crawler track and pivot the swing leg, however, we were concerned the slew drive would not be as accurate as steering cylinders for the precision steering required and would not be capable of developing sufficient torque to rotate the crawler track or the swing leg and hold them in position under load. Furthermore, these slew drives were extremely expensive and suppliers of slew drives were concerned about the applications and the large overturning moments on the swing leg / jacking column and skidding forces experienced by the crawler tracks under load while steering / maneuvering. The suppliers we approached would not warrant their slew drives if applied in G&Z's designs between the jacking column and crawler track.

15. Later, G&Z spoke with a different supplier, Kinematics, who was willing to offer G&Z slew drives for testing purposes. G&Z mocked up a test for the slew drive on one of the S850 pavers with telescopic bolsters and introduced angular transducers on the slew drives and developed software to measure the crawler track angle in relationship to the jacking column. Through this testing, G&Z determined that with the slew drive coupled to the jacking column and crawler track, it could steer the crawler track under load and hold it in a position (despite the huge skidding forces encountered) just as well as a traditional steering cylinder with torque arm. G&Z took the risk that the new jacking column design with slew drive would work. G&Z prepared a test under the same loads to prove their application

would work even though the slew drive supplier would not warrant the application without weeks of testing in their factory.

16. Feeling more confident our new jacking column design using the slew drive had addressed the design goals of a narrow profile jacking column with wide steering angles, including 90-degree steering capability from any swing leg angle, G&Z unexpectedly found a solution to eliminate the turnbuckles between the modular frame and the swing legs. G&Z replaced the turnbuckles with a hydraulic actuator, and by using an angular transducer to measure the angle of the swing leg relative to the modular frame, G&Z observed that that they could coordinate actuation / movement of the swing leg and crawler track on-the-fly and while under load and precisely keeping the direction of the crawler track in the intended direction. Another unexpected result was that we could use 90-degree steering and the sensed swing leg to reconfigure the machine and walk it into the transport mode. Thus, having designed a system that achieved its original design goals of increased maneuverability *and* the decades-long problem of slow slipform paver reconfiguration, G&Z made the decision to manufacture a slipform paver with slew drives forming the pivot point between the jacking column and crawler track, which enabled on-the-fly steering, including 90-degree steering and tight radius steering, and steering angle maintenance from and between any swing leg angle without any need to lift the crawler tracks.

17. After a year of testing the S600 prototype in the factory, the USA and Europe, G&Z perfected the control processor and software and met their design goals and dubbed its coordinated steering technology the SmartLeg / AccuSteer. Introduced in the summer of 2010, the S600 was hugely successful, and G&Z's sales and market share grew exponentially. It was so successful that G&Z added as an option to its S850 Paver, the choice of swing legs with patented the SmartLeg / AccuSteer design in lieu of our patented Telescopic Bolsters. This "S850SL" model with swing legs was introduced in 2011. Shortly, after that, G&Z substituted slew drive for steering cylinders on the Telescopic Bolsters and used the same jacking columns and crawler tracks as the S850SL.

18. In March 2011, G&Z displayed its S600 with SmartLeg / AccuSteer technology at its booth on the floor of ConExpo Las Vegas, the largest construction equipment tradeshow in the North American market:



See above G&Z's S600 with SmartLeg / AccuSteer technology at ConExpo 2011. G&Z also conducted a live demonstration of the S600's automated ability of navigating around obstacles while keeping the tracks in a forward paving direction and automatically convert itself from paving mode to transport mode using 90-degree steering. Shortly after ConExpo in 2011, G&Z delivered its first S850SL with swing legs and slew drives in lieu of steering cylinders and telescopic bolsters used on its previous S850. In 2015, G&Z introduced its smaller "Entry Level" S400 paver with SmartLeg / AccuSteer.

19. Prior to its formal market launch, G&Z sold four prior S600s before ever formally introducing it to the market. Upon hitting the market, G&Z's S600 with its SmartLeg / AccuSteer technology immediately began seeing sales success. In March 2011, G&Z delivered a S600 Paver to Hawkins Construction in Omaha NE, a short drive from Gomaco's factory in Ida Grove, Iowa. The S600 with SmartLeg / AccuSteer technology dramatically improved productivity because it made possible, for the first time ever, to maneuver the swing leg with jacking column and crawler track position simultaneously, on-the-fly, under load, to avoid obstacles in the paving path. It also quickly and easily changed the slipform paver from the paving mode to the transport mode, vice versa, using 90-degree steering.

20. G&Z also took its S600 Paver to Intermat Paris 2012, BAUMA Munich 2013 and at World of Concrete every one of these years. These are all major construction industry trade shows attended by Gomaco and Wirtgen as well.

21. The S600 is marked with both U.S. Patent Nos. 11,535,318 and 11,772,723.

I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code. Executed on February 25, 2025, in Ripon, California.

A handwritten signature in dark ink, appearing to read 'R. Guntert, Jr.', is centered on a light gray background.

Ronald M. Guntert, Jr.
CEO of Guntert & Zimmerman
Const. Div., Inc.